A0003523

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS, LA. 70130

December 1st, 1977

Mr. Guy F. LeMieux
President
The Board of Levee Commissioners
202 Administration Building
New Orleans, Louisiana 70126

Dear Mr. LeMieux:

George Janvier, Jr. and I thought that the exposition went excellently yesterday, but George felt that the benefit to the North Shore might have been emphasized a bit more.

I have this one suggestion: ~~of getting~~ up an enlargement of Chart 11006. This shows in much better perspective than the early historic looking chart that you had on the left-hand wall as one faced the speaker, the immensity of the Gulf as compared with this little section representing New Orleans and its immediate environment.

That large scale representation will give people an idea of the tremendous extent of the Gulf in comparison and the capacity for building up tidal waves.

I'm certain that at some stage of the game there will be a tidal wave built up of at least 50 feet coming in from the east. The marshes at the head of Lake Borgne will probably reduce this to about 25 feet, such as the surge that hit Pass Christian. But if you have 25 feet of water going in through the Rigolets and the Chef, the good Lord only knows what would happen.

We must keep the Gulf out of the Lake. That is the essence of the problem, as I see it.

You will be hearing shortly from Danny Killeen, the new Commodore of the Southern Yacht Club.

I want to wish every success with the effort and I will do what I can along the lines you suggested.

Sincerely,

cc: Colonel Early J. Rush
Mr. Frederic M. Chatry
Mr. George Janvier, Jr.

EBB.bjb

IN REPLY REFER TO
LMNED-MP

29 June 1977

Mr. George Janvier, Jr.
1724 Peniston Street
New Orleans, Louisiana 70115

Dear Mr. Janvier:

I enjoyed our visit on Wednesday, 8 June 1977, during which we discussed the Lake Pontchartrain, Louisiana and Vicinity hurricane protection project.

As promised I am furnishing you with a copy of all our previous correspondence with Mr. Edward Benjamin and other correspondence, of which we have received a copy, he has had with various other people. This will update you with much of the information which Mr. Benjamin has received.

We specifically discussed your concern that with the barriers closed, the stages in the Pearl River area and in the Mississippi Sound near Waveland will be higher than they would be without the barriers in place. I offer the information in the following two paragraphs as an explanation.

Besides the barrier structures to be located in The Rigolets and Chef Menteur Pass, those parts of the existing Highway 90 embankment which are at or above elevation 9.0 feet m.s.l. will be incorporated into the barrier plan. Protection along short low segments of the roadway along Highway 90 will be increased by constructing levees adjacent to the roadway which will provide a continuous barrier for some 18 miles between its junction with the New Orleans East, South Point to GIWW levee on the west and West Pearl River on the east. The total length of the Chef Menteur and The Rigolets control structures is about 2 miles as opposed to the 18 miles of highway and levee embankment in the same reach. The height of Highway 90 and Chef Menteur barrier east and west levees and The Rigolets barrier north and south levees forming the barrier will be 5 feet lower than the height of the structures. The Interstate 10 Highway embankment and natural ground elevations east of Slidell preclude any "flanking" threat via the Pearl River to the east of Slidell. This alleged "flanking" threat, the waters flowing around the east side of the barriers, has been an argument of the North Shore critics for years without regard to its physical impossibility.

Mr. Dicharry/pbs/430
29 June 1977

LMNED-MP
Mr. George Janvier, Jr.

During the maximum winds of the hurricane, the structures will have been closed and the waters from Lake Borgne will build up until they overtop the low barrier levees and highway embankment and spill into Lake Pontchartrain just as these waters do now under present conditions. This overtopping will have only minor effects on Lake Pontchartrain because the barriers will have kept out much of the water that would have gotten into the lake earlier under existing conditions. But, this will at the same time, provide relief to Lake Borgne to practically the same degree as occurs under present conditions. Therefore, the water levels in the adjacent streams tributary to Lake Borgne and in the adjacent Mississippi Sound area will be only slightly affected by the operation of the barrier complexes during early stages of a hurricane passage but will not be affected at its peak.

I hope this information will answer some of your questions concerning this vital project for this area. If you have any additional questions, please call me. Thanks again for your interest.

Sincerely yours,

BARTON
LMNED-MP

HARRINGTON
LMNED-M

CHATRY
LMNED

20 Incl
See attached
itemized list

FREDERIC M. CHATRY
Chief, Engineering Division

LIST OF CORRESPONDENCES INCLOSED WITH
LETTER TO MR. GEORGE JANVIER

29 June 1977

Incl No.	From-	To	Date
1.	Mr. Benjamin	Mr. Chatry	29 Dec 76
2.	Mr. Chatry	Mr. Benjamin	12 Jan 77
3.	Mr. Benjamin	Mr. Chatry	14 Jan 77
4.	Mr. Benjamin	N.O. City Council	26 Jan 77
5.	Mr. Chatry	Mr. Benjamin	4 Feb 77
6.	Mr. Benjamin	Mr. Chatry	11 Feb 77
7.	Mr. Benjamin	Mr. Chatry	16 Feb 77
8.	Mr. Benjamin	Mr. Chatry	25 Feb 77
9.	Mr. Benjamin	St. Tammany Police Jury	3 Mar 77
10.	Mr. Benjamin	La. Cong. Delegation	22 Mar 77
11.	Mr. Benjamin	Mr. Chatry	25 Mar 77
12.	Mr. Benjamin	Mr. Chatry	28 Mar 77
13.	Mr. Chatry	Mr. Benjamin	29 Mar 77
14.	Mr. Tonry	Mr. Benjamin	29 Mar 77
15.	Mr. Benjamin	Mr. Chatry	4 Apr 77
16.	Mr. Benjamin	Mr. Tonry	4 Apr 77
17.	Mr. Chatry	Mr. Benjamin	13 Apr 77
18.	Mr. Tonry	Mr. Benjamin	20 Apr 77
19.	Mr. Benjamin	Mr. Chatry	26 Apr 77
20.	Col. Rush	Mr. Tonry	3 May 77

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

July 21st, 1977

Mr. Ed Tunstall
Editor
THE TIMES-PICAYUNE
3800 Howard Avenue
New Orleans, Louisiana 70140

Dear Sir:

Your editorial, July 14th, opposing barriers for hurricane protection, literally astounded me.

In my long lifetime, I have spent in the aggregate about seven years on the water, and I have had to ride out hurricanes or seek refuges from them all the way from New Orleans to Maine.

I know hurricane effects full well.

