

00003529

IN REPLY REFER TO
LMNED-MP

5 August 1977

**SUBJECT: Lake Pontchartrain, La. and Vicinity Hurricane Protection
Project--Chef Menteur and Rigolets Control Structures**

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. The postauthorization studies presented in the "Lake Pontchartrain, Louisiana and Vicinity General Design Memorandum No. 2, Supplement No. 1, Rigolets Control Structure, Closure Dam and Adjoining Levees" showed that a modification of the Rigolets control structure could produce significant construction costs savings. The change included relocation of the control structure to the existing channel and redesign to provide a lower sill elevation of -30.0 feet m.s.l. and 16 gate bays. The previously authorized structure size was 23 gate bays with a sill elevation of -20.0 feet m.s.l. The closure dam in the Rigolets channel was also redesigned for a shorter length because the control structure would occupy a portion of the existing channel cross section. When the GDM was reviewed, it was not apparent that a change in site location and width and depth dimensions could alter the hydraulic regime if the same cross-sectional area were retained in the new design. The GDM was approved on 10 November 1970.

2. The detail design memorandum entitled "Lake Pontchartrain, Louisiana and Vicinity, Lake Pontchartrain Barrier Plan, Detail Design Memorandum No. 6, Rigolets Control Structure and Closure Dam" was prepared by an architect-engineering firm. During preparation of that report, the A-E's representative expressed concern that the hydraulic regime may have changed significantly because their gradually varied flow hydraulic studies indicated a significant reduction in discharge, approximately 30 to 40 percent, would occur after installation of the Rigolets structures. During review of the hydraulics portion of the draft of that report it was determined that the relocated Rigolets control structure could be deficient with respect to normal tidal exchange between Lakes Pontchartrain and Borgne although the exact discharge capacity through the relocated structure was dependent on the hydraulic parameters assumed to apply to the structure. A review of results of the undistorted scale model tests, conducted at WES in connection with the Hydraulic Model

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Investigation entitled "Effects on Lake Pontchartrain, La., of Hurricane Surge Control Structures and Mississippi River-Gulf Outlet," dated November 1963, indicated that head losses were significantly smaller for the originally designed structure than the analytical computations indicated for the same discharges in the relocated structure. Additional analytical computations were made substituting the originally designed structure in the new location and computing head losses for the same discharges. The head losses were less than those for the redesigned structure but still greater than the 1:100 ~~distorted~~ **undistorted** scale model tests indicated they would be.

3. Consequently, a conference was held at the Waterways Experiment Station on 11 July 1973 at which time staff members of the Hydraulics Laboratory and the New Orleans District discussed the problem. The analytical methods used by NOD and the architect-engineer were discussed and the results were presented. The conclusion reached at this conference was that the most logically sound method of solving this problem was to perform an undistorted scale model test of the relocated structure and that portion of the Rigolets channel pertinent to it, for the purpose of determining what could be done to modify the relocated structure and improve its efficiency. A testing program, model scale and limits, funding, and time were then discussed and a visit to the Columbia River Model was made to determine its adequacy for housing the model.

4. In view of the far-reaching and adverse consequences which could result if an inadequate hurricane control structure were constructed under this project, it was imperative that an adequate hydraulic design be determined to safeguard the environment of Lakes Pontchartrain and Borgne. The engineering and design on the structure was in an advanced phase but only a limited amount of additional work could be accomplished prior to the resolution of this problem. Therefore, it was requested by letter through LMVED-H to OCE dated 5 October 1973, subject "Model Study of Rigolets Control Structure, Lake Pontchartrain and Vicinity, Louisiana, Hurricane Protection Project," that authority be granted the New Orleans District and the Waterways Experiment Station to construct and test a hydraulic model of the Rigolets control structure and closure dam. By 3d indorsement dated 1 November 1973 (LMVED-H), approval was granted to conduct a hydraulic model study. All work on the Rigolets control structure detail design memorandum was suspended pending the outcome of these hydraulic model studies. Subsequently, all work was suspended on the Chef Menteur structures because of its interrelationship with the Rigolets structures.

5. The hydraulic model study and report have been completed and the results together with the previous 1963 model study results and analytical computations indicated a need to enlarge the Rigolets control structure by approximately 10 percent from 25 percent to 35 percent of the cross

5 August 1977

SUBJECT: Lake Pontchartrain, La. and Vicinity Hurricane Protection Project--Chef Menteur and Rigolets Control Structures

sectional area of the existing channel and to shift the structure 250 feet eastward to achieve the design goals. These design goals were to insure no significant reduction in tidal exchange between Lakes Pontchartrain and Borgne and to limit tidal velocities through the structure and in the approaches to acceptable magnitudes to minimize maintenance costs and ecological impacts. These design goals were achieved through use of a relationship between the tidal prism of Lake Pontchartrain and the cross sectional area of the barrier structures in percent of natural conditions which was provided by the Waterways Experiment Station in curve form. This relationship was established using data from the Narragansett Bay, Jamaica Bay, and Lake Pontchartrain Hurricane Surge Barrier model tests and was further supported by data from J. J. Dronkers' "Tidal Computations," 1964, North Holland Publishing Company, Amsterdam, concerning construction of the Veerse Gat and Zandkreek Storm Surge Barriers in estuaries on the North Sea in Holland. Inclosure 1 shows the percent of Lake Pontchartrain tidal prism expected with barrier control structures of size equal to 25 percent of the natural cross section of the Chef and Rigolets Passes (the original design size) and the tidal prism expected for larger structures equal in size to 35 percent of the natural cross sections.

6. Based on the results obtained from the Rigolets analytical studies, the Chef Menteur control structure was investigated for possible deficiency of discharge capacity and high velocities. The analytical studies indicated that the Chef Menteur control structure needed to be enlarged similarly. No shift in its location was needed.

7. The larger structures will increase the tidal prism of Lake Pontchartrain from 75 percent of natural exchange to more than 90 percent and will reduce mean velocities through the control structures approximately 50 percent for the same discharge. Velocities through the adjacent navigation structures under normal weather conditions will be less than 6 feet per second.

8. The costs of these changes are approximately \$4,500,000 for the Chef Menteur structure and approximately \$5,300,000 for the Rigolets structure. These represent 27 percent and 12 percent increases in cost of the control structures, respectively. The increased costs for these recommended changes together with the increase in cost due to the recommended change to tainter gates, discussed in the subsequent paragraphs, do not significantly increase (approximately 9 percent) the cost of the "barrier plan." This cost increase is only a 3 percent increase in the overall cost of the project. The "barrier plan" is still the best engineering and economically feasible plan as well as being fully responsive to the hurricane flood protection problem of the entire Lake Pontchartrain, La., and Vicinity area, including the north shore of Lake Pontchartrain.

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Project--Chef Menteur and Rigolets Control Structures

9. Because these changes will help us achieve the design goals of the barrier plan, we request your approval of these structural changes to the Chef Menteur and Rigolets control structures.

10. The feasibility of providing tainter gates in lieu of vertical lift gates at both the Chef Menteur and Rigolets control structures has also been investigated. The various factors considered were:

a. Cost of construction. The tainter gate scheme for the Chef Menteur structure is 10 percent more costly than a comparative vertical lift gate scheme (\$22.9 million versus \$20.8 million). Both schemes contain 11 gate bays and have a sill elevation of -30.0 m.s.l. The tainter gate piers are 8 feet wide and the vertical lift gate piers are 6 feet wide. Two gantry cranes are provided for the vertical lift gate scheme. The tainter gate scheme for the Rigolets structure is 6 percent more costly than the comparative vertical lift gate scheme (\$51.9 million versus \$49.1 million). Both schemes contain 21 gate bays and have a sill elevation of -30.0 m.s.l. Three gantry cranes are provided for the vertical lift gate scheme.

b. Structure operating characteristics. Tainter gates would require approximately 45 minutes to effect closure, and could be operated from a remote station. The gates can be closed by gravity, thus virtually assuring closure in each case. In comparison, vertical lift gates would require approximately 5 hours for closure and would require operating personnel on the structure during closure. Closure would have to be accomplished before the elements became too severe for the operating personnel to function. In the event a gantry crane failed, the remaining crane(s) would have to operate more gates thus extending the closure time beyond 6 hours.

Since some hurricanes, depending on the particular characteristics, create a tidal drawdown prior to a tidal rise, it is highly desirable to leave the passes open until the outward tidal flow ceases. A drawdown of the lake would provide a greater storage capacity in the lake once the control structures are closed and would reduce the volume of lake water which would be pushed against the shoreline by the hurricane. The closure of tainter gates, with shorter operating time and remote controls, could be more closely synchronized with the tidal shift, thus taking maximum advantage of the drawdown effect. Furthermore, tainter gates can be opened more rapidly after the hurricane has passed and the Lake Borgne surge has receded, thus releasing any confined lake waters as soon as possible.

c. Maintenance. The major maintenance items on the control structures are the mechanical operating equipment and painting of structural steel. The tainter gates have approximately 50 percent more surface area

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to be painted than the lift gates; thus, painting would be more costly for the tainter gates. The tainter gate operating equipment would be fully housed and would be less costly to maintain than the gantry cranes. In summary, Operations Division personnel speculate that the overall maintenance cost of the tainter gates would be less than the lift gates.

d. Esthetics. Vertical lift gates would be stored with the top at elevation 16.0 on the Chef Menteur structure and at elevation 20.0 on the Rigolets structure. The two gantry cranes at the Chef and three at the Rigolets would be substantially higher than the lift gates. Tainter gates would be stored with the top at about elevation 45.0 on both structures.

Tainter gates on the Chef structure should not present any esthetic problems since the structure will be located a mile or more from Fort Macomb and US Highway 90.

The control structure at Rigolets will be located approximately 2,500 feet from Fort Pike and US Highway 90 and will be highly visible across open water. Either type of gate would have negative impact on the view from Fort Pike but the tainter gates, with their greater height, would be much more visible than the lift gates. The actual impact on the view from Fort Pike and the value of that impact are matters of subjective judgment. In our opinion, the esthetic impact is not significant.

BARTON
LMNED-MP

HARRINGTON
LMNED-M

11. The benefits to the quality of hurricane protection around the lake afforded by the shorter closure and opening times for tainter gates outweigh the slightly higher cost of construction and the minor esthetic problem at Rigolets. Therefore, we recommend tainter gates for the Chef Menteur and Rigolets control structures. Your approval of this change is also requested.

BRUPBACH
LMNED-D

BECNEL
LMNED-H

12. A postauthorization change report will be prepared for one or both changes upon your approval.

CHATRY
LMNED

13. The remaining detail design memorandums for both complexes will be prepared by architect-engineers. Upon your approval of these changes, modifications to the A-E contracts will be prepared.

NETTLES
LMNOD

Exec Ofc

1 Incl
As stated

EARLY J. RUSH III
Colonel, CE
District Engineer

Sheet 1

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PERCENT OF NATURAL TIDAL PRISM

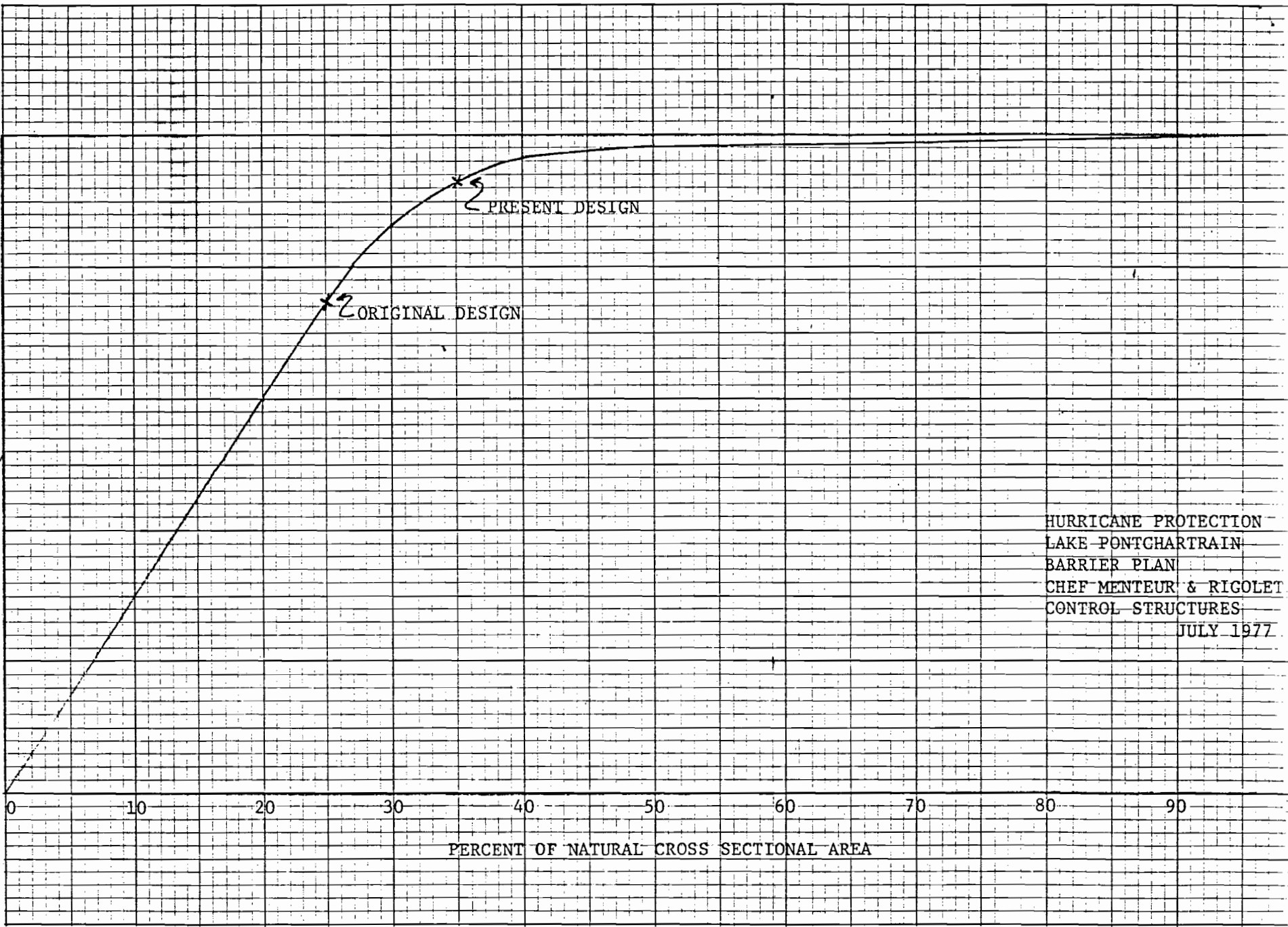
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60

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PERCENT OF NATURAL CROSS SECTIONAL AREA

HURRICANE PROTECTION
LAKE PONTCHARTRAIN
BARRIER PLAN
CHEF MENTEUR & RIGOLET
CONTROL STRUCTURES
JULY 1977

LMNED (26 Feb 76) 1st Ind

SUBJECT: Hurricane Protection Works - Louisiana Area

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans,
LA 70160 3 Mar 76

1. Draft of suggested reply is attached.
2. In order to expedite action on this matter, it is being transmitted direct. It has been coordinated with LMVD.

3 Incl
Added 1 incl
3. Draft of reply

L. A. HUBERT, JR.
LTC, CE
Acting District Engineer

CF: w/incl 3
LMVED-TD



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

REPLY TO
ATTENTION OF:

DAEN-CWO-C

26 February 1976

SUBJECT: Hurricane Protection Works - Louisiana Area

District Engineer, New Orleans

1. The attached correspondence is referred for a draft of reply to DAEN-CWO-C through Division Engineer not later than 12 March 1976.
2. Correspondent has been informed of referral.
3. Copy has been furnished to the Division Engineer, Lower Mississippi Valley.

FOR THE CHIEF OF ENGINEERS:

Richard E Leonard

RICHARD E. LEONARD
Colonel, Corps of Engineers
Assistant Director of Civil Works,
Lower Mississippi and Gulf

2 Incl

1. Cy ltr fm Mr. Russell
dtd 22 Jan 76
2. Cy ltr to Mr. Russell



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f-
encl.
Con-Budget Moze (re encl)

2628 Timbalier Dr.
Marrero, La. 70072
January 22, 1976

The President
The White House
Washington, D. C.

Sir:

My name is Wayne Russell and I live in Marrero, La., which is in Jefferson Parish on the westbank of the Mississippi River from New Orleans.

I have just read in this morning's Times-Picayune newspaper, with great disappointment, that in your 1977 fiscal year budget you have earmarked some \$17,800,000 for hurricane protection works in this area. There is no way that the President of the United States could know, personally, that such things as this have to be done. This means, certainly, that you were advised that the money was needed. But, are you really sure that the money will be used for hurricane protection?

To me, this has become one of the biggest land development schemes to ever hit this area. Build a road, or a levee, in the swampland, call it hurricane protection and get some federal funding.

If New Orleans was a new city it might be different. This city has been around since 1718. In 1940 there were 500,000 people living in this area. Are the people who are so worried about us now saying that the people in the past weren't important? Or, are they saying that the money is needed for upkeep, modernizing, and maintenance of existing protection works? Most certainly not! Check up and you will find that all the plans for hurricane protection in this area involves swampland.

I'll give you some examples in my area. After every big rain we read in the papers about abnormal flooding conditions in various parts of the parish. Then we hear from the politicians that, because of lack of money, there is a shortage of pumping stations and that most of the existing ones are antiquated. Maybe this is true, but how about the pumping stations, such as the Estelle pumping station, that are located in the middle of the swamps, doing nothing but draining the wetlands. There is also another pumping station in parts and crates, that was to be built in another area of wetlands (Bayou Carpes) to actually do nothing but drain the area for land reclamation. Swampland owned, coincidentally, by Jefferson Parish politicians.

This project was stopped only by the alert actions of private citizens. But the fact remains, here we have a million dollars in crates, while we are being told that the parish doesn't have enough money to build or modernize needed pumping stations.

Besides pumping stations, there is something else needed in order to drain wetlands, levees. You take an area of swamps, build a levee around it, with a pumping station at one end, and you have an effective way of draining that area. Doing this, in the name of hurricane protection, has been the biggest farce ever in land development.

Think about this, what happens when a hurricane hits and a tidal wave comes in that is so large it flows over the levee? This is what happened after Betsy hit in 1965. Large tugs and ships were floated over the Mississippi River levee and deposited, in some cases, blocks away. You should understand this too, that levee is pretty high but most of the new, and proposed, so called protection levees are not half that high. The U.S. Corps of Engineers just recently authorized a hurricane protection levee to be built along the Intracoastal Canal from Harvey to Crown Point in Jefferson Parish. You should see this levee. In some places it is no higher than the canal. To get back to the hurricane of 1965 though, what happened to the water after the tidal wave? Water on the inside of the levee could not get back out into the river and had to be pumped out, which took weeks and weeks to accomplish. In the meantime this large area of land was under deep water, with most of the animals drowning and most people losing their houses and other possessions. I'm not saying that we don't need a river levee. All I'm trying to get across is that if a strong enough storm hits, hardly nothing can truly protect us. In fact, what these people are creating by building these levees, which are nowhere as big as the river levee, are little bowls that will only take in, not keep out, a large amount of water in the event of a major storm thereby causing unduly flooding.

Please think about all this and try to realize that what we are talking about is of utmost importance. We are not only talking about ruining what little areas of natural wooded swampland and marshes remain in this area but also, possibly, the creation of a future man made catastrophe.

I don't expect you to answer this letter because I know that a lot of people take pleasure in such things as the publicity which can result from hearing from the President. I want no publicity. My only desire is for you to see this thing in its true light and take whatever steps are necessary to see that the right thing is done.

Respectfully yours

Wayne P. Russell

Wayne P. Russell

Enclosure

N.O. Hurricane Protection Included in Ford Budget

By EDGAR POE

(Times-Picayune Washington Correspondent)

WASHINGTON — President Ford's \$391.2-billion 1977 fiscal year budget sent to Congress Wednesday calls for \$81,692,000 for waterways projects in Louisiana including \$12,000,000 of new construction money for the Lake Pontchartrain Hurricane Protection Plan.

The White House budget also includes \$5,800,000 in construction funds for the New Orleans-to-Venice Hurricane Protection Works, \$3,630,000 for the Mississippi River-Gulf Outlet in the vicinity of New Orleans, and \$15,000,000 for maintenance of the Mississippi River from Baton Rouge to the Gulf.

The budget earmarks \$2,600,000 in construction funds for hurricane protection from Larose to Golden Meadow along Bayou Lafourche in Lafourche Parish southwest and south of New Orleans. Still another construction project ear-

marks \$2,810,000 for Mississippi River outlets into the Gulf of Mexico at Venice some 50 miles below New Orleans.

For operation and navigational maintenance of the Gulf Intercoastal Waterway in Louisiana the budget recommends \$8,200,000.

Three Mississippi Coast harbors which have been growing in importance in recent years would receive a total of more than \$2,100,000 for operation and maintenance. The ports and recommended sum for each: Pascagoula \$550,000; Gulfport \$945,000; and Biloxi \$587,000.

Other large Louisiana projects and the amounts recommended for each are:

Overton-Red River Waterway (lower 31 miles), \$1,645,000 for construction; Bayou Teche and Vermilion River, \$1,000,000; Calcasieu River navigation, \$3,000,000; Freshwater Bayou, \$1,600,000. Numerous other projects are scattered throughout the state.

Mr. Wayne P. Russell
2628 Timbalier Drive
Marrero, Louisiana 70072

Dear Mr. Russell:

On behalf of President Ford, I am replying to your letter of January 22, 1976 regarding hurricane protection projects in the New Orleans area.

We appreciate very much your most thoughtful letter. I have taken the liberty of sending a copy of your letter to the Defense Department for a report on the questions you raised. Within approximately two weeks you should receive a reply from the Honorable Victor V. Veysey, Assistant Secretary of the Army (Civil Works).

Mr. Veysey is charged with the responsibility to oversee the activities of the Civil Works program of the Corps of Engineers. He is also keenly aware of the special nature of the water-related problems facing the Louisiana coastal area. Therefore, you can be assured that your letter will receive careful consideration. I also have asked Mr. Veysey to provide the White House with a copy of his reply to you.

Thank you very much for taking the time to write to the President.

Sincerely,

Roland L. Elliott
Director of Correspondence

WH 2482

CF:
SACW-2
SASG
DAEN-CWO-C
MAJ Jenks/cat/23Feb76

Dear Mr. Russell:

On behalf of President Ford, I am replying to your letter of 22 January 1976 regarding hurricane protection projects in the New Orleans area.

As you recognize, the threat of hurricane flooding in coastal Louisiana is very real in that passage of a hurricane in proximity to the coastline occurs, on the average, in 2 out of every 3 years. Yet, about one-fourth of the state's population live and work in the area subject to hurricane overflow. In the area to be afforded protection by the two projects singled out in the newspaper clipping which accompanied your letter, the population is over 600,000. The existence of these people is tenable only because of protective works already provided.

The two projects derive their justification predominately from the damage to property which they will prevent. In the main, they protect areas which have been leveed and drained for years. The projects are not designed to create new development, but they are prudently designed to protect that development which would likely occur even in their absence.

The Lake Pontchartrain, La. and Vicinity project protects much of metropolitan New Orleans. By reason of the topography of the area, there is a high risk of loss of life attendant to hurricane flooding.

For this reason the project features are designed for adequacy against the "Standard Project Hurricane." This hurricane, the parameters of which have been developed by the Weather Bureau, represents the most severe hurricane which can reasonably be anticipated. As with other meteorological and hydrological events, one cannot completely rule out the passage of an even larger storm, but that possibility is statistically insignificant. Further, should such an event occur, the project works would materially ameliorate its effects.

The New Orleans to Venice, La. project is designed to provide complete protection against a storm with a return frequency of once in 100 years on the average. For occurrence of a larger storm, some overflow will occur but, as in the case referred to above, the effects of such overflow will be much reduced. In addition, evacuation of the protected area in advance of an approaching storm is the normal practice there, and has been proven to be practical and effective.

It is worth noting that the effectiveness of hurricane protection works is most dramatically illustrated by comparing the effects of Hurricanes Betsy and Camille in New Orleans along the Industrial Canal. In 1965 Hurricane Betsy caused extensive flooding and damage in that area. Four years later, Hurricane Camille drove flood waters in that vicinity to within 6 inches of the "Betsy" levels. Thanks to protective works constructed on part of the project by the Corps of Engineers and the Orleans Levee Board, however, negligible

flooding occurred in developed areas and a total of \$91 million in property damage was prevented.

The levee from Harvey to Crown Point which you mention is incomplete. This levee is part of a project to improve and extend the existing protection in that area. Federal involvement in the project is, by law, limited to an expenditure of \$1,000,000. This amount has been expended. Additional work to complete the project, which was approved by the Chief of Engineers on 22 Jan ⁶⁴~~78~~ -- all of which must be funded by local sources -- includes completing the levee and providing drainage. Further action to complete the project must await the outcome of proceedings initiated in compliance with Section 404 of the Federal Water Pollution Control Act Amendments of 1972.

I hope this has served to clarify these matters for you. If I may be of any further service, please call on me.

Mr. Richter/kn/430
RR

LMNED-MP (24 Jan 73) 1st Ind

SUBJECT: Lake Pontchartrain & Vicinity Hurricane Protection Barrier

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans,
Louisiana 70160 14 Feb 73

TO: Division Engineer, Lower Mississippi Valley, ATTN: LMVED-TD

The draft of reply is inclosed as requested in basic.

2 Incl
Added 1 incl (dupe)
2. Draft of reply

RICHARD L. HUNT JR.
Colonel, CE
District Engineer

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LMNED-MP

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WES

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DAEN-CWO-M

24 January 1973

SUBJECT: Lake Pontchartrain & Vicinity Hurricane Protection Barrier

District Engineer, New Orleans

The attached correspondence is referred for:

Information as basis for reply, to reach HQDA (DAEN-CWO-M)
WASH DC 20314 not later than 6 February 1973. The Draft of
Reply should be directed specifically to the questions raised
by Mr. Scogin.

FOR THE CHIEF OF ENGINEERS:

1 Incl
Ltr from Mr. Scogin
dtd 12 Jan 73

BENJAMIN T. BLANKINSHIP
Chief, Operations Division
Directorate of Civil Works

Copy furnished:
Lower Mississippi Valley Division



STATE OF LOUISIANA
HOUSE OF REPRESENTATIVES
BATON ROUGE

ARD SCOGIN
DIS 76

Phone Room 643-6953
Speaker's Office 641-0252
2048 SECOND STREET
RT. 1, BOX 603
SUDELL, LA. 70458

COMMITTEES:
EDUCATION
HEALTH & WELFARE
LABOR & INDUSTRY

January 12, 1973

Gen. A. P. Rollins, Jr.
Major General, U.S.A.
Deputy Chief of Engineers
Washington, D. C.

Dear General Rollins:

I have been presented a letter from you to Mr. David Levy, Lt. J.G., USN, Ret., which is in reply to his October 21, 1972 letter to you regarding the Lake Pontchartrain & Vicinity Hurricane Protection Barrier.

In the substance of the letter you state: "the project is considered well justified and responsive to the public need for a suitable flood protection project". It behooves me to have to differ with this point of view. I might point out that many of the most competent people in the field of engineering also disagree, as well as the voting populace of the State of Louisiana who have, not once, but three (3) times rejected this proposition at the polls. Even more significant is the fact that the voters of the parishes (counties) that would be most directly affected, namely Orleans, St. Bernard and St. Tammany have overwhelmingly rejected the plan. This in spite of a \$200,000.00 media (television, newspapers, personal appearances, etc.) campaign promoting the measure. Must the people of this state be forced to accept a project of this magnitude, that they have by their votes rejected, for the land enhancement interests of a few? It is the opinion of many that it is high time that the Corps of Engineers return to the basic concepts of its origin and retreat from the developmental agency category that it has allowed itself to fall into.

This is not to say that a hurricane protection project for the area involved is not needed or would not be accepted and supported; quite the contrary. There are several feasible (and less costly) alternatives that would provide protection and have little or no additional impact on the environment. Neither

D R A F T

Honorable Edward C. Scogin
Louisiana House of Representatives
Route 1, Box 603
Slidell, Louisiana 70458

Dear Mr. Scogin:

I am writing in reply to your letter of 12 January 1973 concerning the Lake Pontchartrain, Louisiana and Vicinity, hurricane protection project.

Colonel Richard L. Hunt, District Engineer, U. S. Army Engineer District, New Orleans, has informed me that you have attended many related meetings and that you have received direct correspondence from his office which fully explained the concept and functions of the Lake Pontchartrain project, and I shall therefore direct my responses to the points you have expressed in your letter.

You take exception to the statement that "the project is well justified and responsive to the public need for a suitable flood protection project." The New Orleans District (NOD) continuously coordinates aspects of the project with the Louisiana Department of Public Works, the agency designated by the Governor of the State of Louisiana to coordinate all local cooperation for this project. NOD additionally discusses local aspects of the project with the Board of Levee Commissioners of the Orleans Levee District, the Board of Commissioners of the Pontchartrain Levee District, the St. Tammany Parish Police Jury, the Lake Borgne Basin Levee District, and the St. Bernard Parish Police Jury. The project

has been discussed in newspaper and magazine articles, on television, and at public meetings. Environmental and ecological aspects of the project are coordinated with the Louisiana Wild Life and Fisheries Commission, the U. S. Fish and Wildlife Service, local agencies, and interested individuals. The public viewpoint is continually recognized as work on the project continues. I feel that such coordination and local cooperation amply support a strong public need for suitable flood protection.

I consider the project to be extremely well justified in that it carries a benefit-to-cost ratio of nearly 12 to 1. During Hurricane Camille water levels in the Inner Harbor Navigation Canal (IHNC) were nearly the same as those which occurred during Hurricane Betsy; and because of the completed protective works along the IHNC, it was estimated that approximately \$90 million in flood damages were prevented. The protective works are, in this respect, likely to have a beneficial effect on flood insurance rates in adjacent areas. Additionally, the barrier structures will greatly reduce the flood hazard in unleveed areas around Lake Pontchartrain. Of paramount importance, however, is that the project may save human lives, an item for which no tangible economic benefits can be assigned.

You have stated that competent engineers disagree with the justification and responsiveness of the project. I can state only that supported professional disagreement has not been expressed to me or to Colonel Hunt directly, and additionally that I consider the NOD engineering

staff to be wholly competent and experienced in the prosecution of this and similar flood protective work.

You have stated (by inference) that the people of the State of Louisiana have rejected the project at the voting polls. In November 1972, Constitutional Amendment #6 was listed on the general election ballot. This amendment authorized the Board of Levee Commissioners of the Orleans Levee District to levy a 2 1/2 mill ad valorem tax on immovable property in Orleans Parish to pay for its local share of funds for the Lake Pontchartrain hurricane protection project. As you know, this amendment failed to pass, raising concern over the capability of local interests to financially support the project. The failure of this amendment in no respect indicates popular rejection of the project, but rather only rejection of an additional tax millage to support the Orleans Parish share of required local funds. Such failure does not preclude implementation of additional means to finance this local share. In this same regard, I feel that the sentiments of the people of the state are more accurately reflected in a letter from Governor Edwin Edwards to Colonel Hunt which states in essence "notwithstanding the failure of Amendment #6...the State of Louisiana intends to take whatever action is necessary to carry out its responsibilities with regard to providing its share of the funding required..." He further urges Colonel Hunt to "use every means available...in moving the overall project ahead as fast as possible." A similar letter from Mayor Moon Landrieu to Colonel Hunt states "...I would like to express to you my firm support for the concept of additional flood control for Orleans Parish...I will do all I can to secure local matching funds for additional hurricane protection and flood control."

You feel that the project serves to enhance the lands of very few owners. As areas are leveed, the enclosed and protected lands are undeniably enhanced in value. It is true that portions of enclosed land areas are undeveloped properties and they will quite naturally be appreciated in value. It is also true that the highly developed properties in the protected areas will be enhanced in value. Nevertheless, the primary function of the project remains flood protection, and enhancements are supplementary derived benefits. Based on flood protection benefits alone, the project is still well justified.

Throughout the continuing project planning, various alternatives to the proposed plan are studied, and there are indeed viable alternatives to the proposed action. However, the present plan of protection is the most acceptable proposal when considering a full weighing of economical, environmental, and social tradeoffs directed at achieving suitable flood protection.

Your statement that the proposed plan endangers lives and property, particularly in St. Tammany Parish, is completely fallacious. The project will in no respect cause the flooding of any area. Although areas in St. Tammany Parish are not afforded levee protection under the authorized plan, they will still realize flood protection benefits, in the form of reduced flood stages, due to the barrier structures which will limit floodwater levels in Lake Pontchartrain.

You lastly allege that the project is environmentally detrimental to Lake Pontchartrain, as well as to property and human life. Prior to project authorization, the Waterways Experiment Station in Vicksburg, Mississippi, constructed a hydraulic model of the Lake Pontchartrain Basin. The major purpose of the model was to determine the effect of the barrier structures on the ecology of the lake and to develop structural designs which would retain the existing ecological character of the lake. The structures have been so designed and will not, accordingly, materially alter the existing ecological environment of the lake. The New Orleans District has also engaged the services of environmental specialists for the Lake Pontchartrain project, and has recently completed the final environmental statement for the project in accordance with guidelines established by the National Environmental Policy Act of 1969. The final statement is scheduled for submission to the President's Council on Environmental Quality later this month or in March. In connection with the statement, Colonel Hunt was required to review all features of the project in the light of all known engineering, economic, social, and environmental factors, and to make recommendations concerning actions to be taken which will best serve the overall public interest. Colonel Hunt advised that in his professional opinion, from an engineering standpoint, construction of the hurricane protection project as planned (except St. Charles Parish) is the most feasible method for accomplishment of the project purposes. He concluded that the St. Charles levee portion appeared to possibly have more adverse environmental impacts than can be reasonably justified by offsetting flood protection benefits. Accordingly, additional detailed environmental

studies designed to more thoroughly evaluate the natural values associated with that feature of the project were initiated. I am firmly committed to his finding and I concur with the proposed plan of protection.

Sincerely yours,

Gen. A. P. Rollins, Jr.
Washington, D. C.

January 12, 1973

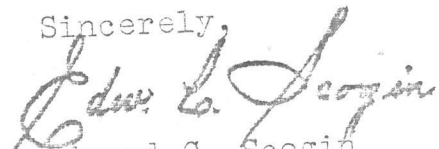
page 2

would they endanger lives and property as the present plan does, particularly in St. Tammany Parish.

The Corps has repeatedly adopted a piecemeal and fragmented approach to many proposed projects in the New Orleans, St. Bernard, St. Tammany area and has spoken in conflicting terms in various impact statements, shown highly questionable cost-benefit ratios, and steadfastly refuses to discuss significant alternatives. Neither have the names of corporations or individuals who would reap untold benefits from these projects ever been made public.

I am therefore calling for a moratorium on construction of facilities having significant environmental impact, endangering lives and property, and/or calling for expropriation of right-of-ways. It has been clearly demonstrated by our people that they do not want a 969 square mile lake (Pontchartrain) destroyed by eutrophication, nor 150,000 acres of wetlands (in the heart of this nation's seafood nursery area) irreversibly and irretrievably lost forever, as well as the actual lives and property of many endangered.

Sincerely,


Edward C. Scogin

ECS:ja

cc: Mr. Joseph Laitin
Slidell Times
The Daily Sentry News
The Times-Picayune
Slidell Sportsman's League
Mr. David P. Levy
Col. Richard [unclear]

IN REPLY REFER TO:
LMVED-PR

3 October 1972

SUBJECT: Extension of Lake Pontchartrain Hurricane Barrier

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. The northeastern terminus of the Lake Pontchartrain Hurricane Barrier, as authorized by Public Law 298, 89th Congress, is Prevost Island. Although this has been determined to be the proper limit of construction to achieve the desired effects of the barrier, the residents of St. Tammany Parish in the Apple Pie Ridge area will still be subject to hurricane flooding.
2. Floodwaters will cross Highway 190 near the intersection of U. S. Highway 90 and Highway 190, a distance of 3 miles from Prevost Island. The quantity of water crossing the Highway 190 portion of Apple Pie Ridge will not only damage and even destroy homes and utilities, but will erode a portion of the highway.
3. At the initial public meeting to discuss the Lake Pontchartrain, North Shore, Louisiana study, St. Tammany Parish officials expressed their concern and requested that the plan for the Lake Pontchartrain Hurricane Barrier be extended northward to the West Pearl River, thence along the river and Doubloon Bayou to Louisiana Highway 1090 in the vicinity of Indian Village. The alignment of this proposal is shown on inclosure 1. Preliminary analysis revealed this plan to be far too expensive compared to the flood damages it would prevent. Two alternatives to this plan were also investigated.
4. The first alternative consists of a ring levee as shown on inclosure 2. This plan provides for protection in the form of a ring levee to a net grade of about 13.0 feet mean sea level (m.s.l.) on the east side and about 10.5 feet m.s.l. on the west side with necessary interior drainage and other appurtenances to protect the area. The levees were designed to prevent inundation from standard project hurricane stages and wave overtopping from Lake Borgne to

LMNED-PR

3 October 1972

SUBJECT: Extension of Lake Pontchartrain Hurricane Barrier

the east and Lake Pontchartrain to the south. Back levees to the north were designed to prevent flooding from high stages on the Pearl River. The total estimated cost of this plan is approximately \$1,800,000 (see inclosure 6). The estimated annual charges, based on an economic life of 100 years and an interest rate of 5 1/2 percent, are about \$102,000. The estimated average annual benefits are about \$53,600 (see inclosure 5). The benefit-to-cost ratio is 0.5.

5. The second alternative consists of using the highway embankment of U.S. Highway 90 from the end of the authorized project to Highway 190 and the embankment of Highway 190 from its intersection with U.S. Highway 90 northwest to near Louisiana Highway 1090 (see inclosure 3). Profile surveys show that these roads, with the exception of two low spots, are of sufficient elevation to be consistent with the design of the authorized barrier. The two low sections, a total length of about 10,000 feet, are both located on the Highway 190 portion of the alignment. Levees will be constructed between the low sections of the highway and West Pearl River as shown on inclosure 4. All major drains will be left open as suggested by the U. S. Department of the Interior, Fish and Wildlife Service. The first cost of these levees, associated ramps, and minor drain flap gated culverts is estimated to be \$220,000. The estimated annual charges, based on an economic life of 100 years and an interest rate of 5 1/2 percent, are \$13,200 including maintenance costs. The estimated average annual benefits are \$43,500. The benefit-to-cost ratio is 3.3. The environmental impact associated with this plan is that approximately 13 acres of land will be converted from its present use to levee.

6. Since this last plan is economically justified and the adverse environmental impact is minimal, I recommend that it be constructed under the existing authority for the Lake Pontchartrain hurricane protection project.

- 6 Incl
- 1.-4. Maps
- 5. Benefit analysis
- 6. Cost estimates

RICHARD L. HUNT
Colonel, CE
District Engineer

WSE
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LMNED-I

SCHROEI
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LMNED-I

BAEHR
LMNED

Exec Of

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8 August 1972

SUBJECT: Lake Pontchartrain Barrier Structures - Review of A-E Designs

Division Engineer, Lower Mississippi Valley

1. Reference is made to our meeting at NOD on 28 July 1972 at which we discussed, among other things, the design, review and construction schedules for the Lake Pontchartrain Barrier Structures. During the meeting, it was stressed that the schedules presented must be rigidly adhered to if we are to obtain beneficial completion of the project by December 1978.
2. We are forwarding for your further review and comments the following design schedules which were discussed at the meeting: Rigolets Lock, Rigolets Control Structure, Rigolets Closure Dam, Chef Menteur Navigation Structure, Chef Menteur Control Structure, and Chef Menteur Closure Dam. Review times have been compressed to enable the construction of the project to proceed on the advanced schedules. The construction times have not been changed from those shown in the General Design Memorandums.
3. The Rigolets Lock and Rigolets Closure Dam are critical features for reaching beneficial completion of the project by December 1978. The compressed schedule indicates that the Detail Design Memorandum for the lock will be reviewed concurrently by LMVD and OCE in April 1973. Meetings between NOD, LMVD and OCE will be held in May 1973 for the joint resolution of comments. LMVD and NOD will concurrently review the plans and specifications for the lock in May 1974 and review the resolution of comments in July 1974. Mr. Kaufman suggested that representatives of OCE, LMVD and NOD visit the A-E's office in the middle of December 1972 for an on-the-spot check of the A-E's design for the lock. We agree with his suggestion and will assist in making arrangements for this visit.

LMNED-DD

8 August 1972

SUBJECT: Lake Pontchartrain Barrier Structures - Review of A-E
Designs

4. It is requested that your comments and concurrence be furnished
this office.

1 Incl
as

RICHARD L. HUNT
Colonel, CE
District Engineer

CF: w incl

✓ LMNED-PP, Mr. Seale
LMNED-DD, Mr. Judlin
LMNED-DG, Mr. Brupbacher

RIGOLETS LOCK

(Construction Dollars \$11,010,000)

	<u>Date</u>	
NOD gives A-E "Notice to Proceed" DDM	1 Aug 72	} DM 8 mos
LMVD and OCE review DDM	Apr 73	} R&R 3 mos
Meetings NOD, LMVD, and OCE	May 73	
A-E resolves comments	Jun 73	
NOD gives A-E "Notice to Proceed" P&S	1 Jul 73	} P&S 10 mos
NOD and LMVD review P&S	May 74	} R&R 3 mos
A-E resolves comments	Jun 74	
NOD and LMVD review resolution of comments	Jul 74	
Advertising period begins	1 Aug 74	
Award	1 Nov 74	
Complete	31 Apr 77	} CONSTR. 2yrs - 6 mos

RIGOLETS CLOSURE DAM

(Construction Dollars \$8,230,000)

	<u>Date</u>	
NOD gives A-E "Notice to Proceed" P&S	1 Mar 73	} P&S 12 mos
NOD submits P&S to LMVD	1 Mar 74	
LMVD returns P&S to NOD	1 Apr 74	} R&R 3 mos
A-E resolves comments	Apr 74	
NOD and LMVD review resolution of comments	May 74	
Advertising period begins	1 Feb 77	
Award	1 May 77	
Complete	30 Apr 79	} CONSTR. 2 yrs

RIGOLETS CONTROL STRUCTURE

(Construction Dollars \$22,110,000)

	<u>Date</u>	
NOD submit DDM to LMVD	1 Nov 72	} R&R 4 mos
LMVD submit DDM to OCE	1 Dec 72	
OCE returns DDM to LMVD	15 Jan 73	
LMVD to NOD	1 Feb 73	
A-E resolves comments	Feb 73	} P&S 12 mos
NOD gives A-E "Notice to Proceed" with P&S	1 Mar 73	
NOD submits P&S to LMVD	1 Mar 74	} R&R 3 mos
LMVD returns P&S to NOD	1 Apr 74	
A-E resolves comments	Apr 74	
NOD and LMVD review resolution of comments	May 74	
Advertising period begins	1 Jun 74	
Award	1 Sep 74	
Complete	1 Mar 77	} CONSTR. 2 yrs - 6 mos

CHEF MENTEUR NAVIGATION STRUCTURE
 (Construction Dollars \$3,860,000)

	<u>Date</u>	
NOD gives A-E "Notice to Proceed" with DDM	1 Sep 72	} DDM 14 mos
NOD submits DDM to LMVD	1 Nov 73	
LMVD submits DDM to OCE	1 Dec 73	} R&R 4 mos
OCE returns DDM to LMVD	15 Jan 74	
LMVD returns DDM to NOD	1 Feb 74	
A-E resolves comments	Feb 74	
NOD gives A-E "Notice to Proceed" with P&S	1 Mar 74	} P&S 11 mos
NOD submits P&S to LMVD	1 Feb 75	
LMVD returns P&S to NOD	1 Mar 75	} R&R 3 mos
A-E resolves comments	Mar 75	
NOD and LMVD review resolution of comments	Apr 75	
Advertising period begins	1 May 75	
Award	1 Aug 75	
Complete	1 Jul 77	} CONSTR. 1 yr - 11 mos

CHEF MENTEUR CLOSURE DAM

(Construction Dollars \$2,500,000)

	<u>Date</u>	
NOD gives A-E "Notice to Proceed" with P&S	1 May 73	} P&S 10 mos
NOD submits P&S to LMVD	1 Mar 74	
LMVD returns P&S to NOD	1 Apr 74	} R&R 3 mos
A-E resolves comments	Apr 74	
NOD & LMVD review resolution of comments	May 74	
Advertising period begins	1 Apr 77	
Award	1 Jul 77	
Complete (1st lift)	1 Jul 78	} CONSTR. 1 yr

CHEF MENTEUR CONTROL STRUCTURE
 (Construction dollars \$7,630,000)

	<u>Date</u>	
NOD submits DDM to LMVD	1 Jan 73	} R&R 4 mos
LMVD submits DDM to OCE	1 Feb 73	
OCE returns DDM to LMVD	15 Mar 73	
LMVD returns DDM to NOD	1 Apr 73	
A-E resolves comments	Apr 73	
NOD gives "Notice to Proceed" with P&S	1 May 73	} P&S 10 mos
NOD submits P&S to LMVD	1 Mar 74	
LMVD returns P&S to NOD	1 Apr 74	} R&R 3 mos
A-E resolves comments	Apr 74	
NOD and LMVD review resolution of comments	May 74	
Advertising period begins	1 Jun 74	
Award	1 Set 74	
Complete	1 Jun 77	} CONSTR. 2 yrs - 9 mos

LMNED-PP

1 June 1972

Lt. Richter/dd/430

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection Project

4. Your closure of the Savannah River outlet may approximate our conditions, and I would indeed appreciate any information you could provide which relates to this job. In particular, I would be most interested in the following:

- a. What design methodology was applied to the closure?
- b. Was the actual closure located in a tidal reach of the outlet?
- c. What were the current velocity range and direction considered in design and what were they during actual closure?
- d. How was the job advertised and bid? (Lump sum, in place, mobilization plus time pumping, etc).
- e. What quantities of material were placed and over what period of time?
- f. How did your estimated quantities for the closure correlate with in place quantities?
- g. What was the gradation of the pumped material?
- h. What were the calculated and actual ratios of borrow to in-place fill?
- i. If you were to construct a similar-type closure in the future, would you alter design technique or bid procedures based on experience with this closure?

5. I hope that you can answer the above questions supplemented by any related design and field test information. Your assistance will be of considerable value to our continued design. Thank you in advance for your cooperation.

FOR THE DISTRICT ENGINEER:

1 Incl
as

JEROME C. BAEHR
Chief, Engineering Division

MSB
SEALE
LMNED-PP

MSM
MASK
LMNED-P

JCS
BAHR
LMNED

IN REPLY REFER TO
LMNED-PP

1 June 1972

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity Hurricane
Protection Project

District Engineer
U. S. Army Engineer District, Savannah
P. O. Box 889
Savannah, Georgia 31402

1. I have recently been advised that your District was involved in a hydraulically pumped sand core closure of one of the Savannah River outlets. One project now under design in the New Orleans District (NOD) includes similar earthen closures and I am certain that information on your project can be of considerable value to our design.
2. The NOD project I am referring to is the Lake Pontchartrain hurricane protection project. This project is generally comprised of a levee and floodwall system around the metropolitan New Orleans area, and also includes a barrier system across the tidal passes leading into Lake Pontchartrain. This barrier is comprised of gated control structures, navigation structures, closure dams and interconnecting levees. I have inclosed a project map which illustrates these works. The major function of this barrier system is to restrict hurricane generated surges from entering Lake Pontchartrain and elevating lake stages. This principle allows stage reductions of several feet in the lake under hurricane conditions and thus greatly benefits all land areas adjacent to the lake.
3. We are now designing the closure dams for the Chef Menteur Pass and Rigolets complexes. I have designated these closures on the inclosed map. Our present intentions are to construct these closures with hydraulically pumped sand. The major concern in this method is that each of these closures is located in a tidal pass in about 30 to 40 feet of water. The current velocities in these passes reach 4 feet per second in both directions. Our analyses thus far have been based on bedload transport theories, but we have not yet verified our design with field applications of similar work.

WBM
~~M. Seal~~

LMWD-F (27 April 1972) 1st Ind
SUBJECT: Transmittal of Research Report for Review

DA, New Orleans District, Corps of Engineers, PO Box 60267,
New Orleans, La. 70160 18 May 1972

TO: Director, Waterways Experiment Station, PO Box 631,
Vicksburg, Mississippi 39180

1. The research report on the in-situ shear strength of the foundation soils for the St. Charles Parish Lakefront Levee has been reviewed.
2. It is agreed that further testing is needed to verify the conclusions. It appears that graphical presentations of the relation of the shear strength parameters to the various soil test indices would help in evaluating the differences caused by the variations in the soil system.
3. Five copies of the report are desired by NOD.
4. Funds in the amount of \$300 will be made available in FY 73 for publication of this report.

FOR THE DISTRICT ENGINEER:

1 Incl
cy of report

JEROME C. BAEHR
Chief, Engineering Division

CP w/o Incl
LMWD (ATTN: Mr. Frank Weaver)

Plng & Rpts Br.

je

LAKE
PONTCHARTRAIN
GEN. F.I.C.

IN REPLY REFER TO
LMNED-PP

8 March 1972

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity Hurricane
Protection Project

Director
Waterways Experiment Station
ATTN: Research Center Library

1. Forwarded separately for your information and retention are the following design memorandums on the subject project:

- a. St. Charles Parish Lakefront Levee, GDM No. 2, Supp. No. 6.
- b. Rigolets Control Structure Closure Dam and Adjoining Levees, GDM No. 2, Supp. No. 1.
- c. New Orleans East Back Levee, GDM No. 2, Supp. No. 4.

2. The above-mentioned design memorandums complete submission of all approved design memorandums on the Lake Pontchartrain project to date.

3. Detail Design Memorandum No. 6, Rigolets Control Structure and Closure Dam was requested; however, this report is not complete. This design memorandum and other future design memorandums on the subject project will be forwarded as they are completed.

FOR THE DISTRICT ENGINEER:

WES
SEALE
LMNED-PP

3 Incl
as fwd sep

WALTER S. MASK
Chief, Planning and Reports Branch
Engineering Division

W.S.M.
MASK
LMNED-P

LMVED-TD (NOD 1 Mar 72) 1st Ind

SUBJECT: Release of Lake Pontchartrain Barrier Plan, GDM No. 2, Supplement No. 1, Rigolets Control Structure and Closure Dam, and Supplement No. 2, Rigolets Lock and Adjoining Levees

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 3 Mar 72

TO: District Engineer, New Orleans, ATTN: LMNED-PP

Authority is granted to release subject DM's to the NOPSI after proper screening in compliance with ER 360-2-104. Items in the DM that are still in doubt should either be marked out or you should state that they are subject to change. The DM's may be furnished free of charge in this case.

FOR THE DIVISION ENGINEER:

wd all incl

Ferd E. Anderson Jr
FERD E. ANDERSON, JR.
Colonel, CE
Deputy



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

IN REPLY REFER TO
LMNED-PP

1 March 1972

SUBJECT: Release of Lake Pontchartrain Barrier Plan, GDM No. 2, Supplement No. 1, Rigolets Control Structure and Closure Dam, and Supplement No. 2, Rigolets Lock and Adjoining Levees.

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. Reference is made to the following:

a. LMNED-PP letter dated 27 October 1971, subject Release of Lake Pontchartrain Barrier Plan, GDM, Supplement No. 3, Lake Pontchartrain Barrier, Chef Menteur Pass Complex and to the references cited thereon. A copy of said letter is attached as Inclosure 1.

b. Letter dated 22 February 1972 from New Orleans Public Service, Inc. (NOPSI), Inclosure 2.