I want to say categorically that if a giant hurricane like Camille had struck fifty miles to the west, without any barriers at the Rigolets or the Chef or the Seabrooke, God only knows what would have happened to New Orleans.

Land would be inundated around the lake for miles. The drainage canal in Orleans and Jefferson Parishes would back up. The old Bayou St. John area would be inundated many feet, and this would spread far into the city.

And when the eye of the storm had passed and the winds came from the northeast there is no telling how much water might be put over the lakefront.

It is inconceivable that any issue has been made about these barriers. They need only be in place for two or three days when a hurricane is approaching, and as designed, they can be removed in a few hours when the eye of the hurricane passes over and the wind comes from a different direction.

We are sitting on a powder keg in the City of New Orleans and its environment.

We ought to all get in behind this hurricane project with every means at our command.

Yours very truly,

Edward B. Benjamin

cc: Mr. Ashton Phelps
Colonel Early J. Rush
Mr. Frederic M. Chatry
Mr. George Janvier, Jr.
Mr. Guy F. LeMieux

Dictated by Mr. Benjamin and signed in his absence to avoid delay.

EBB.bjb

Carter Vows Review of Storm Barrier Plan

By JOHN LaPLACE

President Carter Friday assured state Rep. Ron Faucheux he will review the Army Corps of Engineer's proposed $300 million hurricane barrier plan for Lake Pontchartrain.

"I explained the people of First District want good hurricane protection, but are sure the barrier plan won't work and could eventually become a $300 billion boondoggle," Faucheux said. Faucheux, the Democratic nominee for Congress from the First District, met with Carter and congressional liaison Frank Moore while the President motored from his press conference at the Hilton Inn, 901 Airline Hwy., to Air Force One.

Carter agreed to review a memorandum by state Rep. Edward Scogin of Slidell outlining opposition to the barrier plan and ask the Army Corps of Engineers for a report on the project, Faucheux said.

Already, the Corps has awarded several contracts for initial work on the barrier plan, which is part of the overall hurricane protection plan for Lake Pontchartrain.

Carter bounded down the steps of Air Force One shortly after 8 a.m., wearing khaki trousers, a brown short-sleeved shirt and carrying a windbreaker.

After a brief round of handshaking with dignitaries, Carter boarded Marine One for the one-hour trip to the oil rig operated by Zapata Offshore Co. of Houston.

Carter departured for Washington, D.C., at approximately 12:15 p.m. and the concensus was the trip to the Gulf of Mexico rig was worthwhile.

U.S. Rep. Lindy Boggs said Carter probably will use the information he gleaned during the trip to educate others throughout the nation about the need and effects of offshore drilling operations.

"He felt that his own trip has given him first hand knowledge with which he could educate the rest of the nation. . . with more force," Mrs. Boggs said.

Mrs. Boggs, U.S. Sens. Russell B. Long and J. Bennett Johnston and Gov. Edwin Edwards flew with Carter and the President's energy advisor James Schlesinger to the rig.

Long and Johnston said the visit to the offshore oil rig apparently impressed Carter.

"He's a wiser man today than he was yesterday.

"We beat his ear all the way there and all the way back with information on the rig and offshore drilling," Long said.

Johnston said he beileved Carter wanted to show other areas of the nation the compatibility of offshore oil drilling and the environment.

Before donning his windbreaker and boarding the marine helicopter, Carter visited briefly with nearly two dozen Louisiana dignitaries who formed a greeting line at the General Aviation terminal of New Orleans International Airport.

Edwards and Long headed the line-up of Louisiana Democrats which included Lt. Gov. James Fitzmorris, New Orleans Mayor Moon Landrieu, Jefferson Parish President Douglas Allen, Jefferson Dist. Atty. John Mamoulides, Kenner Mayor Joseph Yenni, Atty. Gen. William Guste, Secretary of State Paul Hardy, Agriculture Commissioner Gil Dozier, Insurance Commissioner Sherman Bernard, Orleans Parish Criminal Sheriff Charles Foti, Faucheux and others.

IN REPLY REFER TO
LMMED-DD

3 May 1977

Honorable Richard A. Tonry
House of Representatives
Washington, DC 20515

Dear Mr. Tonry:

Recently Mr. Edward B. Benjamin furnished us copies of your letters to him dated 29 March and 26 April 1977 relative to the "barriers" for the Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection project. In those letters you stated that "the Corps of Engineers assured us that the alternate plan of strengthening and raising the levees surrounding New Orleans and the coastal parishes would have the same effect as the barrier without the detrimental effect to our lake." If, during our conversations concerning the hurricane protection project, I conveyed that impression to you, I regret that such occurred. It is true that a high level plan could be devised to protect Orleans, Jefferson, and St. Charles Parishes; however, the effects of a high level plan versus the barrier plan are not the same. Further, I do not agree that the barrier plan will have a detrimental effect on Lake Pontchartrain. In the interest of clarifying the relative merits of the barrier plan of protection versus the high level plan, we offer the following information.

The U. S. Army Corps of Engineers has consistently favored the barrier plan over the high level plan. As early as 21 November 1962, with the publication of the Interim Survey Report for the project, the Corps of Engineers recommended the barrier plan over all other alternatives, including specifically the high level plan. In the Environmental Impact Statement filed with CEQ in January 1975, and at a public meeting on 22 February 1975, we continued to publicly state our conviction that the barrier plan is, on balance, the best means for providing protection from hurricane flooding. That view has been repeatedly recorded in newspaper reports (copies of a representative sampling are inclosed) in the metropolitan area, and in correspondence with individuals and public officials.

LMNED-DD 3 May 1977

Honorable Richard A. Tonry

To cope with the repeated hurricane threats, this district was charged by the Flood Control Act of 1965 to design and implement an effective hurricane protection system for the areas adjacent to Lake Pontchartrain. To this end, we have applied the most advanced and accepted engineering principles to develop a sound and realistic protective system. This system is called the Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection project, and is comprised of levees, floodwalls, and navigation and flood control structures.

The most salient feature of the project is termed the "barrier system." The barrier system consists of navigation and flood control complexes at Chef Menteur Pass, The Rigolets, and at Seabrook. The purpose of these complexes is to prevent uncontrolled hurricane tidal surges from entering and elevating Lake Pontchartrain. By controlling water levels in the lake at near normal elevations in advance of a hurricane, the potential for flooding areas bordering the entire lake is greatly diminished. In conjunction with this concept, the required heights of protective works such as levees and floodwalls fronting the lake are greatly reduced. Because of reduced protective heights, the cost and construction time related thereto are likewise reduced. This saving will accrue not only to levees and floodwalls which are currently part of this project but also to any future such systems which might be constructed along the lakeshore. By controlling the level of the lake at a reduced elevation, the storm water pumping systems which discharge rainfall runoff into the lake retain a higher degree of efficiency than they would without the barrier system. In addition, the barrier structures at Chef Menteur and Rigolets are being designed so as to avoid any significant alteration of the natural pattern of tidal interchange; whereas, the Seabrook complex is being designed to regulate and manage a salinity regime in the lake favorable to fish and wildlife. In short, the hurricane protection project as currently planned represents an effective engineering solution to recurring natural flooding problems.

Though a high level plan could be devised to protect Orleans, Jefferson, and St. Charles Parishes, it would afford no protection to other lakeshore communities which are subject to the same hurricane threat as the three parish areas. The high level plan, with levees and floodwalls from 6 to 9 feet higher than the barrier plan, would significantly impair the aesthetic and recreational qualities of the metropolitan shoreline and would cost approximately 50 percent more than the barrier plan. Furthermore, with the higher and longer duration tidal stages in the lake which can be expected with the high level plan, the drainage pumping stations which discharge into the lake would have to undergo costly modifications

Mr. Guizerix/jh/445

LMVED-DD 3 May 1977
Honorable Richard A. Tonry

by local interests in order to retain the equivalent pumping capacity realized under the barrier plan.

Finally, it must be observed that it is the barrier low level plan which Congress authorized. We believe that congressional action would be required for the construction of any other plan, including the high level plan.

I appreciate your expressed concern that your constituents be protected from hurricane flooding. I pledge to you my best efforts to see that this protection is provided in the timeliest manner possible.

If you desire further information relative to the project or our position relative to any portion thereof, please let me know.

Sincerely yours,

1 Incl
As stated

HARLY J. HUSH
Colonel, CE
District Engineer

Copies furnished: with inclosure

Mr. Edward B. Benjamin
Suite 825 Whitney Building
New Orleans, LA 70130

Mr. Guy F. Lawlerux, President
Board of Levee Commissioners
Orleans Levee District
Suite 202 Administration Building
New Orleans Lakefront Airport
New Orleans, LA 70126

CF: w basic & incl
HQDA(DAEN-CWZ-P)
LMVEX, LMVED-C

TJ
JOHNSON
LMNED-DD
ERB
BRUPBACHER
LMNED-D
HARRINGTON
LMNED-M
CHATRY
LMNED
Exec Ofc
3

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

April 26th, 1977

Mr. Frederic M. Chatry
Chief, Enginnering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

Enclosed is copy of April 20th letter from Congressman Tonry regarding the hurricane protection project, which shows some confusion on his part.

I happened to note that this man was opposed to the project and wrote him a letter on April 4th, copy of which is enclosed.

Evidently Mr. Tonry did not take this letter in, entirely.

As it happens, it may be that Mr. Tonry will be replaced, but if he remains in, it probably would be best for you to write him and set him straight on his ideas.

Kindest regards.

Sincerely,

EBB.bjb
Enclosure

RICHARD A. TONRY
1ST DISTRICT, LOUISIANA

COMMITTEES:
ARMED SERVICES
SUBCOMMITTEES:
SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS
MILITARY PERSONNEL
MILITARY COMPENSATION
SCIENCE AND TECHNOLOGY
SUBCOMMITTEES:
ENERGY RESEARCH AND DEVELOPMENT
SPACE SCIENCE AND APPLICATIONS
TRANSPORTATION, AVIATION AND WEATHER

Congress of the United States
House of Representatives
Washington, D.C. 20515

422 CANNON HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515
(202) 225-3015

HALE BOGGS BUILDING
500 CAMP STREET
ROOM 1042
NEW ORLEANS, LOUISIANA 70130

9061 WEST JUDGE PEREZ DRIVE
CHALMETTE, LOUISIANA 70043

April 20, 1977

Mr. Edward B. Benjamin
Suite 825 Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

I have received your letter of April 4, taking exception to my position on the barriers at the Chef and Rigolets in connection with the Lake Pontchartrain and Vicinity Hurricane Protection project.

I regret that your information and mine are not in agreement, however, we do agree on one thing, and that is that a plan must be devised which would be successful in keeping fierce hurricane waters from the New Orleans area and the coastal parishes.

As I stated in my previous letter to you, the Corps of Engineers assured me that the alternate plan of strengthening and raising the levees surrounding New Orleans and the coastal parishes would have the same effect at the barrier without the detrimental effect to our Lake. While I am not an engineer, I must accept the assurance of those who have had years of experience with such projects.

If you want to furnish me with a more detailed explanation of your position on "swinging barriers", I will be glad to present it to the Corps of Engineers and request that they look into the matter further.

I am interested in seeing that this project is carried out in a manner which will provide the best hurricane protection for our people and, at the same time, provide the lease adverse effects on the Lake and its environs.

Sincerely,

R. A. Tonry

RICHARD A. TONRY
U.S. Congressman

RAT/jc

Tonry

April 4th, 1977

Congressman Richard A. Tonry
House of Representatives
Washington, D. C. 20515

Re: Hurricane Protection Plan

Dear Congressman Tonry:

You are under a misimpression when you think that the strengthening and raising of the levees surrounding New Orleans and the coastal parishes would have the same effect as the barrier without the detrimental effect to our lake.

Nobody is thinking of putting any barriers up that would keep the Gulf waters out of the lake for more than a few days. But if you let these Gulf waters come into the lake, it could be curtains for much of St. Tammany Parish and curtains for much of New Orleans and Jefferson.

The volume of water coming into the Rigolets under ordinary circumstances is fantastic. I know, because I have had a 60' yacht swung under me like a matchstick, and I'm not talking about this under hurricane conditions - just the normal wind and tide.

There is going to have to be some design found for swinging barriers into place quickly and opening them up quickly before and after hurricanes.

Kindly keep this in mind.

Sincerely,

bc: Mr. F. Poche Waguespack
Commodore Herbert O'Donnell

[over]

RICHARD A. TONRY
1ST DISTRICT, LOUISIANA

COMMITTEES:
ARMED SERVICES
SUBCOMMITTEES:
SEAPOWER AND STRATEGIC AND CRITICAL MATERIALS
MILITARY PERSONNEL
MILITARY COMPENSATION
SCIENCE AND TECHNOLOGY
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Congress of the United States
House of Representatives
Washington, D.C. 20515

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500 CAMP STREET
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NEW ORLEANS, LOUISIANA 70130

9061 WEST JUDGE PEREZ DRIVE
CHALMETTE, LOUISIANA 70043

March 29, 1977

Mr. Edward B. Benjamin
Suite 825 Whitney Building
New Orleans, Louisiana 70130

Re: Hurricane Protection Plan

Dear Mr. Benjamin:

I am in receipt of your letter addressed to the entire Louisiana Delegation regarding the Hurricane Protection Plan.