2. As stated in Inclosure 2, NOPSI has requested design information pertinent to the Rigolets Complex portion of the barrier plans. We feel that NOPSI use of this information is in the interest of the public and accordingly request authority to release one copy of each of the subject memorandums to NOPSI. Before the memorandums are released they will be screened in accordance with the appropriate regulations.

3. It is requested that this matter be expedited.

FOR THE DISTRICT ENGINEER:

2 Incl
as


GEROME C. BAHR
Chief, Engineering Division

Loubat

Messiah
Baptist

~~Franklin~~ MB

~~Walt~~ WBM

~~Paul~~ MB2

NEW ORLEANS PUBLIC SERVICE INC.

POST OFFICE BOX 60340

NEW ORLEANS, LOUISIANA 70160

AREA CODE 504 529-4846
317 BARRONNE STREET

ENGINEERING DEPARTMENT

February 22, 1972

Mr. Jerome C Baehr
Chief, Engineering Division
Department of the Army
New Orleans District, Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

SUBJECT: Lake Pontchartrain, Louisiana and
Vicinity Hurricane Protection

Dear Mr. Baehr:

As you may recall, about three months ago, we requested and received from you information on the subject project, particularly in the vicinity of the Chef Menteur phase of the plan. A copy of this earlier request and your response are attached for your reference.

As a further extension of our studies in the area, we would now like to request information on the Rigolets phase of the project. If the Design Memorandum for this phase, similar to that provided for the Chef Menteur, is available it would be most helpful. If not, any of the general plans available on this phase would be appreciated.

Similarly, if any Hydrology and Hydraulic analyses of the Rigolets and/or vicinity are available we would like to obtain a copy, if possible.

With regard to the Chef phase, if any later, detailed drawings on the closure dam and levee portion, control structure, and/or navigational locks are available we would appreciate receiving copies of these also.

As we assured you in my previous acknowledgment we shall respect the proprietary nature of the documents furnished us. We also would like to request that you keep confidential our interest in these areas.

As in my previous request, this letter may be considered as authority to bill New Orleans Public Service Inc. where it is necessary to charge for copies of documents and drawings requested herein. All items including any applicable invoices should be addressed to Mr. M. L. Hurstell, Manager, Electric System Planning Division, P. O. Box 60340, New Orleans, Louisiana 70160.

Your assistance and cooperation in this matter is sincerely appreciated.

Very truly yours,



M. L. Hurstell, Manager
Electric System Planning Division

MLH/mh
Attach.

LMVED-PP (10 Aug 71) 1st Ind
SUBJECT: Objection to Building Ship Locks at Seabrook

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans,
La. 70160 17 Aug 71

TO: Division Engineer, Lower Mississippi Valley ATTN: LMVED-TD

1. Reference is made to OCE basic letter dated 10 August 1971, subject as above. The basic letter inclosed a letter dated 4 August 1971 from Representative Speedy O. Long which incloses a letter dated 30 July 1971 from Mr. Vincent J. Robin, III.

2. The above letters were referred to this District for a draft of reply to Mr. Robin's letter which stated objections to certain features of the Lake Pontchartrain hurricane protection project. A similar request for a reply to Mr. Robin's letter has been received from Senator Russell B. Long. We have forwarded our response to Senator Long by letter dated 13 August 1971, a copy of which is inclosed herewith as inclosure 3. We trust this letter will serve as a suitable basis for any reply you might forward to Representative Speedy O. Long.

SEALE

MASK

3 Incl
Added 1 incl
3. Cy ltr dtd 13 Aug 71

RICHARD L. HUNT
Colonel, CE
District Engineer

BAEHR

EXEC OF

#71-188



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

IN REPLY REFER TO

ENG CW-EH

10 August 1971

SUBJECT: Objection to Building Ship Locks at Sea Brook

District Engineer, New Orleans

The attached correspondence is referred for:

Information as basis for further reply, to reach COE, ATTN: ENG CW-AD
not later than 24 August 1971 thru Lower Mississippi Valley.

Draft of reply.

Copy furnished Division Engineer, Lower Mississippi Valley.

FOR THE CHIEF OF ENGINEERS:

2 Incl

1. Cy ltr fm Rep Long
dtd 4 Aug 71
2. Cy ltr to Rep Long
dtd 10 Aug 71

for Leon E. McKinney

LEON E. MCKINNEY
LTC, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

Congress of the United States

House of Representatives

Washington, D.C.

August 4, 19 71

*Chd
6 Aug 71*

Sir:

The attached communication
is sent for your consideration.
Please investigate the statements
contained therein and forward me
the necessary information for re-
ply, returning the enclosed corre-
spondence with your answer.

Yours truly,

Speedy O. Long
Speedy O. Long M. C.
Eighth District
Louisiana

Speedy

ROBIN BOAT RENTAL SERVICE INC.P. O. BOX 526
HARVEY, LA. 70058

July 30, 1971

Rep. Speedy O. Long
8th Congressional District
House Office Building
Washington, D.C.

Dear Rep. Long:

I request that you use efforts to cut off federal funds, or in some other means, prevent the building of ship locks at Sea Brook (the Industrial Canal) and the Rigolettes. I have interests in the Slidell Area which will be adversely affected if this project is undertaken.

It is my opinion that the whole project is without merit. I feel more harm will be done than good. While at the same time it will not protect New Orleans, but will cause extensive flooding in Slidell, St. Bernard Parish and along the banks of the Industrial Canal in New Orleans.

The Sea Brook Locks will prevent the salt water from entering Lake Pontchartrain. In recent years this salt water has cleaned the lake and made the fishing extremely good. In this way the ecology of the lake will be greatly affected.

Many of my friends own pleasure boats which they keep in Madisonville, West Shore and West End. If these locks are built, these boats will spend hours waiting for locks to get out of the lake. In my opinion, many people will not buy new boats or they will get rid of the ones they have. Still others will move their boats out of the lake, probably to Mississippi. This, in turn, will have a bad affect on the pleasure boat business.

It is my understanding that if the project were begun immediately, it would take from eight to ten years to complete. I feel certain that by that time there will be some scientific breakthrough, such as hurricane seedings, etc. The money spent on the locks would be wasted.

Also, I understand that there will be a 2½ mill tax increase to finance the project on the local level and taxes are much too high now.

July 30, 1971

Rep. Speedy O. Long

One of the worst things involving this project is that no public hearing has been held recently to give the opponents a chance to comment; and the widths and depths of the locks are totally inadequate. They were decided upon as long ago as 1960.

I hope that my opinion will have some bearing on your decision as to what should be done about this undertaking. If I can be of any service to you in this matter, please contact me.

Sincerely yours,

ROBIN BOAT RENTAL SERVICE, INC.



Vincent J. Robin, III
President

VJR/dc

EMCOI-EM

10 August 1971

Honorable Speedy O. Long
House of Representatives
Washington, D.C. 20515

Dear Mr. Long:

I have your recent letter concerning the building of ship locks at
Sea Brook, the Industrial Canal.

The New Orleans District Engineer is being requested to furnish in-
formation on this matter. Upon receipt of his report, I will communicate
with you further.

Sincerely yours,

LEON E. MCKINNEY
LTC, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

Encl 2

7/29/71 WBS

TELEPHONE OR VERBAL CONVERSATION RECORD

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

DATE

21 July 1971

SUBJECT OF CONVERSATION

Lake Pontchartrain Hurricane Project

INCOMING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
Gene Nettles	Program Development Office	351
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Jed. Henderson	Structural Design Section	238

OUTGOING CALL

PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
PERSON CALLED	ADDRESS	PHONE NUMBER AND EXTENSION

SUMMARY OF CONVERSATION

Gene Nettles called in regard to Programs A, B, B1, and C for FY 72-73 for the Lake Pontchartrain Project.

1. Marshall Bush called Gene and requested that the final completion date for the project be changed from FY 83 back to FY 81 (as previously submitted in the FY 71-72 Program). The reason for changing the completion date of the project back to the date in the previous submission is as follows:

OCE sent a draft of a letter to Vice President Agnew on 30 June 1971 indicating that the project would be completed in FY 81. The purpose of the draft was to permit the VP to reply to Dennis Barry's letter of 24 June 1971 to the President. The VP sent the letter to Mr. Barry on 7 July 1971.

The Supplemental Justification Data accompanying the four Programs has been revised as follows:

- a. "Beneficial Completion" will be attained by June 1978 when the Chef Menteur and Rigolets Passes will be brought to approved grade the first time.
- b. "Ultimate Completion" will be attained by Dec. 1981 when full protection will be provided.
- c. Preliminary studies indicate the levee in St. Charles cannot be completed by the present "Ultimate Completion" date. Final studies of the St. Charles levee will be completed in Dec. 1971.

Gene said:

- a. In the future, before a DM is submitted indicating a date later than 1981, we should write a letter to OCE through LMVD asking the Chief of Engrs to advise the P that the date has been extended.
- b. General Rollins stated that the date (1981) cannot be changed without his approval, "while he is here and after he has gone".

2. Gene also said that the President's FY 72 budget request for this project has been

increased from \$4,555,000 to \$5,555,000. The Program Development Office will revise all four programs accordingly.

Jed Henderson

Letters and news articles attached.

DRAFT

Mr. Denis A. Barry, II
Chairman, Hurricane Protection Committee
Regional Planning Commission
333 St. Charles Avenue
New Orleans, Louisiana 70130

Dear Mr. Barry:

On behalf of President Nixon, I am replying to your letter of 24 June 1971 regarding funds for the Lake Pontchartrain and Vicinity Hurricane Protection project.

The President's Budget for Fiscal Year 1972 includes the amount of \$4,555,000 for continuation of construction for the Lake Pontchartrain and Vicinity Hurricane Protection project. These funds would be in addition to the \$3,000,000 which were previously held in budgetary reserve and released on 1 July 1971. The funds available in Fiscal Year 1972 will provide for continuation of orderly progress in accomplishing urgently needed hurricane flood protection in the Lake Pontchartrain area. Please note that the estimated total cost of the Lake Pontchartrain and Vicinity Hurricane Protection project was \$216,000,000 at July 1970 price levels. (*\$255 million July 1971*)

As you note, full hurricane protection is scheduled for December 1978 with over-all completion of the project scheduled for September 1981. Let me assure you that there has been no significant change in

the construction program since the Vice President's letter to the Times-Herald newspaper last summer. I am confident that the Corps of Engineers will make every effort within their power to make those scheduled dates a reality.

Sincerely,

LMVD
L New Orleans District

OFFICE OF THE VICE PRESIDENT

REFERRAL

To: Chief of Engineers
Department of the Army
Washington, D. C. 20314

Date: June 30, 1971

ACTION REQUESTED

1206

- Draft reply for:
 - Vice President's signature.
 - Undersigned's signature.
- Memorandum for use as enclosure to reply.
- Direct reply.
- Furnish information copy.
- Suitable acknowledgment or other appropriate handling.
- Furnish copy of reply, if any.
- For your information.
- For comment.

NOTE

Prompt action is essential.

If more than 48 hours' delay is encountered, please telephone the undersigned immediately.

Basic correspondence should be returned when draft reply, memorandum, or comment is requested.

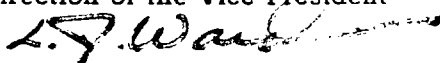
REMARKS:

Description:

Letter: _____ Telegram: _____ Other: _____

To: The President
 From: Denis A. Barry II, Chairman, Hurricane Protection Committee, 333 St. Charles Ave, New Orleans, La. 70130
 Date: June 24, 1971
 Subject: Funding for Lake Pontchartrain and vicinity Hurricane Protection Project

By direction of the Vice President



C. D. Ward
Assistant to the Vice President

CDW/crm

REGIONAL PLANNING COMMISSION
PERSON - ORLEANS - ST BERNARD PARISHES

June 24, 1971



The Honorable Richard M. Nixon
President of the United States
White House
Washington, D.C.

Dear Mr. President:

Our metropolitan area must again call on you for your favorable consideration in eliminating the severe budgetary restriction which has been placed on funds earmarked for continuing construction of our Lake Pontchartrain Hurricane Protection System.

The devastation and human misery created by Hurricanes Betsy and Camille are still fresh in our memory. Rebuilding from these disasters is still with us. The dread of inundation from another cataclysm is very real.

During August of last year, Vice-President Agnew committed the administration to a timely completion of this vital project by December, 1978. This is clear in the Vice-President's letter to the Times-Picayune newspaper, a copy of which is enclosed.

Should the present, executive budgetary construction funds remain in force, there is reason to predict this project will never be completed. The annual increase in construction costs due to inflation more than offsets the proposed appropriation for fiscal year 1972.

This critical project began in 1962 at an estimated cost of \$82 million. Recently the Corps of Engineers estimated a current cost of \$316 million. For 1972 your budget recommends \$4.55 million. With this financial structure we must question the wisdom of your budget and your awareness of our problem.

The Vice-President and the Corps of Engineers assure us of completion by 1978. Your budget makes their assurance pure rhetoric. We simply ask that funds

OFFICERS
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ilman-at-Large

S. A. MOREAU
ilman-at-Large

S. A. BARRY, II
ANGSTON F. REED

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Jury President

H. GONZALES
Jury Vice-President

ET NUNEZ, JR.
senior

J. LANNES, JR.
E. E. PRATTINI, SR.

SIANA STATE
WAY DEPARTMENT

GARY
or

June 24, 1971

be approved annually to meet the full capability of the Corps of Engineers. Anything less places full responsibility on your office.

Knowing the Vice-President's interest in our area, I am taking the liberty of sending him a copy of this letter. I earnestly request your reconsideration so that our protection system for the lives of millions of people in this area will become a reality.

Handwritten notes:
copy kept
6/24/71
[unclear]

Respectfully yours,

REGIONAL PLANNING COMMISSION

Handwritten signature:
Denis A. Barry, II

DENIS A. BARRY, II, CHAIRMAN
HURRICANE PROTECTION COMMITTEE

DABII/wsa

Enclosure

gation Canal, the St. Charles Parish levee and levees at two locations in the Chalmette area of St. Bernard Parish.

\$380,000; Atchafalaya River from Morgan City to the gulf \$750,000. Most of the depart-

damages and loss of scores of lives. He said it is imperative that these levees be enlarged as

25

VIEWS OF READERS

Agnew on Levee Funding

Washington.

Editor, The Times-Picayune:

Your editorial of June 15 titled "Stick to Facts on Levee Funding" might have followed its own admonition more carefully. At the time of my very enjoyable visit to New Orleans, the hard engineering data indicated a possible completion date of December, 1978, for the Lake Pontchartrain and vicinity Hurricane Protection Project.

The revised completion date of September, 1981, (from December, 1978,) arises not from scheduled expenditure (\$11,040,000 for fiscal 1971) which is satisfactory for a 1978 completion date, but is the result of recent engineering studies made available subsequent to last October. Engineering considerations, specifically the findings of more detailed studies of the foundation conditions at the Chef Menteur Pass structure, dictate that the completion date now be September, 1981. However, I am personally assured that even though two additional lifts will be re-

quired because of exceptionally poor foundation conditions, full hurricane protection authorized by the project should be a reality prior to the original completion date of December, 1978. This assurance was from Lt. Gen. F. J. Clarke, Chief of Engineers.

It has been reported to me that the contract which I announced on Oct. 20 to raise the floodwall to project grade along the Inner Harbor Navigation Canal is 81 per cent complete and is scheduled for completion Aug. 15. The potential flood threat to New Orleans is so great that all reasonable speed in completing the Pontchartrain project must be maintained, and I will continue to do all that I can to see that no budgetary or other avoidable delays occur. The geological conditions that are causing a final completion delay, however regrettable, are acts of nature somewhat outside the limited reaches of a vice president.

SPIRO T. AGNEW,
Vice President of the United States.

AN FLEA FOR STORM AID

Bids Congress Double N.O. Area Funds

By EDGAR A. POE

(T-P Washington Correspondent)

WASHINGTON—The Louisiana Department of Public Works Monday appealed to Congress to appropriate \$11 million, more than twice the amount earmarked in the budget submitted by the White House, for the hurricane protection program for greater New Orleans. The budget recommends \$4,565,000 for the fiscal year beginning July 1.

The department disclosed that the estimated federal cost of this project is \$248,838,000 and the local cost will be \$67,162,000, or a total cost of \$316 million. The cost figures are substantially higher than previous estimates. A total of \$31,793,000 has been appropriated thus far.

The big project embraces the city of New Orleans and parts of Jefferson, St. Bernard, St. Charles and St. Tammany parishes with a population of 1,200,000, or about a third of Louisiana's total population.

H. B. Myers, assistant director of the Louisiana Department of Public Works, submitted the department's requested appropriations before a Senate subcommittee headed by Sen. John C. Stennis of Mississippi, and including Sen. John L. McClellan of Arkansas. Myers testified that about half of the people of Louisiana are heavily dependent upon Congress to provide funds to protect their homes, farms and businesses from flood waters.

DRAINED BY PUMPS

Most of the greater New Orleans area, where the hurricane protection works will be constructed, is at or below sea level, drained by pumps, and protected by levees. Local contributions to the protection works are being provided as the works progress.

Myers filed a statement with the Senate and also with the House Appropriations Subcommittee disclosing why additional funds are needed over the amount recommended by the budget. He said more funds are needed to advance construction of the New Orleans east bank levee and floodwall at two locations. The sites are the west floodwall on Inner Harbor Navigation Canal, the St. Charles Parish levee and levees at two locations in the Chalmette area of St. Bernard Parish.

"The lives of more than 1,200,000 people and an undetermined amount of extensive improvements in the greater New Orleans metropolitan area will remain in jeopardy until the project is completed," the Louisiana Department of Public Works reported. This amount must be increased to \$11 million.

The New Orleans to Venice, La., hurricane protection project calling for the construction of a back levee system to give protection from hurricane tidal

overflow to most of the developed area of the Mississippi River delta below New Orleans, needs \$2,600,000 for the coming year, it was said. The budget bureau asked \$998,000.

The estimated federal cost of the back levee system is \$29,600,000. Although the project was authorized in 1962, only \$6,228,000 has been appropriated for the project so far.

ESTIMATED COST

Congress was requested to appropriate \$500,000 for the Michoud Ship Canal at New Orleans. The budget makes no recommendation for this project for next year. The two and one-fourth mile-long canal would be 36 feet deep and 250 feet wide. Federal estimated cost of the project is \$1,680,000.

The Mississippi River Gulf Outlet from the Port of New Orleans to the gulf has been damaged extensively by hurricanes in recent years. Dredging and registration of the channel is now required. Also, final planning and construction of a 1,200 by 45-foot ship lock should be completed as soon as possible. As a result, the Department of Public Works requested the budget recommendation of \$925,000 be increased to \$1,500,000 for fiscal year 1972.

The Department of Public

Works is responsible for the planning and coordinated development of water resources in Louisiana including flood control, navigation, drainage, and

hurricane protection.

Other navigation appropriations made by the department, to name a few, include Barataria Waterway \$1,400,000; the Ouachita and Black Rivers, \$1,500,000; waterway from Empire, La., to the gulf \$150,000; Bayou Lafourche and Lafourche jump waterway \$240,000; Little Calhou Bayou \$300,000; Freshwater Bayou \$300,000.

Mississippi River from Baton Rouge to the gulf \$6,300,000; Houma Navigation Canal \$380,000; Atchafalaya River from Morgan City to the gulf \$750,000. Most of the department's requests were in line with previous recommendations made by President Nixon's budget officials.

EXECUTIVE DIRECTOR

Calvin T. Watts, Shreveport, executive director of the Red River Valley Association, requested \$3,050,000 for Red River levees and bank stabilization below Denison, Tex., while the budget bureau recommended \$1,550,000; Red River emergency back protection \$1,000,000 (\$1,000,000 by the bureau); Overton Red River waterway, lower 31 miles in Louisiana \$1,500,000 (\$700,000).

At the outset of the afternoon hearings Bruce Tucker, of Memphis, executive vice president of the Lower Mississippi Valley Flood Control Association, announced to the subcommittee that Wedon T. Smith of Jonesville, La., would give formal testimony for the association.

Smith, a member of the Texas Basin Levee District of Louisiana, attached to his statement a detailed listing of the association's request. Many levee district members from the lower valley states including Louisiana, Mississippi, Arkansas, Tennessee, Missouri, Kentucky, and Illinois were crowded into the subcommittee hearing room.

The Nixon Administration budget estimate for the lower valley projects for the next fiscal year totals \$80,966,000. However, the flood control association urged Congress to increase

the amount to \$109,616,000.

UNIQUE GROUP

"I remind the committee that our association is somewhat unique," said Smith, "in that it is composed entirely of public bodies having local responsibility in the parts of the seven states involved for prosecuting flood control, drainage, navigation and related projects. The large delegation accompanying me today is composed therefore of public officials, who for the most part, excepting Louisiana, are elected by the people. In Louisiana, board members are appointed by the governor."

Smith urged Congress to provide \$6,400,000 or an increase of \$1,000,000 over the budget, to raise the mainline levees below New Orleans.

The mainline levees are an integral part of the hurricane protection. He pointed out that the great tidal surges generated by the last two major hurricanes, Betsy and Camille, overtopped these levees and were responsible for millions of dollars in damages and loss of scores of lives. He said it is imperative that these levees be enlarged as rapidly as possible.

"We earnestly solicit approval of our request, though it is," Smith said. One of the largest increases over the budget recommendation involves the Atchafalaya River Basin. The White House recommended \$2,450,000 and the Lower Mississippi Valley Flood Control urged Congress to raise the sum to \$12,500,000 for the fiscal year.

TIMES-
PICAYUNE
25 MAY 71

\$148,838,000
 \$216

File:
LAKE PONT.
General

Mr. Baughman
Mr. Franklin
Mr. ~~Black~~ WSM
Mr. ~~Seale~~ WED
Mr. Nettles/shr/351
Mr. Martin

LMNFD

5 January 1970

SUBJECT: 75% Reduction in Contracts on Hurricane Protection Works

Division Engineer, Lower Mississippi Valley
ATTN: LMVBC

Exec Ofc

1. Inclosed is a copy of a letter from Mr. Denis A. Barry, II, Chairman, Hurricane Protection Committee of the Regional Planning Commission. Mr. Barry's letter incloses copies of letters from Mr. Carl H. Schwartz, Jr., Bureau of the Budget, and Mr. Robert E. Jordan, III, Special Assistant to the Secretary of the Army (Civil Functions).

2. Mr. Schwartz's letter states that it is their understanding that the hurricane protection works in the New Orleans area have not been affected by the 75% reduction in new contracts for government construction. This statement is incorrect, as is indicated in the inclosed tabulation. Under the cash disbursement ceiling assigned this district, seven (7) contracts in the Lake Pontchartrain project and one (1) in the New Orleans to Venice project were to be awarded with cash disbursements totaling \$1,200,000. After application of the 75% reduction in new contracts for government construction, there will be eight (8) contracts in the Lake Pontchartrain and one (1) in the New Orleans to Venice projects to be awarded with cash disbursements totaling only \$570,000. In addition to a reduction in funds which can be disbursed on these contracts, this program results in a deferral of these contracts for up to seven (7) months. While this delay may not materially affect the completion date of the two projects, it does have a considerable effect on the interim protection that can be provided by the construction of these works.

3. Since the determination of which projects and contracts would be affected by the 75% reduction in new contracts for government construction was not made at this level, it is requested that an appropriate answer be furnished Mr. Barry at the proper level or that this office be furnished appropriate guidance for use in preparing a reply.

2 Incl
1. ltr dtd 24 Dec 69 w/incls
2. tabulation

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

CF
Engr Div w/incl 2. only

EFFECTS OF 75% REDUCTION IN CONTRACTS

Project	Item	Deferral in Award of Contract		Time	Reduction in Cash Disbursements (\$1,000)		
		From	To		From	To	Amount
Lake Pontchartrain & Vicinity	Citrus Back Levee-FS Prot. Sta. 512 to 571	10/69	11/69	1 mo.	150.0	150.0	0
Lake Pontchartrain & Vicinity	IHNC Westside (Sta. 106 to 145) Floodwall	1/70	4/70	3 mo.	250.0	100.0	150
Lake Pontchartrain & Vicinity	IHNC Eastside (Sta 83 to 122) Floodwall	3/70	5/70	2 mo.	100.0	0	100
Lake Pontchartrain & Vicinity	IHNC Eastside (Sta 123 to 179) Levee & Fldwall	2/70	5/70	3 mo.	100.0	0	100
Lake Pontchartrain & Vicinity	IHNC Eastside (Sta 1+67.5 to 56+20) Fldwl Capping	-	12/69	-	-	320.0	0
Lake Pontchartrain & Vicinity	Citrus Back Levee (Sta 455 to 512) 1st lift Levee	3/70	6/70	3 mo.	100.0	0	100
Lake Pontchartrain & Vicinity	Citrus Back Levee (Sta. 431 to 455) Floodwall	3/70	5/70	2 mo.	100.0	0	100
Lake Pontchartrain & Vicinity	Chalmette Ext. (Sta. 770 to 995) 1st Lift Levee	6/70	6/70	0 mo.	0	0	0
New Orleans to Venice	Reach B-1 Levee 1st lift Sta. 104+52 to 238+24	11/69	6/70	7 mo.	400.0	0	400
					<u>1,200.0</u>	<u>570.0</u>	

File:
LAKE PONT-
GSA
Higher Auth.

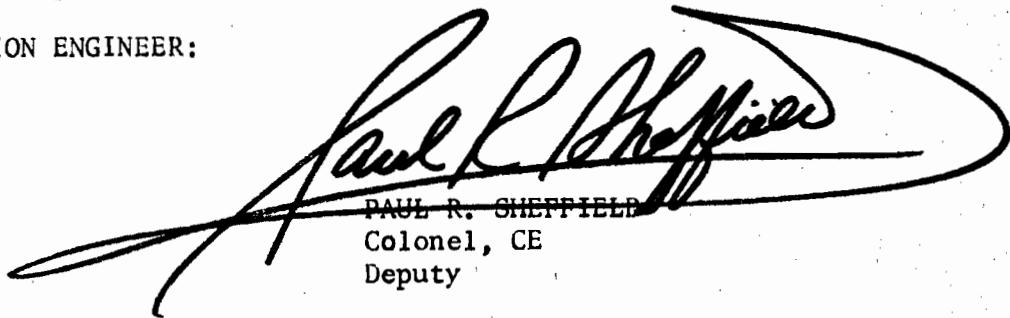
LMVED/LMVPO (NOD 30 Oct 69) 1st Ind
SUBJECT: Lake Pontchartrain Hurricane Project - Temporary Duty Personnel
for Crash Capability Program

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg,
Mississippi 39180 23 Dec 69

TO: District Engineer, New Orleans, ATTN: LMNED

Since much of the work considered in basic letter will be accomplished by employees of the St. Louis District and the Waterways Experiment Station on temporary duty with your District, the revetment design will be performed by the Vicksburg District, and the design of one item will be performed by the Memphis District, it is suggested that requirements for additional personnel be reevaluated during the manpower survey (12-16 Jan 70) and request for any additional outside help be held in abeyance for the present.

FOR THE DIVISION ENGINEER:



PAUL R. SHEFFIELD
Colonel, CE
Deputy



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

LMNED

30 October 1969

SUBJECT: Lake Pontchartrain Hurricane Project - Temporary Duty Personnel
for Crash Capability Program

Division Engineer, Lower Mississippi Valley

1. This letter is submitted pursuant to my discussion with you* aboard the M/V MISSISSIPPI 25 October 1969, relative to the crash capabilities of \$12 million on Lake Pontchartrain Hurricane project and \$2 million on the New Orleans to Venice Hurricane project.

2. During my appearance before Senator Ellender's subcommittee on 13 October 1969 and by subsequent communications from the Chief of Engineers to Senator Ellender, the aforementioned crash capabilities were entered into the record. The Senator offered to do everything possible to increase the funding on these projects. The matter of expenditure limitations and reductions in new construction contracts was brought to the attention of Vice President Agnew by the local interests on his recent visit to New Orleans, and some optimism was expressed regarding the possibility of having hurricane work exempted from expenditure controls.

3. In accordance with prior agreements with Mr. Bush of your office, the increased capabilities for the crash program - \$3.5 million on Pontchartrain and \$600,000 on New Orleans to Venice - were contingent on use of temporary duty personnel for 6 months to expedite the designs and plans and specifications. Our estimate of temporary duty personnel consists of the following:

- 4 - Civil Engineers, GS-11 - levee experience
- 2 - Structural Engineers, GS-11
- 5 - Civil Engineers, GS-11 - Soil Mechanics
- 1 - Specification Writer, Civil Works - GS-11
- 1 - Estimator, GS-11
- 6 - Draftsman, GS-7

4. We have given consideration to the use of Architect Engineers to perform certain elements of study and design work in lieu of temporary duty personnel for in-house work and find this to be impracticable for several reasons.

- a. Designs and plans and specifications for construction contracts

LMNED

SUBJECT: Lake Pontchartrain Hurricane Project - Temporary Duty Personnel
for Crash Capability Program


that would be awarded under the crash program are in various stages of completion. Award of any of these jobs to an A-E would result in the repetition of in-house engineering effort that had been expended. Architect-Engineer personnel taking over designs and plans that had been started by our personnel would have to restudy the design problems and review and check calculations and plans that had been started before they could proceed.

b. The award of A-E contracts is a time consuming process. It requires the effort of a number of individuals, most of whom are engineers, to select the A-E's, prepare contracts, negotiate, assemble and transmit criteria and data, orient in Corps' procedures, review designs, and generally administer the contract. Time is lost in obtaining required higher level approvals for A-E selections and for the contract award. Any change in criteria or scope of the contract requires additional time and effort spent in contract administrative matters not applied directly to the design. In general, the use of A-E's in a short term crash program such as this is not considered to be advantageous so far as time is concerned.

c. The use of temporary duty personnel will provide for a higher degree of flexibility in a situation where so many variables and contingencies exist. These individuals can be shifted between jobs in the crash program without delay to bolster any job requiring acceleration.

5. The request is being submitted at this time so that preliminary steps can be taken toward identifying the source of the required personnel and such preliminary contacts made as are considered advisable. In this way, initiation of the extra design effort will not be delayed after the funding is made available.

6. Your assistance and advice in this matter is appreciated.


HERBERT R. HAAR, JR
Colonel, CE
District Engineer



Bill: For your info. Dates confirmed. Mr. Frank is going to talk to Maj West to delete one CPT in Aug 70.

DEPARTMENT OF THE ARMY
 NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
 P. O. BOX 60267
 NEW ORLEANS, LOUISIANA 70160

S-28 November 1969

LMNDD

25 November 1969

SUBJECT: Requirements for Officer Personnel

Division Engineer, Lower Mississippi Valley
 ATTN: LMVPO

1. Reference multiple DF, LMVPO, 7 November 1969, subject as above.
2. The New Orleans District has the following officer requirements. Grade specified is that which is considered appropriate to the magnitude of responsibility. Dates are current estimated construction schedules.

	<u>Date Required</u>	<u>Rank</u>	<u>Project</u>	<u>Permanent Station of Assignment</u>
Not in CPM	Date ok ✓ Aug 70 ✓	CPT	Bayou Bienvenue Structure	New Orleans, La.
	Aug 70 ✓	CPT	Bayou Dupre Structure	New Orleans, La.
CPM	Sep 72 ✓	CPT	Seabrook Lock	New Orleans, La.
CPM	Jan 72 ✓	CPT	Chef Menteur Navigation Structure	New Orleans, La.
CPM	Jan 72 ✓	CPT	Chef Menteur Control Structure	New Orleans, La.
CPM	Apr 72 ✓	CPT	Rigolets Lock	New Orleans, La.
CPM	Apr 72 ✓	CPT	Rigolets Control Structure	New Orleans, La.

LMNDD
SUBJECT: Requirements for Officer Personnel

25 November 1969

Date

Permanent Station
of Assignment

Required

Rank

Project

Sep 72

CPT

Cooper Dam

Cooper, Tex.

STEVEN G. WEST
Major, CE
Acting District Engineer

LMNED-PP (MOD 13 Sept 68) 2d Ind

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, La.
70160 31 Oct 68

TO: Division Engineer, Lower Mississippi Valley, ATTN: LMVED-G

1. Reference is made to paragraph 3 of the 1st Ind. Comparative cross sections were developed (incl 9 & 10) for a portion of two typical hurricane protection projects--"New Orleans to Venice, La." and "Grand Isle, La. and Vicinity"--for the following conditions: survey report grade and shear strength; new grade and datum with survey report shear strengths; and new grade and datum with shear strengths used for the general design memorandum. The results are as follows:

City Price to Empire Portion
of
New Orleans to Venice

	<u>Percent of Net Survey Section</u>	
	<u>For F.S.=1.2</u>	<u>For F.S.=1.3</u>
Survey report net section (old grade)	100	109
Survey report net section (new grade & datum)	159	182
GDM No. 1 net section (new grade & datum)	292	207

Grand Isle & Vicinity

Survey report net section (old grade)	100	112
Survey report net section (new grade & datum)	172	198
GDM net section (new grade & datum)	188	223

2. In regard to the Grand Isle, La. and Vicinity project, the stability analyses presented in the A-E draft GDM for construction of the levee to full net section in the first lift resulted in unreasonably large stability berms because of the low shear strengths used in the design. The borings for this project were made by the A-E. The A-E's design was based on the middle average shear strengths and a factor of safety of 1.3. It has been our experience that shear strengths from A-E borings are invariably lower than would be obtained from borings taken by the Corps of Engineers because of the procedures used by the A-E's in handling their samples. In order to obtain a sound and economical design and help reduce the cost of the project, which at the value presented in the draft GDM is beyond economic justification, it is recommended that one of the following design procedures be adopted:

Engineering Division
File Copy

LMNED-PP (NOD 13 Sept 68) 2d Ind 31 Oct 68

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

a. Design using the selected "middle average" shear strengths used by the A-E in the GDM draft for a factor of safety of 1.20 in lieu of 1.30. We feel that the use of a factor of safety of 1.2 is justified based on our past experience with A-E borings. Spot check borings would be made to verify this.

b. Increase the selected "middle average" shear strengths presented in the A-E draft GDM to the high averages and design for full net grade and a factor of safety of 1.30.

c. Design for a factor of safety of 1.30 with the levee constructed in lifts to interim heights over a period of years with the final lift resulting in the net levee section. Design of the section for the first lift would be based on the selected shear strengths presented in the A-E draft GDM. For estimating purposes, design of the subsequent lifts would be made assuming increases in the selected shear strengths due to consolidation of the levee and foundation soils. Prior to preparation of the plans and specifications for each subsequent lift, additional borings would be made to determine the actual increase in shear strengths and the design would be revised as required.

3. We have completed our review of the draft design memorandum from a soils standpoint for the Grand Isle, La. and Vicinity project; however, before our comments are returned to the A-E for his action, it is recommended that a conference be held with LMVD personnel to discuss the comments presented in paragraph 2 above.

2 Incl
9-10 Cross sections

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

Seale

Mask

Huesmann

jc Baehr

Exe Ofc

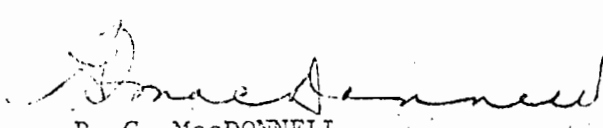
LMVED-G (NOD 13) (Rev. 10-1-68)
SUBJECT: Increase in Safety Factor for Hurricane Protection Projects

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg,
Miss. 39180 24 Sep 68

TO: District Engineer, New Orleans District: LMVED-P9

1. The information presented in your letter does not appear to show that modifying the soils design criteria now in use will actually reduce the cost of the hurricane protection projects. It seems likely that raising the design grade three to four feet due to the development of more severe hurricane parameters and revised ground surface elevations is more costly, more to the increased project cost than does changing the safety factor from 1.2 to 1.3.
2. The 1.3 safety factor was selected for design of hurricane protection levees based in part on experiences with Atchafalaya Levee Test sections. Test Section III, designed to have a safety factor of approximately 1.3, is continuing to settle and spread laterally. Use of a lower safety factor would further increase the deformation in the foundation and previously placed embankment as evidenced by the data from Test Section II. As soils in the area of your hurricane protection projects are soft and weak and sometimes exhibit brittle characteristics, designing embankments with low safety factors could result in serious overstress in the foundation rendering it weaker than that at the start of construction. The 1.3 safety factor was agreed to by LMVD and OCE on the basis of the above considerations.
3. Before a decision can be reached on your proposal to modify the present soils design criteria, we need your views on the changes which you propose. We understand that one change would consist of reducing the safety factor to 1.2 for levee designs. To evaluate such a modification we need your engineering justification. This should include, but not necessarily be limited to, comparative cost studies of a typical embankment designed with a safety factor of 1.2 and 1.3 for an embankment having the height contemplated in the survey report and for an embankment having the new design height. You should also explain the reasons why you consider that an embankment designed with a safety factor of less than 1.3 would perform satisfactorily.
4. After reviewing the above information the need for the meeting proposed in the basic letter will be considered further.

wd all incl


R. G. MacDONNELL
Major General, USA
Division Engineer

LMNED-PP

13 September 1968

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

Division Engineer, Lower Mississippi Valley

ATTN: LMVED-TD

1. Hurricane protection projects have been authorized for four areas in the New Orleans District. The "New Orleans to Venice, Louisiana" project (see inclosure 1) was authorized by Public Law 874-87th Congress, 2d Session, approved 23 October 1962. The "Lake Pontchartrain, Louisiana and Vicinity" project (see inclosure 2); the "Morgan City, Louisiana and Vicinity" project (see inclosure 3); and the "Grand Isle, Louisiana and Vicinity" project (see inclosure 4) were authorized by Public Law 289-89th Congress, 1st Session, approved 27 October 1965.

2. Planning is well underway on all four of the projects and construction is underway on the New Orleans to Venice and the Lake Pontchartrain projects. It is apparent at this time that the final cost of each project will greatly exceed the survey report cost and this is creating several problems. The benefit-to-cost ratios are lower and in some cases becoming marginal and the increased local requirements may be more than the cooperating agencies can support. In addition, obtaining adequate Federal funds will require longer periods of time, thereby substantially delaying completion dates.

3. New Orleans to Venice, Louisiana.

a. The New Orleans to Venice project (see inclosure 1), as authorized, provided for protection of four separate reaches in the Mississippi Delta below New Orleans to Venice, Louisiana--two reaches each on the west and east banks, respectively, of the Mississippi River as follows:

- Reach A - City Price to Empire
- Reach B - Empire to Venice
- Reach C - Phoenix to Bohemia
- Reach E - Violet to Verret

13 September 1968

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

Subsequent to authorization, the area to be protected by Reach E was included in the modified Chalmette Area Plan of the Lake Pontchartrain project; therefore, Reach E has been eliminated.

b. The total cost (see inclosure 5) for Reaches A, B, and C of the project, based on June 1961 price levels and appearing in the document on which authorization was based, is \$9,615,000, comprising of \$8,334,000 for construction, \$744,000 for lands and damages, and \$537,000 for relocations.

c. Based on a request from local interests, Reach B has been divided into two reaches--Reach B1 - Empire to Fort Jackson and Reach B2 - Fort Jackson to Venice. In addition, the levee alignment for Reach B1 has been modified at the request of local interests to include a larger area of land at an increased cost. These modifications constitute betterments to the local sponsor and are subject to the local sponsor providing all additional cost for betterments. The latest cost estimate (see inclosure 5) for Reaches A, B1, B2, and C, based on projecting costs presented in the general design memorandum for Reach B1 to 1 July 1968 price levels, is \$43,400,000, comprising of \$39,675,000 for construction, \$1,880,000 for lands and damages, and \$1,845,000 for relocations. The latest cost given above includes \$6,421,500 for betterments, comprising of \$6,158,500 for construction, \$119,800 for lands and damages, and \$143,200 for relocations.

4. Lake Pontchartrain, Louisiana and Vicinity.

a. The Lake Pontchartrain project (see inclosure 2) consists of two separate and distinct major features--the Chalmette Area Plan and the Lake Pontchartrain Barrier Plan. The major alignment changes that have been made to this project subsequent to authorization are the extension of the Chalmette levee and the relocation of the Chef Menteur Pass Complex.

b. The total cost (see inclosure 6) for the Chalmette Area Plan, based on December 1961 price levels and appearing in the document on which authorization was based, is \$15,143,000, comprising of \$14,244,000 for construction, \$452,000 for lands and damages, and \$477,000 for relocations. The latest cost estimate (see inclosure 6) for the Chalmette Area Plan, based on projecting costs presented in the general design memorandum for the original Chalmette Area Plan and in the letter report for the Chalmette Extension and on costs presented in the detail design memorandum for the Bayou Bienvenue and Bayou Dupre Control Structures, is \$38,310,000, comprising of \$34,160,000 for construction, \$2,929,000 for lands and damages, and \$1,221,000 for relocations. The latest costs given above include approximately \$16,100,000 for the Chalmette Extension.

13 September 1968

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

c. The total cost (see inclosure 6) for the Lake Pontchartrain Barrier Plan, based on December 1961 price levels and appearing in the document on which authorization was based, is \$64,703,000, comprising of \$59,676,000 for construction, \$4,479,000 for lands and damages, and \$548,000 for relocations. The latest cost estimate (see inclosure 6) for the Lake Pontchartrain Barrier Plan, based on projecting costs presented in the general design memorandum for the Citrus Back Levee to 1 July 1968 and on costs presented in the supplemental general design memorandum for the Inner Harbor Navigation Canal Remaining Levees, is \$127,690,000, comprising of \$110,292,000 for construction, \$15,264,000 for lands and damages, and \$2,134,000 for relocations.

5. Morgan City, Louisiana and Vicinity.

a. The Morgan City project (see inclosure 3) provides protection for two areas--the Morgan City area and the Franklin and Vicinity area. The Morgan City area involves two reaches--A and B.

b. The total cost (see inclosure 7) for Reaches A and B, based on May 1963 price levels and appearing in the document on which authorization was based, is \$1,506,000, comprising of \$989,000 for construction, \$505,000 for lands and damages, and \$12,000 for relocations. The latest cost estimate (see inclosure 7) for Reaches A and B, based on projecting costs presented in the authorizing documents to 1 July 1968 price levels, is \$2,067,000, comprising of \$1,380,000 for construction, \$672,000 for lands and damages, and \$15,000 for relocations.

c. The total cost (see inclosure 7) for the Franklin reach, based on May 1963 price levels and appearing in the document on which authorization was based, is \$2,943,000, comprising of \$2,308,000 for construction, \$97,000 for lands and damages, and \$538,000 for relocations. The latest cost estimate (see inclosure 7) for the Franklin reach, based on a draft general design memorandum, is \$6,810,000, comprising of \$4,180,000 for construction, \$240,000 for lands and damages, and \$2,390,000 for relocations.

6. Grand Isle, Louisiana and Vicinity.

a. The Grand Isle project (see inclosure 4) provides for a loop levee along both banks of Bayou Lafourche from Golden Meadow to Larose with control structures in the bayou in or near these towns.

b. The total cost (see inclosure 8) for the project, based on December 1960 price levels and appearing in the document on which authorization was based, is \$7,857,000, comprising of \$6,323,000 for

LMNED-PP

13 September 1968

SUBJECT: Increased Costs of Authorized Hurricane Protection Projects

construction, \$322,000 for lands and damages, and \$1,212,000 for relocations. The latest cost estimate (see inclosure 8), based on a draft general design memorandum, is \$37,056,000, comprising of \$30,959,000 for construction, \$4,574,000 for lands and damages, and \$1,523,000 for relocations. The latest costs given above include approximately \$3,150,000 for extending the protection 2 miles below Golden Meadow.

7. As indicated by the above figures, the estimated current costs for the authorized hurricane protection projects are two to four times as high as the costs presented in the authorizing documents, and these figures are expected to increase further as more detail design is accomplished. Some of the increase can be contributed to revised alignments; however, most of the increase is caused by changes in design criteria. The development of more severe hurricane parameters by the U. S. Weather Bureau subsequent to submittal of the survey reports resulted in increases of 2 or 3 feet in the elevation of the protective systems. Releveling in the areas by the U. S. Coast and Geodetic Survey resulted in reducing existing ground surface elevations referred to mean sea level by approximately 1 foot, producing a corresponding increase in effective levee heights, since the changed ground elevations do not materially alter computed levee grades referred to mean sea level. These increases in the levee elevations added considerably to the cross sections. In addition, the cross sections of the survey reports were designed for a factor of safety of 1.2 whereas the cross sections of the design memorandums were designed for a factor of safety of 1.3.

8. It appears that the costs of the hurricane protection projects could be reduced considerably by modifying the soils design criteria. Accordingly, it is requested that an early meeting between NOD and LMVD personnel be held in New Orleans to discuss reasons for the increased costs of the projects, particularly with respect to the soils design criteria currently in use and to arrive at a future course of action for each project.

8 Incl (dupe)

1. Map 2-32

2. Map 2-35

3. Map 2-36

4. Map 2-34

5. New Orleans to Venice cost est.

6. Lake Pontchartrain cost est.

7. Morgan City cost est.

8. Grand Isle cost est.

HERBERT R. HAAR, JR.

Colonel, CE

District Engineer

Mask

Huesmann

Baehr

Exe Ofc

NEW ORLEANS TO VENICE, LA.

Estimated Cost
(In thousands of dollars)

Project as Authorized
Price level - June 1961

Reach	Total cost	Construction cost	Federal cost	Non-Federal Cost			Total non-Federal cost
				Lands and damages	Relocations	Cash or equivalent work	
A	3,043.0	2,568.0	2,130.0	218.0	257.0	438.0	913.0
B	3,743.0	3,124.0	2,620.0	435.0	184.0	504.0	1,123.0
C	<u>2,829.0</u>	<u>2,642.0</u>	<u>1,980.0</u>	<u>91.0</u>	<u>96.0</u>	<u>662.0</u>	<u>849.0</u>
Total	9,615.0	8,334.0	6,730.0	744.0	537.0	1,604.0	2,885.0

Estimated Current Cost
Price level - July 1968

A	10,033.8	8,487.5	7,023.7	900.0	646.3	1,463.8	3,010.1
B1	17,313.7	16,377.2	7,624.5	300.6	635.9	8,752.7	9,689.2
B2	5,876.1	5,405.3	4,113.3	277.1	193.7	1,292.0	1,762.8
C	<u>10,176.4</u>	<u>9,405.0</u>	<u>7,123.5</u>	<u>402.3</u>	<u>369.1</u>	<u>2,281.5</u>	<u>3,052.9</u>
Total	43,400.0	39,675.0	25,885.0	1,880.1	1,845.0	13,790.0	17,515.0

Sheet 6

LAKE PONTCHARTRAIN, LA. AND VICINITY

Estimated Cost
(In thousands of dollars)

Project as Authorized
Price level - December 1961

Area	Total cost	Construction cost	Federal cost	Non-Federal Cost			Total non-Federal cost
				Lands and damages	Relocations	Cash or equivalent work	
Thalmette	15,143.0	14,244.0	10,600.0	452.0	447.0	3,644.0	4,543.0
Lake Pontchartrain Barrier Plan	<u>64,703.0</u>	<u>59,676.0</u>	<u>41,200.0</u>	<u>4,479.0</u>	<u>548.0</u>	<u>18,476.0</u>	<u>23,053.0</u>
Total	79,846.0	73,920.0	51,800.0	4,931.0	995.0	22,120.0	27,596.0

Estimated Current Cost
Price level - July 1968

Thalmette	38,310.0	34,160.0	26,817.0	2,929.0	1,221.0	7,343.0	11,493.0
Lake Pontchartrain Barrier Plan	<u>127,690.0</u>	<u>110,292.0</u>	<u>86,745.0</u>	<u>15,264.0</u>	<u>2,134.0</u>	<u>23,547.0</u>	<u>40,945.0</u>
Total	166,000.0	144,452.0	113,562.0	18,193.0	3,355.0	30,890.0	52,438.0

MORGAN CITY, LA. AND VICINITY

Estimated Cost
(In thousands of dollars)

Project as Authorized
Price level - May 1963

Reach	Total cost	Construction cost	Federal cost	Non-Federal Cost			Total non-Federal cost
				Lands and damages	Relocations	Cash or equivalent work	
A	1,426.0	944.0	944.0	470.0	12.0	0	482.0
B	80.0	45.0	45.0	35.0	0	0	35.0
Franklin	<u>2,943.0</u>	<u>2,308.0</u>	<u>2,060.0</u>	<u>97.0</u>	<u>538.0</u>	<u>248.0</u>	<u>883.0</u>
Total	4,449.0	3,297.0	3,049.0	602.0	550.0	248.0	1,400.0

Estimated Current Cost
Price level - July 1968

A	1,956.0	1,315.0	1,315.0	626.0	15.0	0	641.0
B	111.0	65.0	65.0	46.0	0	0	46.0
Franklin	<u>6,810.0</u>	<u>4,180.0</u>	<u>4,180.0</u>	<u>240.0</u>	<u>2,390.0</u>	<u>0</u>	<u>2,630.0</u>
Total	8,877.0	5,560.0	5,560.0	912.0	2,405.0	0	3,317.0

GRAND ISLE, LA. AND VICINITY

Estimated Cost
(In thousands of dollars)

Project as Authorized
Price level - December 1960

Reach	Total cost	Con- struction cost	Federal cost	Non-Federal Cost			Total non-Federal cost
				Lands and damages	Relo- cations	Cash or equiva- lent work	
Golden Meadow to Larose	7,857.0	6,323.0	5,500.0	322.0	1,212.0	823.0	2,357.0

Estimated Current Cost
Price level - July 1968

Golden Meadow to Larose	37,056.0	30,959.0	25,939.0	4,574.0	1,523.0	5,020.0	11,117.0
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Get copies of this letter into the RP files of:

1. Lake Pontchartrain and Vicinity (Hurricane Protection)
2. Mississippi River - Gulf Outlet
3. New Orleans to Venice (Hurricane Protection)

HRGON-011

27 November 1967

Honorable Carl Hayden
Chairman, Committee on Appropriations
United States Senate
Washington, D. C. 20510

Dear Mr. Chairman:

This letter is to advise you of an increase in estimated Federal costs for three closely related projects in the New Orleans, Louisiana area, namely the Lake Pontchartrain and Vicinity Hurricane Protection project; the New Orleans to Venice Hurricane Protection project; and the Mississippi River-Gulf Outlet Navigation project. These increases result primarily from approval of project modifications by the Chief of Engineers.

The Lake Pontchartrain and Vicinity, Louisiana, Hurricane Protection project was authorized by the Flood Control Act of 1965 (H. Doc. 231, 89th Congress, 1st Session). This project, which will provide protection from hurricane generated floods, consists of two units, the Lake Pontchartrain barrier plan and the Chalmette area plan. The authorizing document provides for reexamination of the levee alignment during the preconstruction planning stage with a view to protecting additional lands. The preliminary results of the study for hurricane protection in St. Bernard Parish initiated under a resolution for the review of hurricane protection in that parish indicated conclusively that expansion of the Chalmette area plan to encompass additional areas including the area between Violet and Verret (Reach E of the New Orleans to Venice project) were fully justified and should be incorporated into the project plan for the Chalmette area. Conditions experienced during hurricane Betsy in 1965 resulted in the development of new hurricane parameters with the result that net levee grades have been increased. The increased levee height requirement has necessitated the realignment of levees and other structural modifications. The most recent estimate of the Federal cost of the modified project for Lake Pontchartrain and Vicinity Hurricane Protection is \$92,598,000, an increase of \$20,927,500 over the amount previously reported to Congress in connection with the Fiscal Year 1968 Budget. The B/C ratio is 13.5 to 1.