I appreciate your support of the Lake Pontchartrain hurricane protection system.

As one who experienced the wrath of Hurricane Betsy and who had water in his home for approximately fifteen days, I am well aware of the need for adequate hurricane protection.

One particular phase of the hurricane protection plan as outlined by the Corps of Engineers would include the erection of barriers at the Chef and Rigolets.

After much study I am convinced these barriers would make a stagnant pond out of Lake Pontchartrain destroying sports, commercial, environmental and industrial development of the lake. For this reason I have opposed only the barrier portion of the plan.

I have consulted with the Corps and they have assured me that the alternate plan of strengthening and raising the levees surrounding New Orleans and the coastal parishes have the same effect as the barrier without the detrimental effect to our lake.

Your views on Federal matters are always welcomed.

Sincerely,

RICHARD A. TONRY
U.S. Congressman

RAT/jc

AUG. 22, 19

FLOOD CONTROL PLANS ARE TOLD

Projects Set at Rigolets, Chef Menteur Pass

By ARTHUR C. ROANE

The Army's new district engineer, Col. Herbert R. Haar Jr., disclosed Tuesday plans for flood control projects at the Rigolets and Chef Menteur Pass, plus a new navigation lock at the Seabrook Bridge.

These jobs, plus the building of 51 additional miles of levees and the raising of another 35 miles of levees, are part of the major hurricane protection plan for the New Orleans area.

Haar, a 45-year-old officer who just came from an assignment in Thailand, recently succeeded Col. Thomas J. Bowen, who retired.

In addition to the $166 million hurricane protection project, Haar also said planning work will continue on the proposed new $120 million Industrial Canal lock near the Mississippi River.

$32 MILLION COST

He said the Rigolets job will be started in early 1970, will take five years to complete and will cost $32 million.

The complex of structures at Chef Menteur Pass, also to be started at the same time, will cost $16 million. The new barrier structure would mean a rerouting of the Intracoastal Waterway.

Pointing to a map which shows the existing and proposed projects, Haar said he is impressed "with the development and the potential of this area, for both deep and shallow draft vessels. In addition, I have received a friendly reception since arriving in New Orleans."

The Seabrook, Rigolets and Chef Menteur jobs would mean not only flood control protection but also less salt water entering Lake Pontchartrain.

On the proposed new Industrial Canal lock, Haar said that though he's aware of the importance of moving ahead as quick-

take three more years and construction an additional four years.

BID CONSIDERED

The present lock is 640 feet long, 75 feet wide and 31½ feet deep. The Corps of Engineers proposes building an adjacent lock 1,200 feet long, 110 feet wide and 45 feet deep.

Haar said the Dock Board would like a new lock 140 feet wide and 50 feet deep and that this is being considered.

Half of the $120 million cost would be for the lock itself, to be borne by the federal government.

The other half, for bridges, change of utility lines and obtaining rights-of-way, will have to come from state or local money, he added.

50 YEARS OLD

"The present lock, w

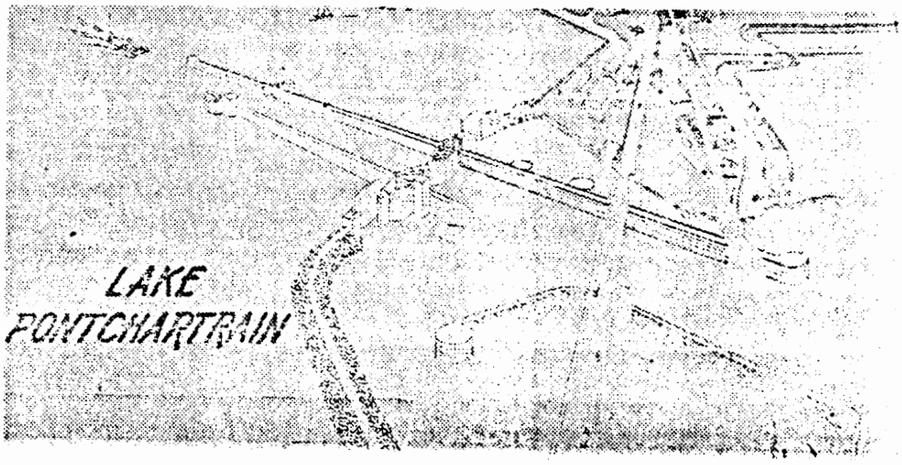
Cont. in Sec. 4, Page

New Army Engineer Has Big Job Ahead

—Photo by The Times-Picayune

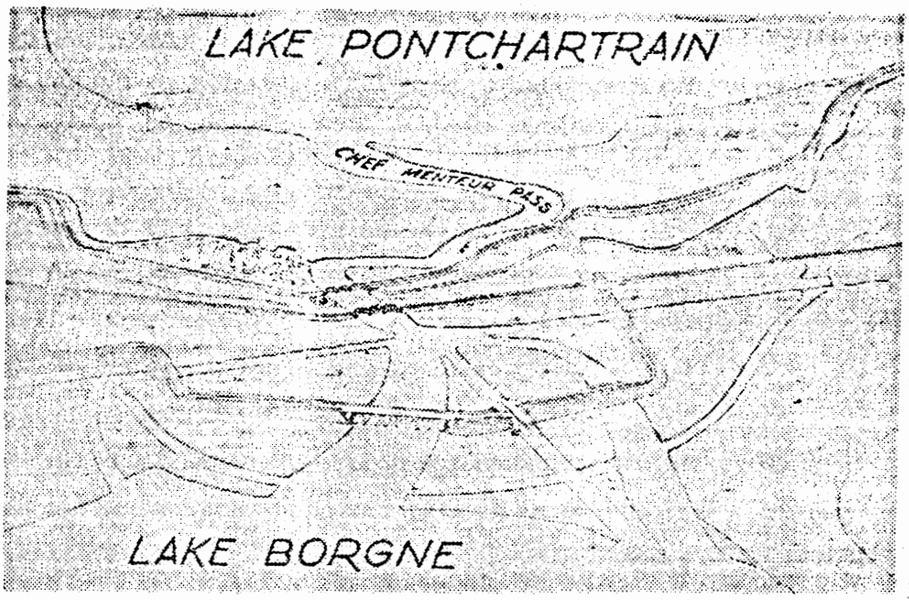
MAP MARKINGS designating the $166 million long-range hurricane protection project for the New Orleans area are pointed out by Col. Herbert R. Haar Jr., new district engineer for the U.S. Army Corps of Engineers here. Haar, an officer since 1943, was given a Meritorious Public Service Award by the city government of Washington, D.C., for his work on housing programs and development of a community renewal program. He is a native of Alexandria, Va., and is a registered professional engineer in the District of Columbia.