27 November 1967

Honorable Carl Hayden

The New Orleans to Venice, Louisiana, Hurricane Protection project was authorized by the Flood Control Act of 1962 (H. Doc. 550, 87th Congress, 2d Session). This project will provide for hurricane protection on four reaches of the Mississippi River below New Orleans by increasing the height and section of the existing back levees and other improvements. Conditions experienced during Hurricane Betsy in 1965 resulted in the development of new hurricane parameters with the result that the net levee grades have been increased from about 13.5 feet to 15.0 feet. In certain reaches, the increased levee height requirement made necessary the realignment of levees and other structural modifications. As indicated heretofore, Reach E was eliminated from this project and incorporated into the Lake Pontchartrain and Vicinity Project. As a result of the above changes, the estimate of the Federal cost of the modified project for New Orleans to Venice Hurricane project is \$24,064,000, an increase of \$15,014,000 over the amount previously reported to Congress in connection with the Fiscal Year 1968 Budget. The B/C ratio is 2.5 to 1.

The Mississippi River-Gulf Outlet project was authorized by Public Law 455, 84th Congress, approved 29 March 1956 (H. Doc. 245, 82d Congress, 1st Session). At the time this project was authorized there existed, within the city of New Orleans, levees of substantial dimensions extending along both banks of the project navigation canal. Construction of the navigation project exposed these levees and the foreshore between them and the channel to direct attack with resultant damage from waves generated by seagoing vessels utilizing the waterway. The navigation project should have included adequate provisions for protecting these levees and their foreshore from this damage. In addition, this protection will be necessary to protect the new levees which will be constructed for sections of the Lake Pontchartrain and Vicinity Hurricane Protection project located adjacent to this ship channel. In view of this, as a mitigating measure, the plan for Mississippi River-Gulf Outlet project has been modified to provide wave wash protection for approximately 6 miles of levees and foreshore on the north bank of the channel and about 18 miles of levees and foreshore along the south bank. The authorization provided that replacement of the existing Industrial Canal lock or an additional lock be constructed when economically justified by obsolescence of the existing lock or by increased traffic. Recent studies have shown that replacement of the lock will apparently be justified and therefore it is being included

ENGCW-OM

27 November 1967

Honorable Carl Albert

In the project. The most recent estimate of the Federal cost of the modified project for Mississippi River-Gulf Outlet navigation is \$163,000,000 an increase of \$64,800,000 over the amount previously reported to Congress in connection with the Fiscal Year 1968 Budget. Included in this increase is \$5,337,000 for wave wash protection and \$55,800,000 for planning and construction of the additional lock. The B/C ratio is 1.5 to 1.

A similar letter is being sent to the Chairman of the House Committee on Appropriations.

Sincerely yours,

H. G. WOODBURY, JR.
Brigadier General, USA
Director of Civil Works

Copy furnished:
Lower Mississippi Valley Division
New Orleans District

Hughes

TELEPHONE OR VERBAL CONVERSATION RECORD

(AR 340-15)

DATE

5 June 1967

LAST NAME—FIRST NAME—MIDDLE INITIAL OR SUBJECT OF CONVERSATION

Schroeder, Edward G., Jr.

GRADE

SERVICE NUMBER

ADDRESS OR ORGANIZATION AND STATION

SUBJECT: Riprap Protection for Levees of Lake Pontchartrain Project

PERSON CALLING

Mr. Merle Smith

OFFICE OR RELATIONSHIP

OCE

TELEPHONE NUMBER

INFORMATION OR ACTION SOUGHT

Mr. Smith called this date and requested that he be furnished today the estimated maintenance cost for riprap foreshore protection for the entire portion of the levee of the Chalmette Unit fronting the Mississippi River-Gulf Outlet project and for the back levee of the Citrus Unit from the southwest corner to station 507+44.6 at the intersection of GIWW and Gulf Outlet.

INFORMATION GIVEN OR ACTION TAKEN

Obtained the following information from Mr. Chatry, New Orleans District, and telephoned it to Mr. Fall, OCE:

Annual maintenance estimates for foreshore protection, Mississippi River-Gulf Outlet:

Chalmette area plan	\$27,000
Citrus Back levee	4,000

Confirmation sent OCE by teletype per request of Mr. Fall.

✓
By furn:
New Orleans Dist

CLERK TAKING CALL

TIME

SEARCHED BY

TIME

ANSWERED BY

TIME

DATE

5 June 1967

SIGNATURE OF PERSON DIRECTING ACTION

EDWARD G. SCHROEDER, JR.

Assistant Chief, Program Development Office

MR CHATRY

L.P. Higher Authority

UNCLASSIFIED

X

ROUTINE
MAIL

OCOVENGES DA WASH DC

DIVENGR LOWER MISS VALLEY VICKSBURG MISS

INFO: DISTENGR RELNS LA (MAILED) ✓

DISTENGR STL MO (MAILED)

UNCLAS

FROM ENGCW-ES 132

2. The Bureau of the Budget recently approved an amendment to the F.Y. 1968 Civil Works budget request which modifies the budget request for projects in your division as follows:

Dist.	State & Project	Approved	Amended	Increase
		Budget	Budget	or
		FY 1968	FY 1968	Decrease
		\$	\$	\$
N.O.	<u>Louisiana</u> Lake Pontchartrain & Vicinity (1965 Act)	2,300,000	3,260,000	+960,000
St. L.	<u>Illinois</u> Richland Creek	490,000	100,000	-390,000

NEW ORLEANS DISTRICT

~~2. Ten copies of the revised PB 2a reflecting these changes should be submitted by 10 May, Attn: ENGCW-B.~~

1
May 1967
1 1

56895
Mr. Height

HARRY CONN
Chief, Programs Division
Civil Works

UNCLASSIFIED



~~MR. CHATRY~~
File
L. Paul High
Authority

DEPARTMENT OF THE ARMY
LOWER MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39180

REPLY REFER TO: LMVBC

24 April 1967

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity

TO: Chief of Engineers
ATTN: ENGCW-V & ENGCW-PR

1. Reference is made to the following:

a. Lower Mississippi Valley Division letter of 21 March 1966, subject: Hurricane Protection - Lake Pontchartrain and Vicinity - Chalmette Area.

b. New Orleans District letter of 29 November 1966, subject: Lake Pontchartrain, La., and Vicinity - Modification of the Chalmette Area Plan to Include Larger Area.

c. House Document No. 231, 89th Congress, 1st Session, Lake Pontchartrain and Vicinity, La.

2. In first indorsement to Reference a. the Chief of Engineers considers that the portion of the cost that is required for riprap foreshore protection against erosion from wavewash from shipping should be charged to the navigation project as a Federal cost for wavewash protection. Obviously, the navigation project referred to is the Mississippi River-Gulf Outlet project.

3. In third indorsement to Reference a. the New Orleans District Engineer furnished an estimate of the costs for wavewash and foreshore protection chargeable to the navigation purpose. This estimate includes wavewash and foreshore protection for the Citrus back levee, the New Orleans East back levee, and the Chalmette back levee which are identified as the levees paralleling and adjacent to the Gulf Intracoastal Waterway and the Mississippi River-Gulf Outlet project as shown on Plate 3 of Reference c. In fifth indorsement to Reference a. the Chief of Engineers states that this particular decision (i.e., the decision in first indorsement) was based on those facts pertaining to the specific projects involved. Thus, the projects involved are the Lake Pontchartrain and Vicinity Hurricane Protection project, the Mississippi River-Gulf Outlet project, and the Gulf Intracoastal Waterway project.

LMVBC

24 April 1967

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity

4. Reference b. discusses enlargement of the Chalmette area and in paragraph 10 sets forth an additional cost of \$966,000 for foreshore protection along the Mississippi River-Gulf Outlet in Reach C-D. Paragraph 16 of Reference b. states that the modification of the Chalmette area will increase the total estimated cost of the Chalmette area plan from \$29,555,200 to \$37,697,000, which includes \$4,377,400 for foreshore protection along the Mississippi River-Gulf Outlet.

5. The sixth indorsement to Reference b. indicates that the costs for riprap foreshore protection along the Mississippi River-Gulf Outlet reach of the project are in excess of \$4 million.

6. It is our opinion, based on the above correspondence, that the costs of foreshore and wavewash protection to be provided along the north side of the Mississippi River-Gulf Outlet and the Gulf Intracoastal Waterway in the Citrus and New Orleans East areas and along the south side of the Mississippi River-Gulf Outlet in the Chalmette area are to be borne by the Federal government and are chargeable to the navigation projects.

7. There will be no difficulty in charging the cost of riprap protection to be placed adjacent to the Mississippi River-Gulf Outlet Navigation project to that project since it is still in a construction status. However, the remaining riprap in the Citrus area, and that in the New Orleans East area are adjacent to the Gulf Intracoastal Waterway which is a completed project and for which construction funds are not available. The cost of this protection cannot be charged to the Gulf Intracoastal Waterway without reopening the project, and since there are no other navigation projects in the area to bear the cost, your guidance is needed as to the funding of this portion of the riprap protection.

8. In summary, the cost of the riprap protection is approximately \$7 million at January 1966 price levels and ordinarily would be charged to the navigation projects as shown below:

	<u>Cost</u>	<u>Charge to</u>
Citrus Back Levee	\$1,770,185	Miss. R.-Gulf Outlet and G.I.W.W.
New Orleans East Back Levee	891,280	G.I.W.W.
Expanded Chalmette Area	<u>4,337,400</u>	Miss. R.-Gulf Outlet
Total	\$6,998,865	(Say \$7 million)

LMVBC

24 April 1967

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity

9. It is proposed to increase the cost of the Mississippi River-Gulf Outlet project by \$6 million (rounded) to provide for the riprap protection. Your concurrence in this action and in our opinion expressed in paragraph 6 above is requested, as well as guidance on the procedure to be followed in charging the costs of riprap protection for part of the Citrus area back levee and all of the New Orleans East back levee.

FOR THE DIVISION ENGINEER:

Copy furnished:
New Orleans Dist

MARSHALL E. BUSH
Chief, Program Development Office

L. Pontchartrain
High Auth.

LMVEX (OCE 30 Jan 67) 2d Ind
SUBJECT: Lake Pontchartrain Hurricane Protection Project, Louisiana

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 13 Feb 67

TO: Chief of Engineers, ATTN: ENCCW-V/ENCCW-OM

1. Inclosed draft is a revision of that furnished with preceding indorsement.

2. The reference to evaluation of alternate proposal for the barrier alignment in paragraph 2 of 1st Ind is also mentioned at top of page 2 of revised draft of OCE letter to Mr. Dupuy previously furnished OCE, copy attached to inclosed draft.

FOR THE DIVISION ENGINEER:

3 Incl
nc

J. T. PEGG
Chief, Planning Division
Engineer in Charge

Copy furnished:
New Orleans District
ATTN: LMNED-PP
w/cy rev draft

D R A F T

Honorable F. Edward Hebert
House of Representatives
Washington, D. C. 20515

Dear Mr. Hebert:

Further reference is made to your letter of 23 January 1967 inclosing copy of communication dated 20 January 1967 from Mr. Milton E. Dupuy, President, Board of Levee Commissioners, Orleans Levee District, New Orleans, La., directed to the Chief of Engineers. In your letter, inquiry was made as to whether anything could be done to expedite reply to Mr. Dupuy's letter.

Inclosed is copy of letter dated _____ from the Chief of Engineers to Mr. Dupuy in response to his letter of 20 January 1967. I trust that this information meets your requirements.

Copy of Mr. Dupuy's letter is being returned as requested.

Sincerely yours,

2 Incl

1. Mr. Dupuy's ltr 1/20/67
2. Ltr from Chief of Engineers
2/___/67

NOTE: Attached is proposed draft of letter to Mr. Dupuy inclosed with our 3d Ind, LEVLD-TD, 9 Feb 67, on OCE letter, ENGOW-OM, 27 Jan 67, subject: Rigolets, Chef Menteur and Seabrook Flood Control Structures.

D R A F T

Mr. Milton E. Dupuy, President
Board of Levee Commissioners
Orleans Levee District
418 Royal Street
New Orleans, Louisiana 70130

Dear Mr. Dupuy:

This is in response to your letter dated 20 January 1967 concerning the "Lake Pontchartrain, La. and Vicinity" project.

Each of the inquiries made in your letter has been repeated below and replies thereto furnished as fully and complete as possible at this time.

- a. What work is actually taking place at this time toward developing the above mentioned flood control structures?

Initial funds for the "Lake Pontchartrain, La. and Vicinity" project were made available on 28 October 1965. The District Engineer in New Orleans at once initiated preconstruction planning for the Chef Menteur Pass and the Rigolets barrier complexes and the Seabrook Lock. As you are aware, the Chef Menteur Pass and Rigolets Barrier complexes will be parts of a control line extending from the New Orleans East area to high ground east of the Rigolets, the purpose of which is to limit uncontrolled entry of hurricane tide into Lake Pontchartrain while preserving navigation access. At the time of project authorization, there existed some degree of dissatisfaction among local interests with the barrier embankment alignment, which alignment controls the location of the structural

Mr. Milton B. Dupuy,

complexes. The District Engineer, accordingly, as a first step in planning these complexes, undertook to evaluate a number of alternate proposals for the location of the barrier to the end that an alignment best serving project purposes and local interest needs might be developed. The factors involved in this determination were many and complex, but the necessary studies are now essentially complete, and on 30 January 1967, field surveys required for the design of the Chef Menteur Pass complex were initiated. On 13 February 1967, similar surveys for the complex at the Rigolets will be started, with soils borings to follow on 13 February 1967, and 1 March 1967, respectively, for the Chef Menteur Pass and Rigolets complexes.

The Seabrook Lock feature of the project must serve multiple purposes. In addition to the control of hurricane inflow, it must provide the mechanism for mitigating deleterious alterations in the salinity regimen in Lake Pontchartrain which have resulted from construction of the Mississippi River-Gulf Outlet, and it must provide for the control of excessive flow velocities in the Inner Harbor Navigation Canal which have been generated by the same channel.

Based on experience gained in Hurricane "Betsy," the District Engineer, as soon as funds were made available, undertook a reevaluation of the controlling elevation of Seabrook Lock. This reevaluation has resulted in a decision to lower the controlling elevation from 13.2 feet above mean sea level to 7.2 feet above mean sea level. This

Mr. Milton E. Dupuy

change, in addition to reducing the cost of the lock, permits a lowering of levee grades on the Inner Harbor Navigation Canal with attendant savings in cost, and will, for certain types of hurricanes, result in reduced flooding to industrial developments located along the Canal outside the hurricane levees.

Concurrently, the District Engineer undertook the resolution of conflicting requirements in utilizing the lock for salinity and current control as opposed to satisfying needs for riparian use. Much of the electrical power for the City of New Orleans is provided by two steam-electric generating stations, one on the Inner Harbor Navigation Canal (Patterson) and one on the Mississippi River-Gulf Outlet (Michoud). Both stations are dependent upon flow in the Inner Harbor Navigation Canal for cooling water. The New Orleans Public Service, Inc., operators of the stations, accordingly desire that the lock provide for high rates of flow in the Canal. The demand for salinity and current control, on the other hand, imposes rather substantial restrictions on flow. A plan has been devised which is considered adequate to meet the needs for salinity and current control and riparian use. The plan has already been concurred in by the Fish and Wildlife agencies, both Federal and state, and is under consideration by the New Orleans Public Service, Inc. With their concurrence at an early date, the last remaining impediment to proceeding with the design of the lock on an expeditious basis will be removed.

Mr. Milton E. Dupuy

- b. If construction plans are being developed at this time, please advise us as to what progress has been made concerning the plans and specifications.

The structural complexes are major engineering works and their planning represents a major design task. Considerable design work is required before plans and specifications can be prepared; this work is being aggressively prosecuted and it is anticipated that all design and planning requisite to starting construction of the Rigolets complex can be completed in 1969. Drawings and specifications for initiating construction of the complex at Chef Menteur Pass are scheduled for the following year. Drawings and specifications for the Seabrook Lock are scheduled for completion during latter part of 1968.

- c. Let us know what your projected construction schedule is concerning the above mentioned flood control structures. We specifically want to know the projected completion dates for these flood control structures.

Construction of Seabrook Lock is scheduled to be initiated late in 1968 and completed by the end of 1971. Construction schedules provide for both the Rigolets and Chef Menteur complexes to be initiated during 1970 and completed about three years later. These schedules are predicted, of course, on funds being made available as rapidly as they can be effectively utilized.

- d. Please advise us as to what is being done about Federal financing for the above mentioned flood control structures.

Mr. Milton E. Dupuy

Congress appropriated \$1,000,000 for Fiscal Year 1967 for the Lake Pontchartrain and Vicinity project to be utilized for overall planning and initiation of construction of the protective works along the Inner Harbor Navigation Canal. Some of the planning funds were utilized for the Rigolets and Chef Menteur complexes and for the Seabrook Lock. The President's Budget for Fiscal Year 1968 includes \$2,300,000 to continue both planning and construction on the entire project. A substantial part of the \$2,300,000 will be utilized for planning of the structures of immediate interest to you.

- c. Let us know if there are any obstacles that prevent the immediate development and construction of the above mentioned flood control structures and if there are any, please advise us specifically as to what the obstacles may be.

Other than obtaining concurrence of the New Orleans Public Service, Inc. in the plan of the District Engineer for meeting the needs for salinity and current control and riparian use as related to the operation of Seabrook Lock, I know of no obstacles to orderly and effective progress toward completing the design of the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock, and, subsequently, toward their construction.

Please be assured of my understanding and concern in the sense of urgency expressed in your letter for providing flood protection for Orleans Parish at the earliest possible time, and of my cooperation toward this end.

Sincerely yours,

17 February 1967

Mr. Milton E. Dupuy
President, Board of Levee Commissioners
Orleans Levee District
418 Royal Street
New Orleans, Louisiana 70130

Dear Mr. Dupuy:

This is in response to your recent letter concerning the Lake Pontchartrain, Louisiana and Vicinity project.

Initial funds for this project were made available on 20 October 1965. The District Engineer in New Orleans at once initiated preconstruction planning for the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock. Detailed studies of various alternate proposals for location of the Chef Menteur and Rigolets barriers have now been completed and field surveys required for design have been initiated. Planning on the Seabrook Lock has been slowed because of the conflicting requirements in utilizing the lock for salinity and current control as opposed to satisfying the needs for riparian use. A plan has now been devised that will best fulfill the various needs. This plan is currently being reviewed by interested agencies and with their concurrence work will be able to proceed on the design of the lock.

The structural complexes and major engineering works and their planning represents a major design task. Considerable design work is required before plans and specifications can be prepared. This work is being aggressively prosecuted and it is anticipated that plans and specifications can be completed for the Seabrook Lock in the latter part of 1968, for the Rigolets complex in 1969, and for the Chef Menteur Pass in 1970.

Construction of the Seabrook Lock is scheduled to be initiated late in 1968 and completed by the end of 1971. Construction schedules provide for both the Rigolets and Chef Menteur complexes to be initiated during 1970 and completed about three years later. These schedules are predicated on funds being made available as rapidly as they can be effectively utilized.

ENGCN-OM

Mr. Milton E. Dupuy

21 February 1967

For Fiscal Year 1967, Congress appropriated \$1,600,000 for the Lake Pontchartrain and Vicinity project to be utilized for over-all planning and initiation of construction of the protective works along the Inner Harbor Navigation Canal. Some of the planning funds were utilized for the Rigolets and Chef Menteur complexes and for the Seabrook Lock. The President's Budget for Fiscal Year 1968 includes \$2,300,000 to continue the planning and the construction along the Inner Harbor Navigation Canal. A substantial part of the \$2,300,000 will be utilized for planning of the structures of immediate interest to you.

Other than obtaining concurrence of the New Orleans Public Service, Inc., in the plan of the District Engineer for meeting the needs for salinity and current control and riparian use as related to the operation of Seabrook Lock, I know of no obstacles to orderly and effective progress toward completing the design of the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock; and, subsequently, toward their construction.

I appreciate the sense of urgency expressed in your letter for providing flood protection for Orleans Parish at the earliest possible time and our efforts are being directed toward this end.

Sincerely yours,

DANIEL D. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

cc: LMVD
New Orleans District

21 February 1967

Honorable Allen J. Ellender
United States Senate
Washington, D. C. 20510

Dear Senator Ellender:

This is in further reply to your recent letter inclosing a copy of a letter from Mr. Milton E. Dupuy, President, Board of Levee Commissioners, Orleans Levee District, New Orleans, Louisiana, requesting a progress report on the flood control structure at The Rigolets, Chef Menteur and Seabrook in connection with the Lake Pontchartrain Hurricane Protection project.

Initial funds for this project were made available on 28 October 1965. The District Engineer in New Orleans at once initiated preconstruction planning for the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock. Detailed studies of various alternate proposals for location of the Chef Menteur and Rigolets barriers have now been completed and field surveys required for design have been initiated. Planning on the Seabrook Lock has been slowed because of the conflicting requirements in utilizing the lock for salinity and current control as opposed to satisfying the needs for riparian use. A plan has now been devised that will best fulfill the various needs. This plan is currently being reviewed by interested agencies and with their concurrence work will be able to proceed on the design of the lock.

The structural complexes and major engineering works and their planning represents a major design task. Considerable design work is required before plans and specifications can be prepared. This work is being aggressively prosecuted and it is anticipated that plans and specifications can be completed for the Seabrook Lock in the latter part of 1968, for the Rigolets complex in 1969, and for the Chef Menteur Pass in 1970.

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ENCCM-OM
Honorable Allen J. Ellender

21 February 1967

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Other than obtaining concurrence of the New Orleans Public Service, Inc., in the plan of the District Engineer for meeting the needs for salinity and current control and riparian use as related to the operation of Seabrook Lock, I know of no obstacles to orderly and effective progress toward completing the design of the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock; and, subsequently, toward their construction.

I appreciate the sense of urgency expressed in Mr. Dupuy's letter for providing flood protection for Orleans Parish at the earliest time and our efforts are being directed toward this end.

Sincerely yours,

Incl:
Cpy ltr fm Mr. Dupuy
dtd 20 Jan 67.

DANIEL D. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

cc: LMVD
~~New~~ Orleans District

File
L. Pont
High Auth

LMVED-TD (OCE 27 Jan 67) 3d Ind
SUBJECT: Rigolets, Chef Menteur and Seabrook Flood Control Structures

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 9 Feb 67

TO: Chief of Engineers, ATTN: ENG CW-OM/ENG CW-V

Inclosed draft is a revision of that furnished with preceding indorsement.

FOR THE DIVISION ENGINEER:

2 Incl
nc

A. J. DAVIS
Chief, Engineering Division

Copy furnished:
NOD, ATTN: LMNED-PP
w/cy rev draft

D R A F T

Mr. Milton E. Dupuy, President
Board of Levee Commissioners
Orleans Levee District
418 Royal Street
New Orleans, Louisiana 70130

Dear Mr. Dupuy:

This is in response to your letter dated 20 January 1967 concerning the "Lake Pontchartrain, La. and Vicinity" project.

Each of the inquiries made in your letter has been repeated below and replies thereto furnished as fully and complete as possible at this time.

- a. What work is actually taking place at this time toward developing the above mentioned flood control structures?

Initial funds for the "Lake Pontchartrain, La. and Vicinity" project were made available on 28 October 1965. The District Engineer in New Orleans at once initiated preconstruction planning for the Chef Menteur Pass and the Rigolets barrier complexes and the Seabrook Lock. As you are aware, the Chef Menteur Pass and Rigolets barrier complexes will be parts of a control line extending from the New Orleans East area to high ground east of the Rigolets, the purpose of which is to limit uncontrolled entry of hurricane tide into Lake Pontchartrain while preserving navigation access. At the time of project authorization, there existed some degree of dissatisfaction among local interests with the barrier embankment alignment, which alignment controls the location of the structural

Mr. Milton E. Dupuy

complexes. The District Engineer, accordingly, as a first step in planning these complexes, undertook to evaluate a number of alternate proposals for the location of the barrier to the end that an alignment best serving project purposes and local interest needs might be developed. The factors involved in this determination were many and complex, but the necessary studies are now essentially complete, and on 30 January 1967, field surveys required for the design of the Chef Menteur Pass complex were initiated. On 13 February 1967, similar surveys for the complex at the Rigolets will be started, with soils borings to follow on 13 February 1967, and 1 March 1967, respectively, for the Chef Menteur Pass and Rigolets complexes.

The Seabrook Lock feature of the project must serve multiple purposes. In addition to the control of hurricane inflow, it must provide the mechanism for mitigating deleterious alterations in the salinity regimen in Lake Pontchartrain which have resulted from construction of the Mississippi River-Gulf Outlet, and it must provide for the control of excessive flow velocities in the Inner Harbor Navigation Canal which have been generated by the same channel.

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Mr. Milton E. Dupuy

change, in addition to reducing the cost of the lock, permits a lowering of levee grades on the Inner Harbor Navigation Canal with attendant savings in cost, and will, for certain types of hurricanes, result in reduced flooding to industrial developments located along the Canal outside the hurricane levees.

Concurrently, the District Engineer undertook the resolution of conflicting requirements in utilizing the lock for salinity and current control as opposed to satisfying needs for riparian use. Much of the electrical power for the City of New Orleans is provided by two steam-electric generating stations, one on the Inner Harbor Navigation Canal (Patterson) and one on the Mississippi River-Gulf Outlet (Michoud). Both stations are dependent upon flow in the Inner Harbor Navigation Canal for cooling water. The New Orleans Public Service, Inc., operators of the stations, accordingly desire that the lock provide for high rates of flow in the Canal. The demand for salinity and current control, on the other hand, imposes rather substantial restrictions on flow. A plan has been devised which is considered adequate to meet the needs for salinity and current control and riparian use. The plan has already been concurred in by the fish and wildlife agencies, both Federal and state, and is under consideration by the New Orleans Public Service, Inc. With their concurrence at an early date, the last remaining impediment to proceeding with the design of the lock on an expeditious basis will be removed.

Mr. Milton E. Dupuy

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- c. Let us know what your projected construction schedule is concerning the above mentioned flood control structures. We specifically want to know the projected completion dates for these flood control structures.

Construction of Seabrook Lock is scheduled to be initiated late in 1968 and completed by the end of 1971. Construction schedules provide for both the Rigolets and Chef Menteur complexes to be initiated during 1970 and completed about three years later. These schedules are predicted, of course, on funds being made available as rapidly as they can be effectively utilized.

- d. Please advise us as to what is being done about Federal financing for the above mentioned flood control structures.

Mr. Milton E. Dupuy

Congress appropriated \$1,600,000 for Fiscal Year 1967 for the Lake Pontchartrain and Vicinity project to be utilized for overall planning and initiation of construction of the protective works along the Inner Harbor Navigation Canal. Some of the planning funds were utilized for the Rigolets and Chef Menteur complexes and for the Seabrook Lock. The President's Budget for Fiscal Year 1968 includes \$2,300,000 to continue both planning and construction on the entire project. A substantial part of the \$2,300,000 will be utilized for planning of the structures of immediate interest to you.

- e. Let us know if there are any obstacles that prevent the immediate development and construction of the above mentioned flood control structures and if there are any, please advise us specifically as to what the obstacles may be.

Other than obtaining concurrence of the New Orleans Public Service, Inc. in the plan of the District Engineer for meeting the needs for salinity and current control and riparian use as related to the operation of Seabrook Lock, I know of no obstacles to orderly and effective progress toward completing the design of the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock, and, subsequently, toward their construction.

Please be assured of my understanding and concern in the sense of urgency expressed in your letter for providing flood protection for Orleans Parish at the earliest possible time, and of my cooperation toward this end.

Sincerely yours,

TELEPHONE OR VERBAL CONVERSATION RECORD

(AR 340-15)

DATE

9 Mar 67

LAST NAME - FIRST NAME - MIDDLE INITIAL OR, SUBJECT OF CONVERSATION

GRADE

SERVICE NUMBER

BOWEN, COL. THOMAS J.

ADDRESS OR ORGANIZATION AND STATION

USA Engr Dist, NO

PERSON CALLING

OFFICE OR RELATIONSHIP

TELEPHONE NUMBER

Major Hall, OCE

INFORMATION OR ACTION SOUGHT

Maj. Gen. Clarke's (Deputy Chief of Engineers) visit to New Orleans 29 March through 3 April.
Major Hall advises that General Clarke will address the National Securities Assn. in New Orleans on 3 April. General Clarke will be in Vicksburg 29 - 30 March, coming to New Orleans 30 March. He will visit the Mississippi Test Facility all the day of 31 March. He is available to the New Orleans District on Saturday, 1 April, for whatever orientation and action we desire.

INFORMATION GIVEN OR ACTION TAKEN

I indicated to Major Hall that we would like to take General Clarke at 0930 to inspect the new ship lock site at the Industrial Canal Lock and from there using the ALEXANDER to inspect the area of the hurricane project, having lunch aboard, concluding this inspection about 1400 hours.
Major Hall requests that we give him a proposed itinerary for 1 April and the items to be covered.

Copies furnished:

Exec Asst - FOR ACTION

Dep DE

Chief, Engr. Div.

" Opns. "

" Const. "

CLERK TAKING CALL

TIME

SEARCHED BY

TIME

ANSWERED BY

TIME

DATE

9 Mar 67

SIGNATURE OF PERSON DIRECTING ACTION

THOMAS J. BOWEN, Col., CE, District Engineer

8 6 Feb 67
Chatry/kn/239

LMVED-PP (OCE 30 Jan 67) 1st Ind
SUBJECT: Lake Pontchartrain Hurricane Protection Project, Louisiana

DA, New Orleans District, CE, New Orleans, La. 70160 9 Feb 67

TO: Division Engineer, Lower Miss. Valley, CE, ATTN: LMVED-TD

1. Draft of suggested reply to Congressman Hebert is inclosed.
2. A report dealing with the evaluation of alternate proposal for the barrier location as referred to in the fourth paragraph of the inclosed draft will be submitted when formal comment by the Orleans Levee District on one of the proposals considered has been received. This matter has been coordinated with the Orleans Levee District and early receipt of their comment is anticipated.

3 Incl
Added 1 incl (dupe)
3. Draft of reply

THOMAS J. BOWEN
Colonel, CE
District Engineer

Mask

Baehr

[Handwritten signature]
Hudson

[Handwritten signature]
Exe Ofc

67-181

Engineering Division
File Copy



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20315

IN REPLY REFER TO

ENG CW-OM

30 January 1967

SUBJECT: Lake Pontchartrain Hurricane Protection Project, Louisiana

TO: District Engineer
New Orleans District

1. Referred for:

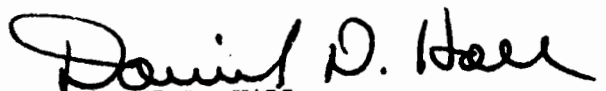
- Information as basis for further reply, to reach OCE/ATTN: ^{thru LMVD}
ENG CW-OM not later than 16 Feb 67.
- Draft of reply.
- Direct reply, copy to OCE.
- Direct reply to OCE by Dist. copy to Div Engr.
- Appropriate Action.
- Information, copy to OCE reply.
- Your information.
-

2. Correspondent ~~has~~ has not been informed of reference.

FOR THE CHIEF OF ENGINEERS:

2 Incls

1. Cpy ltr fm Rep Hebert
dtd 23 Jan 67 w/att.
2. Cpy OCE ltr to Rep Hebert
dtd 26 Jan 67


DANIEL D. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

Cy Div Engr, Lower Mississippi Valley Division

Congress of the United States
House of Representatives
Washington, D.C.

January 23, 1967

109

Lt. General William F. Cassidy
Chief of Engineers
Department of the Army
Washington, D.C. 20315

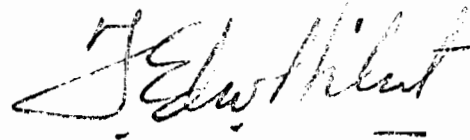
Dear General Cassidy:

I am today in receipt of the attached copy of letter directed to you by the Board of Levee Commissioners, Orleans Levee District, under date of January 20.

I would deeply appreciate your advising me whether anything can be done to expedite your response to this request.

Please return enclosure after it has served its purpose.

Sincerely yours,



F. Edw. Hébert

FEH:k1

State of Louisiana



BOARD OF LEVEE COMMISSIONERS
ORLEANS LEVEE DISTRICT
418 ROYAL STREET
NEW ORLEANS
70130

MILTON E. DUPUY
PRESIDENT

January 20, 1967

Dear General Cassidy:

This letter will serve as an official request for a status report on construction progress concerning the proposed flood control structures at the Rigolets, Chef Menteur and Seabrook (Industrial Canal and Lake Pontchartrain).

The Orleans Levee Board would like to know the answers to the following questions

What work is actually taking place at this time toward developing the above mentioned flood control structures?

If construction plans are being developed at this time please advise us as to what progress has been made concerning the plans and specifications.

Let us know what your projected construction schedule is concerning the above mentioned flood control structures. We specifically want to know the projected completion dates for these flood control structures.

Please advise us as to what is being done about federal financing for the above mentioned flood control structures.

Let us know if there are any obstacles that prevent the immediate development and construction of the above mentioned flood control structures and if there are any, please advise us specifically as to what the obstacles may be.



General William F. Cassidy

Page 2

January 20, 1967

General Cassidy, the Orleans Levee Board has already provided interim protection for our parish until the flood control structures can be built, however, we can not afford a delay in the start of construction of these vitally needed projects and therefore, we must have your immediate and prompt assistance in order to get them started.

Hurricane Betsy alarmed our citizens. The Orleans Levee Board must act as fast as possible and offer the maximum flood protection for Orleans parish. We need, and we ask for your complete cooperation.

Time is of the essence and we respectfully request a prompt reply. Please answer our questions as fully and as complete as possible.

Sincerely,

Lieutenant General William F. Cassidy
USA Chief of Engineers,
Department of the Army
Office of the Chief of Engineers
Washington, D. C. 20315

cc: The Honorable James R. Jones, Assistant to the
President of the United States

The Honorable Russell B. Long, United States Senator

The Honorable Hale Boggs, United States Representative

The Honorable Allen J. Ellender, United States Senator

→ The Honorable F. Edward Hebert, United States Representative

The Honorable John R. Rarick, United States Representative

HMCM-A

26 January 1967

Honorable F. Edward Hebert
House of Representatives
Washington, D. C. 20515

Dear Mr. Hebert:

I have your recent letter inclosing a letter from Mr. Milton E. Dupuy, President, Board of Levee Commissioners, Orleans Levee District, New Orleans, Louisiana, requesting a report on construction progress concerning the proposed flood control structures at the Rigolets, Chef Menteur and Seahrook in connection with the Lake Pontchartrain hurricane project.

The District Engineer, New Orleans District, is being requested to furnish information on the matter. Upon receipt of his report, we will communicate with you further.

Sincerely yours,

DANIEL D. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

D R A F T

Honorable F. Edward Hebert
House of Representatives
Washington, D.C. 20515

Dear Mr. Hebert:

Please refer to your letter dated 23 January 1967 which inclosed correspondence from Mr. Milton E. Dupuy, President of the Board of Levee Commissioners of the Orleans Levee District relative to the "Lake Pontchartrain, La. and Vicinity," project, and to my interim reply thereto dated 26 January 1967.

By way of preamble, it should be observed that the U. S. Army Corps of Engineers, with the intimacy of authorship, and more than anyone else, appreciates the overriding importance of the Lake Pontchartrain structural complexes, particularly those at Chef Menteur Pass and the Rigolets, to the overall project. This appreciation has imparted direction to our planning and oriented it around the proposition of completing these complexes at the earliest practicable date. Now that we are completing the design work essential to the accomplishment of the program of the Orleans Levee District for providing interim protection to the city of New Orleans, we are in a position to place added emphasis on the attainment of what has always been our primary objective; namely, to plan and construct the barrier structural complexes at the earliest practicable time.

Initial funds for the "Lake Pontchartrain, La. and Vicinity," project were made available on 28 October 1965. The District Engineer in New Orleans at once initiated preconstruction planning for the Chef Menteur Pass and the Rigolets barrier complexes and the Seabrook Lock.

Because the planning and design problems involved are widely different, it will be convenient to separate the Seabrook Lock from the Chef Menteur Pass and Rigolets complexes in the following discussion.

The Chef Menteur Pass and Rigolets barrier complexes will be parts of a control line extending from the New Orleans East area to high ground east of the Rigolets, the purpose of which is to limit uncontrolled entry of hurricane tide into Lake Pontchartrain while preserving navigation access. At the time of project authorization, there existed some degree of local interest dissatisfaction with the barrier embankment alignment, which alignment controls the location of the structural complexes. The District Engineer, accordingly, as a first step in planning these complexes, undertook to evaluate a number of alternate proposals for the location of the barrier to the end that an alignment best serving project purposes and local interest needs might be developed. The factors involved in this determination were many and complex, but the necessary studies are now essentially complete, and on 30 January 1967 field surveys required for the design of the Chef Menteur Pass complex were initiated. On 13 February 1967, similar surveys for the complex at the Rigolets will be started, with soils borings to follow on 13 February 1967 and 1 March 1967, respectively, for the Chef Menteur Pass and Rigolets complexes.

The structural complexes are major engineering works and their planning represents a major design task. Considerable design work is required before plans and specifications can be prepared; this work is

being aggressively prosecuted and we anticipate that all design and planning requisite to starting construction of the Rigolets complex can be completed in 1969, and that construction of the complex at Chef Menteur Pass can be initiated about one year later.

Funding of projects is, as is well known, a Congressional prerogative, and any comment by us on this point would not only be purely speculative, but inappropriate as well. However, assuming that funds are made available as rapidly as they can be effectively utilized, we would anticipate completion of all construction on the barrier complexes about three years later.

The Seabrook Lock feature of the project must serve multiple purposes. In addition to the control of hurricane inflow, it must provide the mechanism for mitigating deleterious alterations in the salinity regimen in Lake Pontchartrain which have resulted from construction of the Mississippi River-Gulf Outlet, and it must provide for the control of excessive flow velocities in the Inner Harbor Navigation Canal which have been generated by the same channel.

Based on experience gained in hurricane "Betsy," the District Engineer, as soon as funds were made available, undertook a reevaluation of the controlling elevation of Seabrook Lock. This reevaluation has resulted in a decision to lower the controlling elevation from 13.2 feet above mean sea level to 7.2 feet above mean sea level. This change, in addition to reducing the cost of the lock, permits a lowering of levee

grades on the Inner Harbor Navigation Canal with attendant savings in cost, and will, for certain types of hurricanes, result in reduced flooding to industrial developments located along the Canal outside the hurricane levees.

Concurrently, the District Engineer undertook the resolution of conflicting requirements in utilizing the lock for salinity and current control as opposed to satisfying needs for riparian use. Much of the electrical power for the city of New Orleans is provided by two steam-electric generating stations, one on the Inner Harbor Navigation Canal (Patterson) and one on the Mississippi River-Gulf Outlet (Michoud). Both stations are dependent upon flow in the Inner Harbor Navigation Canal for cooling water. The New Orleans Public Service, Inc., operators of the stations, accordingly desire that the lock provide for high rates of flow in the Canal. The demand for salinity and current control, on the other hand, imposes rather substantial restrictions on flow. A plan has been devised which we consider will adequately meet the needs for salinity and current control and riparian use. The plan has already been concurred in by the fish and wildlife agencies, both Federal and state, and is under consideration by the New Orleans Public Service, Inc. We are optimistic that their approval will be forthcoming at an early date. Such approval will remove the last remaining impediment to proceeding with the design of the lock on an expedited basis.

Postulating the above approval, and again assuming availability of funds, it is anticipated that requisite planning can be completed and construction of the lock started next year. Construction will require approximately three years to complete, so that the lock should be in operation about 1971.

Other than the matter relating to the Seabrook Lock requirements, we know of no obstacles to orderly and effective progress toward completing the design of the Chef Menteur Pass and Rigolets barrier complexes and the Seabrook Lock, and, subsequently, toward their construction.

Please be assured that we share in the sense of urgency which exists for completing this vital project at the earliest possible time and we shall spare no effort in bringing the project to completion.

The inclosure to your letter is returned.

If we can be of further assistance, please call on us.

Sincerely yours,

Controller

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE

TYPE MSG (Check)

ACCOUNTING SYMBOL

ORIG, OR REFERS TO

CLASSIFICATION * OF REFERENCE

ACTION ROUTINE

BOOK MULTI SINGLE

INFO MAIL

S

FROM: PRES MISS RIVER COMM VICKSBURG MISS

SPECIAL INSTRUCTIONS

TO: COFENGRS DA WASH DC

INFO DISTENGR NRLNS LA ATTN: MR. CHATRY (MAIL)

UNCLASSIFIED FOR: MAJOR DAN HALL, ENGCW FROM LMVED

68

Subj: Overtime and Travel Lake Pontchartrain, La. and Vicinity.

- 1. Reference meeting with Chief of Engrs in NOD 1 Dec 66.
- 2. To permit planning to proceed on design of Lake

ODELL

Pontchartrain and Vicinity Hurricane Protection project to permit initiation of construction by Corps in FY 67 and to permit local interests to construct portion of project for which they now have money and construction capability available, it is necessary to provide increase in allowance for travel and overtime in NOD.

Following is breakdown of travel and overtime by units:

	Overtime	Travel
Hydraulic design	\$12,500	\$ 0
Economic studies	1,500	0
Overall planning	18,200	3,400

DATE 14
MONTH Dec
TIME
YEAR 1966

SYMBOL LMVED

SIGNATURE

TYPED NAME AND TITLE (Signature, if required) Davis/rb

TYPED (or stamped) NAME AND TITLE

PHONE 303 PAGE NR. 1 NR. OF PAGES 2

A. J. DAVIS Chief, Engineering Division

SECURITY CLASSIFICATION UNCLASSIFIED

WRITER

RELEASER

PRES MISS RIVER COMM VICKSBURG MISS

	<u>Overtime</u>	<u>Travel</u>
Field surveys	\$ 9,300	\$ 9,500
Design and Plans & Specs	39,500	4,600
Foundation Investigations and Lab Testing	<u>26,500</u>	<u>2,500</u>
	\$107,500	\$20,000

The above amount of overtime adds \$88,500 to the additional overtime allowance for LMVD requested in letter 5 Dec, subj: Management of Overtime Costs - Civil Works Appropriations.

3. Request early approval of above amounts.

LMVED-PP

9 December 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity - Overtime and Travel Requirements for Maximizing Planning Progress in Fiscal Year 1967

TO: Acting Division Engineer, Lower Mississippi Valley
ATTN: LMVED

1. Reference is made to telephone instructions by Mr. A. J. Davis, LMVD, to prepare a report on the overtime and travel funds required, in addition to those now available, to insure that progress in planning for the subject project will not be retarded by current restrictions on expenditures for overtime and travel.

2. We have developed a revised planning procedure for the remainder of the current fiscal year which provides for utilization of overtime and travel to accelerate our planning effort to the maximum extent practicable. The procedure is oriented so as to expedite the start of construction in as many areas as practicable (particularly on the barrier structure complexes at Chef Menteur Pass and the Rigolets, which represent the essential keystone around which the Lake Pontchartrain Barrier Plan must be built and which will provide widespread benefits), and to insure a continuing high capability for construction in future fiscal years. The revised procedure is summarized in the following table:

<u>Item</u>	<u>Action</u>
Design Memorandum No. 1, Part II, Hydrology and Hydraulic Analysis, Lake Pontchartrain Barrier	Work on this memorandum, which was suspended effective 1 December 1966 for a period of three months, due to higher priority work on the Red River Comprehensive Basin Study, will be resumed utilizing overtime.
Design Memorandum No. 1, Part III, Hydrology and Hydraulic Analysis, Lakefront Levees	As above.

LMNED-PP

9 December 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity - Overtime and Travel Requirements for Maximizing Planning Progress in Fiscal Year 1967

<u>Item</u>	<u>Action</u>
Design Memorandum No. 1, Part IV, Hydrology and Hydraulic Analysis, Chalmette Area Extension	Upon approval of recommendation contained in letter LMNED-PR dated 29 November 1966, subject "Lake Pontchartrain, Louisiana and Vicinity - Modification of the Chalmette Area Plan to Include Larger Area," work on this memorandum will be expedited utilizing overtime.
Design Memorandum No. 2, GDM, Lake Pontchartrain Barrier Plan (covering Citrus back levee in detail)	Overtime and TDY personnel will be used to advance completion date, now September 1967, to June 1967, to permit substantial construction in FY 1968.
Report on Evaluation of Alternative Barrier Alignments	Report will be completed within the present month. Its approval will permit work on design memorandum for barrier structures site and type selection to proceed on an expedited basis.
Design Memorandum No. 2, GDM, Lake Pontchartrain Barrier Plan, Supplement for Barrier Structures Site and Type Selection	Overtime, travel, and TDY personnel will be used to expedite collection of necessary survey and soils data and to initiate preparation of the supplement.
Design Memorandum No. 2, GDM, Lake Pontchartrain Barrier Plan, Advance Supplement, IHNC Levees, West Bank, Florida Avenue to Lock, and P&S	Overtime and TDY personnel will be used to insure completion at earliest practicable date in order that substantial construction may be accomplished prior to next hurricane season.
Design Memorandum No. 2, GDM, Lake Pontchartrain Barrier Plan, Supplement on Remaining IHNC Levees, and P&S	Overtime and TDY personnel will be used to complete in time to permit construction early in FY 1968.
Design Memorandum No. 2, GDM, Lake Pontchartrain Barrier Plan, Supplement for Detail Design of Florida Avenue Siphon Crossings, IHNC	Preparation will be initiated under A-E contract. ?

LHMED-PP

9 December 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity - Overtime and Travel Requirements for Maximizing Planning Progress in Fiscal Year 1967

<u>Item</u>	<u>Action</u>
IHNC Levees, Interim Floodwall Construction North of U. S. Highway 90	P&S will be revised in accordance with comments in time to permit construction start on 1 May 1967.
Chalmette Area Plan, Feature Design Memorandum for Bayous Bienvenue and Dupre Drainage Structures	Preparation will be accomplished under A-E contract.
Chalmette Area Plan, GDM, Supplement Covering Extension of Protected Area	Preparation will be initiated under A-E contract upon approval of recommendation contained in ltr LHMED-PR dated 29 November 1966, subject "Lake Pontchartrain, Louisiana and Vicinity - Modification of the Chalmette Area Plan to Include Larger Area."
Chalmette Area Plan, P&S for First Lift Levee along MR-60 in St. Bernard Parish	P&S will be completed in time to permit construction start on 1 May 1967.
Seabrook Lock - GDM	Work is being accomplished by Buffalo District.
Surveys & Borings - New Orleans East Back Levee, South Point to GIWW Levee, Orleans Parish Lakefront Levee, West End to IHNC	Overtime and travel will be utilized to accomplish these surveys which will permit advancing start of construction in the areas involved.

3. Overtime and travel requirements to accomplish the above are \$100,000 and \$20,000, respectively. Overtime will be utilized in all elements of the Engineering Division up to a maximum of 20 hours per week per man. In cases where personnel are utilized for overtime in excess of 12 hours per week, however, such utilization will be for a maximum of three weeks after which at least one week would be spent on the normal 40-hour tour. Travel is required for TDY employees for office studies, and in connection with field operations even though the project is located in the New Orleans area since insufficient locally-stationed field personnel are available to handle the survey and boring work. Breakdown of overtime and travel requirements is shown on the inclosed table.

9 Dec 66
Chatry/kn/239

LMEED-PP

9 December 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity - Overtime and Travel
Requirements for Maximizing Planning Progress in Fiscal Year
1967

4. Local pressure to expedite construction of the project is intense. The Orleans Levee District, local sponsor for the project for all of the Lake Pontchartrain Barrier Plan and part of the Chalmette Area Plan, has completed extensive improvements since hurricane "Betsy" which will ultimately be incorporated into the Federal project. The Lake Borgne Basin Levee District, co-sponsor with the St. Bernard Parish Police Jury of the remainder of the Chalmette Area Plan, is anxious to make available funds for Federal construction. The current pressure for action can be met only by action. We therefore urge that funds to cover the overtime and travel requirements outlined herein be made available at the earliest practicable date.

1 Incl (dupe)
Table

THOMAS J. BOWEN
Colonel, CE
District Engineer

Mask

Hudson

Exe Ofc

Engineering Division
File Copy

LAKE PONTCHARTRAIN, LA. AND VICINITY
OVERTIME AND TRAVEL REQUIREMENTS FOR PLANNING
1 DEC 1966 - 30 JUN 1967

ENGINEERING DIVISION

Branch	Manhours	Grade	OVERTIME		TRAVEL			Remarks
			Rates \$/hr.	Cost	Transportation	Per Diem	Total	
Design	1,408	11 & up	6.08	\$ 8,560	\$ 490	\$4,100	\$ 4,590	Travel for 4 men
Foundations & Materials	3,189	11 & up 9 7		19,125	200	2,000	2,200	Travel for 1 man
WES	65			7,000 1,300				
				\$ 20,425			\$ 2,200	
Hydraulics	2,100	-		12,225	-	-	-	
Economics	125	11	6.08	760	-	-	-	
	75	9	5.93	445	-	-	-	
	75	7	4.65	345	-	-	-	
				1,550				
Survey	1,972	-	-	9,300	-	9,200	9,200	Travel for field parties
Projects Planning	2,800	11 & up	6.08	17,050	500	2,900	3,400	Travel for 1 man; plus office travel
	280	4	4.02	1,150				
				\$ 18,200			\$ 3,400	
Service	6,720	-	-	30,900	200	-	200	Travel for mapping coordination
				\$101,160	106,860		\$19,590	
ROUNDED				\$100,000	107,000		\$20,000	

w/12/66
Telecom
A.J. Davis
yes

NOTE: A.J. DAVIS TO REQUEST
\$ 107,000 - 19,009* = \$ 187,991.

* 19,009* covered in
LMNDCM LETTER
DATED 10/26/66
AS A LINE ITEM OF 75,100
ADD SET

LMVEX (OCE 12 Sep 66) 1st Ind
SUBJECT: Requests for Information from Senator Long and Representative
Boggs, La. - Regarding Hurricane Protection Program, New Orleans
District

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 15 Sep 66

TO: Chief of Engineers, ATTN: ENGCW-EZ

Herewith are copies of letters from the New Orleans District to
Senator Ellender and Representative Hebert on letters identical to
that sent to Senator Long by De Laureal Engineers, Inc. It is believed
that the New Orleans District replies contain sufficient information
upon which to base replies to Senator Long and Representative Boggs.

FOR THE DIVISION ENGINEER:

2 Incl
wd incl 1, 2, 3, and 4
Added 2 incl
5. as
6. as

JOE A. CLEMA
Colonel, CE
Deputy

Copy furnished:
New Orleans District
ATTN: LMNED-PP

LNCCW-EZ

12 September 1966

SUBJECT: Requests for Information from Senator Long and Representative Boggs, La. - Regarding Hurricane Protection Program, New Orleans District.

TO: Division Engineer
Lower Mississippi Valley Division

1. Inclosed is a letter from Senator Long, furnishing a letter from the DeLaureal Engineers, Inc., and a letter from Representative Boggs. Also inclosed are copies of interim replies to Senator Long and Representative Boggs.

2. It is requested that information for use as a basis of replies to the inclosed correspondence be furnished in regard to the specific project work mentioned in the DeLaureal, Inc., letter. Information on the general policies of the Corps of Engineers in performance of Engineering work will be supplied by this office.

2 Incls
as

copy furn N.O.

WENDELL E. JOHNSON
Chief, Engineering Division
Civil Works

United States Senate

WASHINGTON, D. C.

September 2, 1966

2023

Lt. General William F. Cassidy
Chief of Engineers
Corps of Engineers
Washington, D. C.

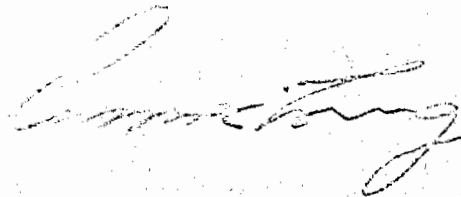
Dear General Cassidy:

Attached is copy of a letter that I have received from Mr. W. D. deLaurel of New Orleans, La. with reference to the possibility of securing architect-engineering work that might be in excess of the capabilities of the New Orleans Engineer District.