Hurricane Protection Design at Seabrook



NAVIGATION LOCK at Seabrook and connecting stone dikes tying into the lakefront hurricane protection plan near the New Orleans Lakefront Airport is being designed by the New Orleans District, U.S. Army Corps of Engineers. Lock would shut off hurricane-driven tides, protecting commercial waterborne traffic and pleasure craft between the lake and Inner Harbor Navigation Canal. Lock construction is scheduled to begin in May, 1979. Estimated cost to [illegible] $7.5 million.

Design of Complex to Protect Chef Pass



A GATED CONTROL structure (lower center), an adjacent navigation gate and a dam across another part of the pass (right) with levees tying the structures together will be constructed to keep hurricane tides from reaching Lake Pontchartrain through Chef Menteur Pass. The Corps of Engineers is scheduled to start construction in January, 1970 at an estimated cost of $16 million.

FLOOD CONTROL

Cont. from Sec. 4, Page 8

would be retained, is nearly 50 years old and within 10 years will have to undergo a major overhaul. Thus we want to get the new lock done before that time," he said.

Haar explained the major components of the long range hurricane protection plan:

— The Rigolets part will include a gated control structure, dam across the pass, a navigation lock and levees tying these structures together.

—The Chef Menteur Pass job, to take four-and-a-half years to build, will include a gated control structure, adjacent navigation area, dam across the pass and connecting levees.

— The Seabrook navigation lock and connecting stone dykes tying it into the lakefront protection near the New Orleans Airport, will cost $7.8 million. The lock would prevent hurricane - driven tides from entering the Industrial Canal, but would facilitate handling of commercial and pleasure boats passing between the lake and the Industrial Canal. Construction is scheduled to begin May, 1970, and take three years.

These three projects are to be completed by 1978, depending on congressional appropriations.

"Perhaps 10 years seems like a long time to some people but when you're talking about a $166 million project, then it doesn't seem so long," Haar said. He said 70 per cent of this total would be federal money.

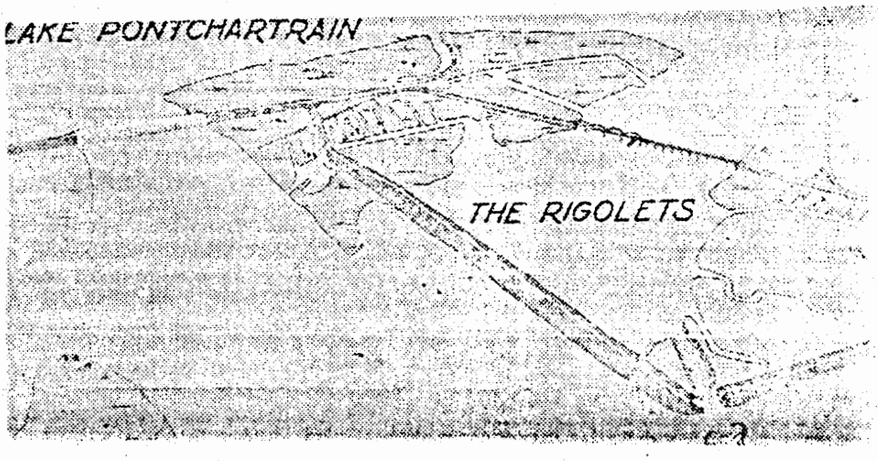
Haar said the Louisiana congressional delegation is quite active. "Not a day goes by that I don't hear from at least one of them, either by letter or phone," he said.

He said that since Hurricane Betsy, a total of $13.7 million has been appropriated by Congress for flood control work in this area, including $7.5 million by the present session.

The colonel said that both the Orleans Levee Board and the Lake Borgne Levee District have been "very active" in flood control work since Betsy and work closely with the Army Engineer's office.

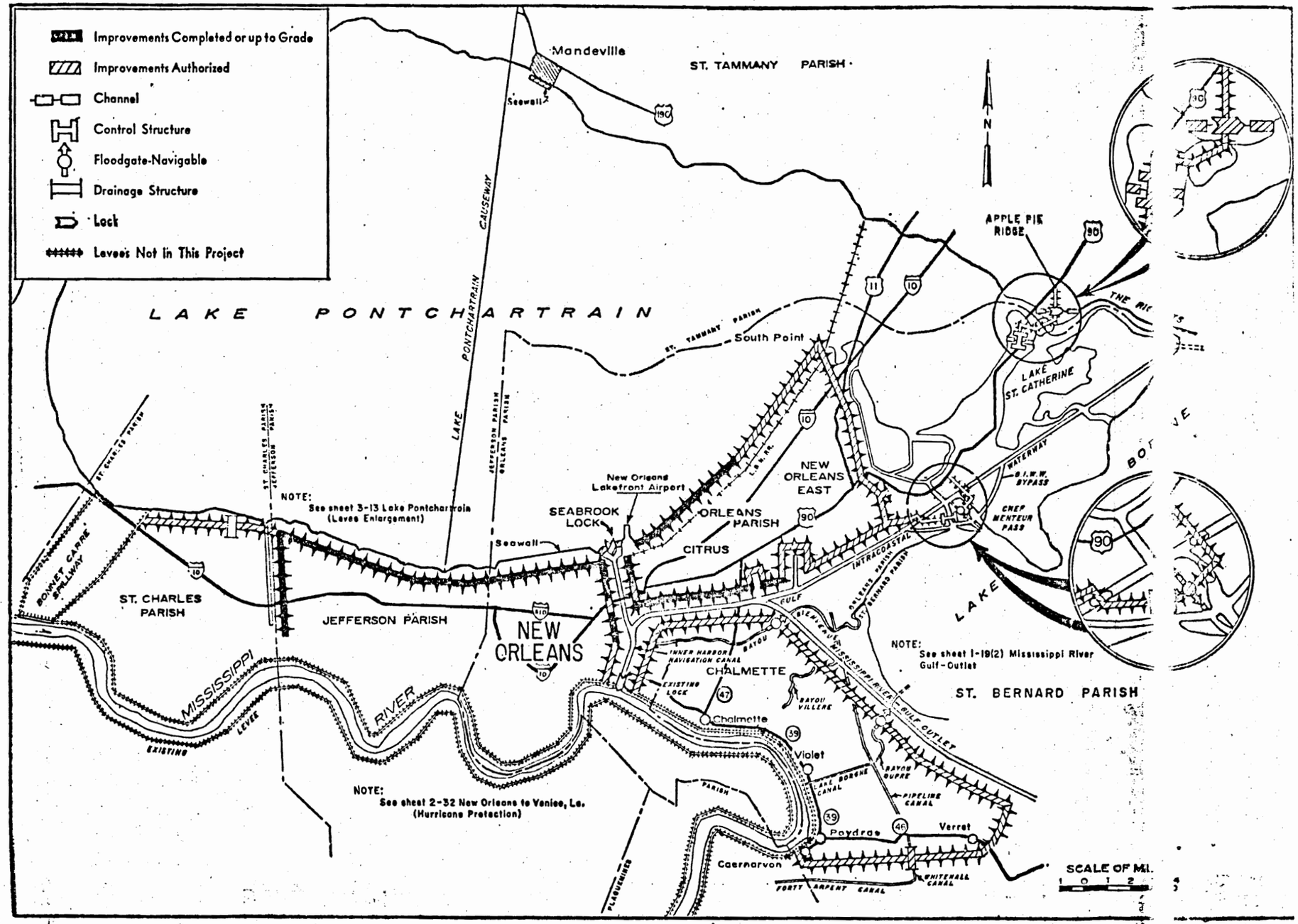
The widening and deepe of the Mississippi River Outlet will be in the rep and planning stage for s more years before any would begin, he said.

Gated Control Structure, Dam at Rigolets



HURRICANE PROTECTION for the Rigolets Pass designed by the Corps of Engineers includes a gated control structure, a dam across the pass (center), a navigation lock (right) and levees tying the structures [illegible]. Construction on the estimated [illegible] million complex is scheduled to start January, 1970.

Master Flood Plan Status for Metropolitan New Orleans Area



TIMES PICAYUNE
SUN. 19 OCT 69

Millions Put Into Levee Progre

NEAR GOAL OF TOTAL PROTECTION

By RICHARD DENNERY

More than $8.4 million in contracts for levee and floodwall construction in New Orleans and the surrounding area in 1970 has moved the city closer to its goal of total hurricane and flood protection by 1978.

Nearly 20 miles of levee and floodwall protection, part of the $216 million Lake Pontchartrain and Vicinity Hurricane Protection Project, has been completed to date. Planning for complexes at the Rigolets, Chef Menteur Pass and Seabrook is well advanced.

According to Col. Herbert Haar, New Orleans district engineer for the Army Corps of Engineers, the close of 1970 shows substantial progress within the past year on this comprehensive project.

The completion of a one-mile stretch of floodwall on the east side of the Inner Harbor Navigation Canal from the inner Harbor lock to Florida Ave., a preliminary levee and floodwall from the Inner Harbor Canal to Paris Road and a new levee, floodwall and foreshore protection from Michoud Slip to Michoud Canal, give a greater measure of hurricane protection to the residents of these areas than was previously afforded, he said.

Many Improved

The Orleans Levee Board has also improved many of its levees and other structures. Franklin Ave., Lakeshore Dr., Lake Terrace Dr., St. Bernard Ave., Rail St., Marconi Dr., Canal Blvd., Lake Blvd. and Pontchartrain Blvd. have been raised to 12 feet above sea level where they cross levees.

Lakeshore Dr. between West End and the Orleans Canal has been raised by fill to 12 feet.

The levee from Lake Ave. to the 17th St. Canal has also been raised to 12 feet above sea level.

Transitional grading from the 12-foot-high levee at the lake to the inland level of 9½ feet have been completed on the Orleans Canal, Bayou St. John and London Ave. Canal.

The London Ave. East Bank levee between Lakeshore and Leon C. Simon Dr. has been raised and reshaped. Between Robert E. Lee and Leon C. Simon on London, a steel bulkhead with a concrete cap has been built instead of a levee, as the right-of-way necessary for a levee was not available.

The bridge at Orleans and London has been repaired, he said.

On the Industrial Canal, the second phase of the flood wall between the Mississippi River lock and Florida Ave. has been finished. The first part was completed in 1968.

Over Half Done

In the Lake Pontchartrain and Vicinity Protection Program, 5.9 miles of the necessary 10.4 miles of leve protection for the Inner Harbor Navigation Canal area has been completed, Col. Haar said.

This includes a 1.4-mile section constructed by the Orleans Levee Board on the west side of the canal, he added.

A preliminary, or first lift, levee and floodwall from the Inner Harbor Navigation Canal to Paris Road in the New Orleans East's Cirus Back Levee system was completed last year. The Michoud Slip to Michoud Canal section was also finished, including a first lift levee, floodwall and foreshore protection.

Construction began recently on a first lift levee and floodwall from Paris Road through the New Orleans Public Service, Inc., generating station, and on the first lift levee from the generating station to the Gulf Intracoastal Waterway.