I will appreciate it very much if you will advise me concerning the possibility of any of this work being made the subject of contracts with non-government firms.

With every good wish, I am

Sincerely yours,



W. DAVID DE LAURÉAL
P r e s i d e n t
GEORGE F. WILLIAMSON
V i c e p r e s i d e n t
DAVID A. HUNTER, JR.
V i c e p r e s i d e n t

DE LAURÉAL ENGINEERS

INC.

C O N S U L T I N G E N G I N E E R S

H. WILLIAM HERBST
J. DONALD KELLEY
JOHN E. MORRISON
ROBERT A. COOPER, JR.

1512 INTERNATIONAL TRADE MART • NO. 2 CANAL STREET • NEW ORLEANS 70130 • 524-5132

August 25, 1966

Honorable Russell S. Long
United States Senate
Senate Office Building
Washington, D. C.

Dear Senator Long:

We see the U. S. Army Corps of Engineers frequently to solicit AE contracts.

Today we were advised by one of the top men in the New Orleans District office that they recently had two jobs which they were unable to handle with their own forces. Before awarding these contracts to local engineering firms their policy required that they first determine if any other Corps of Engineer District offices outside of Louisiana could handle the work.

As a result of that policy a dam in Louisiana is being designed by the Little Rock District, Corps of Engineers office, and a local Lock is being designed by another out-of-state Corps of Engineers office. There are local private firms with the qualifications and capability of doing the work in both cases.

This seems most unreasonable. Its hard enough for us to compete with the local district for local work, but for us to compete with the entire Corps of Engineers for local work appears completely and eminently unfair and unjustified from any point of view.

I now learn that the New Orleans District anticipates it will have funds (in an undetermined amount which have been authorized and will be made available in December) for work to implement the Hurricane Protection Program for Lake Pontchartrain and vicinity. Specifically, I understand that funds will be made available for construction of a segment of the St. Bernard Parish Levee and for engineering of the control structures at Chef Menteur or the Rigolets. We were advised that the local Corps of Engineers



MEMBER - CONSULTING ENGINEERS COUNCIL

Page -2-
Honorable Russell B. Long
August 25, 1966

office would not be able to handle the job and that they will probably need outside help, and that this firm is considered qualified.

We are fearful that the above policy will cause this job to be done somewhere within the Corps of Engineers outside of Louisiana rather than by an engineer in private practice. This will take money out of your area into another area.

I would appreciate anything you can do to:

- a) Stop this practice of the Corps of Engineers doing all engineering work with its own forces regardless of geographical districts,
- b) Ascertain if money actually will be made available to the New Orleans District for work on the Hurricane Protection program,
- c) Have this firm selected as the AE for any part of the engineering work that will not be done by the New Orleans District office itself,
- d) In the event that a project became available and of a type possibly highly specialized that we have very little or no experience in it is easy for us to have another consulting firm with that specific specialty co-venture with us and at no increase in cost to the government.

Please let me know what can be done to have work like this given to a local firm.

Yours very truly,

DE LAUREAL ENGINEERS, INC.


W. D. de LaREAL

WDdeL/bct

ENGCV-A

12 September 1966

Honorable Russell B. Long
United States Senate
Washington, D. C. 20510

Dear Senator Long:

I have your recent letter inclosing a copy of a letter from Mr. W. D. de Laoreal, De Laoreal Engineers, Incorporated, New Orleans, Louisiana, with reference to the possibility of securing architect-engineering work that might be in excess of the capabilities of the New Orleans Engineer District.

We will be pleased to inform you on this subject soon.

Sincerely yours,

DANIEL B. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

HAL BOGGS, M.C.
2d DISTRICT, LOUISIANA

ASSISTANT MAJORITY LEADER

BARBARA BATHIE
EXECUTIVE SECRETARY

DISTRICT OFFICE
838 FEDERAL OFFICE BUILDING
NEW ORLEANS, LA. 70130

Congress of the United States
House of Representatives
Washington, D.C.

COMMITTEES:
WAYS AND MEANS
JOINT ECONOMIC COMMITTEE
CHAIRMAN, SUBCOMMITTEE ON
FOREIGN ECONOMIC POLICY
JOINT COMMITTEE ON INTERNAL
REVENUE TAXATION

August 31, 1966

Lt. Gen. William F. Cassidy
Chief of Engineers
Department of the Army
The Pentagon
Washington, D. C. 20310

2001

Dear General Cassidy:

Several consulting engineering firms in the New Orleans area have recently informed me of their views regarding the Department's policy in awarding contracts to local firms. Those interested individuals have advised that, before contracts are awarded, it must first be determined if any other Corps of Engineers District Office outside of the State can perform the work.

I understand that, as a result of this policy, a dam in Louisiana is being designed by the Little Rock District Office, and a local lock is being assigned by another out-of-state Corps of Engineers Office. Local private firms with the qualifications and capability of doing the work in both cases are most concerned over this policy, as they have found it difficult enough to compete with the local District Office for work.

De Laurel Engineers, Inc. of New Orleans has recently contacted me with respect to the funds that have been authorized for work to implement the Hurricane Protection Program for Lake Pontchartrain and vicinity. This firm is most interested in being considered for this work and have mentioned specifically the construction of a segment of the St. Bernard Parish Levee and for engineering of the control structures at Chef Menteur or the Rigolets.

In view of the situation, I wonder if you would be good enough to let me have a full report on this matter at your earliest convenience. I will particularly appreciate having your comments on the above policy and whether or not this policy will prevail in

ENOCW-A

12 September 1966

Honorable Hale Boggs
House of Representatives
Washington, D. C. 20515

Dear Mr. Boggs:

I have your recent letter requesting any information with respect to funds actually being made available to the New Orleans District for work on the Hurricane Protection Program.

We will be pleased to inform you on this subject soon.

Sincerely yours,

DANIEL D. HALL
Major, Corps of Engineers
Assistant Director of Civil Works
for Mississippi Valley

7 Jun 66
Chatry/kn/239

LMHED-PP (LMVD 3 Jun 66) 1st Ind
SUBJECT: A-E Contract Information for GAO

DA, New Orleans District, CE, New Orleans, La. 70150 7 Jun 66

TO: Div Engr, Lower Miss. Valley Div, CE, ATTN: LMVED-T

1. Latest approved cost data for the Chalmette area plan, for which Waldemar S. Nelson and Company, Inc., is preparing the general design memorandum (Contract No. DA-16-047-CIVENG-66-320), are as follows:

Levees and floodwalls	\$15,415,500
Engineering and design	1,679,600
Supervision and administration	1,236,500
Construction cost	<u>\$18,331,600</u>
Lands and damages	565,000
Relocations	533,900
	<u>\$19,430,500</u>

2. A-E breakdown and certificate of cost or pricing data are inclosed.

FOR THE DISTRICT ENGINEER:

1 Incl (dupe)
as

GEORGE H. HUDSON
Chief, Engineering Division

Mask

Hudson

66-1448

Engineering Division
File 66-1448



DEPARTMENT OF THE ARMY
LOWER MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39180

S-9 June 1966

IN REPLY REFER TO: LMVED-T

3 June 1966

SUBJECT: A-E Contract Information for GAO

TO: District Engineer
New Orleans District

1. The General Accounting Office has requested the following information for your A-E Contract No. DA-16-047-CIVENG-66-320 with W. S. Nelson and Co., Inc., on the Lake Pontchartrain, La. and Vicinity Project:

a. Estimated construction cost.

b. Copy of A-E's breakdown of his price proposal, and, if the contract exceeds \$100,000, a certificate of cost or pricing data.

2. The requested information should be furnished LMVD by cob 9 June 1966.

FOR THE DIVISION ENGINEER:

A handwritten signature in cursive script, appearing to read "A. J. Davis", is positioned above the typed name.

A. J. DAVIS
Chief, Engineering Division

CERTIFICATE OF CURRENT COST OR PRICING DATA (ASPR 3-807.4, OCT. 1964)

This is to certify that, to the best of my knowledge and belief, cost or pricing data submitted to the Contracting Officer or his representative in support of letter dated 9 February 1966 and accompanying estimated breakdown of costs of proposed engineering contract are accurate, complete and current as of the date of execution of this certificate.

Firm WALDEMAR S. NELSON AND COMPANY
Incorporated

Name

Waldemar S. Nelson
Waldemar S. Nelson

Title

President

9 Feb 1966
Date of Execution

GENERAL DESIGN MEMORANDUM
 CHALMETTE AREA PLAN
 LAKE PONTCHARTRAIN, LA. AND VICINITY

Estimated Breakdown of Engineering Costs

DESIGN ENGINEERING

			<u>Salaries</u>	<u>Total</u>
<u>General Project Supervision</u>				
Chief Engineer	90 hours	@ \$11.60	\$ 1,044	
Project Manager	150 "	@ 11.60	1,740	
Project Engineer	150 "	@ 6.40	960	
				\$ 3,744
<u>Conference Contacts and Coordination With Agencies</u>				
Chief Engineer	90 hours	@ \$11.60	\$ 1,044	
Project Manager	160 "	@ 11.60	1,856	
Project Engineer	200 "	@ 6.40	1,280	
Engineer	200 "	@ 6.00	1,200	
				\$ 5,380
<u>Field Reconnaissance & Investigations</u>				
Chief Engineer	20 hours	@ \$11.60	\$ 232	
Project Manager	40 "	@ 11.60	464	
Project Engineer	80 "	@ 6.40	512	
Engineer	80 "	@ 4.80	384	
Engineer	80 "	@ 4.80	384	
				\$ 1,976
<u>Supervision Surveys (Sub-contract)</u>				
Chief Engineer	10 hours	@ \$11.60	\$ 116	
Project Manager	40 "	@ 11.60	464	
Project Engineer	80 "	@ 6.40	512	
Engineer	200 "	@ 7.00	1,400	
				\$ 2,492
<u>Supervision Soils Program (Sub-contract)</u>				
Chief Engineer	10 hours	@ \$11.60	\$ 116	
Project Manager	60 "	@ 11.60	696	
Project Engineer	100 "	@ 6.40	640	
Engineer	200 "	@ 4.80	960	
				\$ 2,412
<u>Design and Analysis</u>				
Chief Engineer	100 hours	@ \$11.60	\$ 1,160	
Project Manager	180 "	@ 11.60	2,088	
Project Engineer	250 "	@ 6.40	1,600	
Engineer	300 "	@ 9.20	2,760	
Engineer	300 "	@ 6.00	1,800	
Engineer	400 "	@ 6.00	2,400	
Engineer	600 "	@ 5.20	3,120	
Engineer	900 "	@ 5.20	4,680	
Engineer	900 "	@ 5.20	4,680	
				\$24,288

<u>Cost Estimates & Valuation</u>				<u>Salaries</u>	<u>Total</u>
Chief Engineer	20 hours	@ \$11.60		\$ 232	
Project Manager	60 "	@ 11.60		696	
Project Engineer	80 "	@ 6.40		512	
Engineer	120 "	@ 6.00		720	
Engineer	120 "	@ 5.20		624	
Engineer	120 "	@ 5.20		624	
Engineer	120 "	@ 5.00		600	
					\$ 4,008
<u>Report</u>					
Chief Engineer	40 hours	@ \$11.60		\$ 464	
Project Manager	80 "	@ 11.60		928	
Project Engineer	80 "	@ 6.40		512	
Engineer	160 "	@ 6.00		960	
Engineer	160 "	@ 6.00		960	
					\$ 3,824
<u>Drafting and Checking</u>					
Chief Draftsman	1,000 hours	@ \$ 5.00		\$ 5,000	
Senior Draftsman	800 "	@ 4.75		3,800	
Senior Draftsman	600 "	@ 4.50		2,700	
Draftsman	600 "	@ 4.25		2,550	
Draftsman	600 "	@ 4.00		2,400	
Draftsman	600 "	@ 4.00		2,400	
Draftsman	600 "	@ 4.00		2,400	
Draftsman	600 "	@ 3.75		2,250	
Draftsman	600 "	@ 3.50		2,100	
					\$25,600
<u>Plotting & Computations-Surveys & Earthwork</u>					
Engineer	100 hours	@ \$ 9.25		\$ 925	
Engineer	200 "	@ 5.00		1,000	
Engineer	300 "	@ 4.50		1,350	
Draftsman	400 "	@ 4.25		1,700	
Draftsman	400 "	@ 4.00		1,600	
Draftsman	400 "	@ 3.75		1,500	
Draftsman	400 "	@ 3.50		1,400	
					\$ 9,475
<u>Review and Analyse - Soils Program Results</u>					
Project Manager	20 hours	@ \$11.60		\$ 232	
Project Engineer	20 "	@ 6.40		128	
Engineer	100 "	@ 5.75		575	
Engineer	200 "	@ 5.00		1,000	
Engineer	200 "	@ 4.50		900	
					\$ 2,835
<u>FIELD SURVEYS (W. S. NELSON COMPANY)</u>					
Project Manager	40 hours	@ \$11.60		\$ 464	
Project Engineer	40 "	@ 6.40		256	
Engineer	85 "	@ 5.00		425	
Party Chief	250 "	@ 4.00		1,000	
Instrument Man	250 "	@ 3.75		939	
Rodman	250 "	@ 2.50		625	
Rodman	250 "	@ 2.50		625	
Chainman	250 "	@ 2.25		562	
Chainman	250 "	@ 2.25		562	
Chainman	250 "	@ 2.25		562	
					\$ 6,020
					\$92,054

Salaries (Brought Forward)	\$ 92,054	
Payroll Overhead - 18.71%	17,224	
Subtotal		\$109,278
Other Direct Costs	12,400	
Subtotal		121,678
General Overhead - 37.28%	45,362	
Subtotal		167,040
Profit	20,270	
Subtotal		187,310
Subcontracts		<u>105,090</u>
TOTAL CONTRACT		<u>\$292,400</u>

February 9, 1966

LANDRY ENGINEERING CO.

CIVIL, SURVEYING AND CONSULTING

1125 N. DUPRE STREET

NEW ORLEANS, LA. 70119

HUNTER 6-3136

February 1, 1966

W. S. Nelson & Co. Inc.
1200 St. Charles Street
New Orleans, Louisiana

Attention: Mr. Atkinson

Re: Mississippi River Outlet Levee Control
Survey

Gentlemen:

We propose to do the following:

Item 1 Run base line 300 ft. South of R/W every 1000 ft. with 2" pipe (5' long & 10' long in marsh) and set wood stakes every 200 ft. on base line.

Crew: - Party chief (Instrumentman)
2 chainmen
1 boat with captain
1 marsh buggy & operator or 4 laborers

(a) 105,000 ft. @ \$175.00 per 1000 ft. = \$18,375.00
Start Feb. 14th complete April 16, 1966 (54 days)

Item 11 Control Bench Marks every 1000 ft.

Crew: Party chief (Instrumentman)
2 rodmen
1 boat with captain
1 marsh buggy & operator (in marsh only)

(a) 74 B.M.'s in flats @ \$35.00 ea. = 2,590.00
31 " " marsh @ \$58.00 ea. = 1,798.00
Start Feb. 21st complete April 23, 1966.

Item 111 Cross-sections (one every 200 ft.)

Crew: Party Chief (Instrumentman)
2 rodmen
1 boat & captain
1 marsh buggy & operator or 4 laborers

LANDRY ENGINEERING CO.

CIVIL, SURVEYING AND CONSULTING

1125 N. DUPRE STREET

NEW ORLEANS, LA. 70119

HUNTER 6-2126

(a) 112 ea. 600'	Cross sections in woods @ \$34.00 ea.	= \$ 3,808.00
(b) 258 ea. 600'	" " in flats @ \$16.80 ea.	= 4,334.40
(c) 155 ea. 500'	" " along Bayou Dupre	= 4,495.00
	@ \$29.00 ea.	

Start March 7th complete May 11th.

Miscellaneous expenses

1,000.00

Grand total

\$36,400.40

Approximate breakdown of cost as follows:

New Orleans	\$13,154.40
St. Bernard (along outlet)	11,228.00
St. Bernard (along Bayou Dupre)	<u>12,018.00</u>
Total	\$36,400.40

Yours very truly,


S. K. Landry

SKL/dbl

EUSTIS ENGINEERING COMPANY

CONSULTING FOUNDATION ENGINEERS

J. BRES EUSTIS
REG. C. E.

BORINGS • TESTS • ANALYSES

3635 AIRLINE HIGHWAY
METAIRIE, LOUISIANA

7 February 1966

P. O. Box 125

Waldemar S. Nelson and Company Inc.
Engineers and Architects
1200 St. Charles Avenue
New Orleans, Louisiana

Attention Mr. Waldemar S. Nelson

Gentlemen:

Proposal for Professional Engineering Services
Proposed Protection Levee - Mississippi River Gulf Outlet
Vicinity of Industrial Canal, New Orleans, La. to
Bayou Dupre, St. Bernard Parish, Louisiana Thence to
Violet, Louisiana, St. Bernard Parish

In accordance with your recent request we have made an inspection of the subject site together with yourself and Mr. Joseph T. Montgomery of your firm for the purpose of determining site conditions along the route of the proposed levee. As a result of this inspection trip together with an estimated number of test borings that you desire to have drilled, we are submitting herewith our proposal for the subject services.

It is our understanding that approximately 100 general type soil test borings, 60 feet in depth, will be required along the centerline of the proposed levee. Also, 4 undisturbed type soil test borings, each 100 feet in depth, will be required. One of these borings will be made at each of the control structures. One will also be made along the levee alignment adjacent to G.I.W.W., and one along the return levee (Bayou Dupre) alignment. The general type borings will be a minimum of 2 inches in diameter and the undisturbed type borings will be 5 inches in diameter.

Soil mechanics laboratory tests necessary to determine the physical properties of the subsoils will be required as a basis for computations

7 February 1966

to determine the stability of the levee sections, and also estimates of settlement beneath the levees and subsidence within the levee proper. It is further understood that you desire us to furnish pencil drawings of the soil test borings with the results of the tests plotted thereon. Also, that we will be required to make settlement analyses at two designated points along the route of the levees.

For performing the aforementioned services, we propose to charge the following unit prices:

General Type Soil Test Borings, 2" in Diameter
Intermittent Sampling every 2-1/2 Feet

100 - 60-ft. totaling 6000 lin. ft. @ \$7.00 per lin. ft. \$ 42,000.00

Undisturbed Type Soil Test Borings, 5" in Diameter
Continuous Sampling

4 - 100-ft. totaling 400 lin. ft. @ \$14.25 per lin. ft. \$ 5,700.00

Soil Mechanics Laboratory Tests

2400 - Water content tests @ .50¢ each \$ 1,200.00

800 - Unconfined compression shear tests on general type borings @ \$7.00 each \$ 5,600.00

100 - Unconfined compression shear tests on undisturbed borings @ \$7.00 each \$ 700.00

40 - Consolidation tests @ \$70.00 each \$ 2,800.00

30 - Triaxial shear tests ("Q" type) @ \$45.00 each \$ 1,350.00

12 - Triaxial shear tests ("R" type) @ \$75.00 each \$ 900.00

12 - Direct shear tests ("S" type) @ \$120.00 each \$ 1,440.00

Computations & Plotting of Data

70 days @ \$100.00 per day \$ 7,000.00

Grand total \$ 68,690.00

We appreciate the opportunity of submitting this proposal and look forward to working with you on this project.

Yours very truly,
EUSTIS ENGINEERING COMPANY

By Charles A. Bragg
Charles A. Bragg

RADIOGRAM

Higher Authority
Program Development
MAY 20

3 19 PM '66

3 WUG RJH VICKSBURG MISS 1510 20 MAY 66

DISTRICT ENGINEER
NEW ORLEANS, LA

LMVDC-B-66.

FOL OCE TT ENGCW-BS-165 DATED 19 MAY 66 QUOTED:

"1. REURTT LMVDC-B-65 DATED 17 MAY 1966. AN ADDITIONAL CONSTRUCTION, GENERAL WORK ALLOWANCE OF \$28,000 UNDER CODE 902-100, -AE AND D IS APPROVED FOR LAKE PONTCHARTRAIN, LA.

"2. ALLOTMENT OF CONSTRUCTION GENERAL (96X3122) FUNDS IN THE AMOUNT OF \$28,000 TO THE NEW ORLEANS DISTRICT WILL BE MADE BY SEPARATE COMMUNICATION. "

DIV ENGR, LMV

^{WBM}
~~Jan marks~~
Engr. Div.

~~Mr. Chating~~
~~Mr. [unclear]~~
~~Mr. [unclear]~~

Copy to file

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLASSIFIED

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE		TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION	ROUTINE	BOOK	MULTI	SINGLE			
INFO	MAIL						

FROM: DIVENGR LOWER MISS VALLEY VICKSBURG MISS

TO: COFENGRS WASHDC

INFO: DISTENGR NRLNS IA (MAIL)

UNCLAS FOR ENGCW-BC and ENGCW-V

FROM LMVDC-B

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Request for Additional AE&D Funds for FY 1966

Reference NOD letter LMNED-PP dated 11 Apr 66, subject as above, and first ind LMVDC-B dated 13 Apr 66. In response, an additional allowance of \$60,000 was approved for the Lake Pontchartrain study by your TT ENGCW-BS 119 dated 21 Apr 66. Your wire stated that when need for additional funds arises a further request will be considered. District Engineer, New Orleans, reports an additional \$28,000 is required to sustain the planning schedule of in-house work for the remainder of the fiscal year. This work is a continuation of the work listed in the above referenced NOD letter. The District Engineer also reports that based on the present A-E schedule an additional \$37,000 may be required to service the A-E contract through June. A request for funds for the A-E

SPECIAL INSTRUCTIONS

*File
65 L Point
High A
Ruth*

DATE	TIME
17	
MONTH	YEAR
May	1966

SYMBOL	
LMVDC-B	
TYPED NAME AND TITLE (Signature, if required)	
PROSSER/htc	
PHONE	211
PAGE NR.	1
NR. OF PAGES	2
SECURITY CLASSIFICATION	
UNCLASSIFIED	

SIGNATURE
TYPED (or stamped) NAME AND TITLE
MARION D. ODELL Comptroller

RELEASEE

FROM:

DIVENGR LOWER MISS VALLEY VICKSBURG MISS

contract will be submitted after we have made a more careful determination of the requirements. The in-house work proposed by New Orleans must be continued and it is recommended that \$28,000 work allowance and allotment be issued to the Lake Pontchartrain, Louisiana project under Appropriation 96X3122, Construction, General. Early TT advice of action is requested to permit District Engineer, New Orleans, to plan his program for the remainder of the fiscal year.

SYMBOL LMVDC-B	PAGE NR 2	NR OF PAGES 2	SECURITY CLASSIFICATION • UNCLASSIFIED	INITIALS
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12 May 66
Barrington/kn/:

LMNED-PP

12 May 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity, Request for Additional
AE&D Funds for FY 1966

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVPD, LMVDC-B, & LMVED-TD

1. Reference is made to LMNED-PP letter, 11 April 1966, subject supra, and 1st Indorsement thereto, and to telegrams LMVDC-B-56 and ENGCV-BB-119.
2. Additional funds in the amount of \$60,000 were made available in response to the referenced letter. Of these funds, \$50,000 will be obligated to service the A-E contract for the Chalmette area general design memorandum through May 1966 and \$10,000 will be utilized for in-house design expenses.
3. The Waterways Experiment Station has returned \$12,000 as surplus to its needs for this fiscal year. These funds will be used in house.
4. An additional amount of \$28,000 is needed to sustain the planning schedule of in-house work for the remainder of the fiscal year. Based on the present A-E schedule, an additional \$37,000 will be required to service the Chalmette area GDM contract through June. Request for these latter funds is, however, being deferred pending a more precise determination of needs at a later date.
5. It is recommended that the \$28,000 needed to carry out the in-house program for the remainder of the fiscal year be made available at the earliest practicable date.

Chatry

THOMAS J. BOWEN
Colonel, CE
District Engineer

Mask
Hudson

Exe Ofc

Engineer
File Copy

File w/ L. Pont. Ltr
Higher Authority Requesting
\$28,000 for In House

Explanation of Lake Pontchartrain Funds

Requested Previously
\$ 137,000

- 87,000 Nelson

50,000 In House

- 12,000 W.E.S.

38,000 Adjusted In House

Present Request

\$ 67,400 Unobligated ^{1 MAY}

+ 12,000 W.E.S.

79,400

- 50,000 Nelson

29,400 Available but not

55,000 Needed In House

25,000 Add. Needed

\$ 137,000

- 60,000 Provided

77,000 Still needed (No)

~~29,400~~
~~+ 12,000 W.E.S.~~
37,000

25,000

37,000

\$ 62,000 Request + \$ 60,000 more

Add levee design for H.N.C thru michoud \$ 3000

Request \$ 65,000

+ 12,000

77,000

Estimate of who will spend what on Lake Pontchartrain Project for May & June

		May	June	Total
1.	Surveys (Revolving fund)	5.0	—	
2.	Drafting (^{700/wk} 4 men @ ¹⁷⁵ 175/wk)	2.8 3.6	2.8 3.6	
3.	Design (⁹⁰⁰ 3 men @ ³⁰⁰ 300/wk)	3.6 3.2	3.6 3.2	
4.	Found (⁶⁰⁰ 2 men @ ³⁰⁰ 300/wk) Field	5.0	—	
		2.4	2.4	
		^{1.8} 1.8	^{1.8} 1.8	
		5.2	5.2	
5.	Planning (⁶⁰⁰ 2 men @ ³⁰⁰ 300/wk) $1\frac{1}{2} + \frac{1}{2}$	2.4	2.4	
6.	Hydraulics (⁶⁰⁰ 3 men @ ²⁰⁰ 200/wk)	2.4	2.4	
		<u>31.0</u>	<u>21.0</u>	
		21.0		
		52.0		
		<u>3.05\$A</u>		
		<u>55.0</u>		

8
48
2
5/80
Planning
21

*File
Lake Pontchartrain
High Auth.
P.H.*

LMVED-TD (NOD 22 Mar 66) 1st Ind
SUBJECT: Lake Pontchartrain, La. & Vicinity, OCE Report on Conference
of 7-8 March 1966

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 27 Apr 66

TO: District Engineer, New Orleans District, ATTN: LMNED-PP

1. Reference is made to the following:

a. Letter, LMVED-TD, LMVD, 23 March 1966, subject: Lake Pontchartrain and Vicinity, Louisiana (Hurricane Protection) (copy inclosed).

b. Record of telephone conversation, 14 April 1966, between Mr. Chatry and Messrs. Dement and Kaufman (copy inclosed).

c. Letter, LMNED-PP, NOD, 11 April 1966, subject: Lake Pontchartrain, La. and Vicinity, Request for Additional AE&D Funds for FY 1966, and 1st Ind, LMVDC-B, LMVD, 13 April 1966.

d. Radiogram, LMVDC-B 56, LMVD, 25 April 1966.

2. This confirms instructions relayed by telephone to Mr. Chatry by Mr. Dement at 1605 hours, 18 April 1966, that the planning schedule outlined in reference 1b above be implemented in order that a portion of the levee in the Chalmette area may be awarded by 20 April 1967.

3. To assure that the full capability of \$1,600,000 set forth in reference 1a above is met, the need for conferences with staff engineers from OCE and LMVD should be considered to expedite approval of design criteria and designs of the Chalmette levee and the Inner Harbor Navigation Canal floodwall as required to meet the FY 67 construction capability of \$800,000. A field review of the Chalmette back levee design criteria may be needed even in advance of submitting the GDM on the Chalmette area.

4. In response to your request in reference 1c above for additional planning funds for FY 66 in the amount of \$137,000, the Chief of Engineers is allotting \$60,000 by separate communication in accordance with teletype message, ENG CW-BS-119, OCE, 21 April 1966, quoted in reference 1d above.

FOR THE DIVISION ENGINEER:


A. J. DAVIS
Chief, Engineering Division

2 Incl (dupe)
1. Letter, LMVD, 23 Mar 66
2. Record of tel. conv.,
14 Apr 66



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

IN REPLY REFER TO

LMNED-PP

22 March 1966


SUBJECT: Lake Pontchartrain, La. & Vicinity, OCE Report on Conference
of 7-8 March 1966

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVED

1. Copy of subject report dated 16 March 1966 was furnished the New Orleans District.
2. The following is offered in connection with paragraph 7 of the subject report:

Neither the GDM on the Chalmette area nor the advance supplement on the Inner Harbor Navigation Canal will be completed this summer. We shall, however, submit plans and specifications with design analysis for some 7,000 feet of interim floodwall construction on the west bank of the Inner Harbor Navigation Canal north of U. S. Highway 90.

Insofar as interim levee construction on the north bank of the Gulf Intracoastal Waterway is concerned, we have reached agreement with the Orleans Levee District for such construction by them prior to the next hurricane season, with the understanding that the Levee District will receive credit for any portion of their embankment ultimately incorporated into the Federal project. We do not consider that any further meetings in this connection are required.


THOMAS J. BOWEN
Colonel, CE
District Engineer

LHVED-TD

23 March 1966

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana (Hurricane, Protection)

TO: District Engineer
New Orleans District
ATTN: LHVED-PP

Best

1. The Division Engineer recently testified at the congressional Appropriations Hearings that NOD has a capability of \$1,600,000 for FY 67. This capability is broken down as follows:

Kaufman

Current budget allowance	\$ 450,000	
Funds to complete preconstruction planning	350,000	
Funds to initiate construction	<u>800,000</u>	
Total capability	\$1,600,000	

Bush

2. There is a distinct possibility of receiving construction funds in FY 67. Therefore, you should formulate plans to advance your planning and construction schedules so as to fully utilize funds up to the limit of your stated capability.

G.B. Davis

FOR THE DIVISION ENGINEER:

A.J. Davis

A. J. DAVIS
Chief, Engineering Division

incl 1

14 Apr 66

SUBJECT: Lake Pontchartrain and Vicinity

Call to Mr. Chatry, NOD, at 0900 hrs on 14 Apr 66

Messrs. Dement and Kaufman LMVD

As a followup to an earlier call made to Mr. Chatry at 1600 hrs on 13 April, we were furnished the following information. An award could be made on a portion of the levee in the Chalmette area by 20 Apr 67 if the following schedule is adhered to, local interests furnish the necessary rights of way in time to initiate construction, and additional funds requested by NOD letter, 11 Apr 66, are made available.

<u>Date</u>	<u>Action</u>
20 Aug 66	AE submit 1st draft GDM to NOD & LMVD for concurrent review
20 Sep 66	Complete concurrent review
XXXXXXXXXXXXXXXXXXXXXXXXXXXX	
20 Oct 66	AE complete revisions to GDM based on review comments of NOD and LMVD
20 Oct 66	NOD forward GDM to OCE and initiate P&S for a portion of the levee between Bayou Bienvenue and Bayou Dupre. The GDM on Chalmette area will contain the feature design of levees. Thus, once the GDM is approved, all P&S for levees can be approved.
20 Nov 66	Conference with OCE in New Orleans re GDM and levee design procedures including field inspection of levee site.
20 Dec 66	OCE complete review of GDM
20 Jan 67	Revise P&S for selected portion of levee in accordance with OCE review comments on GDM and submit to LMVD on same date for approval.
20 Feb 67	LMVD complete review of P&S
5 Mar 67	NOD revise P&S according to LMVD comments

14 Apr 66

Incl 2

JAMES W. DEMENT, JR.

14 Apr 66

SUBJECT: Lake Pontchartrain and Vicinity

<u>Date</u>	<u>Action</u>
(Cont'd) 5 Mar 67	NOD to advertise between 5 March and 5 April
20 Apr 67	NOD award contract

In order to carry out this advanced schedule, there would be some adjustment in the work being done on other projects, but the effects would not be of serious nature and NOD anticipates no difficulty in making the necessary adjustments.

It will be necessary to inform NOD at the earliest practicable date as to whether or not planning will include initiating construction on a portion of the levee in the Chalmette area in FY 67.

Copy furnished:
New Orleans District
ATTN: LMNED-PP

RADIOGRAM

1 767
Boyer DeWolf

APR 25 3 11 PM '66

2 WUG RJH VICKSBURG MISS 1419 25 ~~02~~ APR 66

DISTRICT ENGINEER
NEW ORLEANS, LA

LMVDC-B-56. FOL OCE TT ENGCW-BS-119 DTD 21 APR 66 IS QUOTED:

"1. REUR 1ST INDORSEMENT DTD 13 APR 66, SUBJECT:

'LAKEPONTCHARTRAIN, LA AND VICINITY, REQUEST FOR ADDITIONAL A E AND D FUNDS FOR FY 1966 ' WITH BASIC LTR DTD 11 APR 66 FROM NEW ORLEANS DISTRICT, THEREON. AN ADDITIONAL CONSTR. , GEN WORK ALLOWANCE OF \$60,000 UNDER CODE 901-100, A E AND D, IS APPROVED FOR LAKE PONTCHARTRAIN (1965 ACT), LA AT THIS TIME. WHEN NEED FOR ADDITIONAL FUNDS ARISES, A FURTHER REQUEST WILL THEN BE CONSIDERED.

"2. ALLOTMENT OF CONSTRUCTION, GENERAL (96X3122) FUNDS IN THE AMOUNT OF \$60,000 WILL BE MADE TO THE NEW ORLEANS DISTRICT BY SEPARATE COMMUNICATION.

"3. NO ACTION IS BEING TAKEN AT THIS TIME ON THE CADDO LAKE DAM, LA FUNDS WHICH ARE SURPLUS IN FY 1966 BUT WILL BE NEEDED IN FY 1967. "

DIV , ENGR LMV

UNCLASSIFIED

X

ROUTINE
AIR-MAIL

COVERERS DA WASH DC

DIVERGEM LOWER MISS VALLEY VICKSBURG MISS

INFO: DISTENGE WRLES LA (MAILED)

UNCLAS

FROM ERGCV-BS 119

1. Reur ltr Ind. dtd 13 Apr 66, Subject: "Lake Pontchartrain, La. and Vicinity, Request for Additional AED Funds for FY 1966" with basic ltr dtd 11 Apr 66 from New Orleans Dist, thereon. An additional Constr., Gen work allowance of \$60,000 under Code 902-100, AED, is approved for Lake Pontchartrain (1965 Act), La. at this time. When need for additional funds arises, a further request will then be considered.

2. Allotment of Construction, General (96X3122) funds in the amount of \$60,000 will be made to the New Orleans Dist by separate communication.

3. No action is being taken at this time on the Caddo Lake Dam, La. funds which are surplus in F.Y. 1966 but will be needed in F.Y. 1967.

20

April 1966

1

1

56895
J. Knight

HARRY COHEN
Acting Chief, Budget Division
Civil Works

UNCLASSIFIED

NEW ORLEANS DISTRICT

LMVPD (NOD 3 Mar 66) 1st Ind
SUBJECT: Lake Pontchartrain & Vicinity, Louisiana

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 14 Apr 66

TO: District Engineer, New Orleans District, ATTN: LMNED-DD

1. Reference is made to telephone discussion between Messrs. Hudson and Mask of your office and Bush of my office on 13 April 1966.

2. The subject project was subdivided into 5 separable units at the request of local interests who today reaffirmed the desire for the 5-unit breakdown. The 5-unit breakdown was approved by the Chief of Engineers.

3. It is our understanding that St. Tammany Parish and Orleans Parish will furnish assurances for the New Orleans East unit. Orleans Parish should be requested to furnish assurances not only for the New Orleans East unit but also for the Seabrook Lock unit and those portions of the New Orleans West and Chalmette units lying in Orleans Parish. In other words, the assurances from Orleans Parish should cover all of the Lake Pontchartrain and Vicinity project lying in Orleans Parish.

4. There is no objection to subdividing the Chalmette unit into two sub-units; namely, that portion lying in Orleans Parish and that portion lying in St. Bernard Parish. However, these sub-units will not be considered separable units. Satisfactory assurances covering all the work in the Chalmette unit in both Parishes must be accepted before work can start in the Chalmette area.

5. The clarification in paragraph 3 above should remove the objections of the New Orleans District brought out in discussion mentioned above and retain the reaffirmed desires of local interests. For these reasons the 5-unit plan will be retained.

Ellsworth I. Davis

ELLSWORTH I. DAVIS
Major General, USA
Division Engineer

Lipari

LMNEU-DD

3 March 1966

SUBJECT: Lake Pontchartrain & Vicinity, Louisiana

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVPD

1. References:

- a. LMVPD letter of 9 Dec 65 to OCE, subject: as above.
- b. 1st Ind to above by OCE dated 4 Jan 66.
- c. 2nd Ind to above by LMVPD dated 12 Jan 66.

2. On 2 Nov 65, the Governor of Louisiana appointed the State of Louisiana, Department of Public Works, to act as coordinator in resolving all questions that may arise and to expedite the furnishing of assurances on the Lake Pontchartrain & Vicinity, Louisiana (Hurricane Protection) project.

3. The Governor on 17 Jan 66 then designated the Board of Levee Commissioners of the Orleans Levee Board as the local agency to secure the assurances for the Barrier Plan. Joint assurances will be secured for the Chalmette Plan from the Orleans Levee Board and the Lake Borgne Basin Levee District and/or the St. Bernard Parish Police Jury.

4. Formal request for assurances was made to the Orleans Levee Board for the Barrier Plan and that portion of the Chalmette Plan in Orleans Parish on 19 Jan 66 and 21 Jan 66, respectively, and should be executed within a few days. Formal request for joint assurances was made to the St. Bernard Parish Police Jury and the Lake Borgne Basin Levee District for that portion of the Chalmette Plan in St. Bernard Parish on 8 Feb 66 and should be executed soon, also.

5. In view of the above, the subdivision of the project into the separable units listed in reference 1. c. seems unnecessary since assurances for the entire project are expected soon because of intense

3 March 1966

SUBJECT: Lake Pontchartrain & Vicinity, Louisiana

local interest in the project. Therefore, it is recommended that the project be subdivided into two separable units as described in House Document No. 231, 89th Congress, 1st Session; namely, the (a) Barrier Plan, and the (b) Chalmette Plan, with the Chalmette Plan further subdivided into (1) Orleans Parish and (2) St. Bernard Parish.

6. The allocation of costs to the separable units recommended above is derived in the following tables. Costs are based on 1 Oct 65 price levels.

Table I
(Costs to be Apportioned)

<u>Separable Unit</u>	<u>Construction</u> (In thousands of dollars)	<u>L&D</u>	<u>Relocations</u>	<u>Total</u>
<u>Barrier Plan</u>				
Seabrook Lock	3,100.0	---	---	3,100.0
Rigolets	21,458.0	858.8	---	22,317.6
Chef Menteur	8,066.6	123.7	---	8,190.3
St. Charles	6,274.9	277.5	41.5	6,593.9
Jefferson	587.0	---	---	587.0
New Orleans	5,555.3	1,039.8	76.1	6,670.2
Citrus & New Orleans East	25,787.3	2,143.2	514.5	28,445.0
Barrier Levee	271.0	1,145.0	---	1,416.0
Mandeville Seawall	258.3	---	---	258.3
TOTAL	71,359.2	5,587.0	632.1	77,578.3

1/ One-half the total cost; the other half is allocated to Navigation and is all Federal.

Chalmette Plan

Orleans Parish	13,966.6	377.9	---	3,744.5
St. Bernard Parish	18,974.2	187.1	515.9	13,677.2
	16,340.8	565.0	515.9	17,421.7

3 March 1966
Lake Pontchartrain & Vicinity, Louisiana

Table II
(Apportionment of Costs in Table I)

Separable Unit	Costs to be Apportioned (in thousands of dollars)	Federal (70%) 1/	Non-Fed. (30%)	Non-Fed. Costs Contributed 1/
Barrier Plan	77,573.3	54,301.3	23,273.5	17,054.4
Chalmette Plan				
Orleans Parish	3,744.5	2,621.2	1,123.3	745.4
St. Bernard Parish	13,577.2	9,504.0	4,073.2	3,400.2
TOTAL	17,321.7	12,125.2	5,226.5	4,145.6
TOTAL	94,895.0	66,426.5	28,499.5	21,200.0

1/ To be adjusted (see Table III) to reflect a cash contribution of \$3,816,000 for capitalized cost of O&R of Highgate Lock and \$3,100,000 Federal cost for 1/2 the cost of Seabrook Lock.

Table III
(Adjustment of Federal & Non-Federal Costs)

Separable Unit	Costs to be Apportioned	Federal	Non-Fed.	Non-Federal Cash Contrib.
Barrier Plan	77,573.3			
70/30 Apportionment		54,301.3	23,273.5	17,054.4
Highgate O&R		+3,816.0	+3,816.0	+3,816.0
1/2 Cost of Seabrook Lock	3,300.0	+3,100.0		
TOTAL	80,873.3	58,217.3	27,089.5	20,870.4
Chalmette Plan				
Orleans Parish	3,744.5			
70/30 Apportionment		2,621.2	1,123.3	745.4
St. Bernard Parish	13,577.2			
70/30 Apportionment		9,504.0	4,073.2	3,400.2
TOTAL	17,321.7	12,125.2	5,226.5	4,145.6
TOTAL	98,195.0	70,342.5	32,316.0	25,016.0

7. Authority is requested to use the separable units listed above in lieu of those listed in reference 1. a.

THOMAS J. BOWEN
Colonel, CE
District Engineer

Lipscomb
Franklin
Hudson
Keen
Brune
Exec Ofc

LW900-5 (MS 11 Apr 66)

1st ind

SUBJECT: Lake Pontchartrain, La. and Vicinity, Request for Additional
ALLO Funds for FY 1966

DA, Lower Miss. Valley Division, CM, Vicksburg, Miss. 39130, 13 Apr 66

TO: Chief of Engineers, ATTN: BR02W-BC

1. The District Engineer, New Orleans, has made a comprehensive study of the funds required to continue planning for the Lake Pontchartrain Hurricane Protection Project for balance of the current year. The basic letter presents the results of that study and shows an urgent need for \$137,000 to continue the planning. He can provide \$20,000 of ALLO funds from the Cadee Dam project subject to repayment in FY 67.

2. In order to continue this most worthwhile program and avoid notifying the A-E contractor of cessation of funds, it is recommended that the District Engineer, New Orleans, be authorized to transfer \$20,000 work allowance from Cadee Dam Project, Code 100, and that an additional allotment and work allowance of \$117,000 be issued under Appropriation 5043122, Code 100.

3. Teletype advice of action requested.

FOR THE DIVISION ENGINEER:

1 Incl (in Gap)
of trip by

MARION S. COMB
Comptroller

Copy furnished:

New Orleans District, ATTN: LW900-PP

File
Exm. 7-1

12 Apr 66
Chatry/kn/239

LMVED-PP

12 April 1966

SUBJECT: Briefing Information on "Lake Pontchartrain, La. and Vicinity,"
Project for Meeting with L&N Railroad Officials on 20 April
1966

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVED-TD

Briefing information is inclosed in accordance with recent telephone
conversation between Mr. Dement, LMVD, and Mr. Chatry, WOD.

FOR THE DISTRICT ENGINEER:

1 Incl (dupe)
Briefing info.

GEORGE H. HUDSON
Chief, Engineering Division

Mask

Hudson

Engineering Division
File Copy

BRIEFING MATERIAL
MEETING WITH MR. BISHA, EXECUTIVE VICE-PRESIDENT, L&N RR,
TO DISCUSS THE
"LAKE PONTCHARTRAIN, LA. AND VICINITY," PROJECT
AS IT RELATES TO THE L&N

1. The L&N expressed interest in the development of modifications to the project document plan for the subject project shortly after its authorization. Messrs. J. B. Clark and W. H. Barber, Chief Engineer and Division Engineer, respectively, of L&N visited the New Orleans District office and explained that they were hopeful that a scheme could be worked out which would offer some protection for their railroad embankment between New Orleans East and the Rigolets. They suggested the possibility of utilizing their embankment, with modifications, as the hurricane barrier. New Orleans District personnel pointed out that the materials used in the construction of the railroad embankment were not suited to the requirements of the hurricane barrier, so that a complete new embankment would be required. This would appear to rule out any advantage to the proposal.
2. Messrs. Clark and Barber also expressed interest in the "Nelson plan." This plan involves the relocation of the authorized hurricane barrier from the Chef Highway (U.S. Hwy. 90) to the north bank of the Gulf Intracoastal Waterway. Attachment 1 shows the barrier locations for the project document and Nelson plans. Mr. Nelson's letter to Colonel Bowen advancing his plan is also inclosed (attachment 2).
3. On 18 January 1966, Mr. Clark exhibited, in the New Orleans District office, color slides and a color film showing "Betsy" damage to the L&N embankment between New Orleans East and Bay St. Louis, Mississippi. The slides and film showed extensive damage throughout.
4. Mr. Clark agreed to furnish various data relating to hurricane damages suffered by L&N. Submission of the data was subsequently made by letter dated 23 February 1966 (copy inclosed, attachment 3). These data are being utilized to the extent practicable in evaluating the economics of various alternate plans.
5. Other L&N personnel who have expressed interest in the matter include Mr. W. H. Kendall, President, and Mr. R. A. Stanley, Vice-President.
6. Under existing conditions, the L&N embankments in the Chef Menteur to Rigolets area experiences material damage from hurricanes producing surge elevations higher than the embankment elevation (about 6 feet m.s.l.). With the project document plan in place, the damage for hurricanes producing surge elevations up to 9 feet m.s.l. (barrier elevation) would be reduced due to the fact that the area between the railroad and the barrier would fill as the surge rose, causing a reduction in the velocity

of flow over the railroad embankment as compared with existing conditions. For hurricanes producing surge elevations in excess of 9 feet m.s.l., this effect would be lessened, but substantial reduction in damage to the railroad should be realized for the larger hurricanes as well.

7. The "Nelson plan" would provide essentially complete protection, to the portion of the railroad embankment it would enclose, from hurricanes which do not produce surge heights in excess of 9 feet m.s.l. For larger hurricanes, the "Nelson plan" could be expected to decrease the damage to the railroad over existing conditions, but to a lesser degree than the project document plan. This difference would result from the fact that the "Nelson" barrier location would reduce stages in the area between the railroad and U. S. Highway 90 by preventing ingress of water into the area via the Chef Menteur and Rigolets Passes as the surge rose. Thus, higher velocities of flow over the railroad embankment, with attendant increase in damage as compared with the project document plan, could be expected.

8. Cost estimates and economic analyses for the "Nelson plan" are incomplete; however, it appears that added costs over those for the project document plan would be in the neighborhood of \$25,000,000. It is indicated that the "Nelson plan" would produce no net benefit over the project document plan.

3 Attachments

1. Map
2. Ltr 12 Oct 65
3. Ltr 23 Feb 66

BRIEFING MATERIAL
MEETING WITH MR. BISHA, EXECUTIVE VICE-PRESIDENT, L&N RR,
TO DISCUSS THE
"LAKE PONTCHARTRAIN, LA. AND VICINITY," PROJECT
AS IT RELATES TO THE L&N

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2. Ltr 12 Oct 65
3. Ltr 23 Feb 66

WALDEMAR S. NELSON AND COMPANY
INCORPORATED
ENGINEERS AND ARCHITECTS

1200 ST. CHARLES AVENUE
NEW ORLEANS, LA. 70130
Telephone: 523-5281
Cable: NELSENG

William K. Bechel, P.E.
Lew J. Bramensul, P.E.
Earl S. Dobbs, P.E.
John D. Fernandez, Jr., P.E.
Alvin S. Flattich, Arch.
Charles H. Weatherly, P.E.

October 12, 1965

Waldemar S. Nelson, P.E.
Tilghman G. Chechere, Jr., A.I.A.
Frank T. Montgomery, P.E.
Ray I. Madden, P.E.
Lawrence A. Welte,
Aviation Consultant

U. S. Army Engineer District, New Orleans
Foot of Prytania Street
New Orleans, Louisiana

Attention: Colonel T. Bowen
District Engineer

Gentlemen:

The Times-Picayune newspaper for Sunday morning, September 19th, carried a map showing the hurricane protection plan proposed by the U. S. Corps of Engineers for New Orleans and the Lake Pontchartrain area. This plan is part of the hurricane report published by the Corps of Engineers about two years ago based on information and studies made during several years preceding its date of publication.

Undoubtedly the protection plan will come up for additional study in view of the heavy damage experienced in recent hurricanes. In this connection I would like to suggest that consideration be given to improvements in the plan which should have the effect of reducing the cost, increasing the area protected and improving the benefit cost ratio. These improvements will also have the effect of preserving two main eastern arteries of access to the City, U. S. Highway 90 and the Louisville & Nashville Railroad, both of which are vulnerable under the present plan.

The published plan calls for the embankment of U. S. Highway 90 reinforced or raised to elevation +9.0 MSL to form the protective levee from a point west of Chef Menteur to a point east of the Rigolets, with the intention that this levee be overtopped during major hurricanes but that the surge of water over the levee would be dissipated in the area of Lake Pontchartrain so as not to dangerously raise lake levels. This plan leaves the L. & N. Railroad, U. S. Highway 90, some 600 homes or summer residences, several churches, a telephone exchange building and microwave repeater stations, many miles of coaxial cable, several marinas and "repair yards" vulnerable to hurricane attack.

It is our suggestion that the hurricane protection levee through this area be constructed on the north bank of the Gulf Intracoastal Waterway beginning at the eastern limit of the Orleans Levee Board's existing levee and continuing eastward across Chef Menteur (with an appropriate structure) along the north bank to a point approximately opposite the eastern end of Lake St. Catherine, thence across the Rigolets at its narrowest point (with a suitable structure) to connect with the natural elevation of Apple Pie Ridge along which there is the Old Salt Bayou Road.

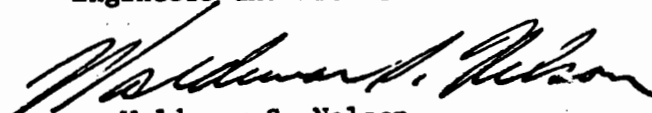
October 12, 1965

This route would protect the greater part of the length of the L. & N. Railroad embankment which was washed out by the 1947 hurricane and again washed out by Hurricane Betsy this year. It would protect the homes along U. S. Highway 90 between Chef Menteur and Rigolets which were wrecked in the 1947 hurricane, again by Hurricane Hilda last year and again by Hurricane Betsy this year. It would take advantage of the existing right-of-way of the Intracoastal Waterway and of the existing spoil bank along the north bank of the Waterway which U.S.G.S. charts indicate is 5' or more high in places. It would avoid the relocation of and/or reconstruction of highways, utilities, coaxial cables, houses and other construction along U. S. Highway 90 and the attendant costs of such relocations. It would not impose new navigation problems since nearly all navigable streams in this area other than the Chef Menteur and Rigolets Passes were closed to navigation many years ago by construction of the L. & N. Railroad. It would probably accelerate completion of the hurricane protection plan since construction along the north bank of the Intracoastal Waterway could be started promptly with a minimum amount of time required for right-of-way acquisition or preparation of engineering plans.

These suggestions are offered in the public interest since we do not now have clients in the area under discussion who would be affected by the proposed work. We believe that the proposed change would contribute greatly to the orderly development of the area in question and would facilitate the construction of the Lake Pontchartrain hurricane protection plan.

Yours very truly,

WALDEMAR S. NELSON AND COMPANY
Incorporated
Engineers and Architects


Waldemar S. Nelson
President

WSN:gs

cc: Colonel G. Hudson
Mr. J. Baehr

Attachment: Marked U.S.G.S. Quadrangles
attached to original letter.



LOUISVILLE & NASHVILLE RAILROAD COMPANY

908 W. BROADWAY • LOUISVILLE 1, KENTUCKY • TELEPHONE 587-1121

*Mr. Mask -
Engg Div -*

J. B. CLARK
CHIEF ENGINEER

February 23, 1966
17150

Colonel Thomas J. Bowen,
Department of the Army,
New Orleans District,
Corps of Engineers,
P. O. Box 60267,
New Orleans, Louisiana. 70160

Dear Sir:

Please refer to my letter of December 17, 1965 and recall our later meeting in New Orleans when you gave me the opportunity to show you and others in your organization the movie film and slides showing in some detail the damage done to our Railroad by Hurricane "Betsy". At that time you asked that I give you a letter showing the cost of making repairs caused by the Hurricane divided into certain areas so that you could use them in evaluating the benefit that might be derived by improved hurricane protection in the New Orleans District which, I believe, extends as far east as the Rigolets. You also asked if I could include the loss of revenue and the extra cost of operation caused by the Hurricane. Later, Mr. Mask asked Mr. Stanley if we could project our estimates into the future and estimate what hurricane loss we might expect for the next 50 years, and also what our estimate would be for the increase in the value of our lands in the event that the area protected by levees could be extended eastwardly and the land be drained and made available for Industrial Development. You also asked that we furnish any helpful information about costs involved in previous hurricanes.

As background information, our records show the following hurricane damages to our line between New Orleans and Mobile since 1931. The most vulnerable section of that line is the marsh area west of Pearl River including the area in the New Orleans District.

February 23, 1966

17150

<u>Date of Hurricane</u>	<u>Days Out of Service</u>	<u>Approximate Damage</u>
September 26, 1881	15	\$ 15,000.00
September 26, 1885	1	2,500.00
October 11, 1886	2	5,000.00
October 2, 1893	15	126,700.00
September 26, 1906	3	107,600.00
September 20, 1909	23	225,700.00
April 26, 1911	9	20,000.00
September 29, 1915	26	418,800.00
July 5, 1916	4	90,000.00
September 20, 1920	9	436,400.00
September 19, 1947	35	2,661,000.00
September 9, 1965	20	(est.) 3,635,600.00

These dates do not include some minor storms that caused us to stop operations during the storm and for inspections and minor repairs following them.

You will note that frequency of major damage has decreased through the years but that the cost of repairing damages has increased. I believe that the frequency of major damages has been decreased by our construction of new bridges at higher levels and the raising of the elevation of the track through the marsh. The costs of repairs have increased as a result of the steady increases in the cost of wages, material, etc. and probably as a result of having to restore the track to a higher elevation than existed when the disruption to traffic was more frequent.

Below is my judgment of the division of cost by areas of the repairs made following the hurricanes of 1947 and 1965. Our records are not kept so as to afford an accurate division by areas, so the division must be made on a judgment basis and my ability to reach an accurate judgment figure is, of course, much better for 1965 than for 1947.

	<u>1965</u>	<u>1947</u>
East of Pearl River	\$ 648,000.00	\$ 900,000.00
Pearl River to Rigolets	755,000.00	360,000.00
Rigolets to Chef Menteur	1,110,700.00	800,000.00
Chef Menteur to Present Levee	262,900.00	80,000.00
Present Levee to New Orleans	859,000.00	81,600.00
	<u>\$3,635,600.00</u>	<u>\$2,661,600.00</u>

February 23, 1966

17150

I would suggest that we use the background information to establish an estimate of the frequency with which we might expect a storm that will do us damage of the approximate cost of "Betsy" and that we use the costs of "Betsy" to project future costs. I suggest that we use 18 years as the expected average interval between major damages, since that was the period between the last two major storms. If this seems short, we should remember that we might expect some storms of moderate damage with even greater frequency.

Using the costs of "Betsy" repairs with the 18 year cycle, and the estimated division of costs, a projection for expected costs of repairs within the New Orleans District for the next 50 years is listed below. Also shown is a column that estimates what the costs would be if we experience raises in costs of 150% by the end of that period. You probably have a factor to use when present costs are projected into the future. If so, it will likely be larger than a straight 3% per year on the original cost and be on a compound percentage basis. The last column should then be used only as a reminder to consider expected increases in costs or as a minimum expected cost.

<u>Area</u>	<u>1965 Cost</u>	<u>Average Cost Per Year on 18 Year Cycle.</u>	<u>Cost over 50 Year Period.</u>	<u>Cost over 50 Year Period with estimated Increase in Cost.</u>
Rigolets to Chef Menteur	\$1,110,700	\$ 61,500	\$3,075,000	\$ 5,381,250
Chef Menteur to Pres. Levee	262,900	14,600	730,000	1,277,500
Pres. Levee to New Orleans	859,000	47,900	2,395,000	4,191,250
Total	<u>\$2,232,600</u>	<u>\$124,000</u>	<u>\$6,200,000</u>	<u>\$10,850,000</u>

I believe that this information completes the estimates ~~except for the~~ effect of loss of traffic and the possible increase in land value that might result from increased hurricane protection. It is difficult to estimate the loss of revenue but it is conservatively estimated that our gross profit was reduced by \$84,000.00 as a result of business that was diverted away from our company following the hurricane. In arriving at the estimated loss in gross profit, notice was taken of the cost that would have been involved under ordinary circumstances in handling the business that was lost. Going through the same computation as used above for estimate of the repair costs, the loss over a 50 year period would be \$393,750.00.

Colonel Thomas J. Bowen

- 4 -

February 23, 1966

17150

It is possible that we may be able to develop a more precise way of estimating our loss in revenue but until that time the figure mentioned may be used. I was not able to arrive at a reasonable basis for estimating the possible increase in land values as a result of the possible increase in hurricane protection. In order to get the full benefit from the increased protection, it would be necessary for additional levees to be built with pumping stations to develop the land. It would also be necessary that roadways and other facilities be extended into the area. Perhaps some of the other agencies working on the benefits of improved hurricane protection will be able to give you an estimate on the increase in land value.

I have not yet received the slides that I want to send you showing the damaged area. I expect to be able to send you the slides in the next few days.

I hope that the information contained in this letter will help to enable you to evaluate the benefits that would be derived by extending the hurricane protection further eastwardly than now proposed. If I can furnish any more information, please call on me.

Best wishes.

Very truly yours,



J. B. Clark,
Chief Engineer.

JBC-cz

cc: Mr. C. S. Sanderson
Mr. R. E. Bisha
Mr. R. A. Stanley

WALDEMAR S. NELSON AND COMPANY
INCORPORATED

ENGINEERS AND ARCHITECTS

Waldemar S. Nelson, P.E.
Tilghman G. Chechere, Jr., AIA
Spencer G. Smith, P.E.
R. Devlee, Jr., P.E.
Joseph T. Montgomery, P.E.
Lawrence A. Welte
Aviation Consultant

1200 ST. CHARLES AVENUE
NEW ORLEANS 13, LA.
Telephone: 523-3281
Cable: NELSENG

American Society of Civil Engineers
American Society of Mechanical Engineers
American Institute of Electrical Engineers
American Institute of Architects
American Association of Airport Executives
Society of American Military Engineers
American Water Works Association
American Petroleum Institute
American Concrete Institute

1 March 1963

Board of Engineers for
Rivers and Harbors
Washington 25, D. C.

Lake Pontchartrain, Louisiana
Hurricane Protection Study
In Area Of New Orleans East, Inc.

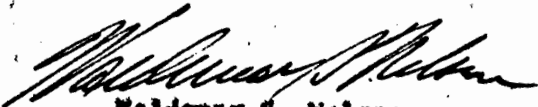
Gentlemen:

In response to the invitation contained in "Notice of Interim Survey Report on Hurricane Study of Lake Pontchartrain, Louisiana and Vicinity" and in accordance with our letter of 6 February 1963 expressing intention of submitting comments with respect to such survey, in behalf of our clients, New Orleans East, Inc., we present the enclosed report of study made of the hurricane protection plan in the area of New Orleans East, Inc. with suggestions as to an alternate plan to be adopted in such area.

We and officials of New Orleans East, Inc. will be happy to meet with your Board or engineers of your staff in Washington, Vicksburg, or New Orleans at your convenience to discuss the suggestions contained herein.

Yours very truly,

WALDEMAR S. NELSON AND COMPANY
Incorporated
Engineers and Architects


Waldemar S. Nelson
President

WEN:ga

Distributions:

- 6 copies - Board of Engineers for Rivers and Harbors
- 1 copy - U. S. Army Engineer Division, Vicksburg
- 1 copy - U. S. Army Engineer District, New Orleans
- 1 copy - Louisiana Dept. of Public Works, Baton Rouge
- 1 copy - Orleans Levee Board, New Orleans
- 1 copy - City Planning Commission, New Orleans
- 2 copies - New Orleans East, Inc.
- 2 copies - File

6

WALDEMAR S. NELSON AND COMPANY

INCORPORATED

ENGINEERS AND ARCHITECTS

Waldemar S. Nelson, P.E.
Tilghman G. Chachere, Jr., AIA
Spencer G. Smith, P.E.
H. R. Davies, Jr., P.E.
Joseph T. Montgomery, P.E.
Lawrence A. Walte
Aviation Consultant

1200 ST. CHARLES AVENUE
NEW ORLEANS 13, LA.
Telephone: 523-5281
Cable: NELSENG

May 17, 1963

American Society of Civil Engineers
American Society of Mechanical Engineers
American Institute of Electrical Engineers
American Institute of Architects
American Association of Airport Executives
Society of American Military Engineers
American Water Works Association
American Petroleum Institute
American Concrete Institute

Eng. Divisions
20

Board of Engineers for
Rivers and Harbors
Washington 25, D. C.

Subject: Notice of Interim Survey Report
on Hurricane Study of
Lake Pontchartrain, Louisiana
and Vicinity

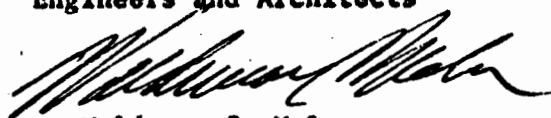
Gentlemen:

Under date of March 1, 1963, we sent you a report and comments prepared in behalf of New Orleans East, Inc. with respect to the subject Corps of Engineers Hurricane Protection Study. Inasmuch as we have received no further word on this matter, we are concerned that possibly our report and comments may not have reached the correct destination.

Will you please advise whether the report was received in good order and as to when review of this matter by the Board of Engineers for Rivers and Harbors will take place?

Yours very truly,

WALDEMAR S. NELSON AND COMPANY
Incorporated
Engineers and Architects



Waldemar S. Nelson
President

WSN:gs

cc: U. S. Army Engineer Division, Vicksburg
U. S. Army Engineer District, New Orleans ✓
New Orleans East, Inc.

704

BOARD OF ENGINEERS FOR RIVERS AND HARBORS
WASHINGTON 25, D. C.

ENGR

23 May 1963

Mr. Waldemar S. Nelson, President
Waldemar S. Nelson and Company, Inc.
1200 St. Charles Avenue
New Orleans 13, Louisiana

Dear Mr. Nelson:

Reference is made to your letter of 17 May 1963, requesting information as to the disposition of your report on an alternate plan for hurricane protection in the Chef Menteur Pass area. You also request information as to when the Board will review the report and your proposed plans.

Your report was received in good order and is being reviewed by the Board staff, the District and Division Engineers, and the staff of the Chief of Engineers. It is expected that the views of these echelons relative to your proposals will be available for the information of the Board when it considers the Lake Pontchartrain report.

The Board has tentatively scheduled its next meeting for the latter part of July or first part of August 1963, at which time the Lake Pontchartrain report will be considered. The Board's actions are usually announced in a news release by the Department of the Army within a day or two after the Board meets.

Sincerely yours,

EDMUND H. LANG
Colonel, Corps of Engineers
Resident Member

Copy furnished: (w/basic)
Div Engr, LMVD (Basic furnished direct)
Dist Engr, New Orleans (Basic furnished direct)
ENGR-PD

1970
1283

LMED-PP

11 April 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity, Request for Additional A&D Funds for FY 1966

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVFD, LMVDC-H, LMVKB-TD

1. Advance engineering and design funds in the amount of \$475,000 were made available in FY 1966 for initiation of planning on the subject project.

2. The passage of hurricane "Daisy" on 9-10 September 1965 vividly demonstrated the vulnerability of the project area to hurricane flooding, giving rise to a public clamor for action to provide hurricane protection at the earliest practicable date. Under the circumstances, acceleration of our planning effort was mandatory.

3. The inclosed table 1 shows the funds requirement for the original and present (accelerated) planning schedules by item of work. Major factors contributing to the changed requirements are discussed in the following paragraphs.

4. a. Inner Harbor Navigation Canal - Advance Supplement. This feature is being handled separately in order to advance construction in a vital area where failure of existing protection in hurricane "Daisy" resulted in widespread flooding of densely populated areas. The requirement for additional funds in this fiscal year was generated by the need for additional studies to establish design requirements for interim protective works to be constructed by the Orleans Levee District prior to the next hurricane season, which works will ultimately be incorporated into the Federal project, and by intensive coordination with local interests in order to bring about early resolution of alignment problems in this highly congested area.

b. Chalmette area plan - GDM. Originally it was planned to prepare the GDM on this feature in-house. As a means of accelerating the planning, a contract (DA-16-047-CIVENG-66-320) for preparation of the GDM was subsequently awarded to Waldemar B. Holson and Company, Inc., which firm has the capability to complete the first draft of the GDM in six months.

LMSB-PP

11 April 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity, Request for Additional
AFAD Funds for FY 1966

d. Additional tidal hydraulics studies resulting from hurricane "Betty" and revision of the SPM by the U. S. Weather Bureau. On this feature, it has been deemed necessary to obtain special engineering services from the National Engineering Science Company in order to evaluate the possible effects of the Mississippi River-Gulf Outlet on hurricane surges.

e. Seabrook Lock - GDM. Originally it was assumed that one-half of the planning costs for this feature would be chargeable to the Mississippi River-Gulf Outlet. It was subsequently decided by GCE that the funding must be entirely from the "Lake Pontchartrain, La. & Vicinity," account.

f. Lake Pontchartrain barrier plan - GDM. Fiscal year funds requirements for this feature have been reduced by the need to study in detail a number of alternate plans in which there is intense public interest. These studies have been time-consuming but relatively inexpensive.

5. The unobligated balance in the "Lake Pontchartrain, La. and Vicinity," project as of 31 March 1966 is approximately \$59,954. New obligations for April are anticipated to be \$40,000, not including \$15,000 for surveys and borings in the Inner Harbor Navigation Canal area which will be carried in the revolving fund until May.

6. The Nelson firm's current schedule indicates a capability to spend \$221,000 through 30 June 1966. This is \$86,000 in excess of funds obligated under the contract. The present outlook is that the \$135,000 obligated under the contract will be exhausted in May.

7. AFAD funds (Code 100) in the amount of \$20,000 are surplus to FY 1965 needs for the "Cadeo Dam, La.," project but will be required in FY 1967. It is recommended that these funds be transferred to the "Lake Pontchartrain, La. and Vicinity," project (Code 100).

8. It is further recommended that an additional \$117,000 be made available for this project in FY 1966. If the total amount of \$137,000 cannot be made available, authority is requested, in accordance with ESI 7-670.24, to notify the Nelson firm that they may suspend operations upon exhaustion of available funds.

UNCLAS-PP

11 April 1966

11 Apr 66
Chatry/kn/236

SUBJECT: Lake Pontchartrain, La. and Vicinity, Request for Additional
AS&D Funds for FY 1966

9. Due to the nearness of exhaustion of available funds,
telegraphic reply is requested.

1 Incl (trip)
Table 1

THOMAS J. BOXER
Colonel, CE
District Engineer

Mask

Copy furnished:
Prog. Dev. Off. w/incl (1 copy)

Hudson

Bruce

Exe Ofc

TABLE 1

LAKE PORTCHARTRAIN, LA. AND VICINITY
REQUIRED FUNDS - FY 1966

Item	Requirement - thousands of dollars		
	Original plan	Present plan	Difference
Advance supplement - IHHC	\$120.0	\$140.0	+ 20.0
Chalmette area plan - GDM	114.5	225.5	+111.0
Tidal hydraulics studies	23.5	50.0	+ 26.5
Seabrook Lock - GDM	52.5	84.1	+ 31.6
Construction materials - DM	4.0	5.0	+ 1.0
Stream gaging	3.0	3.0	+ 0.0
Barrier plan - GDM	97.5	59.4	- 38.1
S&A	35.0	20.0	- 15.0
Total	\$450.0	\$587.0	+137.0

LMWED-PP

Request for Additional Funds, Lake Pontchartrain,
La., Hurricane Protection

Ch, Prog. Dev. Off.

Ch, Engrg. Div.

6 Apr 66

Mr.Harrington/kn/239

1. Analysis of project costs through March 1966 indicates that the initial appropriation of \$450,000 for AE&D will be exceeded by \$45,000 by the end of FY 66.
2. The Caddo Dam, La., project will have a surplus of about \$20,000 for AE&D this year and this surplus should be utilized where possible.
3. The Program Development Office is requested to take the steps necessary to obtain the \$45,000 of additional funds which can be effectively utilized in FY 66.

GEORGE H. HUDSON
Chief, Engineering Division

DISPOSITION FORM

(AR 340-15)

Mr. Harrison
File

REFERENCE OR OFFICE SYMBOL LMNED-PP	SUBJECT Request for Additional Funds, Lake Pontchartrain, La., Hurricane Protection
--	--

	FROM	DATE	CMT 1
Ch, Prog. Dev. Off.	Ch, Engr. Div.	6 Apr 66	Mr.Harrington/kn/239

1. Analysis of project costs through March 1966 indicates that the initial appropriation of \$450,000 for AE&D will be exceeded by \$45,000 by the end of FY 66.
2. The Caddo Dam, La., project will have a surplus of about \$20,000 for AE&D this year and this surplus should be utilized where possible.
3. The Program Development Office is requested to take the steps necessary to obtain the \$45,000 of additional funds which can be effectively utilized in FY 66.

Leh

WBM
George H. Hudson
GEORGE H. HUDSON
Chief, Engineering Division

LMNPD
(6 Apr 66)
TO: Ch, Engr. Div. FROM: Ch, Prog. Dev. Ofc. Date: 12 April 66 CMT 2

Request for \$137,000 and justification therefor subsequently made by letter dated 11 April 1966.

Lawrence C. Brune
LAWRENCE C. BRUNE
Chief, Program Development Office

✓ Mr. Chetry
WBM

MEMO

(6 Apr 66)

Mr. Ch. McGr. Dir.

FROM: Ch. Progr. Dev. Off.

Date: 12 April 66 GEF 2

Request for \$137,000 and justification therefor subsequently made by letter dated 11 April 1966.

LAWRENCE C. HUGHES

Chief, Program Development Office

File

LARGE POINT & VIC
FUNDING PICTURE
4-1-66

Jm

UNOBLIGATED AS OF 4-1-66 - 26,000
TO BE DE-OBLIGATED BY BUREAU - 6,900

TOTAL OBLIGATION AUTHORITY
AVAILABLE FOR REMAINDER OF
FISCAL YEAR 32,900

~~RE~~

REQUIREMENTS

NEW SURVEYS + BORINGS I/HNC - 20,000.
HIRSD LABOR (3 MOS @ 17,500) = 52,500
OUTSTANDING IN REVOLVING FUND = 10,000

TOTAL 82,000

ADDITIONAL FUNDS REQUIRED = \$49,100



DEPARTMENT OF THE ARMY
LOWER MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39180

File
High Ac th

IN REPLY REFER TO: LMVED-TD

23 March 1966

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana (Hurricane Protection)

TO: District Engineer
New Orleans District
ATTN: LMNED-PP

1. The Division Engineer recently testified at the congressional Appropriations Hearings that NOD has a capability of \$1,600,000 for FY 67. This capability is broken down as follows:

Current budget allowance	\$ 450,000
Funds to complete preconstruction planning	350,000
Funds to initiate construction	<u>800,000</u>
Total capability	\$1,600,000

2. There is a distinct possibility of receiving construction funds in FY 67. Therefore, you should formulate plans to advance your planning and construction schedules so as to fully utilize funds up to the limit of your stated capability.

FOR THE DIVISION ENGINEER:

A. J. DAVIS
Chief, Engineering Division

22 Mar 66
Chatry/kn/239

LMNED-PP

22 March 1966

SUBJECT: Lake Pontchartrain, La. & Vicinity, OCE Report on Conference
of 7-8 March 1966

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMNED

1. Copy of subject report dated 16 March 1966 was furnished the New Orleans District.
2. The following is offered in connection with paragraph 7 of the subject report:

Neither the GDM on the Chalmette area nor the advance supplement on the Inner Harbor Navigation Canal will be completed this summer. We shall, however, submit plans and specifications with design analysis for some 7,000 feet of interim floodwall construction on the west bank of the Inner Harbor Navigation Canal north of U. S. Highway 90.

Insofar as interim levee construction on the north bank of the Gulf Intracoastal Waterway is concerned, we have reached agreement with the Orleans Levee District for such construction by them prior to the next hurricane season, with the understanding that the Levee District will receive credit for any portion of their embankment ultimately incorporated into the Federal project. We do not consider that any further meetings in this connection are required.

Mask

THOMAS J. BOWEN
Colonel, CE
District Engineer

Huesmann

Franklin

Hudson

Copy furnished:
Ch, Fnds. & Mtls. Br., Engrg. Div.
Ch, Design Br., Engrg. Div.

Exe Ofc

Engineering Division
File Copy

RADIOGRAM

File
AD

MAR 15 11 47 AM '66

3 WUG RJH VICKSBURG MISS 1124 15 MARCH

DISTRICT ENGINEER
NEW ORLEANS, LA.

LMVPD-19.

1. FOLLOWING TT FROM OCE DATED 14 MARCH 1966 QUOTED FOR YOUR INFORMATION: "UNCLAS ENGCW-BC75" REURTT LMVPD55 DATED 8 MARCH 1966. THE INCREASE IN THE FISCAL YEAR 1967 CAPABILITY FOR THE LAKE PONTCHARTRA AND VICINITY PROJECT FROM \$900,000 TO \$1,600,000 IS APPROVED AS RECOMMENDED. "
 2. IF YOU HAVE FURNISHED PREVIOUS CAPABILITY FOR THIS PROJECT TO LOCAL INTERESTS, REQUEST THEY BE ADVISED OF THE REVISED CAPABILITY
- DIV ENGR, LMV

File
RVD

LMVPD (NOD 4 Mar 66) 1st Ind
SUBJECT: Lake Pontchartrain and Vicinity, La. - Increased Capability
for FY 1967

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 10 March 1966

TO: District Engineer, New Orleans District, ATTN: LMNED-PP

The capability for fiscal year 1967 in the amount of \$1,600,000,
which includes \$800,000 for planning and \$800,000 for construction,
is approved.

Marshall E. Bush
MARSHALL E. BUSH
Chief, Program Development Office



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160

IN REPLY REFER TO
LMNED-PP

4 March 1966

SUBJECT: Lake Pontchartrain and Vicinity, La. - Increased Capability
for FY 1967

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVPD and LMVED-TD

1. Reference is made to paragraph 8, ER 360-2-101, "Revision to Capability Tabulations," and to LMNED-PP letter dated 17 February 1966 subject "Lake Pontchartrain, La. and Vicinity, Possibilities for Advancing Start of Construction."
2. Present expressed capability of \$900,000 for the subject project includes \$800,000 for planning and \$100,000 for construction. Urgent need for early construction and existence of convincing evidence that all requirements of local cooperation will be met at an early date, combined with the ability of the District to accomplish additional construction in FY 1967, make advisable a revision in the capability previously expressed.
3. It is recommended that the District capability for FY 1967 be increased to \$1,600,000 to include \$800,000 for planning and \$800,000 for construction. The construction capability would be utilized for levee and/or floodwall construction along the Inner Harbor Navigation Canal, the Lake Pontchartrain barrier plan levees from Inner Harbor Navigation Canal to Michoud, and on the Chalmette area levees in St. Bernard Parish.
4. Approval of the above recommendation is requested.


THOMAS J. BOWEN
Colonel, CE
District Engineer

4 Mar 66
Chatry/kn/239

LMSHD-PP

4 March 1966

SUBJECT: Lake Pontchartrain and Vicinity, La. - Increased Capability
for FY 1967

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVDD and LMSHD-PP

1. Reference is made to paragraph 8, SR 300-2-121, "Revision to Capability Tabulations," and to LMSHD-PP letter dated 17 February 1966 subject "Lake Pontchartrain, La. and Vicinity, Possibilities for Advancing Start of Construction."

2. Present expressed capability of \$900,000 for the subject project includes \$300,000 for planning and \$600,000 for construction. Urgent need for early construction and existence of convincing evidence that all requirements of local cooperation will be met at an early date, combined with the ability of the District to accomplish additional construction in FY 1967, makes advisable a revision in the capability previously expressed.

3. It is recommended that the District capability for FY 1967 be increased to \$1,600,000 to include \$300,000 for planning and \$1,300,000 for construction. The construction capability would be utilized for levee and/or floodwall construction along the Inner Harbor Navigation Canal, the Lake Pontchartrain barrier plan levees from Inner Harbor Navigation Canal to Mandeville, and on the Chalmette area levees in St. Bernard Parish.

4. Approval of the above recommendation is requested.

Mask

THOMAS J. BOWEN
Colonel, CE
District Engineer

Hudson

Franklin

Copy furnished:
Ch, Prog. Dev. Off.
Ch, Design Br.

Engineering Division
File Copy

Brune

Exe Ofc

LMVED-PP

17 February 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity, Possibilities for Advancing Start of Construction

**TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVED-TD**

1. Reference is made to oral request by General Davis on 26 January 1966 for possible methods of advancing the start of construction on the Chalmette area plan of the subject project.
2. Since the above request was made, we have completed negotiation of an A-E contract with Waldemar S. Nelson and Company, Inc., for preparation of a general design memorandum for the Chalmette area. The negotiations are now under review in your office. The Nelson firm proposes to complete the draft general design memorandum within 6 months of notice to proceed, based on the required design levee grades being furnished by us within 3 months. We do not anticipate any difficulty in so doing.
3. Assuming that the Nelson firm is given notice to proceed not later than 15 March, we estimate that actual construction of the levees involved can begin by 1 June 1967, assuming concurrent review of the draft general design memorandum by SOD and LMVD, normal review time for the final general design memorandum by OCE (1-1/2 to 2 months), and normal review time for plans and specification. A bar chart schedule leading to start of construction on 1 June 1967 is inclosed (incl 1). Other than by elimination of reviews and/or contraction of review times, it is not considered that this schedule can be materially shortened.
4. While there appears to be little that can be done to start construction of the Chalmette area before 1 June 1967, there does appear to be a practicable procedure for accomplishing substantial Federal construction on the Inner Harbor Navigation Canal protective system in fiscal year 1967.
5. As you know, we have authorized the Board of Levee Commissioners of the Orleans Levee District to proceed, prior to completion of any design memoranda, with certain interim construction on the overall project with the understanding that they will receive a credit for work

Engineering Division
File Copy

LMHED-PP

17 February 1966

SUBJECT: Lake Pontchartrain, La. and Vicinity, Possibilities for Advancing Start of Construction


done which ultimately is incorporated into the project. (See copy of our letter to Congressman F. Edward Hebert dated 21 January 1966, copy previously furnished LMHED-TD, and copy of our letter dated 20 January 1966 to Mr. Milton E. Dupuy, President, Board of Levee Commissioners of the Orleans Levee District, copy inclosed (incl 2).) In our discussions with Mr. Willox, the Levee Board Chief Engineer, relative to the Inner Harbor Navigation Canal, it has been developed that, where wall construction is mandatory or less costly than the levee, it will be practicable to utilize partial "I"-type wall construction; i.e., to construct the sheet pile portion of the wall only with a top elevation of +11.5 feet m.s.l. This would permit later increase to project grade when determined by the addition of the concrete portion of the "I"-type wall. The Levee District proposes, with our approval, to utilize this type of construction on two sections of the canal, aggregating about 11,000 linear feet--5,000 feet on the east bank of the canal and 6,000 feet on the west bank. The Levee District hopes to complete the work, which represents the limit of its capability for this type of work, before the next hurricane season.

6. It appears that we could undertake similar construction at other locations on the canal. Tentative estimates indicate that wall construction will be preferred by reason of physical condition or costs at other locations aggregating at least 7,000 linear feet. It appears that if the above procedure is adopted, we could utilize about \$700,000 in construction funds for fiscal year 1967 for interim wall construction on the canal. Hask

7. We are currently preparing a more detailed proposal for the above and will forward same in the near future. Huesmann

- 2 Incl
 1. Bar chart schedule
 2. Cy ltr 20 Jan 66 to
 Mr. Milton E. Dupuy

THOMAS J. BOWEN
 Colonel, CE
 District Engineer

Franklin

 Hudson

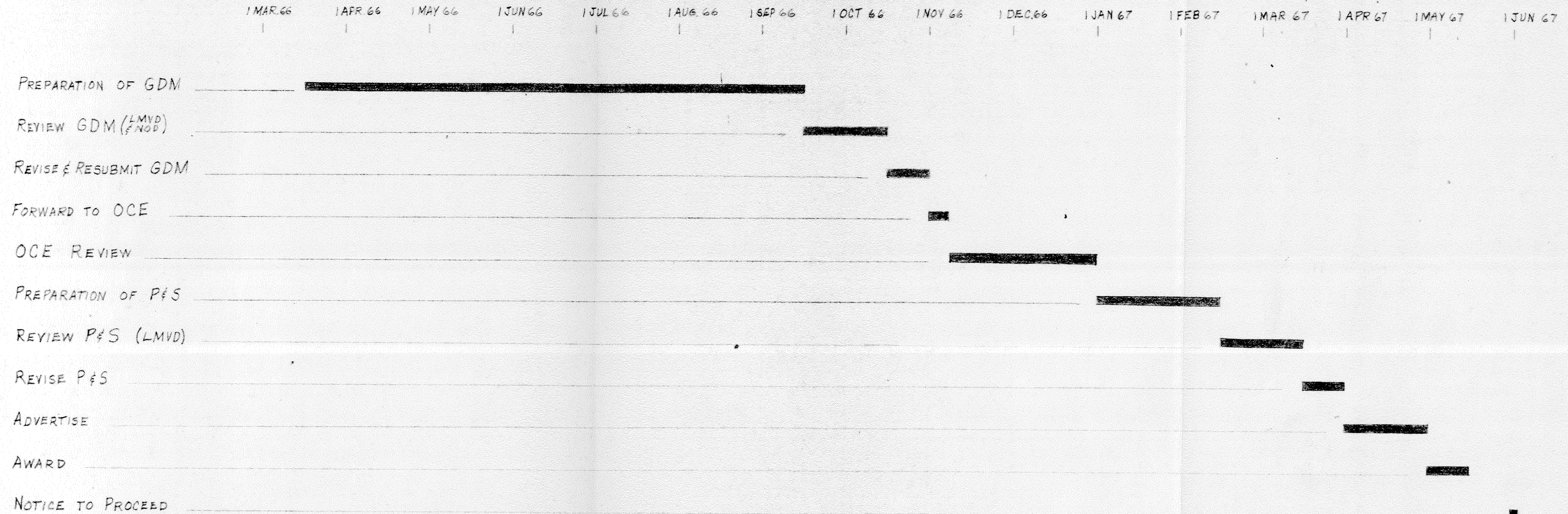
Exe Ofc

Copy furnished:

Ch, Fnds. & Mtls. Br. *[Handwritten signature]*
 Ch, Design Br.

Engineering Division
 File Copy

TENTATIVE PRECONSTRUCTION PLANNING SCHEDULE
 CHALMETTE AREA PLAN
 LAKE PONTCHARTRAIN, LA. AND VICINITY



LMVPD (LMVD.9 Dec 65) 2d Ind
 SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39181 12 Jan 66

TO: District Engineer, New Orleans District, ATTN: LMNPD

1. Based on the current estimate shown in PB-3 prepared 1 December 1965 adjusted to remove duplication of \$3,816,000 local contribution for OM&R of Rigolets Lock, allocation of costs to separable units approved in preceding indorsement is derived in following tabulations:

Table I

(Costs to be Apportioned)

<u>Separable Unit</u>	<u>Construction</u>	<u>L&D</u>	<u>Relocation</u>	<u>Total</u>
	(In Thousands of Dollars)			
1. <u>New Orleans East</u>				
Citrus & N.O. East	25,787.3	2,143.2	514.5	28,445.0
Chef Menteur	8,066.6	123.7	-	8,190.3
Rigolets	21,458.8	858.8	-	22,317.6
Barrier Levee	271.0	1,145.0	-	1,416.0
	<u>55,583.7</u>	<u>4,270.7</u>	<u>514.5</u>	<u>60,368.9</u>
2. <u>New Orleans West</u>				
St. Charles Parish	6,274.9	277.5	41.5	6,593.9
Jefferson Parish	587.0	-	-	587.0
New Orleans	5,555.3	1,038.8	76.1	6,670.2
	<u>12,417.2</u>	<u>1,316.3</u>	<u>117.6</u>	<u>13,851.1</u>
3. <u>Mandeville</u>	258.3	-	-	258.3
4. <u>Seabrook Lock</u>	3,100.0	-	-	3,100.0 ^{1/}
5. <u>Chalmette</u>	16,340.8	565.0	515.9	17,421.7
Total	87,700.0	6,152.0	1,148.0	95,000.0

^{1/} One-half the total cost. The other half is allocated to Navigation and is all Federal.

Table II

(Apportionment of Costs in Table I)

<u>Separable Unit</u>	<u>Costs to be Apportioned</u>	<u>Federal (70%) <u>1/</u></u>	<u>Non-Fed. (30%)</u>	<u>Non-Fed. Costs Contributed <u>1/</u></u>
(In Thousands of Dollars)				
New Orleans East	60,368.9	42,258.2	18,110.7	13,325.5
New Orleans West	13,851.1	9,695.8	4,155.3	2,721.4
Mandeville	258.3	180.8	77.5	77.5
Seabrook Lock	<u>3,100.0</u>	<u>2,170.0</u>	<u>930.0</u>	<u>930.0</u>
Subtotal	77,578.3	54,304.8	23,273.5	17,054.4
Chalmette	<u>17,421.7</u>	<u>12,195.2</u>	<u>5,226.5</u>	<u>4,145.6</u>
Total	95,000.0	66,500.0	28,500.0	21,200.0

1/ To be adjusted to reflect a cash contribution of \$3,816,000 for capitalized cost of OM&R of Rigolets Lock and \$3,100,000 Federal costs for 1/2 the cost of Seabrook Lock.

Table III

(Apportionment of Cash Contribution of \$3,816,000 for Capitalized Cost of Annual OM&R of Rigolets Lock)

The \$3,816,000 is apportioned to the following separable units on the basis of the proportion its cost bears to the total cost, excluding Chalmette. This apportionment is necessary because none of the work (except Chalmette) will be completely effective against the project hurricane unless the Rigolets Lock is constructed.

<u>Separable Unit</u>	<u>% of Cost to Total Cost</u>	<u>Amount to be Apportioned</u>	<u>Apportionment</u>
(In Thousands of Dollars)			
New Orleans East	77.8	3,816.0	2,968.8
New Orleans West	17.9	3,816.0	683.1
Mandeville	0.3	3,816.0	11.5
Seabrook Lock	<u>4.0</u>	<u>3,816.0</u>	<u>152.6</u>
Total	100.0	3,816.0	3,816.0

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

Table IV

(Adjustment of Federal and Non-Federal Costs to Reflect additional Non-Federal Contribution of \$3,816,000 for capitalized cost for OM&R of Rigolets Lock and Federal Cost of \$3,100,000 for Navigation Purposes of Seabrook Lock)

<u>Separable Unit</u>	<u>Costs to be Apportioned</u>	<u>Federal</u>	<u>Non-Fed.</u>	<u>Non-Federal Cash Contrib.</u>
<u>New Orleans East</u>	\$ 60,368.9			
70/30 Apportm't		\$42,258.2	\$18,110.7	\$13,325.5
Rigolets OM&R		<u>-2,968.8</u>	<u>+2,968.8</u>	<u>+2,968.8</u>
Subtotal	60,368.9	39,289.4	21,079.5	16,294.3
<u>New Orleans West</u>	13,851.1			
70/30 Apportm't		9,695.8	4,155.3	2,721.4
Rigolets OM&R		<u>- 683.1</u>	<u>+ 683.1</u>	<u>+ 683.1</u>
Subtotal	13,851.1	9,012.7	4,838.4	3,404.5
<u>Mandeville</u>	258.3			
70/30 Apportm't		180.8	77.5	77.5
Rigolets OM&R		<u>-11.5</u>	<u>+11.5</u>	<u>+11.5</u>
Subtotal	258.3	169.3	89.0	89.0
<u>Seabrook Lock</u>	3,100.0			
70/30 Apportm't		2,170.0	930.0	930.0
Rigolets OM&R		- 152.6	+152.6	+152.6
1/2 Cost for Nav.	<u>3,100.0</u>	<u>3,100.0</u>	<u>-</u>	<u>-</u>
Subtotal	6,200.0	5,117.4	1,082.6	1,082.6
<u>Chalmette</u>	<u>17,421.7</u>	<u>12,195.2</u>	<u>5,226.5</u>	<u>4,145.6</u>
Total	98,100.0	65,784.0	32,316.0	25,016.0

LMVPD (LMVD 9 Dec 65)
SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

2d Ind

12 Jan 66

Table V

(Summary of Project Costs and Apportionment)

Project Costs

Construction	\$90,800,000	
Lands & Relocations	<u>7,300,000</u>	
	98,100,000	Total Project Cost
	<u>-3,100,000</u>	One-half cost of Seabrook Lock for Nav.
	\$95,000,000	Project Costs to be Apportioned
70% Federal	\$66,500,000	
30% Non-Federal	\$28,500,000	(Incl Lands & Relocations)

Federal Costs


\$66,500,000	(70% of costs to be apportioned)
+3,100,000	(1/2 cost of Seabrook Lock allocated to Nav.)
<u>-3,816,000</u>	(Capitalized cost of OM&R of Rigolets Lock @ 3-1/8%)
\$65,784,000	Total Federal

Non-Federal Costs

\$28,500,000	(30% of costs to be apportioned)
<u>+3,816,000</u>	(Capitalized cost of OM&R of Rigolets Lock @ 3-1/8%)
\$32,316,000	Total Non-Federal
<u>-7,300,000</u>	(Fair Value of Lands and Relocations)
\$25,016,000	Cash Contribution

2. Your comments on the allocation and apportionment of costs to the separable units as shown in the above tables are requested. If you concur, a revised PB-3 should be submitted with each separable unit complete in itself followed by a summary.

FOR THE DIVISION ENGINEER:


MARSHALL E. BUSH

Chief, Program Development Office



DEPARTMENT OF THE ARMY
LOWER MISSISSIPPI VALLEY DIVISION
CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181

IN REPLY REFER TO: LMVPD

9 December 1965

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

TO: Chief of Engineers
ATTN: ENGCW-V

1. The project for Lake Pontchartrain and Vicinity, Louisiana (hurricane protection) was authorized by the Flood Control Act of 1965 (PL 89-298) at an estimated Federal cost of \$56,235,000 substantially in accordance with the recommendation of the Chief of Engineers in House Document 231, 89th Congress, except that the recommendation of the Secretary of the Army in that document shall apply with respect to the Seabrook Lock feature of the project. The Secretary of the Army recommended that the cost of the Seabrook lock feature be allocated equally between navigation and hurricane protection purposes. The basis for this allocation of cost was that the lock would serve a dual purpose--mitigating anticipated adverse effects of the Mississippi River-Gulf Outlet navigation project and serving as an element in the hurricane surge control project.

2. An analysis of the cost estimate and its distribution to purposes and apportionment to interests and projects as recommended by the District Engineer and as authorized by Congress is shown in Inclosure 1.

3. In view of the substantial cash contributions required of local interests (\$22,665,000 at 1961 price levels), it is considered advisable to subdivide the project into separable units in order to facilitate initiation of construction. Any funds appropriated by the Congress to initiate construction of the project could be used on that separable unit for which acceptable assurances of cooperation had been received and accepted. This would avoid the necessity of obtaining assurances for the entire project prior to initiating construction. The recommended separable units are as follow (see Plate 3, House Document Numbered 231, 89th Congress, 1st session):

LMVPD

9 December 1965

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

<u>Separable Unit</u>	<u>Description</u>
New Orleans East	This separable unit comprises the work inclosing the New Orleans East and Citrus Areas and extending to the east of the Rigolets.
Chalmette	This is the area southeast of New Orleans bounded by the Mississippi River Levee on the west and a proposed levee along the Gulf Intra-coastal Waterway, Mississippi River-Gulf Outlet and Bayou Dupre.
New Orleans West	This is the area in Orleans, Jefferson, and St. Charles Parishes bounded by the Mississippi River Levee on the south, the Bonnet Carre East Levee on the west, and a proposed levee extending along the south shore of Lake Pontchartrain to Inner Harbor Canal and thence along Inner Harbor Canal to the Mississippi River Levee.
Mandeville	This unit consists of protection works in front of the Town of Mandeville.
Seabrook Lock	This is the lock at the Lake Pontchartrain entrance to the Inner Harbor Navigation Canal. Part of the cost of this lock will be charged to the Mississippi River-Gulf Outlet project.

*No longer applicable
all costs will be borne by the
Lake Pontchartrain & Vic. project. 12/11/66*

4. Authority is requested to use the separable units listed above as basis for computing the amount of local contribution required, for the obtaining of the necessary assurances to provide the required local cooperation, and to initiate construction as soon as local assurances have been received and funds appropriated by Congress. In this connection and prior to construction, the District Engineer should make clear to the local interests inhabiting the New Orleans West and the Mandeville separable units that complete protection against the project hurricane will not be provided until the New Orleans East unit has been completed.

1 Incl (dupe)
Analysis of Cost Estimate

Joe A. Clema
JOE A. CLEMA
Colonel, CE
Acting Division Engineer

Copy furnished:
New Orleans Dist

ENGW-OC (9 Dec 65)

1st Ind

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

DA, CofEngrs, Washington, D. C., 20315, 4 January 1966

TO: Division Engineer, Lower Mississippi Valley Division

The division of the Lake Pontchartrain and vicinity area into separable units as described in the basic letter is approved.

FOR THE CHIEF OF ENGINEERS:

Incls w/d



R. S. KRISTOFERSON

Lt Colonel, Corps of Engineers

Assistant Director of Civil Works

for Plains Divisions

LMNED-PP (OCE 8 Dec 65) 1st Ind
SUBJECT: Lake Pontchartrain

U. S. Army Engineer District, New Orleans, New Orleans, La., 17 Dec 65
THRU: Division Engineer, Lower Mississippi Valley Division, ATTN: LMVED-TD
TO: Chief of Engineers, ATTN: ENGCW-OM

Draft of suggested reply to Senator Allen J. Ellender, which is self-explanatory, is inclosed.

3 Incl
Added 1 incl (trip)
3. Draft of reply

THOMAS J. BOWEN
Colonel, CE
District Engineer

LMVEX (OCE 8 Dec 65)

2d Ind

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39181 27 Dec 65
TO: Chief of Engineers, ATTN: ENGCW-OM

Forwarded, concurring in the draft of suggested reply to Senator Ellender.

3 Incl
1 cy Incl 3 wd

JOE A. CLEMA
Colonel, CE
Acting Division Engineer

✓ Copy furnished:
NOD, LMNED-PP

16 Dec 65
Chatry/kn/239

LMVED-PP (OCS 8 Dec 65) 1st Ind
SUBJECT: Lake Pontchartrain

U. S. Army Engineer District, New Orleans, New Orleans, La., 17 Dec 65

THRU: Division Engineer, Lower Mississippi Valley Division, ATTN: LMVED-ED

TO: Chief of Engineers, ATTN: MRCOV-OM

Draft of suggested reply to Senator Allan J. Ellender, which is self-explanatory, is inclosed.

Mask

3 Incl
Added 1 incl (trip)
3. Draft of reply

THOMAS J. BOWEN
Colonel, CE
District Engineer

Hudson

Exe Ofc

65-2790

Engineering Division
File Copy



DEPARTMENT OF THE ARMY
OFFICE OF THE CHIEF OF ENGINEERS
WASHINGTON, D.C. 20315

IN REPLY REFER TO

ENG CW-OM

8 December 1965

SUBJECT: Lake Pontchartrain

TO: District Engineer
New Orleans

1. Referred for:

Thru: LMVD

XX Information as basis for further reply, to reach OCE/ATTN:
ENG CW-OM not later than 30 Dec 65.

XX Draft of reply.

___ Direct reply, copy to OCE.

___ Direct reply to OCE by Dist. copy to Div Engr.

___ Appropriate Action.

___ Information, copy to OCE reply.

___ Your information.

2. Correspondent ~~has~~ has not been informed of reference.

FOR THE CHIEF OF ENGINEERS:

2. Incls

1. Cy ltr dtd 30 Nov 65, w/att
fm Sen Allen J. Ellender
2. Cy OCE ltr dtd 6 Dec 65
to Sen Ellender

R. S. Kuslifer, Lt Col, CE
fa A. H. McRAE
Assistant Director of Civil Works
for Mississippi Valley

XXX Cy Div Engr LMVD

CARL HAYDEN, ARIZ., CHAIRMAN

RICHARD S. RUSSELL, GA.
ALLEN J. ELLENDER, LA.
LISTER HILL, ALA.
JOHN L. MC CLELLAN, ARK.
A. WILLIS ROBERTSON, VA.
WARREN G. MAGNUSON, WASH.
SPESARD L. MOLLAND, FLA.
JOHN STENNIS, MISS.
JOHN O. PASTORE, R.I.
A. S. MIKE MONRONEY, OKLA.
ALAN BIBLE, NEV.
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GALE W. MC GEE, WYO.
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MARGARET CHASE SMITH, MAINE
THOMAS H. KUCHEL, CALIF.
ROMAN L. HRUSKA, NEBR.
GORDON ALLOTT, COLO.
NORRIS COTTON, N.H.
CLIFFORD P. CASE, N.J.

United States Senate

COMMITTEE ON APPROPRIATIONS

November 30, 1965

EVERARD H. SMITH, CLERK
THOMAS J. SCOTT, ASST. CLERK

Lt. General William F. Cassidy
Chief of Engineers
United States Army
Building T-7
Gravelly Point
Washington, D. C. 20315

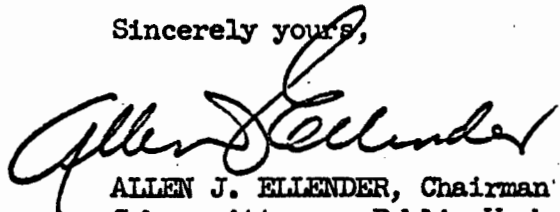
2033

Dear General Cassidy:

There is attached a letter I have received from Captain Kenneth J. LeSieur, Chairman, Citizens Committee for Hurricane Flood Control, New Orleans, Louisiana, together with its enclosure, a letter he addressed to Colonel Thomas J. Bowen, District Engineer at New Orleans, relative to modifications to the authorized hurricane protection project for Lake Pontchartrain considered necessary as a result of Hurricane Betsy.

I am sure you will want to take into consideration the effects of Hurricane Betsy on the proposed project and make such modifications in the authorized plan as would appear appropriate in light of the damages which resulted from this hurricane. I would appreciate it, therefore, if, in connection with the initiation of advance planning for the Lake Pontchartrain project, you would give careful consideration to the suggestions made by the Citizens Committee for Hurricane Flood Control.

Sincerely yours,



ALLEN J. ELLENDER, Chairman
Subcommittee on Public Works

Enclosures

AJE/Bdw

Incl 1

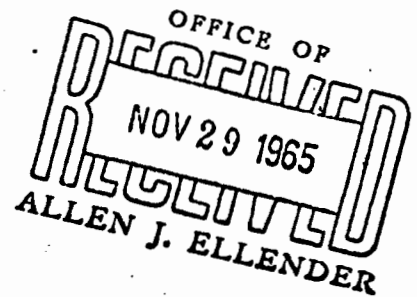


Citizens Committee For Flood Control

9300 HAYNE BOULEVARD
New Orleans, La. 70127
242-8008

Captain Kenneth J. LeSieur, Chairman
G. Philip Leydecker, Vice-Chairman
Hector Trau, Secretary

26 November, 1965



Honorable Allen J. Ellender,
United States Senator
State of Louisiana
Senate Office Bldg.
Washington, D.C.

Re: Hurricane Flood Control
New Orleans Area

Dear Senator Ellender:

Enclosed is a copy of the Citizens Committee for Hurricane Flood Control suggested revisions to the U.S. Army Engineers Flood Control Plans as outlined in their November 1962 Interim Survey Report, Lake Pontchartrain and Vicinity and the 89th Congress, House Document No. 231.

Your comments and support of our suggested revisions will be greatly appreciated.

This committee thanks you for your kind cooperation in the past in keeping us informed on matters pertaining to flood control.

Again, we offer our support any time:

Respectfully,

Kenneth J. LeSieur

Captain Kenneth J. LeSieur, Chairman
Citizens Committee for Hurricane Flood Control



Citizens Committee For ~~Hurricane~~ Flood Control

9300 HAYNE BOULEVARD
New Orleans, La. 70127
242-8008

November 24, 1965

Captain Kenneth J. LeSieur, Chairman
Philip Leydecker, Vice-Chairman
John Trau, Secretary

Colonel Thomas J. Bowen, District Engineer
United States Army Corps of Engineers
Box 60267
New Orleans, Louisiana

Re: 1962 Master Plan for
Hurricane Flood Control

Dear Colonel Bowen:

Our Committee has been vitally interested in improved hurricane flood control for the New Orleans area since its formation 18 months ago.

In our opinion your master plan is the only permanent answer for adequate hurricane flood protection. We do feel, however, that Hurricane Betsy showed the need for some amendments to your proposal.

Please refer to the enclosed suggested amendments as proposed by our Committee, along with maps clarifying the recommended revisions.

If in order, we would appreciate an opportunity to meet with you and your staff at the earliest opportunity to discuss our suggested revisions.

We thank you for your kind attention and look forward to hearing from you soon.

Yours very truly,

Kenneth J. LeSieur

Captain Kenneth J. LeSieur, Chairman
Citizens Committee for Hurricane Flood Control

CITIZENS COMMITTEE FOR HURRICANE FLOOD CONTROL

Proposed Changes in U. S. Army Corps of Engineers
Flood Control Plans - New Orleans Area

The Citizens Committee for Hurricane Flood Control was organized in the spring of 1964 to study the U. S. Army Corps of Engineers' Interim Survey Report, Lake Pontchartrain, La. and Vicinity, dated 21 November, 1962.

This Committee approved the barrier, low level flood protection plans as outlined in the Army Engineers report, and offered its help in implementing the program.

Hurricane Hilda pointed out the necessity for better protection on the south shore of Lake Pontchartrain. Our committee was instrumental in getting a levee constructed along Hayne Blvd. on the south shore of the Lake.

Since Hurricane Betsy, this committee has taken a long hard look at what happened, why it happened, and what should be done to prevent a recurrence of the flooding caused by Betsy.

The opinion of this committee is that the Corps of Engineers' flood protection plan is adequate for New Orleans, west of the Inter Harbor Navigation Canal (Industrial Canal), but some revisions should be made to provide protection east of the Industrial Canal.

The Citizens Committee for Hurricane Flood Control recommends the following revisions:

- A. Eliminate the proposed Seabrook Locks in their entirety and replace with flood gates.
- B. Construct flood gate across Intercoastal Waterway at south end of New Orleans East Levee.
- C. Construct flood gate across Bayou Bienvenue near entrance of Lake Borgne.
- D. Construct flood gate across Mississippi River Gulf Outlet at north end of Chalmette Levee along Bayou Dupre.
- E. Construct a new levee, 30 ft. in height, connecting flood gates on Miss. Gulf Outlet to gates on Bayou Bienvenue and gates on Intercoastal Canal.
- F. Raise the height of the 16-ft. New Orleans East Levee from the Intercoastal Waterway to its intersection with the Barrier Levee along Highway 90 to 30 feet.
- G. Raise the height of the 16-ft. Chalmette Levee from the Mississippi Gulf Outlet, along Bayou Dupre to its intersection with the Mississippi River embankment, to 30 feet.
- H. Eliminate in its entirety the two proposed drainage structures on the Chalmette Levee near Bayou Dupre and near intersection of Mississippi Gulf Outlet and Intercoastal Canal.