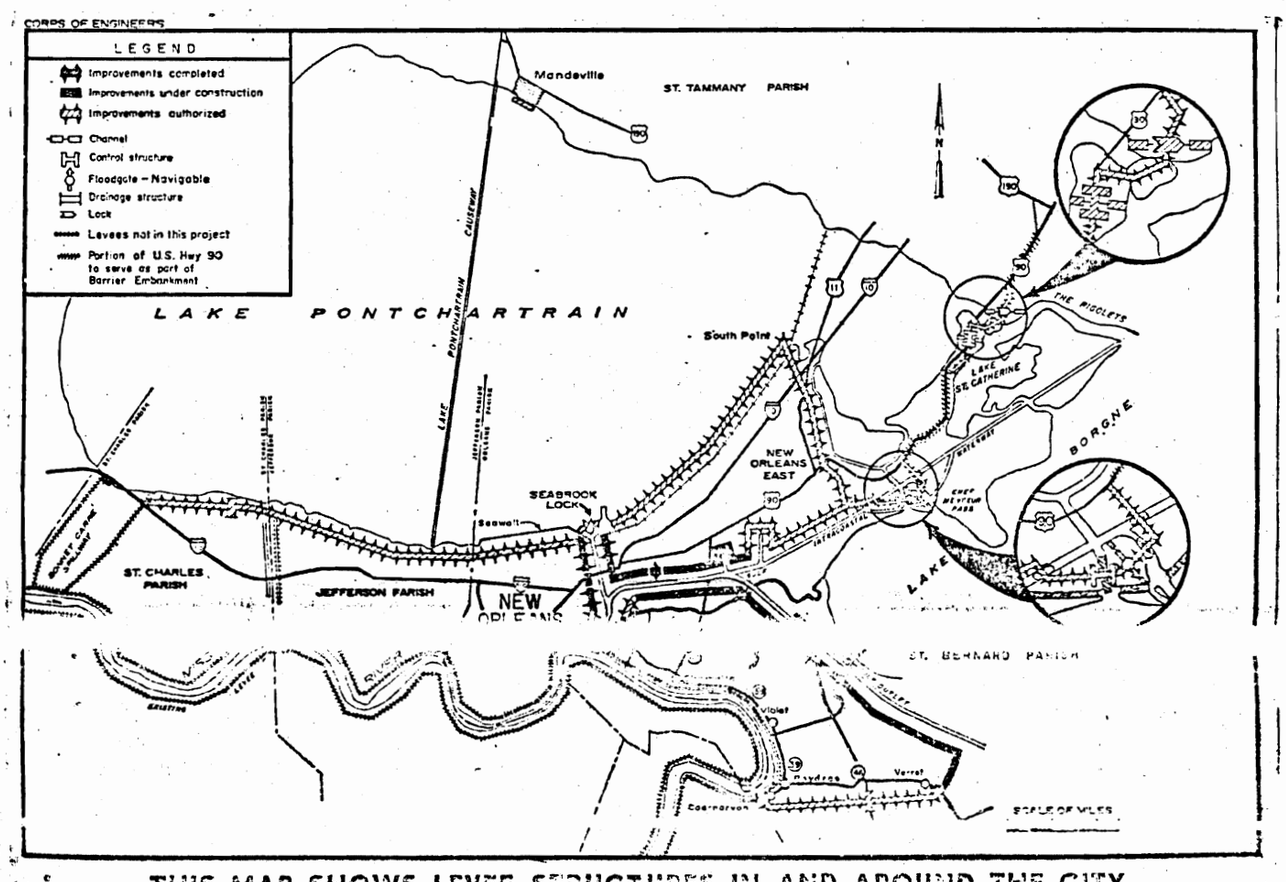
Work began in 1970 on 12.5 miles of first lift levee as part of the Chalmette Area Plan. The first section of this levee extends from the Inner Harbor Canal to Bayou Bienvenue, while the second segment begins below Bayou Dupre and goes southeast for 4.3 miles to the Mississippi River-Gulf Outlet.

The third levee section in progress is from the Gulf Outlet to Verret. The total cost of this work will be approximately $5.2 million.

Vital Structures

In addition to levee and floodwall protection, the Lake Pontchartrain Project includes three vital structure complexes designed to keep any hurricane-driven tidal surges from entering the lake.

The easternmost complex will be at the Rigolets and will consist of a gated control structure, closure dam and shallow draft navigation lock.



THIS MAP SHOWS LEVEE STRUCTURES IN AND AROUND THE CITY

TIMES-PICAYUNE 24 JAN 71

Handle Objections to Hurricane Plan

5 Nov 72

Regardless of what new or renewed efforts are made to finance local shares of the Lake Pontchartrain and Vicinity Hurricane Protection Project, public officials should address themselves to the many objections that combined to kill Amendment No. 6.

Statewide the proposition for a 2½-mill tax for the Orleans Levee Board passed, though the measure was killed locally because of adverse publicity from St. Tammany interests, from environmentalists and from political in-fighters.

The points of protest should be disposed of either by accommodation where possible to rational, scientifically based objections or by exposure of the frivolous to the heat of public awareness and concern.

Once a final statement to the President's Council on Environmental Quality is submitted next month and ultimately approved (possibly, though not necessarily, with project amendments), opposition groups may then be assured that Lake Pontchartrain and vicinity will not suffer major ecological damage.

There are areas of inquiry that could result in changes not essential to the project. For example, is the swamp along the lake in St. Charles Parish so important to the ecosystems as to mandate an end to urban development in that direction?

As for converting from the barrier system to the high-level levee plan, the U.S. Corps of Engineers rejected that alternative in the 1965 report prepared for congressional approval.

"Because of the extreme height of levees required and generally adverse foundation conditions," the report said, "it was found that construction would have to be extended over very long periods of time to prevent failure by excessive subsidence. The high-level plan was found to be more costly than the recommended barrier plan and, in addition, met strong initial resistance from local interests due to aesthetic reasons."

While foundation conditions and public attitudes about too-high lakefront levees may not have changed, one wonders what the high-level plan would cost when the barrier plan's price tag has risen from $84.8 million to $282 million.

Notwithstanding, if the hurricane protection project should become bogged down in politics, heavily populated Orleans, Jefferson and St. Bernard parishes may remain exposed to flooding from tropical storms perhaps into the 1980s and beyond. It could take another Hurricane Betsy or a Camille to get on with adequate protection of life and property in metropolitan New Orleans.

TIMES PICAYUNE 25 NOV 72

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
St. Bernard News
22 Jan 75

U.S. Engineers complete statement on Lake Pontchartrain Hurricane Protection Plan

The U.S. Corps of Engineers has completed its environmental statement for the Lake Pontchartrain and Vicinity Hurricane Protection Project, and copies are available upon request from the office of the District Engineer, P.O. Box 60267, New Orleans, La. 70160.

The St. Bernard portion, known as the Chalmette Area Plan, provides for construction of a new levee along the south shore of the Mississippi River Gulf Outlet, from the Inner Harbor Navigation Canal (Industrial Canal) to the vicinity of Verret, and then on to the Mississippi River at Caernarvon.

The control structures at Bayou Bienvenue and Dupre have already been completed, and a drainage structure for Creedmore Canal is currently under design.

The project is designed, the Engineers said, to afford hurricane flood protection to the more than one million residents who live in the ten parish area bordering Lake Pontchartrain, including the heavily populated portions of St. Bernard Parish.