Reasons for Revisions

Revision A - Seabrook Locks

The need for these costly (\$4,980,000) locks would be eliminated when the flood gates at Chef Menteur, Rigolets, and our proposed levee and flood gates at the Intercoastal Waterway, Bayou Bienvenue, and Mississippi Gulf Outlet are in place. With these structures closed the Lake and Canal level should remain the same. Our proposal for installing flood gates at Seabrook is to stop wind driven waters from the Lake into the Industrial Canal as hurricane winds shift to the north.

Revisions B, C, D, E - Flood Gates on Intercoastal Waterway, Bayou Bienvenue, Gulf Outlet, and Connecting Levee.

The U. S. Army Engineers proposal for a levee along the south shore of the Gulf Outlet to Bayou Dupre, and along the north shore of the Intercoastal Waterway would form a funnel, channeling all hurricane surges and wind driven water into the Intercoastal Waterway and Industrial Canal. Construction of flood gates at points outlined in Revisions B, C, D, and connected by the new 30-foot levee outlined in Revision E, would completely eliminate the funnel effect and stop all storm and hurricane surges from entering the city.

Revisions F and G - Raising New Orleans East and Chalmette Levees.

The raising of these levees from 16 feet to 30 feet would complete the barrier to stop all surges from entering the developed areas of New Orleans and Chalmette.

Revision H - Elimination of Chalmette Drainage Structures.

The Army Engineers' proposal to construct two drainage structures in the Chalmette Levee

in the opinion of this committee, will be unnecessary when the three new flood gates and a levee are completed.

Conclusions:

This committee believes that surges from storms and hurricanes should not be allowed to enter the canals in the developed areas of the city. The containment of these waters behind levees inside the city would require levees much higher than those proposed by the Army Engineers, especially so if locks are placed at Seabrook. Levees of sufficient height would not be practical.

With this committee's proposed revision to the Army Engineers' flood protection plan, the Seabrook Locks and the two drainage structures in the Chalmette levee would be eliminated. Money saved could be used to construct the new 30-foot levee and the three new flood gates.

We have not been able to make a detailed estimate of the cost of our proposed revisions to the master plan for hurricane protection. However, it would appear that the benefits derived from our revised plan would justify any additional expenses if this be the case.

The Army Engineers' plans, with our proposed revisions, in conjunction with Governor John McKeithen's plans for a levee across the Gulf Coast line of Louisiana, should forever eliminate any danger of hurricane flooding to the populated areas of Louisiana.

Respectfully submitted,

Kenneth J. Lesieur
Kenneth J. Lesieur, Chairman
Citizens Committee for
Hurricane Flood Control

EMGCW-A

6 December 1965

Honorable Allen J. Ellender
Chairman, Subcommittee on Public Works
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

I have your recent letter inclosing a copy of a letter from Captain Kenneth J. LeSieur, Chairman, Citizens Committee for Hurricane Flood Control, New Orleans, Louisiana, with attachment relative to modifications to the authorized hurricane protection project for Lake Pontchartrain.

The Director of Civil Works will be pleased to inform you on this subject soon.

Sincerely yours,

A. H. McRae
Assistant Director of Civil Works
for Mississippi Valley

Sub 2

EXISTING

Embankments 

Elevation of embankments 

Leak 



HURRICANE BARRIER STRUCTURE:
Rigolets (See plate 8 & 9)

Chef Menteur (See plate 5)


Drainage Structure (See plates 12 & 13)
High level or barrier

NOTE:
Elevations are in feet and refer to m.s.l.

IMPROVEMENTS CONSIDERED

 Barrier-low level plan
 High level plan

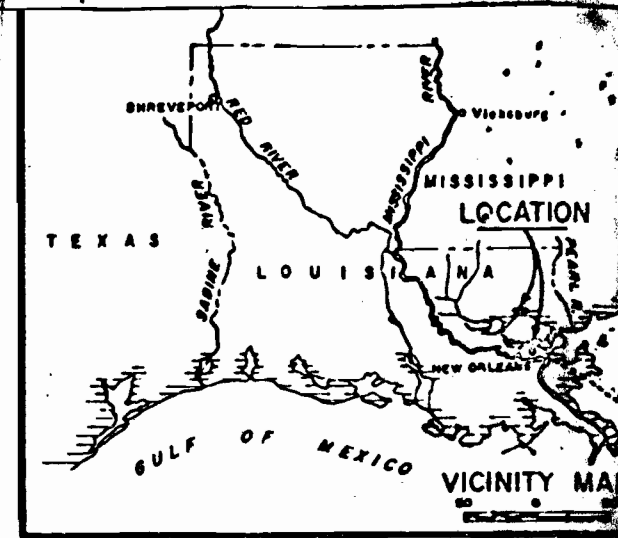
$\frac{10.5}{13.5}$ Barrier-low level plan
High level plan

 See plates 4 & 9

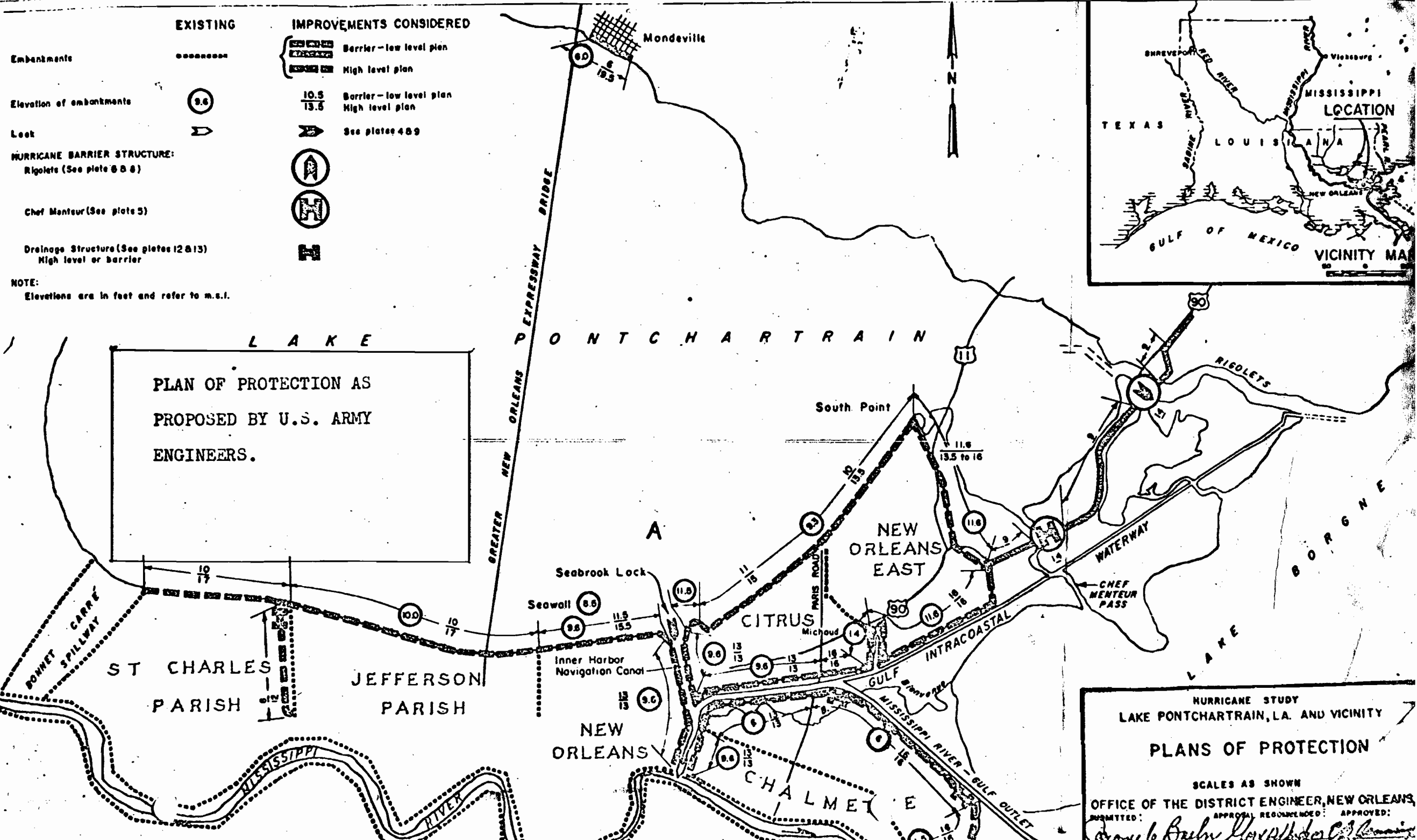








PLAN OF PROTECTION AS
PROPOSED BY U.S. ARMY
ENGINEERS.



HURRICANE STUDY
LAKE PONTCHARTRAIN, LA. AND VICINITY

PLANS OF PROTECTION

SCALES AS SHOWN

OFFICE OF THE DISTRICT ENGINEER, NEW ORLEANS,
SUBMITTED: _____ APPROVAL RECOMMENDED: _____ APPROVED: _____

Francis B. Baker

D R A F T

Honorable Allen J. Ellender
United States Senator
254 Barrow Street
Houma, Louisiana

Dear Senator Ellender:

This is in reply to your letter dated 30 November 1965 relative to the "Lake Pontchartrain, La. and Vicinity," project which inclosed correspondence from Captain Kenneth LeSieur setting forth a revised plan of protection.

As you know, the Congress has appropriated \$450,000 for the project for this fiscal year and detailed planning is underway. During detailed planning, the authorized plan will be thoroughly reviewed and all information accumulated subsequent to the completion of the survey report on the project, including information on hurricane "Betsy," given full consideration to the end that the project ultimately constructed will be the optimum means of protecting against hurricane surges in the area.

The District Engineer in New Orleans received direct a copy of the plan outlined by Captain LeSieur, and has already met with Captain LeSieur and other interested parties on 13 December 1965. The overall problem of providing hurricane flood protection for the Lake Pontchartrain area was discussed at some length and Captain LeSieur was assured that consideration would be given his plan in detailed design studies now in progress.

Honorable Allen J. Ellender

Your interest in this matter is appreciated. If I can be of further assistance, please do not hesitate to call on me.

Sincerely yours,

High Auth.

LMVPD

9 December 1965

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

TO: Chief of Engineers
ATTN: ENGCW-V

1. The project for Lake Pontchartrain and Vicinity, Louisiana (hurricane protection) was authorized by the Flood Control Act of 1965 (PL 89-298) at an estimated Federal cost of \$56,235,000 substantially in accordance with the recommendation of the Chief of Engineers in House Document 231, 89th Congress, except that the recommendation of the Secretary of the Army in that document shall apply with respect to the Seabrook Lock feature of the project. The Secretary of the Army recommended that the cost of the Seabrook lock feature be allocated equally between navigation and hurricane protection purposes. The basis for this allocation of cost was that the lock would serve a dual purpose--mitigating anticipated adverse effects of the Mississippi River-Gulf Outlet navigation project and serving as an element in the hurricane surge control project.

2. An analysis of the cost estimate and its distribution to purposes and apportionment to interests and projects as recommended by the District Engineer and as authorized by Congress is shown in Inclosure 1.

3. In view of the substantial cash contributions required of local interests (\$22,665,000 at 1961 price levels), it is considered advisable to subdivide the project into separable units in order to facilitate initiation of construction. Any funds appropriated by the Congress to initiate construction of the project could be used on that separable unit for which acceptable assurances of cooperation had been received and accepted. This would avoid the necessity of obtaining assurances for the entire project prior to initiating construction. The recommended separable units are as follow (see Plate 3, House Document Numbered 231, 89th Congress, 1st session):

Copy furnished:
✓ New Orleans Dist

LMVPD

9 December 1965

SUBJECT: Lake Pontchartrain and Vicinity, Louisiana

<u>Separable Unit</u>	<u>Description</u>
New Orleans East	This separable unit comprises the work inclosing the New Orleans East and Citrus Areas and extending to the east of the Rigolets.
Chalmette	This is the area southeast of New Orleans bounded by the Mississippi River Levee on the west and a proposed levee along the Gulf Intra-coastal Waterway, Mississippi River-Gulf Outlet and Bayou Dupre.
New Orleans West	This is the area in Orleans, Jefferson, and St. Charles Parishes bounded by the Mississippi River Levee on the south, the Bonnet Carre East Levee on the west, and a proposed levee extending along the south shore of Lake Pontchartrain to Inner Harbor Canal and thence along Inner Harbor Canal to the Mississippi River Levee.
Mandeville	This unit consists of protection works in front of the Town of Mandeville.
Seabrook Lock	This is the lock at the Lake Pontchartrain entrance to the Inner Harbor Navigation Canal. Part of the cost of this lock will be charged to the Mississippi River-Gulf Outlet project.

4. Authority is requested to use the separable units listed above as basis for computing the amount of local contribution required, for the obtaining of the necessary assurances to provide the required local cooperation, and to initiate construction as soon as local assurances have been received and funds appropriated by Congress. In this connection and prior to construction, the District Engineer should make clear to the local interests inhabiting the New Orleans West and the Mandeville separable units that complete protection against the project hurricane will not be provided until the New Orleans East unit has been completed.

1 Incl (dupe)
Analysis of Cost Estimate

JOE A. CLEMA
Colonel, CE
Acting Division Engineer

Copy furnished:
New Orleans Dist

9 December 1965

LAKE PONTCHARTRAIN AND VICINITY, LA.

Hurricane and Flood Control Project
(Authorized by FC Act of 1965, H.D. No. 231/89/1)

Estimated Total Cost: As approved by Congress - \$78,900,000.

Plan of Protection Authorized: Barrier - Low Level Plan (p. 58, H.D. 231)

Estimated Cost: District Engineer's Report (p. 82-86, H.D. 231)

Federal	\$56,780,000
Non-Federal	22,120,000
Total	<u>\$78,900,000</u>

Details of Estimate

District Engineer's Recommendation:

	<u>Federal</u>	<u>Non-Federal 1/</u>	<u>Total</u>
	\$	\$	\$
Lake Pontchartrain			
Barrier Plan	41,200,000 2/	14,384,000 3/	55,584,000
Rigolets	0	4,092,000 4/	4,092,000
Subtotal	<u>41,200,000</u>	<u>18,476,000</u>	<u>59,676,000</u>
Chalmette	10,600,000	3,644,000	14,244,000
Seabrook Lock	<u>4,980,000</u>	<u>0</u>	<u>4,980,000</u>
Total Project	56,780,000	22,120,000	78,900,000

Changes by OCE: Application of 3% interest rate reduces the local cash contribution equivalent to the estimated capitalized value of O&M of the Rigolets Navigation Lock by \$142,000 and increases the Federal cost a like amount. This reduces the amount of non-Federal contribution for Rigolets from \$4,092,000 to \$3,950,000 (p. 3).

Changes by Secretary of Army: The cost of the Seabrook Lock is allocated equally between Navigation and Hurricane Protection purposes. This cost, \$5,380,000, is comprised of \$4,980,000 shown under Mississippi River-Gulf Outlet in Table I, page 13 of the Board's report, and \$280,000 Federal and \$120,000 non-Federal shown under Lake Pontchartrain Barrier Plan.

- 1/ Cash contribution.
- 2/ Includes \$280,000 for Seabrook Lock.
- 3/ Includes \$120,000 for Seabrook Lock.
- 4/ Cash contribution equivalent to estimated capitalized value of O&M of the Rigolets Navigation Lock and Channel to be undertaken by the U.S. (p. 83).

9 December 1965

LAKE PONTCHARTRAIN AND VICINITY, LA.

Hurricane and Flood Control Project
(Authorized by FC Act of 1965, H.D. No. 231/89/1)

Estimated Total Cost: As approved by Congress - \$78,900,000.

Allocation and Apportionment of Costs

As authorized by Congress:

	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
	\$	\$	\$
<u>Lake Pontchartrain & Vicinity</u>			
<u>Lake Pontchartrain Area:</u>			
Barrier Plan	40,920,000 <u>1/</u>	14,264,000 <u>2/</u>	55,184,000
Rigolets	142,000 <u>3/</u>	3,950,000 <u>4/</u>	4,092,000
Seabrook Lock	1,883,000 <u>5/</u>	807,000 <u>6/</u>	2,690,000
Subtotal	<u>42,945,000</u>	<u>19,021,000</u>	<u>61,966,000</u>
Chalmette Area	<u>10,600,000</u>	<u>3,644,000</u>	<u>14,244,000</u>
TOTAL	53,545,000	22,665,000	76,210,000
<u>Mississippi River-Gulf Outlet</u>	<u>2,690,000</u>	<u>0</u>	<u>2,690,000</u>
GRAND TOTAL	56,235,000	22,665,000	78,900,000

- 1/ Reduced by \$280,000 for cost of Seabrook Lock. (See Attachment A.)
2/ Reduced by \$120,000 for cost of Seabrook Lock. (See Attachment A.)
3/ Increase by \$142,000 for change to 3% interest rate.
4/ Reduced by \$142,000 for change to 3% interest rate.
5/ Reduction of \$687,000 over estimate in Table I, page 13 (\$4,980,000 + \$280,000 - \$4,573,000). (See Attachment A.)
6/ Increase of \$687,000 over estimate in Table I, page 13 (\$807,000 - \$120,000). (See Attachment A.)

9 December 1965

ATTACHMENT A

Seabrook Lock

As Authorized by Congress

Allocation of Costs to Purposes

	<u>Navigation</u>	<u>Hurricane Protection</u>	<u>Total</u>
	\$	\$	\$
Seabrook Lock:			5,380,000
50%	2,690,000		
50%		2,690,000	

Apportionment of Costs to Federal & Non-Federal Interests

	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
	\$	\$	\$
Navigation	2,690,000	0	2,690,000
Hurricane Protection	<u>1,883,000</u> 1/	<u>807,000</u> 2/	<u>2,690,000</u>
Total	4,573,000	807,000	5,380,000

Apportionment of Costs to Projects

<u>Project</u>	<u>Federal</u>	<u>Non-Federal</u>	<u>Total</u>
	\$	\$	\$
Mississippi River-Gulf Outlet	2,690,000	0	2,690,000
Lake Pontchartrain & Vicinity	<u>1,883,000</u>	<u>807,000</u>	<u>2,690,000</u>
HP			
Total	4,573,000 3/	807,000 4/	5,380,000

1/ 70% of \$2,690,000.

2/ 30% of \$2,690,000.

3/ Reduction of \$687,000 from estimate in Table I, p. 13.

4/ Increase of \$687,000 over estimate in Table I, p. 13.

Note: 50% of costs of E&D should be charged to each project.



DEPARTMENT OF THE ARMY

MISSISSIPPI RIVER COMMISSION, CORPS OF ENGINEERS

VICKSBURG, MISSISSIPPI 39181

ADDRESS REPLY TO: LMVED

PRESIDENT, MISSISSIPPI RIVER COMMISSION
CORPS OF ENGINEERS
P. O. BOX 80
VICKSBURG, MISSISSIPPI 39181

*Increase MR Levee to
Protect against Betsy surge*

29 November 1965

Mr. Leon Gary, Director
Department of Public Works
State of Louisiana
Baton Rouge, Louisiana

Dear Mr. Gary:

Your letter of 23 November 1965 regarding raising the Mississippi River Levee below Belle Chasse was discussed with your Mr. Hu Myers during his recent visit to my office.

I have authorized the New Orleans District Engineer to initiate preparation of plans to increase the height of levees on the right bank of the Mississippi River below Jesuit Bend.

The exact height to which these levees can be raised at this time will be controlled by engineering and funding requirements; however, it is our general intent to eventually provide for two feet of freeboard above the surges caused by "Betsy."

Upon completion of our overall study on maximum hurricane surges in the New Orleans area, some adjustment of levee heights may be required. The District Engineer in New Orleans will be glad to advise you regarding the results of this study.

Sincerely,

ELLSWORTH I. DAVIS
Major General, USA
President, Mississippi River Commission

Copy furnished:
New Orleans District,
LMNED-PP



DEPARTMENT OF THE ARMY
MISSISSIPPI RIVER COMMISSION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181

ADDRESS REPLY TO: LMVED
PRESIDENT, MISSISSIPPI RIVER COMMISSION
CORPS OF ENGINEERS
P. O. BOX 80
VICKSBURG, MISSISSIPPI 39181

24 November 1965

SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi River Levees below New Orleans, Grade Increase for Interim Protection from Hurricane Surges

TO: District Engineer
New Orleans District
ATTN: LMNED-PP

1. Reference is made to our 1st Ind of 2 Nov 65 on your basic letter of 18 Oct 65, subject as above, and further telephone contacts between representatives of both offices.

2. Upon reconsideration of the problems involved in raising the Mississippi River Levees below New Orleans to protect against flooding from storm surges, you are authorized to prepare plans and specifications and initiate construction for raising the right bank Mississippi River main line levees downstream from Jesuit Bend.

3. During planning for this work, consideration should be given to construction of the levees to a grade which provides for 2 feet of free-board above the surge height of "Betsy." This office would have no objection to changing the present landside slope of 1 on 4 to 1 on 3 to permit maximum utilization of available right-of-way. If foundation conditions preclude raising the levee to full grade at one time, stage construction will be acceptable.

4. With respect to funding, it is noted that all of the \$1,200,000 available for construction, engineering, and supervision in the Mississippi River Levees project in fiscal year 1966 has been committed except \$165,000 for the Batee-Vacharie item. The funds for this latter item may be used for the purposes of raising the levees below Jesuit Bend if desired. Furnish this office fund requirements for the work proposed this year and in fiscal year 1967 with your recommendation for program adjustment within your present and anticipated fund resources. Should funds in addition to those available be required, inform this office of the amount and the date by which they will be required.

ELLSWORTH I. DAVIS
Major General, USA
President, Mississippi River Commission



DEPARTMENT OF THE ARMY
MISSISSIPPI RIVER COMMISSION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181

ADDRESS REPLY TO: LMVED

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CORPS OF ENGINEERS
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ELLSWORTH I. DAVIS
Major General, USA
President, Mississippi River Commission



DEPARTMENT OF THE ARMY
MISSISSIPPI RIVER COMMISSION, CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181

ADDRESS REPLY TO: LMVED

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CORPS OF ENGINEERS
P. O. BOX 80
VICKSBURG, MISSISSIPPI 39181

24 November 1965

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ELLSWORTH I. DAVIS
Major General, USA
President, Mississippi River Commission

LMVED-PH (NOD 18 Oct 65) 1st Ind
SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi
River Levees below New Orleans, Grade Increase for Interim
Protection from Hurricane Surges

Mississippi River Commission, CE, Vicksburg, Miss. 39181 2 Nov 65

TO: District Engineer, U. S. Army Engineer District, New Orleans,
ATTN: LMNED-PP

1. On the basis of records at Fort Jackson since 1891, the surge from Hurricane Betsy is the only stage of record higher than the approved levee grade in that area. In view of the considerable damage resulting from Hurricane Betsy, protection against the recurrence of such a storm would be desirable if feasible. It is believed that a saving in overall effort would result from planning for the higher stage rather than for interim protection.

2. You may proceed with foundation investigations and preliminary design studies for raising the levees to protect against a stage as high as the surge of Hurricane Betsy. Final planning and construction should await the outcome of the authorized levee grade study. Consideration should be given to the surge studies by a private engineering firm recently requested in determining the levee grades.

FOR THE PRESIDENT:

1 Incl
wd 1 cy


JOE A. CLEMA
Colonel, CE
Secretary, Mississippi River Commission

Get R/L NOW etc

LMVED-PH (NOD 18 Oct 65) 1st Ind
SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi
River Levees below New Orleans, Grade Increase for Interim
Protection from Hurricane Surges

Mississippi River Commission, CE, Vicksburg, Miss. 39181 2 Nov 65

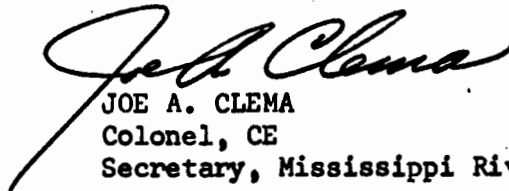
TO: District Engineer, U. S. Army Engineer District, New Orleans,
ATTN: LMNED-PP

1. On the basis of records at Fort Jackson since 1891, the surge from Hurricane Betsy is the only stage of record higher than the approved levee grade in that area. In view of the considerable damage resulting from Hurricane Betsy, protection against the recurrence of such a storm would be desirable if feasible. It is believed that a saving in overall effort would result from planning for the higher stage rather than for interim protection.

2. You may proceed with foundation investigations and preliminary design studies for raising the levees to protect against a stage as high as the surge of Hurricane Betsy. Final planning and construction should await the outcome of the authorized levee grade study. Consideration should be given to the surge studies by a private engineering firm recently requested in determining the levee grades.

FOR THE PRESIDENT:

1 Incl
wd 1 cy


JOE A. CLEMA
Colonel, CE
Secretary, Mississippi River Commission

Get R/E NOW etc

**U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
FOOT OF PRYTANIA STREET
NEW ORLEANS, LOUISIANA**

ADDRESS REPLY TO:

DISTRICT ENGINEER
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
P. O. BOX 80267
NEW ORLEANS, LA. 70160

REFER TO FILE

IMNED-PP

18 October 1965

SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi River Levees below New Orleans, Grade Increase for Interim Protection from Hurricane Surges

TO: President
Mississippi River Commission
ATTN: LMVED-TD

1. Reference is made to IMNED-PP letter dated 1 October 1965, subject "Flood Control, Mississippi River and Tributaries, Review of Mississippi River Levee Grades below New Orleans," which recommended that a review of the grades of the subject levees be made under existing MR&T authority.

2. Although the recommendation contained in the referenced letter provides for a course of action which may ultimately permit adjustment of the levee grades to meet storm-imposed requirements, it is improbable that actual construction could be undertaken for several years. In the interim, much of the lower delta area now protected by local back levees would be exposed to possible overflow by storm surges topping the river levees. This threat is particularly relevant to the west side where no flooding would have occurred during "Betsy" had the west river levee held, since the existing back levees were not overtopped from the west, or marsh, side.

3. In view of the obvious deficiency in river levee grades at the lower end of the delta, and in consideration of the great hazard occasioned thereby as demonstrated by "Betsy," it is believed that some increase in the west river levee heights to provide a degree of insurance against storm overflow of the developed areas on the west bank of the river, pending ultimate correction of the deficiency under procedures initiated by the letter referred to in paragraph 1, is advisable.

4. Inclosure 1 shows present approved net grades for the Mississippi River levees below the latitude of Myrtle Grove, La., and the approximate crest of "Betsy's" surge in the river. Surcharged on the drawing in various colors are a recommended grade for interim protection and the existing crown of the west river levee. The recommended grade will provide protection against a surge in the river approaching "Betsy's" insofar as the protected areas on the west bank of the river are concerned.

LMNED-PP

18 October 1965

SUBJECT: Flood Control, Mississippi River and Tributaries, Mississippi River Levees below New Orleans, Grade Increase for Interim Protection from Hurricane Surges

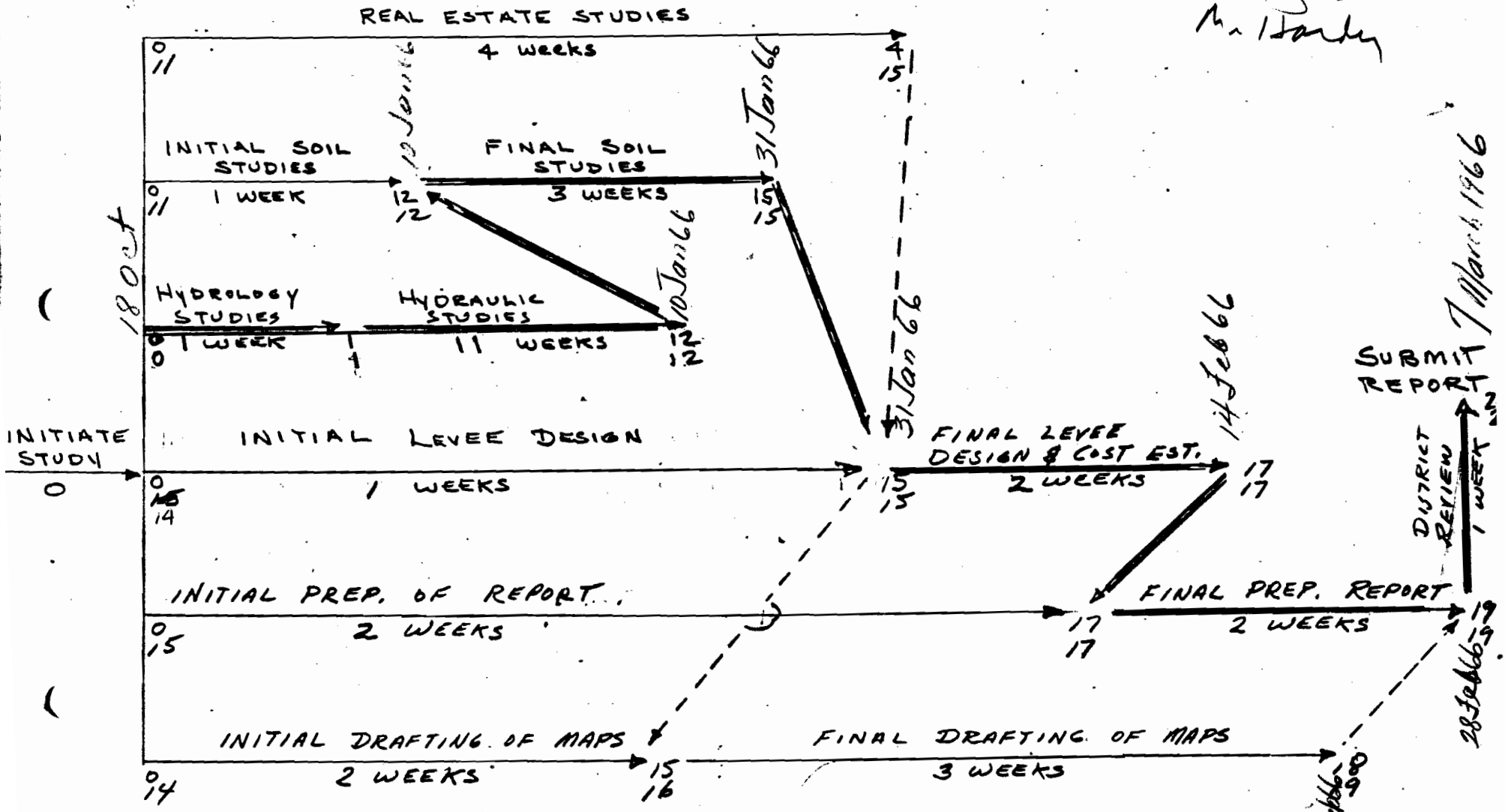
5. Local interests (Plaquemines Parish Commission Council) have already appropriated a 30-foot strip landward of the landside levee toe on the west bank from City Price to Venice. Thus, ample rights-of-way for accomplishing the recommended grade increase are now available in most locations.

6. Accordingly, authority is requested to proceed with the necessary planning work for raising the west river levee to the recommended grade, utilizing existing MR&T authority. Upon completion of such planning, we would furnish detailed cost data and request authority and funds to proceed with the construction.

1 Incl (dupe)
Profile H-8-23663


THOMAS J. BOWEN
Colonel, CE
District Engineer

✓ Chetry 2
Mr. Hardy



TIME REQD = 20 WEEKS
SAY 5 MO.

MISSISSIPPI RIVER LEVEES
BELOW NEW ORLEANS

LMVED-P (NOD 1 Oct 65)

1st Ind

SUBJECT: Flood Control, Mississippi River and Tributaries, Review
of Mississippi River Levee Grades below New Orleans

Mississippi River Commission, CE, Vicksburg, Miss. 39181 7 Oct 65

TO: District Engineer, U. S. Army Engineer District, New Orleans,
ATTN: LMNED-PP

1. It is our understanding that the study proposed will cover only the main line levees below New Orleans, and that the related problem of increasing the protection afforded by the back levee (hurricane protection) system, will be covered in the engineering and design phase of authorized and recommended hurricane protection projects.

2. Subject to the above, preparation of the letter-type report as described in par 2 of basic letter is approved.

3. The report will be funded in the Mississippi River levee construction project. ~~Costs will be charged to the engineering and design feature and included in a revised current year program after the appropriation bill for FY 66 is enacted.~~



ELLSWORTH I. DAVIS
Major General, USA
President, Mississippi River Commission

U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS
FOOT OF PRYTANIA STREET
NEW ORLEANS, LOUISIANA

ADDRESS REPLY TO:

DISTRICT ENGINEER
U. S. ARMY ENGINEER DISTRICT, NEW ORLEANS
P. O. BOX 60267
NEW ORLEANS, LA. 70160

FOR TO FILE

LMNED-PP

1 October 1965

SUBJECT: Flood Control, Mississippi River and Tributaries, Review of
Mississippi River Levee Grades below New Orleans

TO: President
Mississippi River Commission
ATTN: LMVED-P

1. The recent overtopping of the Mississippi River levees below New Orleans clearly demonstrates the need for a review of the authorized grades for these levees to insure that the levee system will provide a degree of protection consistent with the overall project formulation. It is, accordingly, recommended that such a review be undertaken under existing MR&T authority. (Reference DIVR 1120-2-8 dated 9 June 1965.)

2. If the above recommendation is approved, a letter-type report will be submitted. The report will be limited in scope to establishing the feasibility and desirability of raising the lower river levees to meet conditions imposed by storm considerations, to the extent required to make the protection afforded by the lower river levee system consistent with the overall project formulation; and to provide a degree of assurance that the levees will be intact and capable of handling major headwater floods during the normal high water season. Incremental justification for grade increases will not be established. The cost of the report is estimated to be \$41,000, and the time required for preparation is estimated to be 5 months. Funds for the report are not available in this District.

3. Approval of the recommendation contained in paragraph 1 is requested.



THOMAS J. BOWEN
Colonel, CE
District Engineer

FEATURE: REVIEW OF MISS. RIVER LEVEE
(EAST) & (WEST) GRADES BELOW N.O., LA.
 REPORT TYPE PRELIMINARY (SURVEY)
 STATUS INITIAL

COST ESTIMATE - FOUND. & FEE.

ELEMENT	BORINGS		TESTING		Σ COST	
	No.	Party Days	Man Days	Cost		
ALL ON WEST 6-UD	30	\$7,000	NOD-50 WES-60	50 \$9,000	50 \$4,000	\$20,000 +10% = \$22,000
ALL ON EAST 4-UD	20	\$5,000	NOD-35 WES-40	35 \$6,000	35 \$3,000	\$14,000 +10% = \$15,400
					Σ = \$34,000	+10% = \$37,400



DEPARTMENT OF THE ARMY
LOWER MISSISSIPPI VALLEY DIVISION
CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI 39181

IN REPLY REFER TO: LMVED-TV

24 November 1965

SUBJECT: Request for Engineering Assistance for the New Orleans District

TO: Chief of Engineers
ATTN: ENGCW-EZ

1. Reference is made to the following:
 - a. ER 1110-1-1.
 - b. Message, LMVED-TV-6, LMVD, 22 October 1965.
 - c. Telephone conversation, 13 October 1965, between Mr. A. J. Davis, LMVD, and Mr. Slayton, OCE.
2. In accordance with reference 1c, arrangements have been made for the Buffalo District to perform the following work on Seabrook Lock:
 - a. Prepare General Design Memorandum.
 - b. Prepare Feature Design Memorandum.
 - c. Prepare plans and specifications.
3. As discussed in telephone conversation between Mr. G. B. Davis and Mr. Slayton on 22 November 1965, authority is requested to transfer the planning work on Seabrook Lock as described in paragraph 2 above to the Buffalo District.

FOR THE DIVISION ENGINEER:

A. J. DAVIS
Chief, Engineering Division

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ENGW-EZ (24 Nov 65)

1st Ind

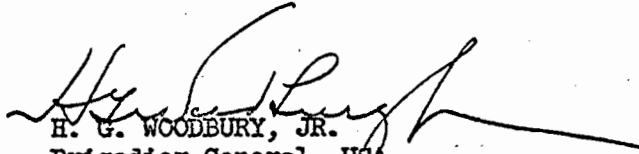
SUBJECT: Request for Engineering Assistance for the New Orleans District

DA, CofEngrs, Washington, D. C., 20315, 29 November 1965

TO: Division Engineer, Lower Mississippi Valley Division

Authority is granted to transfer the planning work on the Seabrook Lock, Lake Ponchartrain Project, to the Buffalo District, as requested in Paragraph 3 of the basic.

FOR THE CHIEF OF ENGINEERS:



H. G. WOODBURY, JR.
Brigadier General, USA
Deputy Director of Civil Works
for Comprehensive Planning

XERO COPY

XERO COPY

XERO COPY

LMVED-T (LMVD 24 Nov 65) 2d Ind
SUBJECT: Request for Engineering Assistance for the New Orleans District

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39181 3 Dec 65

TO: Division Engineer, North Central Division, Chicago, Ill. 60605

Referred to note approval by OCE to transfer planning work on Seabrook Lock, Lake Pontchartrain Project, to the Buffalo District.

FOR THE DIVISION ENGINEER:

GEORGE B. DAVIS
Acting Chief, Engineering Division

Copy furnished:
NOD, ATTN: LMNED

ENGCW-EY

12 November 1965

SUBJECT: Engineering Assistance for the New Orleans District

TO: Division Engineer
Lower Mississippi Valley Division

1. Reference is made to the following:

a. TT, LMVED-TV, 22 October 1965, on above subject, requesting authorization to contract for engineering assistance capable of performing the studies designated as Parts I and II in the teletype.

b. Letter, LMVED-PH, 29 October 1965, subject, Proposed Conference to Review Hurricane Protection Planning, Vicinity of New Orleans, Louisiana.

c. Discussions summarized in the inclosed draft entitled "Hurricane Protection Studies, New Orleans Vicinity: Conference in OCE, 8-9 Nov 1965, Regarding Technical Studies Work Plan," dated 10 November 1965.
(Incl 1)

2. The request contained in reference 1a for authority to contract for engineering assistance is approved, subject to pertinent existing regulations and the following:

a. The nature and scope of assistance to be acquired by contract, and participation of Corps of Engineers representatives in the overall studies in relation to "Part I" of activities referred to, would be substantially in accordance with principles and understandings summarized in reference 1c, including such revisions of reference 1c as may be subsequently agreed upon in developing the final conference notes.

b. Representatives of the Corps of Engineers will maintain close contact with work performed by contract under Parts I and II to assure that results of the studies affecting important design decisions are consistent with policies and standards of the Corps.

3. The draft of conference notes transmitted as Inclosure 1 is intended to conform with general understandings reached with representatives of District and Division Engineers, and other participants in the

ENGCW-EY

12 November 1965

SUBJECT: Engineering Assistance for the New Orleans District

conferences of 8-9 November 1965 in this office. Some details are to be added by representatives of the New Orleans District. It is requested that the memorandum be completed in final form, including such revisions as deemed advisable, and that copies be furnished the Chief of Engineers for information and possible comment.

4. A copy of this letter with inclosure has been forwarded directly to the New Orleans District.

FOR THE CHIEF OF ENGINEERS:

1 Incl
Draft, conf notes
10 Nov 65 (dupe)

H. G. WOODBURY, JR.
Brigadier General, USA
Deputy Director of Civil Works
for Comprehensive Planning

Cy furnished:
District Engineer
New Orleans District

ENGCW-EY

10 Nov 1965

SUBJECT: Hurricane Protection Studies, New Orleans Vicinity: Conference in OCE, 8-9 Nov 1965, Regarding Technical Studies Work Plan

1. REFERENCES.

- a. TT fr LMVED-TV-6 dated 22 Oct 65, requesting authority to contract for AE services pertaining to subject studies.
- b. Ltr fr LMVED-PH dated 29 Oct 65, subject, Proposed Conference to Review Hurricane Protection Planning, Vicinity of New Orleans, La.
- c. Memo A, Hydrologic Engineering Associated With Survey Studies (Jan 1965) and supplement thereto entitled Preliminary Summary of TSWP (Hydrologic Engineering): Outline and Comments Regarding Preparation.
- d. Report on Hurricane Betsy, 8-11 Sep 65, by NOD, Nov 65.
- e. General References listed on Incl 2.

2. MEETING PLACE, TIME & ATTENDANCE.

- a. Technical matters were discussed in CERC offices, Washington, D.C., on 8 November 1965, with attendance listed on Incl 1; discussions of certain technical details, and matters pertaining to the TSWP were continued in OCE on the morning of 9 November 1965.
- b. A brief meeting to review technical discussions and reach decisions or understandings on administrative matters, was held at 1:00 p.m., 9 November 1965, with attendance indicated on Incl 1.

3. LOCATION OF STUDY AREAS. The technical analyses and estimates considered herein will relate to two areas, as follows:

- a. Area A. An area extending generally from the southern end of the Mississippi River-Gulf Outlet to the Industrial Canal in New Orleans, and adjacent areas within confining levees (see Incl 3).

10 Nov 1965

b. Area B. Levee-confined Mississippi River Channel and floodway from Venice to Baton Rouge, La. (see Incl 3).

4. OBJECTIVES OF STUDY.

a. Studies Relating to Area A.

(1) Reevaluate estimates of critical hurricane surge elevations and wind-wave effects at key locations in Area A, and at key locations on existing and proposed hurricane flood protection works adjacent thereto, to conform with latest techniques and available data, including such determinations involving hurricane surge analyses as necessary to support decisions required in the design of authorized levees and associated works.

(2) Evaluate effects of the Mississippi River-Gulf Outlet on hurricane surge elevations at key locations surrounding Area A during Hurricane Betsy and three other representative critical recorded or hypothetical hurricanes.

b. Studies Relating to Area B. Evaluate hurricane surge elevations and wind-wave characteristics along the levee-confined Mississippi River Channel and floodway from Venice to Baton Rouge, corresponding to Hurricane Betsy and two representative critical hurricanes of record or hypothetical events, as required in connection with review of project adequacy or design modifications. (This will involve estimates of surge hydrographs and/or peak elevations at a sufficient number of key locations to permit construction of continuous water level profiles for each condition studied.)

5. BACKGROUND INFORMATION PERTINENT TO PREPARATION OF TSWP.

a. Hurricane Betsy caused widespread flooding and extensive damages in residential sections of two areas for which hurricane protection

10 Nov 65

has been either recommended or authorized. Residents in the Lake Pontchartrain areas have alleged that the recently completed Mississippi River-Gulf Outlet was a major contributor in the generation of hurricane surges, and it, therefore, was substantially responsible for the flooding experienced in some areas. In fact, two residents have filed suit for damages in Federal court, charging that the Federal Government was negligent in the construction of the Outlet by not providing adequate protection against hurricane tides. Flooding in part of the New Orleans to Venice area resulted from the overtopping of the Mississippi River levees by hurricane surges.

b. The effects of the Mississippi River-Gulf Outlet on the height of hurricane surges, and the overtopping of the Mississippi River levees by hurricane surges were considered during the hurricane studies. In view of the recent hurricane experience and the utmost importance of eliminating any doubt as to the adequacy of the protective works proposed because of the enormous hazard to life and property, it is now necessary to review both the aforementioned aspects of the hurricane flooding problems and detailed studies of hurricane surges must be made.

6. PRELIMINARY OUTLINE OF STUDIES ASSOCIATED WITH "AREA A" THAT ARE PROPOSED TO BE ACCOMPLISHED BY CONTRACT.

a. Select and check out the best available techniques and procedures for evaluating on a comparative basis the causes and effects of hurricane surge elevations that would be attained during specified hurricanes, with and without construction of the Mississippi River-Gulf Outlet, basically in accordance with agreements reached during or prior to contract negotiations.

10 Nov 65

b. Select 4 hurricane conditions, including Hurricane Betsy, for this study, subject to approval of NOD.

c. Compute surge hydrographs applicable at Point A (see Ref Map, Incl 3) on the Mississippi River-Gulf Outlet for the 4 specified hurricane conditions.

d. Route the above surge hydrographs over the Breton Sound area, taking into account the added effects of the hurricane winds, the flatlands, the marshlands, and Lake Borgne, and other pertinent factors to determine the maximum water elevations in each case at Points B, C, & D (Incl 3), for the following assumed conditions:

(1) Prior to the development of the Mississippi River-Gulf Outlet, assuming presently existing levees and Inner Harbor Navigation Canal.

(2) After the development of the Mississippi River-Gulf Outlet, assuming presently existing levees and Inner Harbor Navigation Canal.

(3) For conditions that will prevail when recommended protection plan is completed.

e. Compare maximum water elevations for the above two conditions set forth; namely, prior to and after construction of the Outlet at Points B, C, & D.

f. Estimate hurricane surge elevations at several key locations (as specified by NOD, Incl 3) along alinement of proposed hurricane flood protection works for each hurricane study referred to in para 6d, and construct continuous profiles by suitable interpolations.

10 Nov 1965

g. Write a complete report on the above study, which will include but not necessarily be limited to the following:

(1) Definitive explanation of methods and techniques used, including example calculations.

(2) Identification of selected hurricanes and key characteristics such as central pressure indices, radius of maximum wind, forward speed, path of movement, and representative wind velocities.

(3) Detailed summary of results pertinent to project design analyses and related purposes, as developed in specified technical studies, as an appendix to the report.

(4) Maximum water elevations at key points specified by NOD (Incl 3) for use in project design purposes.

(5) Comparisons of data referred to in 6g(4) for various hurricane conditions specified (i.e., for conditions prior to and after the construction of the Gulf Outlet).

(6) Summary of results.

(7) Conclusions and comments.

7. PRELIMINARY OUTLINE OF STUDIES ASSOCIATED WITH "AREA B" THAT ARE PROPOSED TO BE ACCOMPLISHED BY CONTRACT.

a. Compute surge hydrographs corresponding to Hurricane Betsy and two hurricanes of record or hypothetical hurricanes, as agreed upon with NOD, at Point X (near Venice), Y (near Bohemia) (Incl 3).

b. Develop appropriate computer program, and compute maximum water levels to be expected in Mississippi River at key points between Venice and Baton Rouge, La., in sufficient number to establish continuous water level

10 Nov 65

profiles corresponding to each hurricane specified in 7a, and draw these profiles to suitable working scale.

c. Write a detailed summary report on the above study, which will include but not necessarily be limited to, the following:

(1) Definitive explanation of theory, methods, and techniques used.

(2) Computer program.

(3) Identification of selected hurricanes and river stage conditions pertinent to Study B.

(4) Sample calculations, typical for use in computer program.

(5) Results of calculations referred to in para 7b.

(6) Summary of results.

(7) Conclusions and comments.

8. INFORMATION TO BE FURNISHED TO SELECTED CONTRACTOR BY THE CORPS OF ENGINEERS. Details of information to be furnished by the Corps will be determined in connection with contract negotiations, but in general will include the following:

a. Isovel patterns, and pertinent information associated therewith, for all hurricane events (actual or hypothetical) required in the subject studies.

b. Hydrologic records, data on high water marks, and pertinent general information regarding Hurricane Betsy, and other hurricane events included in the studies, insofar as available at time the contract is negotiated, and such other information as may be mutually agreed upon by the contractor and NOD as studies progress.

10 Nov 65

c. Other pertinent information and data, such as topographic maps, levee locations, grades and elevations, other physical characteristics of structures and land areas as may be available and necessary for accomplishment of Studies A and B.

9. PARTICIPATION OF CORPS OF ENGINEERS PERSONNEL IN SUBJECT STUDIES.

a. Responsibility for final decisions pertaining to project designs, including both technical and policy matters, rests with the Corps of Engineers, and cannot be delegated to any contractor used to assist in the subject studies. Accordingly, contract arrangements and the TSWP should provide for maintenance of close contact with studies conducted by the selected contractor, including conference discussions if required to assure understandings necessary for efficient attainment of study objectives. Insofar as practicable, provisions should be made for joint or parallel actions on certain phases of the studies without duplicating or interfering with work assigned to the contractor under terms of agreements. The primary purpose of such participation by District personnel would be to provide staff experience and capability necessary to evaluate results of the studies, facilitate interpretation and use of the results of the studies for project design purposes, accelerate attainment of study objectives, and contribute to long range objectives of improving the District's technical capabilities in this important technical area.

b. In addition to the participation referred to above, and the furnishing of technical data and assistance to the contractor as specified in para 8, the NOD personnel will accomplish the following phases of the subject studies:

10 Nov 65

(1) Compute wave characteristics, wave runup on levee slopes, wave overtopping quantities at key locations along proposed or existing hurricane flood protection works.

(2) Other hydrologic-hydraulic computations required in connection with project designs not specifically assigned to the selected contractor. (Note: These should be itemized in an inclosure to the TSWP, by the NOD, if substantial costs are likely to be involved.)

10. COMPLETION SCHEDULES.

a. In order to conform as nearly as possible with needs for early decisions affecting project designs and construction, it is particularly important that the technical studies referred to herein be accomplished as soon as possible within reasonable limits of accuracy and reliability of results for purposes involved. However, time allocated for the technical studies should be adequate to assure that technical evaluations that govern design decisions of major importance can be produced by efficient management under circumstances that prevail. The TSWP and contract agreements should provide for establishment of "preliminary" and/or "semifinal" results where these are needed to avoid delay in overall studies by NOD, and can be produced well in advance of "final" results or completion of the contractor's report. (See reference cited in para 1c, Section IV.)

b. Target dates and general provisions for completion of various phases of the studies to be performed by the selected contractor will be discussed with the contractor and others concerned during contract negotiations to assure mutual understandings regarding time limitations and the impact of such limitations on the nature and scope of studies that can be produced under prevailing circumstances.

10 Nov 65

11. COORDINATION BETWEEN CONTRACTOR AND NOD: SPECIAL CONTRACT PROVISIONS.

a. Prior to finalization of the proposed contract, a conference will be held with the selected contractor to reach pertinent background understandings regarding basic techniques and procedures to be followed, discuss general and specific objectives of the studies, scheduling and completion requirements, and other matters likely to affect the quality of results obtained and costs involved.

b. The contract should provide for one or more conferences to be held with the contractor to review the status of progress on studies, exchange views on matters of mutual interest concerning the studies, and to acquaint NOD personnel with pertinent details. If reimbursements for travel expenses incurred by the contractor in connection with such conferences are to be made in addition to the original contract price, the conditions involved should be specified in the contract.

c. The contract should contain appropriate provisions to assure that the results of studies and report produced by the contractor will become the property of the Government, and will not be released to others without written consent of the contracting officer.

d. The contract should provide that Corps of Engineers will have the right of access to such basic computation sheets as may be required in connection with the review of results produced by the contractor under terms of the agreement, for a period of at least one year from the time the final report is furnished to the contracting officer (NOD).

10 Nov 1965

12. COMPLETION OF TECHNICAL STUDIES WORK PLAN.

a. The NOD will complete inclosures referred to herein, insofar as needed for a basic understanding of the nature and scope of studies contemplated, including both the work to be accomplished by the selected contractor, NOD and others. (These inclosures will consist largely of extracts or summaries of information presently available, and should be limited to data particularly pertinent to the TSWP.)

b. Supplements to the TSWP should be prepared in the future if these prove desirable as a means of increasing the efficiency in accomplishing the studies and assuring proper coordination of efforts.

E N D

3 Incl

1. List of Attendance
2. List of References
3. (As indicated in text;
to be prepared by NOD)

HURRICANE PROTECTION STUDIES, NEW ORLEANS VICINITY:
CONFERENCE IN OCE 8-9 NOVEMBER 1965 REGARDING
TECHNICAL STUDIES WORK PLAN

ATTENDANCE

Meeting at CERC, 8 November 1965

Colonel Diercks	CERC (Part Time)
Thorndike Saville, Jr.	CERC (Part Time)
Rudolph Savage	CERC
John Ahrens	CERC
E. J. Williams, Jr.	LMVD
P. A. Becnel, Jr.	New Orleans Dist
Thornton J. Buhler	New Orleans Dist
William B. Seale	New Orleans Dist
Albert L. Cochran	Engineering Div., CW, OCE
Dwight E. Nunn	Engineering Div., CW, OCE

Meeting at OCE, 9 November 1965 (1:00 to 2:00 pm)

A. H. McRae	OCE
Wendell E. Johnson	Engineering Div., CW, OCE
Albert L. Cochran	Engineering Div., CW, OCE
Dwight E. Nunn	Engineering Div., CW, OCE
P. C. Hanscomb	Engineering Div., CW, OCE
S. B. Powell	Engineering Div., CW, OCE
Mark S. Gurnee	Operations Div., CW, OCE
L. Tobias	Operations Div., CW, OCE
R. C. Thompson	Planning Div., CW, OCE
J. B. McAleer	Planning Div., CW, OCE
E. J. Williams, Jr.	LMVD
P. A. Becnel, Jr.	New Orleans Dist
Thornton J. Buhler	New Orleans Dist
William B. Seale	New Orleans Dist

HURRICANE PROTECTION STUDIES, NEW ORLEANS VICINITY:
CONFERENCE IN OCE 8-9 NOVEMBER 1965 REGARDING
TECHNICAL STUDIES WORK PLAN

LIST OF REFERENCES

1. Public Law 71, 84th Congress, approved 15 June 55.
2. House Document No.550, 87th Congress, 2d Session, Mississippi River Delta at and below New Orleans, La., dated 12 Sep 62 (retitled New Orleans to Venice, La. after authorization).
3. Public Law 874, 87th Congress, 2d Session, approved 23 Oct 62.
4. House Document No.231, 89th Congress, 1st Session, Lake Pontchartrain, La. and Vicinity, dated 6 July 65.
5. Public Law 298, 89th Congress, 1st Session, approved 27 Oct 65.
6. "Hurricane Betsy, 8-11 Sep 65," flood damage report, New Orleans District.
7. LMNED-HT letter dated 29 Sep 65, subject "Hurricane Study, Review of U.S. Weather Bureau Hydrometeorological Branch Hurricane Memorandums" and indorsements thereto.
8. LMNED-HT letter dated 13 Oct 65, subject "Authority to Negotiate for and Procure Private Engineering Services Pertaining to Hurricane Surges."
9. LMNED-II letter dated 20 Oct 65, subject "Request for Conference to Review Hurricane Protection Project Hydraulic Design Criteria.
10. CERRE Memorandum for Record dated 13 Mar 64, "Training Classes at Texas A&M."
11. OCE Memorandum. Quantitative Estimates of Wave Overtopping of Levees and Floodwalls, Jan 62; and Supplement A, Nov 63.
12. Technical Report No.4. Shore Protection Planning and Design; Beach Erosion Board 1961.
13. "A Numerical Computation of the Storm Surge of Hurricane Carla, 1961, in the Gulf of Mexico," M. Miyazaki, University of Chicago, Dept of Geophysical Sciences, Technical Report No.10, 1963.
14. "Numerical Computation of the Hurricane Carla Storm Surge (September 1961) near the Texas-Louisiana Coast," M. Miyazaki, draft supplement to University of Chicago, Department of Geophysical Sciences, Technical Report No.10.
15. "Technical Study Work Plan on Hydrologic Engineering," (Agenda Item 5.1, Hydrologic Engineering Training Course), 11-15 Oct 65.

16. Illustration of Technical Studies Work Plan Prepared for Special Study Pertaining to Hurricane Flood Protection Facilities (Agenda Item 5.2c, Hydrologic Engineering Training Course), 11-15 Oct 65.
17. EM 1110-2-1410, "Interior Drainage of Leveed Urban Areas: Hydrology," May 1965.
18. NHRP Report No.7, "An Index of Tide Gages and Tide Gage Records for the Atlantic and Gulf Coasts of the United States," 1957.
19. NHRP Report 33, "Meteorological Considerations Pertinent to Standard Project Hurricane, Atlantic and Gulf Coasts of the United States," 1959. (Revised by HUR 7-84, "Standard Project Hurricane Wind Field Patterns to Replace Patterns in NHRP Report No.33 for Zones B and C," 17 Aug 65.
20. USWB Technical Paper No.36, "North Atlantic Tropical Cyclones," 1959.
21. HUR 3-5 and 3-5a, "Estimates of Moderate Hurricane Rainfall Application to Middle Gulf Standard Project Hurricane," 1959.
22. Memorandums HUR 7-62 and HUR 7-62A, "SPH Wind Field for Track C with a Rotated SPH Pattern," 28 Sep 59. (Revised by HUR 7-85, "Adjustments to SPH Isovel Pattern," 3 Nov 65.)
23. Memorandum HUR 7-63, "SPH Wind Field for Track F with Forward Speed 5 Knots Critical for Area 1," 21 Sep 59. (Revised by HUR 7-85.)
24. Memorandum HUR 7-64, "SPH Wind Fields for Track D with Forward Speed of 5 and 15 Knots," 7 Oct 59. (Revised by HUR 7-85.)
25. Memorandum HUR 7-65, "SPH Wind Fields of Track B with Forward Speed of 5 Knots," 21 Oct 59. (Revised by HUR 7-85.)
26. Memorandum HUR 7-37, "Wind Speed and Direction Charts for the Lake Pontchartrain Chandeleur and Breton Sounds and Mississippi Delta Regions, 19 Sep 47," 9 July 57.
27. Memorandum HUR 7-39, "Revised Wind Fields Vicinity of Lake Pontchartrain, Hurricane of September 29, 1915," 16 Aug 57.
28. Memorandum HUR 7-53, "Pressure and Winds over the Gulf of Mexico in Hurricane Flossy, September 23-24, 1956," 19 June 58.
29. Memorandums HUR 7-51 and HUR 7-51A, "Wind Speeds and Directions in Hurricane Audrey near the Louisiana Coast, June 27, 1957," July 64.
30. Memorandum HUR 7-82, "Preliminary Analysis of Surface Wind in Hurricane Hilda, October 2-14, 1964," 8 June 65.

LMVED-P (NOD 29 Oct 65)

1st Ind

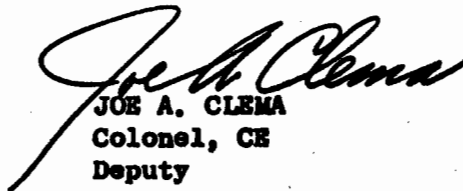
SUBJECT: PMH Protection for Lake Pontchartrain, La. and Vicinity

U. S. Army Engr Div, Lower Miss. Valley, Vicksburg, Miss. 39181 4 Nov 65

TO: District Engineer, U. S. Army Engineer District, New Orleans,
ATTN: LMNED-HT

The authority for the subject project is broad enough to allow reconsideration of the degree of protection in light of conditions and data available during definite project studies. In this connection, attention is invited to 1st indorsement, dated 4 November 1965, to letter LMNED-HT dated 28 October 1965, subject: SPH Protection for the Mississippi River Delta at and below New Orleans, La. Area.

FOR THE DIVISION ENGINEER:


JOE A. CLEMA
Colonel, CE
Deputy



DEPARTMENT OF THE ARMY *Mr. Williams*

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P. O. BOX 60267

NEW ORLEANS, LOUISIANA 70160

IN REPLY REFER TO

LMVED-HT

29 October 1965

SUBJECT: PMH Protection for Lake Pontchartrain, La. and Vicinity

TO: Division Engineer
Lower Mississippi Valley
ATTN: LMVED

1. Reference is made to the Interim Survey Report, Lake Pontchartrain, La. and Vicinity, dated 21 November 1962.

2. During the recent hurricane "Betsy", extremely high wind tides overtopped existing levees in areas for which hurricane protection projects were recommended in the Lake Pontchartrain report. This overtopping was responsible for the loss of about 70 lives and it caused widespread flooding and extensive damage in residential areas. The protective system recommended in the report was designed to provide protection from an occurrence of the SPH (standard project hurricane). If the protective system had been constructed as recommended, overtopping of the levees during "Betsy" would have been minor. However, areas southeast of New Orleans on the east side of the Mississippi River experienced wind tides greater than those expected to accompany a SPH. Therefore, had "Betsy" been on a track more critical to the Lake Pontchartrain area, wind tides greater than those used for design purposes would probably have resulted. This means that a future hurricane similar in intensity to hurricane "Betsy" and on a track critical to the Lake Pontchartrain area would cause overtopping of the proposed SPH protection.

3. Assuming the possibility that "Betsy" may have been of lower frequency than the SPH, it is considered that a degree of protection greater than that recommended in the report should be provided. The modification would be made during the detailed planning stage. PMH protection would have ample justification even though the benefit to cost ratio would be lower.

LMNED-HT

29 October 1965

SUBJECT: PMH Protection for Lake Pontchartrain, La. and Vicinity

4. Accordingly, it is requested that authority be granted to modify the recommended plan of protection to provide PMH (probable maximum hurricane) protection.


THOMAS J. BOWEN
Colonel, CE
District Engineer

MR&T Levee Review
File Lakepontc

JOINT MESSAGEFORM

SECURITY CLASSIFICATION

UNCLAS

SPACE BELOW RESERVED FOR COMMUNICATION CENTER

PRECEDENCE	TYPE MSG (Check)			ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION MAIL	BOOK	MULTI	SINGLE			
INFO			X			

FROM: DIVENGR LOWER MISS VALLEY VICKSBURG MISS

SPECIAL INSTRUCTIONS

TO: COFENGRS DA WASHDC
INFO: DISTENGR NRLNS LA ATTN: LMNED-HT/LMNED-PP - (Mail)
SUBJ: Engineering Assistance for the New Orleans District

UNCLAS FOR ENGCW-EZ, FROM LMVED-TV-6

PART I

1. Reference telcons 20 and 21 Oct 65 between Mr. Slayton, OCE, and Mr. G. B. Davis, LMVD, concerning need for engineering assistance by New Orleans District for preparation of following studies:
 - a. Evaluation of influence of Mississippi River-Gulf Outlet on hurricane surges in New Orleans metropolitan area.
 - b. Evaluation of hurricane surges confined within Mississippi River levees from Venice to Baton Rouge, Louisiana.
- Pertinent information - Hurricane "Betsy" caused widespread flooding and extensive damages to residential sections of two areas for which hurricane protection had been recommended or authorized. Flooding in New Orleans resulted from a levee crevasse along the west side of the industrial

DATE	TIME
22	.
MONTH	YEAR
Oct	1965

WRITER	SYMBOL LMVED-TV	SIGNATURE		
	TYPED NAME AND TITLE (Signature, if required) GLH/ml			
	PHONE 215	PAGE NR. 1	NR. OF PAGES 3	
	SECURITY CLASSIFICATION UNCLAS			TYPED (or stamped) NAME AND TITLE GEORGE B. DAVIS Acting Chief, Engineering Division

RELEASE

XERO COPY

XERO COPY

XERO COPY

UNCLAS

FROM:

DIVENGR LOWER MISS VALLEY VICKSBURG MISS

canal and flooding in parts of New Orleans to Venice area resulted from overtopping of Mississippi River levees. Recent hurricane experience makes it imperative that any doubt about proposed protective works be eliminated because of hazard to life and property.

2. The estimated cost of studies, outlined in paragraphs 1a and b above, are \$20,000 and \$40,000, respectively.

PART II

3. Reference also telcon 13 Oct 65 between Messrs. Slayton and A. J. Davis concerning A-E assistance for the Lake Pontchartrain and Vicinity project. Initial planning items provide for:

	<u>Design Memorandum</u>	<u>Organization Performing Work</u>
FDM	Tidal Hydraulics	NOD
Suppl. DM	Inner Harbor Nav. Canal Levees	NOD
GDM & FDM	Seabrook Lock	Buffalo Dist.
GDM	Chalmette Area	A-E
GDM	Barrier Complex	A-E

4. Preparation of GDM's for the Chalmette Area and Barrier Complex would be by a local A-E firm because of the extensive coordination required with various local entities and the need for familiarity with local and area conditions which requirements make the work unsuitable for accomplishment by another Corps office.

SYMBOL	PAGE NR	NR OF PAGES	SECURITY CLASSIFICATION	INITIALS
LMVED-TV	2	3	UNCLAS	GLH/ml

FORM 1 MAY 55 173-1

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FROM:

DIVENGR LOWER MISS VALLEY VICKSBURG MISS

5. The New Orleans District does not have the in-house capabilities to perform required studies.

6. Recommend that New Orleans District be authorized to contract for engineering assistance capable of performing the studies required in Parts I and II.

7. Reply by teletype requested.

SYMBOL

LMVED-TV

PAGE NR
3

NR OF PAGES
3

SECURITY CLASSIFICATION

UNCLAS

INITIALS

GLH/ml

LMVED-PH/LMVED-TD (NOD 19 Oct 65) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Dual-Purpose
Control Structure at Seabrook (Seabrook Lock)

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39121 17 Nov 65

TO: District Engineer, New Orleans District, ATTN: LMVED-PP

1. The proposal to lower the lock walls at the landward gate bay and adjacent tie-in dikes from elevation 13.2 ft msl to 7.2 ft msl was discussed with OCE staff engineers at conference held in OCE 9 Nov and in telephone conversation with them on 12 Nov 65. No objections were interposed by the OCE staff but instructions were furnished to the effect that the general design memorandum should present the reason and justification for departure from the project document.

2. Accordingly, you are authorized to design Seabrook Lock on a controlling elevation of 7.2 ft msl, as recommended, or to use a lower elevation if further studies indicate it to be advantageous to the project. Consideration also should be given to allowing flow through the lock to accomplish additional lowering in the Inner Harbor Canal.

3. In par 8 of basic letter you refer to "the combined general and detail design memoranda for Seabrook Lock". It is desired that separate general design and feature design memoranda be submitted. The GDM should contain a discussion of the alternative sites considered and the basis for selecting the recommended site; the type, dimensions, elevations, and general features of the lock; the estimated cost; and other information required by par 9 of EM 1110-2-1150 and in par 1 hereof. Information contained in par 7e of EM 1110-2-1150 should be used in preparing the feature design memorandum.

FOR THE DIVISION ENGINEER:

A. J. DAVIS
Chief, Engineering Division

Copy furnished:
OCE, ATTN: ENGCW-EH/ENGCW-EZ

LMVED-PP

19 October 1965

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Dual-Purpose Control Structure at Seabrook (Seabrook Lock)

TO: Division Engineer
U. S. Army Engineer Division
Lower Mississippi Valley
ATTN: LMVED-TD

1. Reference is made to the following:

a. NOD letter dated 21 November 1962, subject "Interim Survey Report on Hurricane Study of Lake Pontchartrain, La. and Vicinity."

b. House Document No. 231, 89th Congress, 1st Session, entitled "Lake Pontchartrain, La. and Vicinity."

c. LMVED-PP letter dated 7 October 1965, subject "Outline of Proposed Planning Procedures for Proposed Lake Pontchartrain, La. and Vicinity, Project."

2. The subject project as described in references a. and b. above provides for construction of a dual-purpose control structure at the Lake Pontchartrain end of the Inner Harbor Navigation Canal to preclude the entry of hurricane tides from the Inner Harbor Navigation Canal into the lake or vice-versa. The dual-purpose structure would consist of a sector-gated navigation lock with the landward gates and gate bay, and appurtenant tie-in dikes constructed to elevation 13.2 feet m.s.l., which elevation is high enough to prevent overtopping of the lock and dike by any tidal surge and wave action resulting from the passage of the SPH on any path. Actually, the elevation 13.2 feet m.s.l. is that required to prevent overtopping from the Inner Harbor Navigation Canal side; the maximum probable surge height plus waves on the lakeside being about 2 feet lower.

3. Basically, a lock is required at the Seabrook site to offset existing and/or potential detrimental changes in the flow and salinity regimes in the Inner Harbor Navigation Canal and Lake Pontchartrain, respectively, resulting from construction of the Mississippi River-Gulf Outlet. A lock to accomplish the above would not have to exclude the SPH

Engineering Division
File Copy

LMNED-PP

19 October 1965

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Dual-Purpose Control Structure at Seabrook (Seabrook Lock)

tidal surge; however, it was concluded in reference a. that the lock should be usable to navigation for any combination of tides up to 3 feet and winds up to 25 m.p.h., and a crest elevation of 7.2 feet m.s.l. for the tie-in dikes and lock (except for control houses and machinery floors) was established as being adequate.

4. Hurricane "Betsy" demonstrated that, under certain conditions, permitting flow to enter Lake Pontchartrain from the Inner Harbor Navigation Canal is advantageous. "Betsy's" surge crested at 11.0 feet m.s.l. at the canal end of the Inner Harbor Navigation Canal Lock, while at Seabrook the crest stage was only 6.3 feet m.s.l. Assuming the occurrence of a large hurricane on "Betsy's" path, subsequent to the construction of the recommended project, it is evident that the stages along the Inner Harbor Navigation Canal levees could be reduced without inducing any material threat to the lakefront system, by permitting some flow to enter Lake Pontchartrain at Seabrook.

5. It is recognized that other storm paths will produce higher stages in the lake than those in the canal and that under such cases, the ability to completely exclude lake water from the canal would be desirable. With maximum lake stages controlled by the barrier, however, the entry of lake water into the canal is not likely to cause any real problem.

6. The above suggests that consideration should be given to constructing the Seabrook Lock to meet requirements imposed by the Mississippi River-Gulf Outlet only and to forego the higher level, dual-purpose construction now included in the plan. With the lock and tie-in dikes constructed to Mississippi River-Gulf Outlet requirements, the controlling elevation would be 7.2 feet m.s.l. This would permit substantial overflow from the canal (peak still water stage at the canal end of the lock about 12 feet m.s.l. for SPH on the path critical to the canal end of the lock), while limiting overflow from the lake to wave overtopping during very great hurricanes only (peak still water stage at lake end of the lock about 6.5 feet m.s.l. for SPH on the path critical to the lake end of the lock).

7. Lowering the controlling elevation of the lock and tie-in dikes would, in addition to reducing the cost of these features, permit some reduction in the grades of the Inner Harbor Navigation Canal project levees with attendant savings in cost. Further, the depth of flooding on numerous industrial sites along the canal which will be outside the levee system will be reduced and access to these sites will be made easier.

LWED-PP

19 October 1965

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Dual-Purpose Control Structure at Seabrook (Seabrook Lock)

18 Oct 65

Chatry/kn/239

8. We propose to base the detail design of the Seabrook Lock on a controlling elevation of 7.2 feet m.s.l., and to cover this change from the survey report plan in the combined general and detail design memoranda for Seabrook Lock, and in the general design memorandum for the barrier complex, as a departure from the project document plan. Approval of this course of action is recommended.

THOMAS J. BOWEN
Colonel, CE
District Engineer

Mask

Lipscomb

J.H.H.
Hudson

Copy furnished:

Mr. Lipscomb, Design Br., Engrg. Div.

Exe Ofc

Engineering Division
File Copy

LMHED-PP

7 October 1965 7 Oct 65

SUBJECT: Outline of Proposed Planning Procedures for Proposed "Lake Chatry/kn/239 Pontchartrain, La. and Vicinity," Project

4. CPM schedules and estimated planning and construction costs (including E&D and S&A) for the features described above are shown on inclosure 3. The funds required for fiscal year 1966, assuming A-E accomplishment of the barrier and Chalmette general design memoranda, exclusive of the \$180,000 of Mississippi River-Gulf Outlet funds required for Seabrook Lock (preparation by A-E), are indicated to be in excess of \$450,000 which is the amount expected to be made available. A request for additional funds will, however, be deferred until negotiations with A-E contractors are complete and a more positive requirement for additional funds exists.

5. Reference a. (1st Indorsement) indicated that our request for engineering assistance should be deferred until receipt of definite information that initial funds will be made available. We consider that receipt of initial funds in the amount of \$450,000 for the subject project is, for all practical purposes, now assured. Accordingly, it is requested that we be authorized to proceed with arrangements to have the design memoranda for the barrier and the Chalmette area prepared by an A-E contractor. It is further requested that you arrange for preparation of the design memorandum on Seabrook Lock by another Corps office, or that we be authorized to arrange for its preparation by an A-E contractor.

6. Twelve copies of plates 3 and 9 from the survey report on the project are furnished herewith for use in briefing other Corps offices on Mask the Seabrook Lock. Additional copies will be made available on request.

7. Approval of the procedure outlined in paragraphs 3-5 is requested. Further information on planning subsequent to that described will be the subject of future correspondence.

Hudson
Exe Ofc

3 Incl

1. Map H-2-22077, plate 3
(12 cys)
2. Map H-2-22077, plate 9
(12 cys)
3. CPM's-8 sheets (trip)
1 sheet (12 cys)

THOMAS J. BOWEN
Colonel, CE
District Engineer

LMED-PP

7 October 1965

SUBJECT: Outline of Proposed Planning Procedures for Proposed "Lake Pontchartrain, La. and Vicinity," Project

TO: District Engineer
U. S. Army Engineer Division
Lower Mississippi Valley
ATTN: LMED-TD

1. Reference is made to the following:
 - a. LMED letter "Review of Possible Engineering and Design Overload" dated 17 August 1965, and 1st Indorsement thereto.
 - b. Record of telecon between Messrs. Dement, LMED, and Gentry, NOD, dated 15 September 1965, relative to subject project.
 - c. DIVE M10-2-9.
2. The occurrence of hurricane "Betsy" has exerted a distinct influence on the course that should be followed in initiating planning of the subject project. First, it has introduced a requirement for increased tidal hydraulics coverage in the design process; second, it has generated substantial pressure for so arranging the planning that construction may be initiated at the earliest practicable date; and finally, it has preempted, for other purposes, the services of District engineering personnel required for participation in the overall planning effort.
3. We propose to respond to the peculiar requirements imposed by the above-described conditions by utilizing the following planning procedure. In the descriptions, please refer to enclosed map (enc 1):
 - a. A design memorandum (No. 1) on tidal hydraulics will be prepared in-house with maximum use of overtime when effective. Based on the project being funded on or before 15 October 1965, this memorandum would be forwarded for approval in January 1966. This submission date presupposes that studies now being made by the U. S. Weather Bureau will not result in a change in any of the parameters of the design hurricane. The scheduling of other design memoranda also is influenced by this presupposition.

Engineer, Division
File Log

7 October 1965

SUBJECT: Outline of Proposed Planning Procedures for Proposed "Lake Pontchartrain, La. and Vicinity," Project

b. Preparation of a general design memorandum (No. 2) on the barrier complex; i.e., the system of levees and structures required to exclude storm tides from Lake Pontchartrain, will be initiated concurrently with the memorandum on tidal hydraulics. Preparation of this memorandum would be by an A-E contractor with a local office. This memorandum will involve extensive coordination with various local agencies, and for this reason is not considered suitable for accomplishment by another Corps office. Work would continue into fiscal year 1967 with completion date estimated to be March 1967, assuming initial funds are available by 15 October 1965.

c. Preparation of a general design memorandum (No. 3) on the Chalmette area also will be initiated concurrently with the memorandum on tidal hydraulics, utilizing an A-E contractor with a local office. For the reason cited in subparagraph b. above, this memorandum is not considered suitable for accomplishment by another Corps office. Work would continue into fiscal year 1967 and the memorandum would be submitted in November 1966, assuming initial funds are available by 15 October 1965.

d. In order to permit the earliest practicable start of construction, a single memorandum (No. 2A) supplementary to both the above QDM's, covering all levees along the Inner Harbor Navigation Canal, will be prepared in-house and submitted in advance of the QDM's. The existing Inner Harbor Navigation Canal levees proved to be very vulnerable during "Betty." Further, the existing levee system, which will, in effect, provide the base for the project improvements, is under the exclusive control of the Orleans Levee Board, which agency is most anxious to cooperate. In addition, the entire project levees along the west bank of the canal, and that part of the project levees on the east bank of the canal which is north of the Gulf Intracoastal Waterway, will be integral parts of the barrier system, which system will produce more widespread benefits than any other project feature. Assuming that funds are available by 15 October 1965 and maximum use of overtime when effective, the advance supplement would be submitted in May 1966. With normal review time and allowing eight months, after submission of the advance supplement, for preparation of plans and specifications, review, advertisement, etc., construction could be initiated by January 1967.

e. A continuation general and detailed design memorandum (No. 3 of the Mississippi River-Gulf Outlet series) for the Southeast Dock will be prepared by another Corps office or by A-E contractor, using Mississippi River-Gulf Outlet funds. Assuming that funds are available by 15 October 1965, this memorandum would be submitted in July 1966.

SUBJECT: Mississippi River Levees below New Orleans, Grade Increase for Protection from Hurricane Surges

LMVED-DL

TO: Ch, Projs Plng Br

FROM: Ch, Design Br

DATE: 17 Jan 66 CMT 2
Hanchev/erv/251

1. Reference is made to discussions relative to the above subject between Messrs. Hanchev, Chatry and Hardy. A copy of LMVED letter, dated 24 Nov 65, is inclosed for your information.
2. Reference letter authorizes preparation of plans and specifications and initiation of construction for raising the right bank Mississippi River Levees downstream from Jesuit Bend. The preliminary design studies and foundation investigations requested in Cmt. 1 are therefore unnecessary.
3. You are requested to cancel the work order prepared under Charge No. 30.13-13.13.3 and advise all segments of the District that were furnished this charge number of your action.

Incl
wd incl 1 & 2 -/3. Ltr dtd 24 Nov 65

E. J. FRANKLIN
Chief, Design Branch

File

LMVED-PP

5 November 1965

SUBJECT: Revised Outline of Planning Procedures for "Lake Pontchartrain, La. and Vicinity," Project

TO: Division Engineer
Lower Mississippi Valley Division
ATTN: LMVED

1. Reference is made to letter LMVED-PP dated 7 October 1965 subject "Outline of Planning Procedures for Proposed 'Lake Pontchartrain, La. and Vicinity,' Project."
2. Continuing consideration of the subject planning procedures reveals that certain revisions in the procedures outlined in the referenced letter are desirable. A discussion of proposed procedural changes follows in subsequent paragraphs.
3. It is understood that your office is opposed to the combined general and detail memorandum on Seabrook Lock. Accordingly, both an abbreviated general design memorandum establishing the general features of the lock and its precise location and a detail design memorandum will be prepared. Preliminary discussions have already been held with the Buffalo District and WES, and it has been determined that both memoranda will be prepared by Buffalo with assistance from WES on soils, foundations, and geology. Buffalo and WES have agreed to furnish estimates of time and cost for preparation of the two memoranda in the near future. We shall schedule the memoranda after receipt of the above data.
4. In order to reduce the time required to begin construction of elements covered in the general design memorandum for the barrier (see par. 3.b. of referenced letter), we now propose to prepare a general design memorandum for the entire Lake Pontchartrain barrier plan, with full design memorandum scope coverage limited to the two barrier structure complexes and a section of the Citrus back levee extending from the Inner Harbor Navigation Canal to near Michoud. The remainder of the plan would be given only brief coverage using survey report data with cost estimates and benefits updated. Segments of the plan given brief coverage in the general design memorandum will be developed further in a series of supplements.

Engineering Division
File Copy

LHMED-PP

5 November 1965 4 Nov 65

SUBJECT: Revised Outline of Planning Procedures for "Lake Pontchartrain,
La. and Vicinity," Project

Chatry/kn/239

5. Preparation of the above-mentioned general design memorandum and plans and specifications for the section of levee detailed therein would be by A-E contractor. A schedule for the work and government estimate of cost (incl 1 & 2) are inclosed.

6. We plan to leave unchanged our prior proposals on design memorandum coverage for the tidal hydraulics, Inner Harbor Navigation Canal levee, and the Chalmette area. The schedules previously furnished for these memoranda are obsolete as to date and will be resubmitted.

7. A government cost estimate for the general design memorandum for the Chalmette area, which is also to be prepared by the A-E contractor, will be forwarded at an early date.

8. A list of proposed design memoranda covering the entire project is inclosed (incl 3).

9. Approval of the revised procedure discussed in paragraphs 3-7 is requested.

10. Approval of the government estimate of cost for the A-E contract for the general design memorandum on the Lake Pontchartrain barrier plan and authority to proceed with contract negotiations are requested.

3 Incl (dupe)

1. Schedule

2. Gov't est.

3. List of DM's

THOMAS J. BOWEN
Colonel, CE
District Engineer

Mask

BKH
Hudson

Exe Ofc

Engineering Division
File Copy

PEGG FURNISHED TO GSN DAVIS ON

13 Sept 1965

File
L. PONT
N. O. T. K. W.
GI

Lake Pontchartrain and Vicinity

Existing Federal levees in Jefferson Parish and local interest levees along Lake Pontchartrain in Orleans Parish were apparently effective - locally constructed levees in St. Bernard Parish and along the Inner Harbor Navigation Canal, were breached by the storm tide thus causing extensive flooding and loss of life in the Chalmette area of St. Bernard Parish and extensive flooding in the eastern section of Orleans Parish. Had this project been effective during the hurricane, the New Orleans metropolitan area would have been protected from storm tide flooding but would have still received extensive wind damage.

Mississippi River Delta at and Below New Orleans

This area apparently was in direct path of hurricane. Fragmentary information indicates that the storm tide overtopped the Mississippi River Levees from east to west. Grades of hurricane protection levees as now planned approximate grades of adjacent Mississippi River levees. Therefore, the hurricane protection project may have been ineffective had it been in place.

Grand Isle and Vicinity

This loop levee will protect 6,270 acres (including the City of Golden Meadow) with a 1960 population of about 14,600. Area apparently in the western quadrant of the hurricane, thus escaping the higher storm tide. Had this levee been in place it probably would have been effective.

6 miles to Adams by land

4:15 13 Sep 1965

On the night of 9 Sep 65, Hurricane "Betsy" roared ashore on the ^{gulf} Louisiana/coast near Grand Isle, marched to the northwest past the Metropolitan New Orleans area, on through the Capitol city of Baton Rouge, and then turned northward, to dissipate its awesome power in squalls of rain. Although available information is fragmentary and uncoordinated, one thing is certain-- Betsy's line of march is marked by massive destruction, particularly in New Orleans and below that city.

Although the fierce 150 m.p.h. wind^s accompanying Betsy ~~of itself~~ inflicted ^{installations} damage on numerous structures and in-structures of various types, in the final analysis, it was the towering tides generated by the tractive force of the winds which dealt the New Orleans area and the Mississippi Delta below ~~the~~ ~~MISSISSIPPI~~ New Orleans ^{the} more devastating blows.

As the hurricane moved inland, a huge prism of water ^{raised} spawned by the storm's whirling winds bore down on the east bank of the Mississippi River, reportedly swept over the levee located on ^{that} the bank of ^{the} that river, crossed the river, and passed over the top of the levee on the opposite river bank, flooding the entire lower delta area. As Betsy churned past New Orleans, hurricane protection facilities constructed by local interests were sorely taxed. Works along the shore of Lake Pontchartrain proved adequate but others including the levees along the Inner Harbor Navigation Canal, ^{with} and those in St. Bernard Parish were breached. Extensive flooding to depths of as much as 10 feet resulted in St. Bernard and Orleans Parishes. In addition, some flooding was experienced on the north shore of Lake Pontchartrain as well. Dollar flood damages are not known but will be extreme. At present, known ^{CONF 4180} loss of life is ^{with 60} above 20 and will surely go much higher.

An existing Federal project which operated to moderate the toll in the New Orleans area is the Lake Pontchartrain levee in Jefferson Parish. This

282
295
New Orleans delta area

direct

and

more
project ~~was~~ most effective in that no flooding by hurricane overflow was experienced in Jefferson Parish.

NEW ORLEANS
Federal projects proposed for hurricane protection in the ~~Lake~~
~~Pontchartrain and Mississippi River Delta areas~~ *are* is the Lake Pontchartrain, La. and Vicinity and the New Orleans to Venice, La, projects. Had the former project been in place for "Betsy" all of the hurricane flood damage in the Metropolitan New Orleans area would have been eliminated and almost no loss of life would have occurred. Data sufficient to permit a definite assessment of the possible ameliorating effects of the existing Mississippi River levees and the proposed New Orleans to Venice, La, project are not yet available.

NEW P 2

THE FORCE 150 MPH WINDS,
ACCOMPANYING BESSY INFLECTED
DIRECT DAMAGE ON NUMEROUS
STRUCTURES AND INSTALLATIONS
OF VARIOUS TYPES. FURTHER,
HIGH TIDES GENERATED BY THE
ATTRACTIVE FORCE OF THE
WINDS DEALT ~~DESTRUCTION~~

BLOWS TO THE AREA WHICH
WERE GREAT FRAGMENTS IN TERM
OF PROPERTY DAMAGE AND INFINITED
MORE SO IN TERM OF LOSS
OF HUMAN LIFE.

AS THE HURRICANE MOVED
INLAND, A PLYM OF WATER
RAISED BY THE STORM'S WHIRLING
WINDS BOKE DOWN . . .

SUMMARY

**INTERIM SURVEY REPORT ON HURRICANE STUDY
OF
LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY**

U. S. ARMY ENGINEER DIVISION, LOWER MISSISSIPPI VALLEY
CORPS OF ENGINEERS
VICKSBURG, MISSISSIPPI

P. O. Box 80
Vicksburg, Mississippi
Refer to LMVGN

1 February 1963

NOTICE OF INTERIM SURVEY REPORT ON
HURRICANE STUDY OF LAKE PONTCHARTRAIN,
LOUISIANA AND VICINITY

Notice is hereby given that an interim survey report on hurricane study of Lake Pontchartrain, Louisiana and vicinity, as a part of the examination and survey of the southern seaboard of the United States affected by hurricanes, authorized by Public Law 71, 84th Congress, 1st Session, approved 15 June 1955, to secure data on the behavior and frequency of hurricanes, to determine methods of forecasting their paths and improving warning services, to determine means of preventing loss of human life and damage to property with due consideration of the economics of proposed breakwaters, seawalls, dikes, dams, and other structures, warning services or other measures required; concerning which public hearings were held at New Orleans, Morgan City, and Lake Charles, Louisiana on 13, 15, and 20 March 1956, respectively, has been made by the New Orleans District Engineer and the Lower Mississippi Valley Division Engineer, Corps of Engineers, U. S. Army, and is favorable to the improvement.

The reporting officers recommend that the barrier plan for the hurricane protection of the shores of Lake Pontchartrain be authorized for construction to include the following features:

a. A barrier across the east side of Lake Pontchartrain, to consist of a levee along U. S. Highway 90; a control structure and approach channels, navigation lock and channels, and closure dam at the Rigolets; a control structure, floodgate, navigation channel, and closure dam at Chef Menteur Pass;

b. A levee along the lake shore of St. Charles Parish between the Bonnet Carre Spillway and Jefferson Parish; a lateral levee along the St. Charles-Jefferson Parish line; and a drainage structure in the lateral levee near its lakeward extremity; and

c. Improvement of existing levees along the lakeshores of Jefferson Parish and New Orleans, a new levee along the lakeshore of Citrus and New Orleans East, and improvement of existing protective works between U. S. Highway 90 and the Gulf Intracoastal Waterway in

the northeastern section of Orleans Parish, along the Gulf Intracoastal Waterway and the Inner Harbor Navigation Canal in Orleans Parish, including the incremental cost of a dual purpose lock in the Inner Harbor Navigation Canal at Seabrook chargeable to Hurricane Protection, and along the lakeshore at Mandeville, La.

The estimated cost to the United States is \$41,200,000.

The reporting officers further recommend that a plan for hurricane protection of the Chalmette area be authorized for construction to provide for a levee along the Mississippi River-Gulf Outlet from the Inner Harbor Navigation Canal to Bayou Dupre, thence along the bayou to Violet, La.; the improvement of the existing levee along the Inner Harbor Navigation Canal; and drainage structures in the levee alignment at Bayous Bienvenue and Dupre, at an estimated cost to the United States of \$10,600,000 for new work.

It is recommended that construction of these hurricane protection improvements shall be subject to the conditions that prior to initiation of construction on each separable independent feature local interests give assurances satisfactory to the Secretary of the Army that they will without cost to the United States:

a. Provide all lands, easements, and rights-of-way, including borrow and spoil-disposal areas necessary for construction, operation, and maintenance of the project;

b. Accomplish all necessary alterations and relocations to roads, railroads, pipelines, cables, wharves, drainage structures, and other facilities required by the construction of the project;

c. Hold and save the United States free from damages due to the construction works;

d. Bear 30 percent of the first cost, to consist of the fair market value of the items listed in subparagraphs a and b above and a cash contribution as presently estimated below, to be paid either in a lump sum prior to initiation of construction or in installments at least annually in proportion to the Federal appropriation prior to start of pertinent work items, in accordance with construction schedules as required by the Chief of Engineers, or, as a substitute for any part of the cash contribution, accomplish in accordance with approved construction schedules items of work of equivalent value as determined by the Chief of Engineers, the final apportionment of costs to be made after actual costs and values have been determined:

<u>Project</u>	<u>Total contribution for construction</u>	<u>Lands and relocations</u>	<u>Cash contribution for construction</u>
Lake Pontchartrain barrier plan	\$19,411,000	\$5,027,000	\$14,384,000
Chalmette	4,543,000	899,000	3,644,000

e. Provide an additional cash contribution equivalent to the estimated capitalized value of maintenance and operation of the Rigolets navigation lock and channel to be undertaken by the United States, presently estimated at \$4,092,000, the final determination to be made after construction is complete, said amount to be paid either in a lump sum prior to initiation of construction of the barrier or in installments at least annually in proportion to the Federal appropriation for construction of the barrier;

f. Provide all interior drainage and pumping plants required for reclamation and development of the protected areas;

g. Maintain and operate all features of the project in accordance with regulations prescribed by the Secretary of the Army, including levees, floodgates and approach channels, drainage structures, drainage ditches or canals, floodwalls, seawalls, and stoplog structures, but excluding the Rigolets navigation lock and its appurtenant navigation channels and the modified dual purpose Seabrook Lock; and

h. Acquire adequate easements or other interest in land to prevent encroachment on existing ponding areas unless substitute storage capacity or equivalent pumping capacity is provided promptly.

The reporting officers further recommend that the existing project for the Mississippi River, Baton Rouge to the Gulf of Mexico, La.; project, authorized by the River and Harbor Act of 2 March 1945, Public Law No. 14, 79th Congress, 1st Session, and modified by the addition of the Mississippi River-Gulf Outlet, authorized by the River and Harbor Act of 29 March 1956, Public Law No. 455, 84th Congress, 2d Session, be further modified to provide for the construction of a dual purpose lock at the lakeward terminus of the Inner Harbor Navigation Canal in the vicinity of Seabrook, La., at estimated costs to the United States of \$4,980,000 for new work, and \$120,000 annually for operation and maintenance, in addition to that now required for the authorized Mississippi River-Gulf Outlet.

It is recommended that construction of the Seabrook lock project shall be subject to the conditions that prior to initiation of construction local interests give assurances satisfactory to the Secretary of the Army that they will:

a. Provide without cost to the United States and upon the request of the Chief of Engineers, all lands, easements, and rights-of-way, including borrow and spoil-disposal areas required for construction, operation, and maintenance of the project; and

b. Hold and save the United States free from damages due to the construction works.

The reporting officers also found that further protection of human life and property can be afforded by the more widespread dissemination of information to residents of low lying communities relative to potential hurricane tide elevations and limits of flooding. This can be accomplished through organization of a hurricane preparedness committee in each community. Such a committee would establish a continual preparedness plan, conduct public educational programs, formulate plans for use of buildings as hurricane shelters, recommend desirable zoning regulations and building codes, and direct evacuation and rescue work when necessary, all at no cost to the United States.

In accordance with law, the report is being referred for review to the Board of Engineers for Rivers and Harbors in Washington, D. C. Interested parties may present written views on the report to the Board. Statements submitted should not repeat material previously presented at public hearings held by the District or Division Engineers, or contained in their reports, as this information is already available to the Board. Information submitted should be new, specific in nature, and bear directly on the findings in the report.

Hearings will be held only on written request explaining the need to present material not included in the report.

Written communications are to be mailed to the Board of Engineers for Rivers and Harbors, Washington 25, D. C., in time to reach the Board by 6 March 1963. If extension of this date is considered necessary, requests giving reasons and additional time desired should be submitted as soon as possible.

The Board considers communications and the report at a date subsequent to expiration of notice. Information furnished by mail receives the same attention as that received at public hearing. Should the Board not be convinced of the soundness of the recommendations in the report, notice to that effect will be mailed to all known interested parties prior to final action.

Further information may be obtained from this office or the:

District Engineer
U. S. Army Engineer District, New Orleans
Foot of Prytania Street
New Orleans, Louisiana

Interested parties, including the press, may make such notes of the contents of the report as they desire. However, copies of the report will not be loaned for use outside of the office, but interested parties may purchase copies of the report, or parts thereof, including illustrations, at the cost of reproduction which for a complete report is \$5.00. A separately published supplement to the report entitled, "History of Hurricane Occurrences Along Coastal Louisiana," is available at the cost of reproduction which is \$1.50. Your request for copies of the report

or the supplement should be addressed to the above-mentioned District Engineer, and checks or money orders in payment therefor should be made payable to the Treasurer of the United States.

You are requested to give the foregoing information to any persons known by you to be interested in the report, and who, not being known by the Division Engineer, do not receive a copy of this notice.



ELLSWORTH I. DAVIS
Major General, USA
Division Engineer

1 Attachment
Information Bulletin

SUMMARY

INTERIM SURVEY REPORT ON HURRICANE STUDY OF LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY

Introduction

This information bulletin, which supplements the public notice dated 9 January 1963, summarizes the findings and recommendations of the reports of the U. S. Army District Engineer, New Orleans, dated 21 November 1962, and the U. S. Army Division Engineer, Lower Mississippi Valley, dated 21 December 1962.

These reports were made in response to the following:

a. Public Law 71, 84th Congress, 1st Session, which authorizes a study of the eastern and southern seaboard of the United States to secure data on the behavior and frequency of hurricanes, and to determine possible means of preventing loss of human life and damage to property, with due consideration of the economics of proposed protective structures or other measures which might be required.

b. A resolution of the United States Senate Committee on Public Works as adopted 28 January 1949, which authorizes review of existing reports on Lake Pontchartrain, La., with a view to determining the need of modifications of the recommendations therein with respect to flood control, navigation, and beach erosion control in Orleans Parish, La.

c. A resolution of the Committee on Public Works of the United States Senate as adopted 4 February 1957, which provided for a review of the reports published as House Document Numbered 691, 79th Congress, 2d Session, and subsequent reports on Lake Pontchartrain, La., with a view to determining the advisability of extending the Jefferson Parish lakefront levee along the lakefront of St. Charles Parish, tying into the Bonnet Carre Spillway east guide levee.

d. Provisions of the River and Harbor Act of 2 March 1945, which authorized the examination of the Lake Pontchartrain, La., area with a view to protecting the shoreline and repairing the existing protective works at Mandeville, La.

The reports are subject to review by the Chief of Engineers and the Secretary of the Army, and the findings described may be modified prior to transmittal of the reports to Congress.

Problems under investigation

The lowlands in the Lake Pontchartrain tidal basin are subject to tidal overflow. The Greater New Orleans Metropolitan area which lies in this basin will continue its rapid economic development in the near future even though severe damages have resulted from several hurricanes in the recent past. Hurricane damages result from surges entering Lake Pontchartrain from Lake Borgne through natural tidal passes at Rigolets and Chef Menteur Pass and through improved channels of the Mississippi River-Gulf Outlet and Inner Harbor Navigation Canal. The surges are intensified by local wind effects, and the combination of waves and surges causes overtopping of the protective works along the shores of the lake. The eastern portion of the area is also subject to flooding by surges and waves that move directly from Lake Borgne and overtop the existing inadequate protective system seaward of the developed land areas. As a result, residences and industrial and commercial establishments suffer damage, business activities are disrupted, lives endangered, and hazards to health created. Hurricanes much more severe than any of record are possible. In the event of the occurrence of such a severe hurricane, catastrophic property damage and loss of human life would be experienced. Local interests have requested protection against these threats to life and property. Another and related problem exists in the area. The Mississippi River-Gulf Outlet provides a deep, direct route for the inflow of saline currents from the Gulf of Mexico to the area along its channel and to Lake Pontchartrain, with resultant adverse effect on fishery resources in the area. The Gulf Outlet Channel also will produce high velocity currents in the Inner Harbor Navigation Canal, creating a hazard to navigation and causing serious scour damage, particularly in constricted areas at bridge crossings. These adverse effects can be greatly alleviated by construction of a lock for navigation and salinity control at the lake end of the Inner Harbor Navigation Canal at Seabrook. This lock is properly chargeable as a feature of the Gulf Outlet project. A low level lock to the height of the existing protective works will serve the needs of the Gulf Outlet project. By increasing the grade of the rock dike and the landward gate bay section and gates, this structure will also serve as an essential part of a hurricane barrier plan by preventing the entry of hurricane surges into Lake Pontchartrain through the Gulf Outlet. The incremental cost of raising the lock to serve the dual purpose of excluding hurricane surges is properly a charge to the hurricane plan.

Recommended improvements

The recommended protection plan for the Lake Pontchartrain basin consists of a barrier at the east end of the lake to exclude hurricane tides, coupled with construction or enlargement of protective works fronting developed or potentially developable areas. The barrier would comprise enlarged embankments along the seaward levee system, new embankment extending to high ground on the north side of the Rigolets with regulating tidal and navigation structures in the Rigolets and Chef Menteur Pass, and a dual purpose navigation lock in the Inner

Harbor Navigation Canal at Seabrook for control of hurricane inflows into the lake as well as to limit objectionable salinity intrusion into the lake and tidal currents in the canal now developing from construction of the Mississippi River-Gulf Outlet. Additional protective works along the shores of the lake consist of new lakeshore levees in St. Charles Parish, Citrus, and New Orleans East, and the enlargement or strengthening of existing protective works in Jefferson and Orleans Parishes, and at Mandeville. Gravity drainage facilities are included as integral parts of all new levees.

The plan of protection recommended for the Chalmette area provides for the improvement of the existing levee along the Inner Harbor Navigation Canal and construction of new levees along the south side of the Mississippi River-Gulf Outlet from the Inner Harbor Navigation Canal to Bayou Dupre and thence along the bayou to Violet. Gravity drainage structures are included as an essential part of the plan.

Proposed local cooperation

Construction of the Lake Pontchartrain barrier plan will be subject to the conditions that prior to initiation of construction on each separable independent feature local interests give assurances satisfactory to the Secretary of the Army that they will without cost to the United States:

- a. Provide all lands, easements, and rights-of-way, including borrow and spoil-disposal areas necessary for construction, operation, and maintenance of the project;
- b. Accomplish all necessary alterations and relocations to roads, railroads, pipelines, cables, wharves, drainage structures, and other facilities required by the construction of the project;
- c. Hold and save the United States free from damages due to the construction works;
- d. Bear 30 percent of the first cost, to consist of the fair market value of the items listed in subparagraphs a and b above and a cash contribution as presently estimated below, to be paid either in a lump sum prior to initiation of construction or in installments at least annually in proportion to the Federal appropriation prior to start of pertinent work items, in accordance with construction schedules as required by the Chief of Engineers, or, as a substitute for any part of the cash contribution, accomplish in accordance with approved construction schedules items of work of equivalent value as determined by the Chief of Engineers, the final apportionment of costs to be made after actual costs and values have been determined:

<u>Project</u>	<u>Total contribution for construction</u>	<u>Lands and relocations</u>	<u>Cash contribution for construction</u>
Lake Pontchartrain barrier plan	\$19,411,000	\$5,027,000	\$14,384,000

e. Provide an additional cash contribution equivalent to the estimated capitalized value of maintenance and operation of the Rigolets navigation lock and channel to be undertaken by the United States, presently estimated at \$4,092,000, the final determination to be made after construction is complete, said amount to be paid either in a lump sum prior to initiation of construction of the barrier or in installments at least annually in proportion to the Federal appropriation for construction of the barrier;

f. Provide all interior drainage and pumping plants required for reclamation and development of the protected areas;

g. Maintain and operate all features of the project in accordance with regulations prescribed by the Secretary of the Army, including levees, floodgates and approach channels, drainage structures, drainage ditches or canals, floodwalls, seawalls, and stoplog structures, but excluding the Rigolets navigation lock and its appurtenant navigation channels and the modified dual purpose Seabrook Lock; and

h. Acquire adequate easements or other interest in land to prevent encroachment on existing ponding areas unless substitute storage capacity or equivalent pumping capacity is provided promptly.

Construction of the plan of improvement for the Chalmette area will be subject to the conditions that prior to initiation of construction on each separable independent feature local interests give assurances satisfactory to the Secretary of the Army that they will without cost to the United States:

a. Provide all lands, easements, and rights-of-way, including borrow and spoil-disposal areas necessary for construction, operation, and maintenance of the project;

b. Accomplish all necessary alterations and relocations to roads, railroads, pipelines, cables, wharves, drainage structures, and other facilities required by the construction of the project;

c. Hold and save the United States free from damages due to the construction works;

d. Bear 30 percent of the first cost, to consist of the fair market value of the items listed in subparagraphs a and b above and a

cash contribution as presently estimated below, to be paid either in a lump sum prior to initiation of construction or in installments at least annually in proportion to the Federal Appropriation prior to start of pertinent work items, in accordance with construction schedules as required by the Chief of Engineers, or, as a substitute for any part of the cash contribution, accomplish in accordance with approved construction schedules items of work of equivalent value as determined by the Chief of Engineers, the final apportionment of costs to be made after actual costs and values have been determined;

<u>Project</u>	<u>Total contribution for construction</u>	<u>Lands and relocations</u>	<u>Cash contribution for construction</u>
Chalmette	\$4,543,000	\$899,000	\$3,644,000

e. Provide all interior drainage and pumping plants required for reclamation and development of the protected areas;

f. Maintain and operate all features of the project in accordance with regulations prescribed by the Secretary of the Army, including levees, floodgates and approach channels, drainage structures, drainage ditches or canals, floodwalls, and stoplog structures;

g. Acquire adequate easements or other interest in land to prevent encroachment on existing ponding areas unless substitute storage capacity or equivalent pumping capacity is provided promptly.

Construction of the dual purpose Seabrook Lock will be subject to the conditions that prior to initiation of construction local interests give assurances satisfactory to the Secretary of the Army that they will:

a. Provide without cost to the United States and upon the request of the Chief of Engineers, all lands, easements, and rights-of-way, including borrow and spoil-disposal areas required for construction, operation, and maintenance of the project; and

b. Hold and save the United States free from damages due to the construction works.

The presently estimated costs of the recommended improvements are as follows:

		Non-Federal Cost			
				Cash	
: Total Cost:		Federal Cost:	Total :	Lands :	Contribution
(Cost in \$1,000)					

Lake Pontchartrain					
Barrier plan	\$64,703	\$41,200	\$23,503	\$5,027	\$18,476
Chalmette area	\$15,143	\$10,600	\$ 4,543	\$ 899	\$ 3,644
Seabrook Lock - dual purpose	\$ 4,980	\$ 4,980	---	---	---

Annual costs, annual benefits, and benefit-cost ratios for the recommended improvements are as follows:

	<u>Annual Benefit</u>	<u>Annual Cost</u>	<u>Benefit- Cost Ratio</u>
Lake Pontchartrain barrier plan	\$48,009,000	\$2,535,000	18.9 to 1
Chalmette area	\$ 5,152,000	\$ 572,200	9.0 to 1
Mississippi River-Gulf Outlet			
Existing project	\$ 9,080,000	\$4,965,700	1.8 to 1
Recommended modification	\$ 9,080,000	\$5,244,300	1.7 to 1

Additional protection from hurricane tides can be afforded by local interests to residents of low-lying coastal communities by the establishment of building codes and zoning regulations, provision of adequate havens of refuge, and organization of hurricane preparedness committees to formulate plans for effective preventive measures, evacuation and rescue work, all at no cost to the United States.

U. S. ARMY ENGINEER DIVISION, LOWER MISSISSIPPI VALLEY
CORPS OF ENGINEERS
P. O. BOX 80
VICKSBURG, MISSISSIPPI

File

High Auth
Rufes

ADDRESS REPLY TO:
DIVISION ENGINEER
LMVED-A

21 March 1966

REFER TO FILE NO.

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

TO: Chief of Engineers
ATTN: ENGCW-V

1. In telephone conversation 3 March 1966, Colonel Kristoferson informed me that Judge Perez, in discussion with General Cassidy and him on 2 March, expressed concern that the project for the Chalmette area includes charges to local interests for bank protection work. Judge Perez felt that this was not a cost of hurricane protection, but a navigation cost to protect the levees against wave wash.

2. Although the protection is referred to as "bank protection" and "foreshore protection" in the authorizing document (HD/231/89/1), the work to which Judge Perez refers consists of riprap slope protection on the hurricane protection levee. The riprap protection will be placed on the channelside of a Mississippi River-Gulf Outlet retaining dike which will become the channelward edge of the stability berm of the hurricane levee.

3. The foreshore distance between the Gulf Outlet Channel and the retaining dike is some 500 feet, and the intervening area is covered with a thick growth of marsh grass. Therefore, no foreshore protection or slope paving is required or included in the Outlet project to prevent silting of the Outlet Channel due to wave action on the retaining dike.

4. The riprap paving is required to protect the levee berm from wind-generated and vessel-generated waves during high tide periods. Similar slope protection is provided for all other channel and lakeside levees in the hurricane protection project. The existence of the Mississippi River-Gulf Outlet dictates the location of that part of the Chalmette hurricane levee paralleling the Outlet and adds to the exposure of the levee. It is understandable that local interests would contend that the Outlet project should bear some part of the cost of the riprap protection. However, the benefits from the hurricane levee will include the prevention of flood damages and will allow considerable

LMVED-A

21 March 1966

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

enhancement in the protected area. No benefits will accrue to the Gulf Outlet Channel because of the levee construction other than those that might stem from industrial development which could conceivably take place within the Chalmette area after it is afforded a higher degree of protection by the levee.

5. In light of the conditions discussed above, it is my belief that the levee slope protection along the Mississippi River-Gulf Outlet Channel is properly chargeable to the Lake Pontchartrain, La., and Vicinity hurricane protection project. However, in view of the divergent views expressed by local interests in direct contacts with your office, your ruling on this matter is requested.

ELLSWORTH I. DAVIS
Major General, USA
Division Engineer

Copy furnished:
New Orleans District

Hurricane plan is receiving credit for all
dirt deposited from channel excavation - Why
isn't that credit shared 30-70 %?

~~OK~~

wasn't the "free" levee base constructed out of
dredge spoil Leander's idea?

yes

S-27 May 66

LMVED-T (LMVD 21 Mar 66)

2d Ind

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 25 Apr 66

TO: District Engineer, New Orleans District, ATTN: LMNED

1. Reference is made to letter, ENGCW-OM, OCE, 15 April 1966, to the Honorable Allen J. Ellender, United States Senate.

2. The Chief of Engineers has stated in the referenced letter and has ruled in the preceding 1st Ind that the portion of riprap costs required to protect against erosion by wave wash from shipping should be charged to the navigation project. You should prepare and submit for approval by 27 May 1966 a breakdown of the riprap foreshore and levee slope protection costs, proportioned between the hurricane-flood protection project and the navigation project.

ELLSWORTH I. DAVIS
Major General, USA
Division Engineer

LMVDE (LMVD 21 Mar 66)

4th Ind

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

DA, Lower Miss. Valley Div, CE, Vicksburg, Miss. 39180 15 Jun 66

TO: Chief of Engineers, ATTN: ENKOW

1. I concur in the concern of the District Engineer.
2. This item was discussed with Major General R. G. MacDonnell during the recent Command Inspection of LMVD.
3. No further action is contemplated by this office.

1 Incl
wd 1 cy

ELLSWORTH I. DAVIS
Major General, USA
Division Engineer

✓ Copy furnished:

NOD, ATTN: LMVED-PP

L. PONT.
H. J. M. R.

ENGCW-OM (21 Mar 66) 5th Ind
SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

DA, CofEngrs, Washington, D. C. 20315, 6 July 1966

TO: Division Engineer, Lower Mississippi Valley Division

The concern of the Division and District Engineers that the decision made in this case may have serious implications if applied to other projects in the future, is appreciated. However, this particular decision was based on those facts pertaining to the specific projects involved and it was not intended that it be considered a precedent with the principles thereof applicable to other projects. If any similar cases develop they will be treated independently and without regard to this decision.

FOR THE CHIEF OF ENGINEERS:

1 Incl
w/d

H. G. WOODBURY, JR.
Brigadier General, USA
Acting Director of Civil Works

CC: NEW ORLEANS DISTRICT

LMVBD-PP (NOD 29 Nov 66)

8th Ind

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity - Modification of
The Chalmette Area Plan to Include Larger Area

DA, New Orleans District, CE, New Orleans, La. 70160 14 Jul 67

TO: Division Engineer, Lower Miss. Valley, CE, ATTN: LMVBD-TD & LMVBC

1. In addition to the prior elements of this chain, reference is made to LMVBC letter dated 24 April 1967, subject "Hurricane Protection - Lake Pontchartrain and Vicinity," and let through 3d Indorsements thereto.

2. Forwarded herewith are the following:

a. Draft of proposed letter from the Chief of Engineers to the Special Assistant to the Secretary of the Army for Civil Functions explaining the inclusion of foreshore protection costs in the "Mississippi River-Gulf Outlet, La.," project.

b. Draft of proposed letter from the Special Assistant to the Director, Bureau of the Budget, transmitting a draft of proposed letters to the Public Works and Appropriations Committees of the United States Congress notifying them of the increase in cost of the "Mississippi River-Gulf Outlet, La.," project as a result of including foreshore protection in the plan of improvement, and requesting information as to whether there is any objection by the Bureau to the submission of the proposed letters to the respective committees.

c. Draft of proposed letter to the Committees.

3. Design for a portion of the foreshore protection has been covered in the general design memorandum (No. 3) for the Chalmette Area Plan. Inasmuch as the foreshore protection is more or less integral to and must be coordinated with the levee construction, it is planned to cover the design of the remaining foreshore protection in the general design memorandum for the Lake Pontchartrain Barrier Plan (No. 2) and in Supplement No. 1 to the general design memorandum for the Chalmette Area Plan. In addition a very brief letter-type supplement to the general design memorandum for the Mississippi River-Gulf Outlet (MR-GO) will be prepared and submitted for approval. This supplement, which will present the bases for inclusion of foreshore protection in the MR-GO project, the location of such protection, and a revised cost estimate for the overall project, will be prepared and submitted for approval after the notification of the Congressional Committees has been collected.

13 Jul 67
Chatry/kn/239
14 Jul 67

LEARNED-PP (NOD 29 Nov 66)

8th Ind (contd)

SUBJECT: Lake Pontchartrain, Louisiana and Vicinity - Modification of
the Chalmette Area Plan to Include Larger Area

4. Approval of the course of action outlined in paragraph 3.
above is recommended.

3 Incl (dupe)
7, 8, & 9 as listed

GEORGE H. HUDSON
Acting District Engineer

Mask

Hudson

67-877

ENGER

17 September 1965

SUBJECT: Lake Pontchartrain Hurricane Study Report, H. Doc. No. 231,
89th Congress, 1st Session

TO: District Engineer
U. S. Army Engineer District, New Orleans
New Orleans, Louisiana 70160

May we please have 12 copies of the Lake Pontchartrain Hurricane Study Report, with Appendices, for use of the Board staff and the Planning Associates. Please address as follows:

Mr. Leonard T. Crook
c/o Board of Engineers for Rivers and Harbors
2nd and Q Streets, S.W., Tempo C, Room 2027
Washington, D. C. 20315

FOR THE BOARD:

LEONARD T. CROOK
Special Assistant

Dispatched 21 Sep 65 with printed transmittal form.

SUBJECT: Hurricane Protection - Lake Pontchartrain and Vicinity -
Chalmette Area

Hudson:Chatry/kn/2

DA, New Orleans District, CE, New Orleans, La. 70160 26 May 66

TO: Division Engineer, Lower Miss. Valley Division, CE, ATTN: LMVED-T

1. Estimates requested in 2d Ind are forwarded herewith.
2. The decision of the Chief of Engineers in the 1st Ind is noted and understood. We note a number of implications of interest insofar as the decision is concerned and offer the following observations thereon.
3. The Mississippi River-Gulf Outlet was authorized long before the Chalmette levee was even planned; hence, it seems strange that the Outlet should be burdened with any construction which is subsequently planned. The levee could have been planned at a more remote location where no wavewash hazard would be involved; however, the optimum benefits and costs are derived from a location close to the outlet channel. At this location, the maximum protected area is made available and the considerable benefit of utilizing the spoil bank from the outlet channel is enjoyed, despite the possible hazard of wavewash.
4. The principle of having a project assume the financial burden of a subsequently authorized project may result in many of our marginal projects being forced into a category of less than unity benefit-cost ratio by virtue of factors that could not possibly have been evaluated when the project was presented to the Congress. The application of the principle is equivalent to making the Mississippi River navigation project bear the cost of levee slope paving in the MR&T project, or of the Gulf Intracoastal Waterway bearing the cost of the locks which were required in previously authorized waterways in order to permit the levees to be extended to protect additional land areas.
5. This principle is in no wise comparable to that of taking action to correct an unforeseen condition which has been brought on by the functioning of a project. In the subject instance, no action would be required until the Chalmette levee is constructed, hence the levee project should be complete within itself. The application of the cost shifting principle violates the cardinal principle of incremental justification and could be utilized to bring an unfavorable benefit-cost ratio to above unity by having a completed project bear a part of the cost; however, such action would bring up many awkward funding problems, particularly where fully completed projects are involved.

Franklin

Mask

Hudson

Exe Ofc

1 Incl
Table I (dupe)

THOMAS J. BOWEN
Colonel, CE
District Engineer

Engineering Division
File Copy

TABLE I

LAKE PONCHARTRAIN, LA. & VICINITY
COSTS FOR WAVEMASH AND FORESHORE PROTECTION

I. NAVIGATION PURPOSE		
1.	Citrus back levee	
	Construction	\$1,555,365.00
	E&D	115,720.00
	S&A	99,100.00
		<u>\$1,770,185.00</u>
2.	New Orleans East Back levee	
	Construction	\$ 783,130.00
	E&D	58,265.00
	S&A	49,885.00
		<u>\$ 891,280.00</u>
3.	Chalmette back levee	
	Construction	\$1,249,430.00
	E&D	212,490.00
	S&A	155,950.00
		<u>\$2,317,870.00</u>
TOTAL, NAVIGATION PURPOSE		\$4,979,335.00
II. HURRICANE PROTECTION PURPOSE		
1.	St. Charles Parish	
	Construction	\$2,184,130.00
	E&D	238,070.00
	S&A	174,730.00
		<u>\$2,596,930.00</u>
2.	Jefferson Parish	
	Construction	\$ 552,400.00
	E&D	57,400.00
	S&A	43,200.00
		<u>\$ 653,000.00</u>
3.	Citrus lakefront levee	
	Construction	\$1,469,800.00
	E&D	104,890.00
	S&A	89,800.00
		<u>\$1,664,490.00</u>

TABLE I (cont'd)

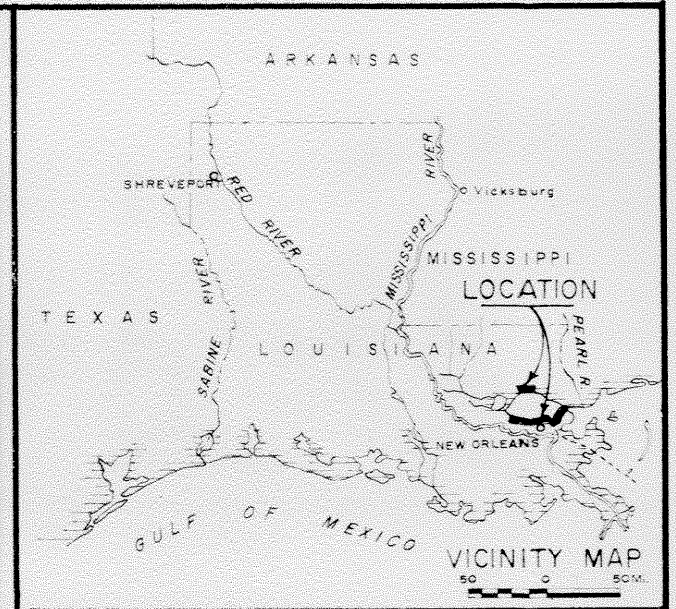
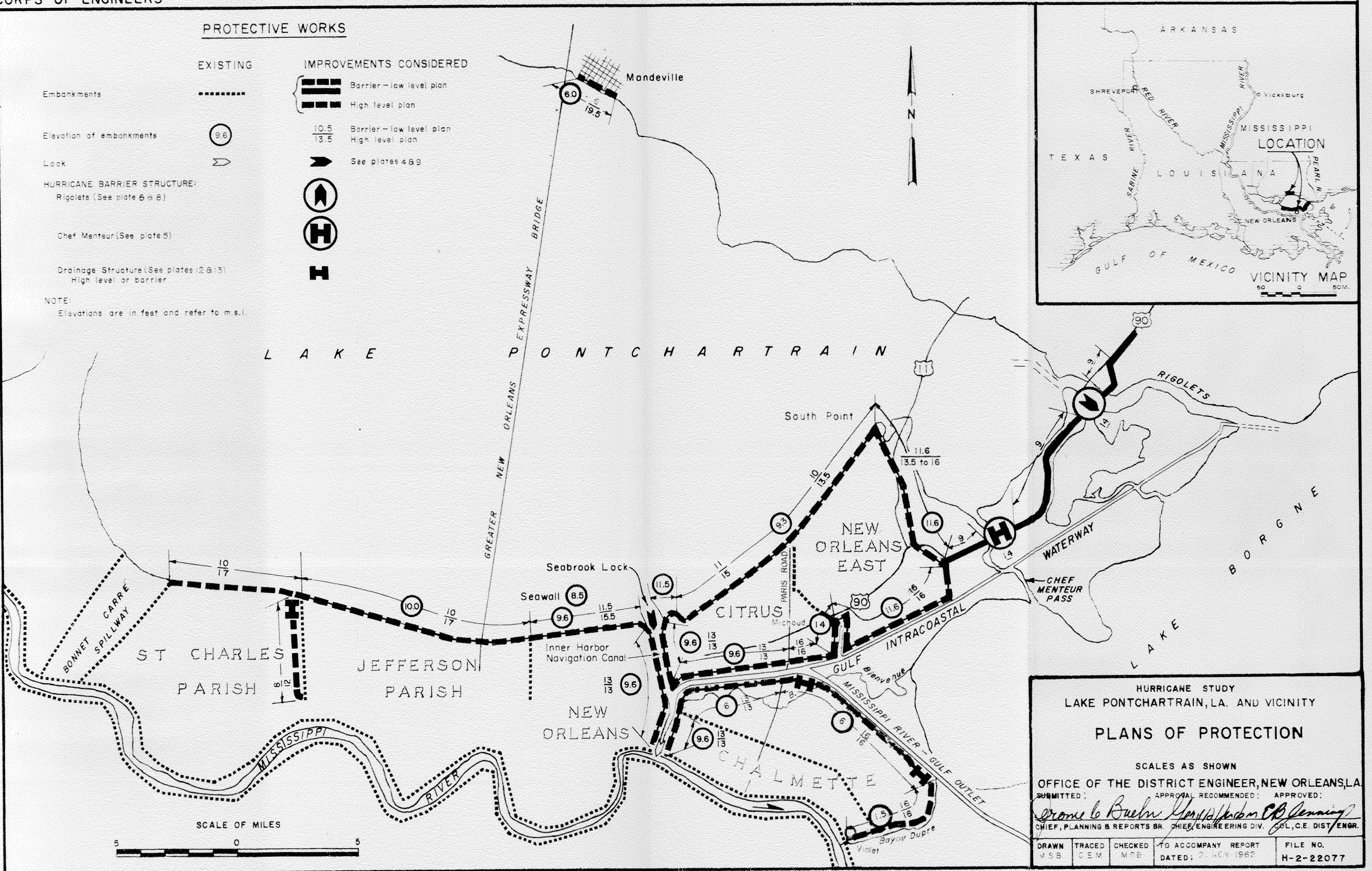
II. HURRICANE PROTECTION PURPOSE (cont'd)

4.	N.O. East lakefront levee	
	Construction	\$2,368,270.00
	E&D	176,200.00
	S&A	150,860.00
		<u>\$2,695,330.00</u>
5.	Rigolets levees & closure dam	
	Construction	\$1,834,880.00
	E&D	165,140.00
	S&A	135,780.00
		<u>\$2,135,800.00</u>
6.	Chef Menteur levees & closure dam	
	Construction	\$ 428,340.00
	E&D	38,550.00
	S&A	31,700.00
		<u>\$ 498,590.00</u>
	TOTAL, HURRICANE PROTECTION PURPOSE	<u>\$10,184,740.00</u>
	TOTAL, WAVEWASH AND FORESHORE PROTECTION	\$15,164,075.00

PROTECTIVE WORKS

- | | |
|---|--------------------------|
| EXISTING | IMPROVEMENTS CONSIDERED |
| Embankments | Barrier - low level plan |
| Elevation of embankments | High level plan |
| Lock | See plates 4 & 9 |
| HURRICANE BARRIER STRUCTURE: | See plates 4 & 9 |
| Rigolets (See plate 6 & 8) | See plates 4 & 9 |
| Chef Menteur (See plate 5) | See plates 4 & 9 |
| Drainage Structure (See plates 12 & 13) | See plates 4 & 9 |
| High level or barrier | See plates 4 & 9 |

NOTE:
Elevations are in feet and refer to m.s.l.



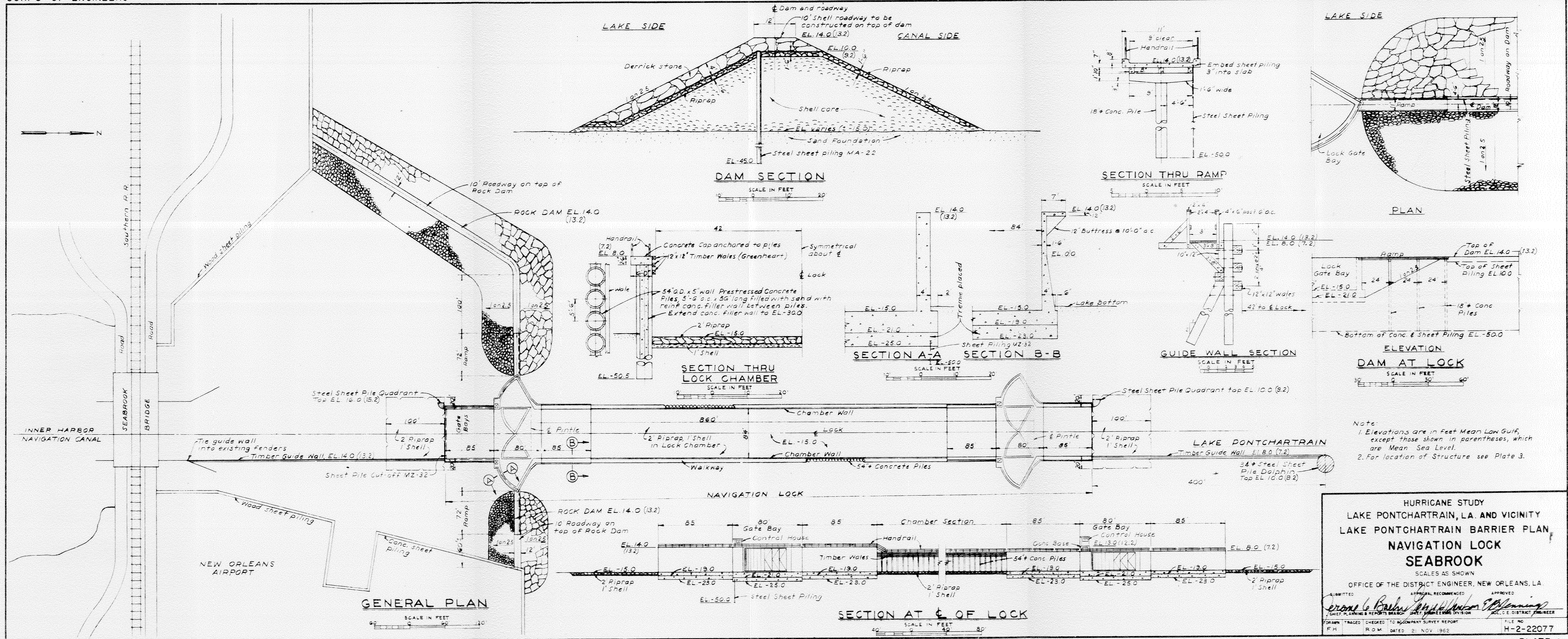
HURRICANE STUDY
LAKE PONTCHARTRAIN, LA. AND VICINITY
PLANS OF PROTECTION

SCALES AS SHOWN

OFFICE OF THE DISTRICT ENGINEER, NEW ORLEANS, LA.
SUBMITTED: _____ APPROVAL RECOMMENDED: _____ APPROVED: _____

Ernest L. Buel *Henry J. ...* *C. J. ...*
CHIEF, PLANNING & REPORTS BR. CHIEF, ENGINEERING DIV. DIST. ENGR.

DRAWN M.S.B.	TRACED C.E.M.	CHECKED M.C.B.	TO ACCOMPANY REPORT DATED: 21 NOV 1962	FILE NO. H-2-22077
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Note:
 1. Elevations are in feet Mean Low Gulf, except those shown in parentheses, which are Mean Sea Level.
 2. For location of Structure see Plate 3.

HURRICANE STUDY
 LAKE PONTCHARTRAIN, LA. AND VICINITY
 LAKE PONTCHARTRAIN BARRIER PLAN
 NAVIGATION LOCK
 SEABROOK
 SCALES AS SHOWN
 OFFICE OF THE DISTRICT ENGINEER, NEW ORLEANS, LA.

APPROVED
[Signature]
 DISTRICT ENGINEER

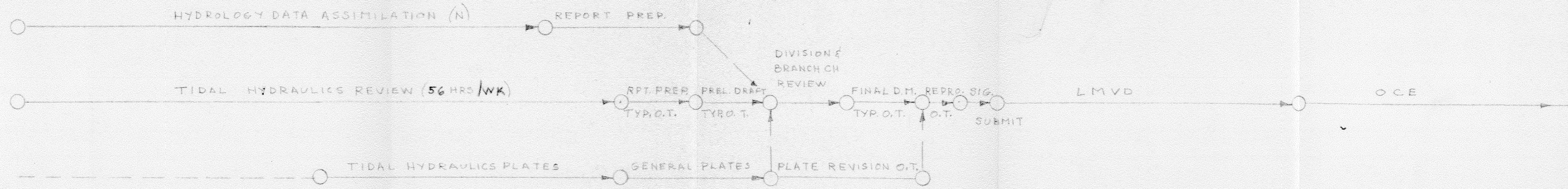
APPROVED
[Signature]
 DISTRICT ENGINEER

APPROVED
[Signature]
 DISTRICT ENGINEER

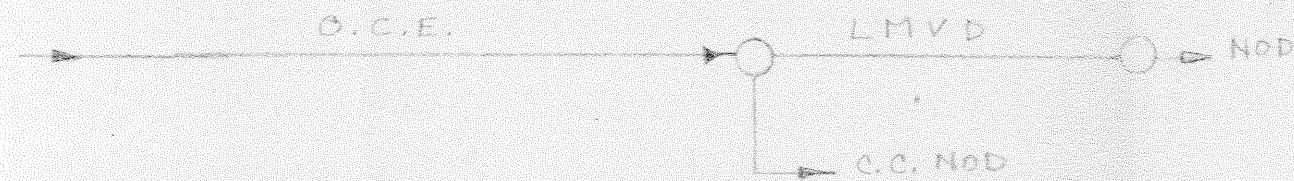
FORW. TRACED CHECKED TO ACCOMPANY SURVEY REPORT
 FILE NO. H-2-22077
 R.O.M. DATED 21 NOV 1962

18 OCT 25 OCT 1 NOV 8 NOV 15 NOV 22 NOV 29 NOV 6 DEC 13 DEC 20 DEC 27 DEC 3 JAN 10 JAN 17 JAN 24 JAN 31 JAN 7 FEB 14 FEB 21 FEB 28 FEB 7 MAR

F.7.66
 FUNDS:
 HYDRAULICS \$
 HYDRG 2500
 TIDAL 10000
 MAPPING 4000
 PLANNING 3000
 S.T. \$19500
 CONTG 2000
 S.T. 21500
 SFA 1500
 TOTAL \$23000



7 MAR 14 MAR 21 MAR 28 MAR 4 APR 11 APR 18 APR 25 APR 2 MAY 9 MAY 16 MAY 23 MAY 30 MAY 6 JUN 13 JUN 20 JUN 27 JUN



LAKE PONTCHARTRAIN LA. & VICINITY
 D.M. No. 1, TIDAL HYDRAULICS

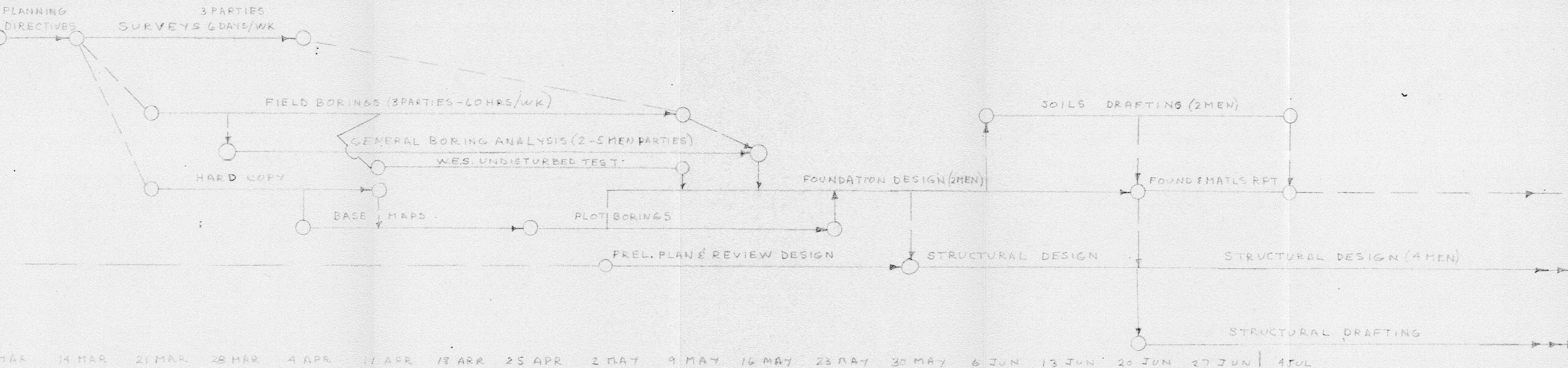
F.7.66

4² C8 sheets

sheet 1

18 OCT 25 OCT 1 NOV 8 NOV 15 NOV 22 NOV 29 NOV 6 DEC 13 DEC 20 DEC 27 DEC 3 JAN 10 JAN 17 JAN 24 JAN 31 JAN 7 FEB 14 FEB 21 FEB 28 FEB 7 MAR

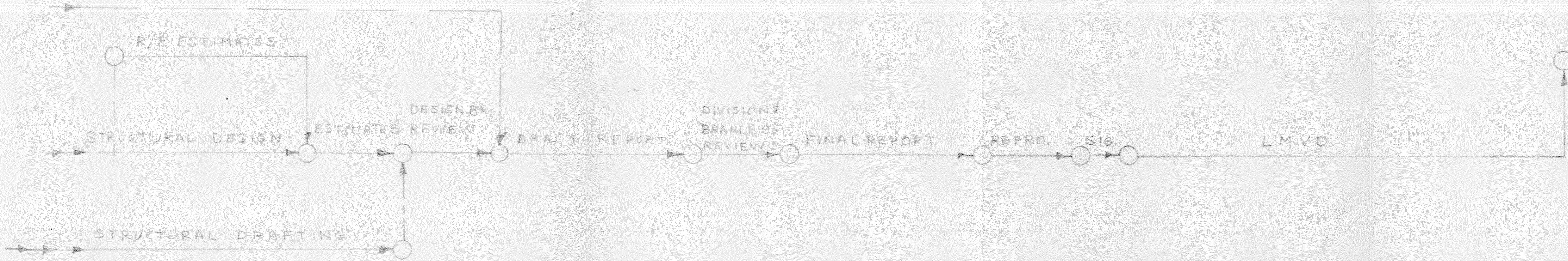
CONSTRUCTION COST
 I.H.N.C. WEST
 \$ 5,108,000 (1 JAN 65)
 I.H.N.C. EAST (incl. Chalmette)
 \$ 3,618,000 (1 JAN 65)
 TOTAL
 \$ 8,726,000 (1 JAN 65)



FUNDS:

SURVEYS	\$15,200
MAPPING	9,400
DESIGN GENERAL	26,500
FUND & MATLS:	
FIELD	5,000
LAB	17,600
DESIGN	13,500
PLANNING	6,500
REAL ESTATE	1,500
<hr/>	
SUB-TOTAL	95,200
10% CONT.	9,600
<hr/>	
SUB-TOTAL	104,800
S & A 8.5%	9,200
<hr/>	
TOTAL	\$114,000

7 MAR 14 MAR 21 MAR 28 MAR 4 APR 11 APR 18 APR 25 APR 2 MAY 9 MAY 16 MAY 23 MAY 30 MAY 6 JUN 13 JUN 20 JUN 27 JUN 4 JUL

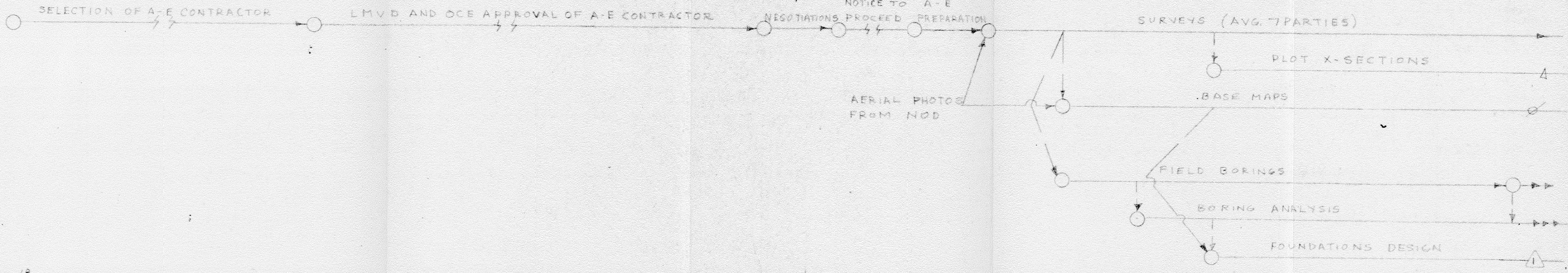


LAKE PONTCHARTRAIN LA. & VICINITY
 INNER HARBOR NAVIGATION CANAL
 GENERAL DESIGN MEMO
 ADVANCE SUPPLEMENT

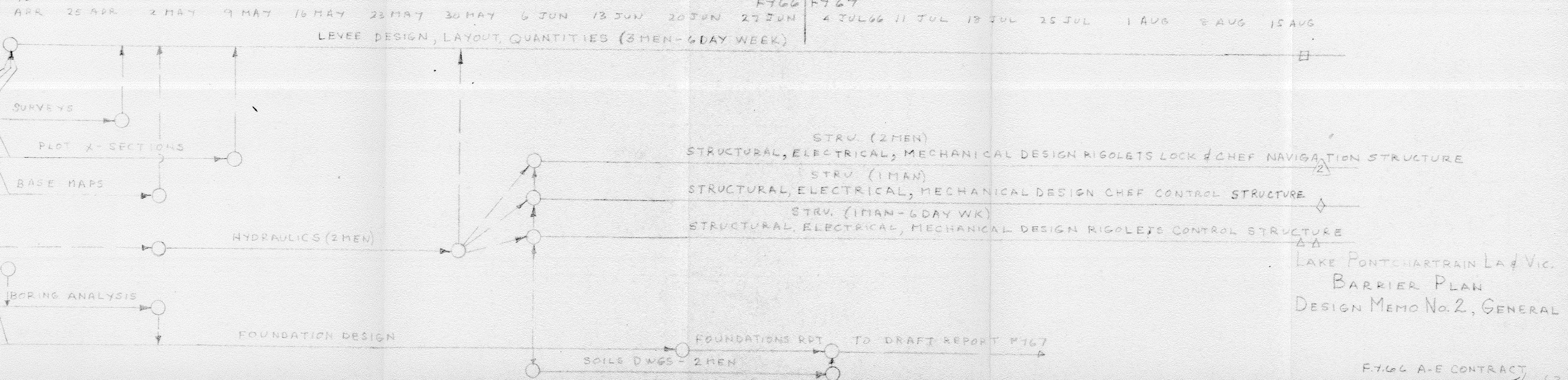
CONSTRUCTION COST (exclusive of I.H.N.C.)
\$ 39,552,000 (1 JAN 65)

15 OCT — 6 WKS — 29 NOV — 9 WKS — 31 JAN — 2 WKS — 7 FEB — 21 FEB — 28 FEB — 7 MAR — 14 MAR — 21 MAR — 28 MAR — 4 APR — 11 APR — 18 APR

FUNDS:	F.Y. 66	AGE	NOD
SURVEYS	\$ 90,000	\$ 0	
MAPPING	14,500	0	
DESIGN:			
GENERAL	5,000	600	
LEVEES	11,000	1,000	
FOUND F MATS:			
DESIGN	15,000	2,000	
FIELD	26,000	0	
LAB	15,000	0	
PLANNING	12,100	7,000	
HYDRAULICS	2,400	0	
REAL ESTATE	0	300	
SUB-TOTAL	191,000	10,900	
10% CONT.	19,000	1,100	
SUB-TOTAL	210,000	12,000	18
SFA - 8.5%	18,000	1,000	
SUB-TOTAL	228,000	13,000	
PROFIT	57,000	1,000	
TOTAL	\$ 285,000	\$ 14,000	



OTHER NOD CHARGES NOT TO D.M.S
LOCAL INT. NEGOT. \$5,000
STREAM GAGING \$3,000
PROGRAMMING \$2,000

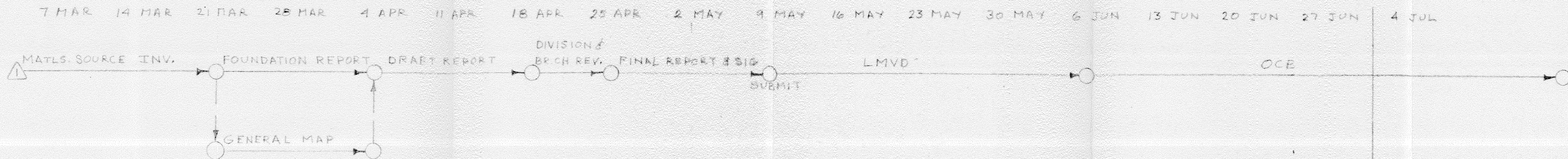


LAKE PONTCHARTRAIN LA & VIC.
BARRIER PLAN
DESIGN MEMO No. 2, GENERAL

18 OCT 25 OCT 1 NOV 8 NOV 15 NOV 22 NOV 29 NOV 6 DEC 13 DEC 20 DEC 27 DEC 3 JAN 10 JAN 17 JAN 24 JAN 31 JAN 7 FEB 14 FEB 21 FEB 28 FEB 7 MAR

F.Y. 66
 FUNDS.
 MAPPING \$ 500
 FOUND #
 MATLS 2000
 PLANNING 1000
 SUB-TOT \$3,500
 10% CONT 350
 SUB-TOT 3,850
 S&A 8.5% 350
 TOTAL 4,200

START MATERIALS SOURCE INVESTIGATION

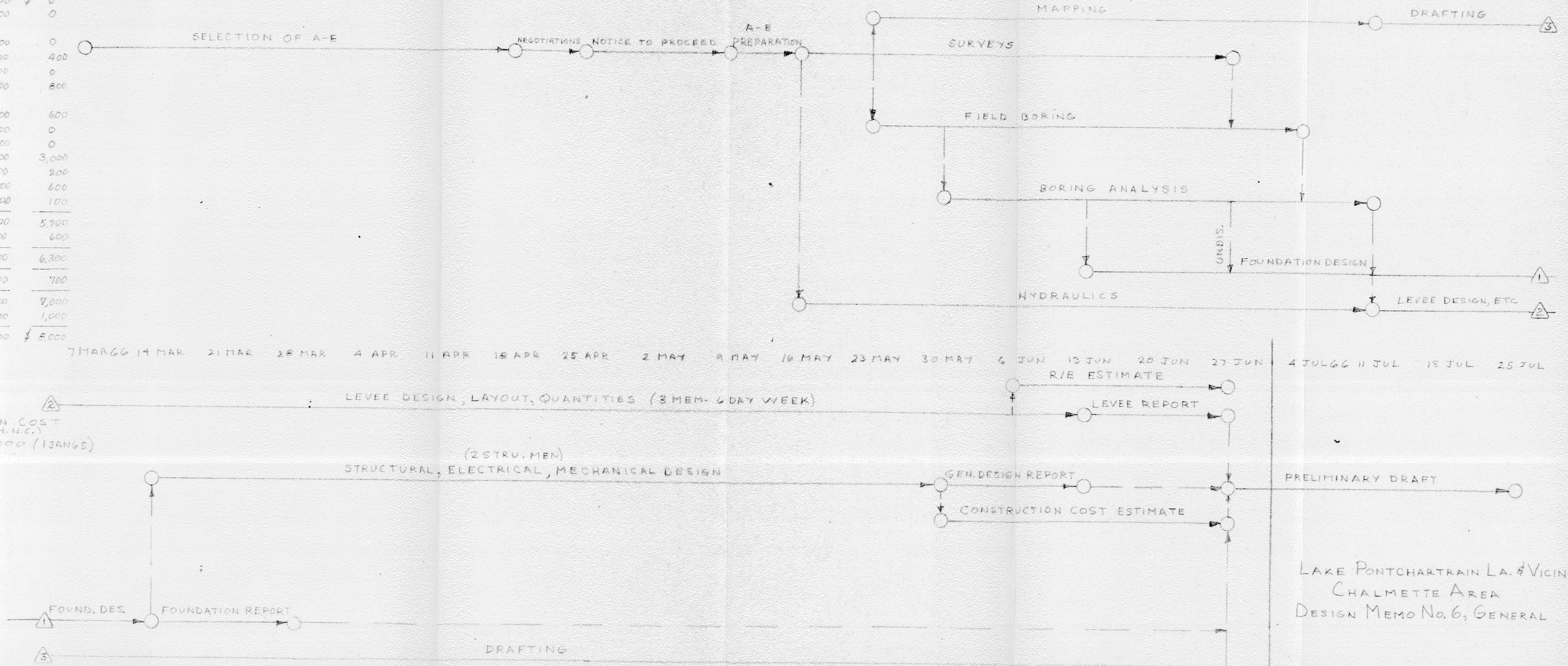


LAKE PONTCHARTRAIN LA. & VICINITY
 MATERIALS OF CONSTRUCTION
 DESIGN MEMO No. 3

18 OCT 65 25 OCT 1 NOV 8 NOV 15 NOV 22 NOV 29 NOV 6 DEC 13 DEC 20 DEC 27 DEC 3 JAN 66 10 JAN 17 JAN 24 JAN 31 JAN 7 FEB 14 FEB 21 FEB 28 FEB 7 MAR

FUNDS:	A/E	N/D
SURVEYS	\$ 36,000	\$ 0
MAPPING	11,500	0
DESIGN:		
ESTIMATES	2,400	0
GENERAL	7,500	400
WATERWAYS	500	0
LEVEES	19,000	800
FOUNDATIONS:		
DESIGN	4,700	600
FIELD	48,000	0
LAB	12,000	0
PLANNING	8,000	3,000
HYDRAULICS	2,100	200
REAL ESTATE	2,000	600
OPERATIONS	500	100
SUB-TOTAL	154,200	5,700
10% Cont.	15,400	600
SUB-TOTAL	169,600	6,300
SFA - 8.5%	14,400	700
Sub-Total	184,000	7,000
PROFIT	46,000	1,000
TOTAL	\$ 230,000	\$ 8,000

7 MAR 66 14 MAR 21 MAR 28 MAR 4 APR 11 APR 18 APR 25 APR 2 MAY 9 MAY 16 MAY 23 MAY 30 MAY 6 JUN 13 JUN 20 JUN 27 JUN 4 JUL 66 11 JUL 18 JUL 25 JUL



CONSTRUCTION COST (excludes I.H.N.C.) \$ 14,930,000 (1 JAN 65)

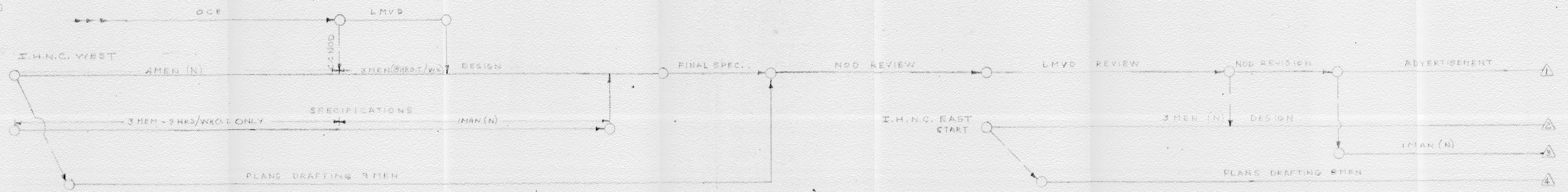
(2 STRU. MEN) STRUCTURAL, ELECTRICAL, MECHANICAL DESIGN

LAKE PONTCHARTRAIN LA. & VICINITY CHALMETTE AREA DESIGN MEMO No. 6, GENERAL

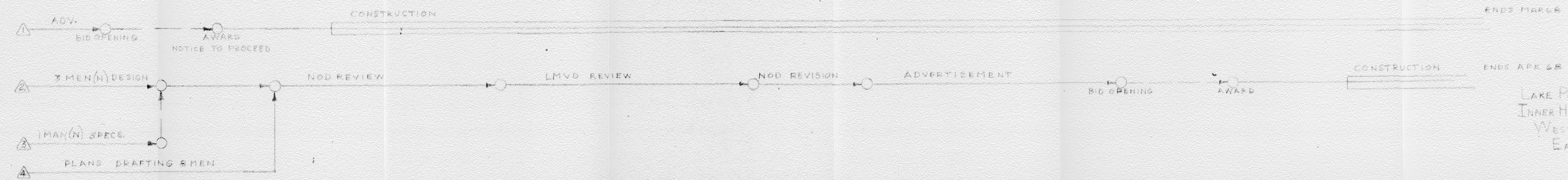
26 JUN 66 27 JUN 4 JUL 11 JUL 18 JUL 25 JUL 1 AUG 3 AUG 10 AUG 15 AUG 22 AUG 27 AUG 3 SEP 12 SEP 19 SEP 26 SEP 3 OCT 10 OCT 17 OCT 24 OCT 31 OCT 7 NOV 14 NOV 21 NOV 28 NOV 5 DEC 12 DEC 19 DEC 26 DEC 66 2 JAN 67

CONSTRUCTION COST
 I.H.N.C. WEST
 \$ 5,100,000
 I.H.N.C. EAST (incl. Chalmers) \$ 3,610,000
 TOTAL
 \$ 8,710,000

PREPARATION OF BIDS
 I.H.N.C.
 \$ 85,000



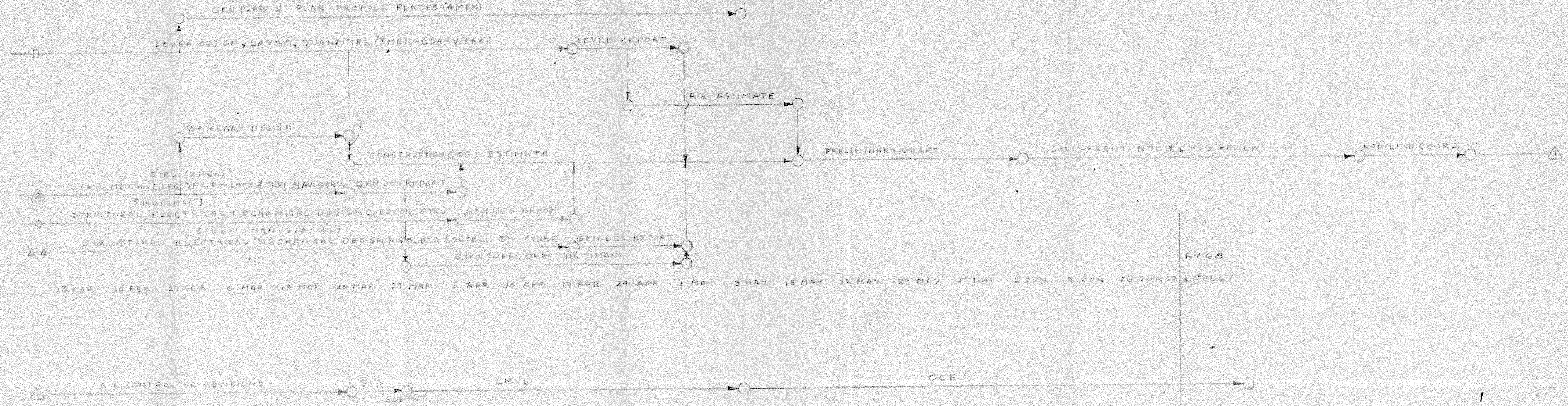
2 JAN 67 9 JAN 16 JAN 23 JAN 30 JAN 6 FEB 13 FEB 20 FEB 27 FEB 6 MAR 13 MAR 20 MAR 27 MAR 3 APR 10 APR 17 APR 24 APR 1 MAY 8 MAY 15 MAY 22 MAY 29 MAY 5 JUN 12 JUN 19 JUN 26 JUN 67 3 JUL 67



LAKE PONTCHARTRAIN LA VICINITY
 INNER HARBOR NAVIGATION CANAL
 WEST SIDE P & S AND
 EAST SIDE P & S

15 AUG 66 22 AUG 29 AUG 5 SEP 12 SEP 19 SEP 26 SEP 3 OCT 10 OCT 17 OCT 24 OCT 31 OCT 7 NOV 14 NOV 21 NOV 28 NOV 5 DEC 12 DEC 19 DEC 26 DEC 2 JAN 67 9 JAN 16 JAN 23 JAN 30 JAN 6 FEB 13 FEB

CONSTRUCTION COST
(exclusive of P.H.N.C.)
\$ 39,552,000 (1 JAN 65)



FUNDS:	FY 67	
	A/E	NOD
SURVEYS	\$ 0	\$ 0
MAPPING	5,000	0
DESIGN:		
ESTIMATES	2,400	600
GENERAL	20,000	1,800
WATERWAYS	1,800	300
LEVEES	19,000	2,000
FOUND. FMATLS	0	3,000
PLANNING	16,900	7,000
HYDRAULICS	0	600
REAL ESTATE	2,400	1,000
ECONOMICS	0	2,400
OPERATIONS	1,000	300
SUB-TOTAL	67,000	17,000
10% CONT.	7,000	1,900
SUB-TOTAL	74,000	18,900
SFA * 0.5%	7,000	1,800
SUB-TOTAL	81,000	20,700
PROFIT	21,000	0
TOTAL FY 67	\$ 102,000	\$ 20,700
FY-66 FUNDS	285,000	14,000
TOTAL DMCOST	\$ 387,000	\$ 34,700

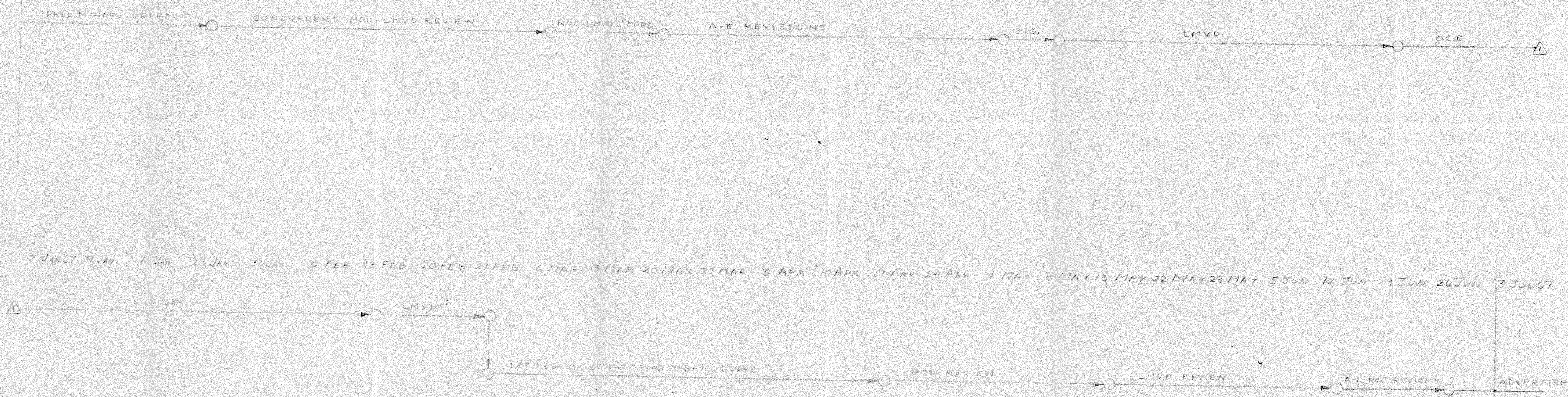
LAKE PONTCHARTRAIN LA. & VICINITY
BARRIER PLAN
DESIGN MEMO No. 2, GENERAL

FY 67 A-E CONTRACT
3/6/67

11 JUL 12 JUL 15 AUG 22 AUG 29 AUG 5 SEP 12 SEP 19 SEP 26 SEP 3 OCT 10 OCT 17 OCT 24 OCT 31 OCT 7 NOV 14 NOV 21 NOV 28 NOV 5 DEC 12 DEC 19 DEC 26 DEC 2 JAN 67

FUNDS:

	A/E	NOD
MAPPING	\$ 1,500	\$ 0
DESIGN:		
ESTIMATES	0	600
GENERAL	300	800
WATERWAYS	100	100
LEVEES	1,000	1,600
FOUND. FICATS	300	1,100
PLANNING	4,000	3,000
HYDRAULICS	300	400
REAL ESTATE	0	400
ECONOMICS	0	1,200
OPERATIONS	100	100
SUB-TOTAL	7,600	9,300
10% CONT.	800	900
SUB-TOTAL	8,400	10,200
8.5% SFA	600	800
SUB-TOTAL	9,000	11,000
PROFIT	1,000	0
TOTAL-FY67	\$ 10,000	\$ 11,000
FY66 FUNDS	230,000	8,000
TOTAL DMCOST	\$ 240,000	\$ 19,000



PREPARATION OF P&S

\$ 6,000	A-E
1,200	NOD
\$ 7,200	TOTAL

LAKE PONTCHARTRAIN LA. & VICINITY
CHALMETTE AREA
DESIGN MEMO No. 6, GENERAL
FY67