Colonel E.R. Heiberg explained that features of the project include the construction of barrier structures along the east side of Lake Pontchartrain, a levee along the St. Charles Parish lakefront, improvement and enlargement of existing protective work on the south and north shores of the lake, along the Gulf Intracoastal Waterway and the Inner Harbor Navigation Canal, including a dual purpose lock at Seabrook and necessary modifications to roads, pipelines, pumping stations and drainage facilities.

The Corps has placed construction of the St. Charles levee in an inactive status because of the inclusion of bayous LaBranch and Trepagnier in the Louisiana natural and scenic river system.

Heiberg said that the emphasis of the hurricane protection system will be on those areas which are already committed to urban type usage. Heiberg added that the definite and irrevocable loss of 25,000 acres of wetlands, which would result of construction of a levee on the St. Charles Parish lakefront makes such construction unfeasible at this time.

The Corps said that the project plan will encourage urbanization and industrilization of valuable wetlands, by providing basic features for further flood protection reclaimation. All of the marsh and swampland enclosed and protected by the project, the Corps said, could be converted to urban use, when local interests are ready to drain and fill areas.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
Daily Sentry-News
St. Tammany
23 Jan 75

Barriers Hearing Set For Feb. 22

Local Officials To Attend; Will Voice Strong Opposition

BY MIKE MONTGOMERY
(MANAGING EDITOR)

The U. S. Army Corps of Engineers announced Wednesday the date of the long-awaited public hearing on its proposed Lake Pontchartrain and Vicinity Hurricane Protection Plan, including the aspects of its barrier system.

According to the Corps, the hearing will be held Saturday, February 22 in the University Central Ballroom (Room 203) at the University of New Orleans.

The Corps said the meeting will be held to discuss:

a. all aspects of the plan, including the environmental effects of the project;

b. planned or alternative procedures for the disposal of dredged materials occasioned by [illegible] construction of certain pro[illegible]ct features, as required by Section 404 of the Federal Water Pollution Control Act of 1972.

One local official among the many in St. Tammany Parish who oppose the barrier phase of the plan is Slidell Mayor Frank Cusimano, who was contacted yesterday by the Daily Sentry-News.

The mayor said he definitely plans to attend, adding that members of the St. Tammany Municipal Association will also be present. In fact, Cusimano said, "Everybody we can get there will go."

The mayor is considering drafting a written statement outlining his objections to the barriers and then read it at the hearing.

The mayor and other officials strongly oppose the plan's lake barriers – the damming of the Seabrook, Chef Menteur passes. Little objection has been raised to other asp[illegible] of the overall plan, incl[illegible]g levee systems around the lake.

Also planning to attend the hearing is Rep. Ed Scogin of Slidell. Speaking from Baton Rouge, Scogin urged all parish opponents to the barriers to attend the meeting and voice their objections.

Asked if he thought the hearing would accomplish anything, Scogin said, "I'm hopeful it will–that's all you can ever be, hopeful."

The legislator added that he was distressed with the fact that the Corps on the one hand is hearing the pro and cons and on the plan while at the same time holding a hearing on procedures for disposal of dredged materials from the project.

"It makes you assume they're going to go ahead with it regardless," he said.

Scogin is hopeful the nation's current economic picture may play a role in the barrier controversy. "I hope with the economy being what it is that maybe somebody will come to their senses," he said after citing the project's $327,000,000 cost.

Opponents cite two main objections to the barrier: and most importantly, the structures will trap water in the lake, causing massive flooding in the lower end of St. Tammany Parish; and second, the lake will become a "cesspool" from harsh environmental damage.

Other objections says commercial and recreational vessels will be hampered by the dams, with everything from sailboats to barges having to be locked; the cost is prohibitive, with the parish forced to pay millions of dollars for a system it doesn't want; also, the barriers will flood the Ninth Ward of New Orleans as in Hurricane Betsy.

The Corps, on the other hand, maintains that the barriers will offer needed protection for the metropolitan New Orleans area (parts of Orleans, Jefferson, St. Bernard, St. Tammany and St. Charles Parishes) during a hurricane. In addition, the Corps says the benefit-to-cost ratio of the project is 12.6 to 1 (meaning for every dollar spent to implement the project about $12.60 of flood protection of related benefits will be produced by the proje[ct] [in] its completion.)

The Corps further m[illegible] that environmental [illegible] will not be as severe as [illegible] and the dams will not b[e] [illegible] often enough to [illegible] maritime traffic.

Cost of the total hur[ricane] project is $327,000,000 [as of] July 1974, with $103,000[,000] payments for local gover[nment] involved. A long-standin[g] [illegible] exists between St. Tam[many] Parish and the state [and] federal governments [over] payment of the parish's [share].

During Gov. McKeithen's administ[ration] the police jury said the [parish] would pay its shar[e]. McKeithen went ahea[d] [and] signed papers assurin[g] [St.] Tammany would.

LMV
[illegible]

with the closure of the other barrier structures. Navigation would then be diverted through either the Seabrook Lock or the Rigolets Lock.

"In addition to the structures described above, two navigable floodgates have been incorporated into the Chalmette Area Plan portion of the project. These structures are located on Bayous Bienvenue and Dupre. Each of these structures is 56 feet wide with a sill depth of -10.0 feet m.l.g."

The final environmental statement for the project has been filed with the President's Council on Enviromental Resources Branch, Attn: LMNPL-RE, New Orleans District, Corps of Engineers, P.O. Box 60267, New Orleans, La. 70160.

Disposal of dredged materials, "Section 404" of the meeting will concern the "policy practice and procedures to be followed by the Corps of Engineers in connection with the disposal of dredged material in navigable waters or the transportation of dredged material for the purpose of dumping it in ocean waters."

The "Section 404" portion of the meeting will include discussion of plans and procedures for the dredging operations associated with the construction of various project features.

The Corps of Engineers states that "all interested parties are invited to be present or represented.....including representatives of federal, state, parish, and municipal agencies, and those of commercial, industrial, civic, highway, railroad, water transportation, ecological, and enviromenal intrest, as well as concerned property owners and other individuals."

Oral statements will be heard, but the corps ask that important facts and arguments should be submitted in writing.

Alternatives to the plan, as offered by the corps include: "fully responsive alternatives or those which would meet all major objectives of the proposed action; partially responsive alternatives or those which would meet some, but not all, major objectives of the proposed action, or no action.

Registration for the meeting will begin at 8:30 a.m. with the meeting beginning at 9 a.m. with introductory remarks by Daniel V. Cresap, Chief Engineer of the Louisiana Department of Public Works and Col. E.R. Heiberg III, U.S. Army Corps of Engineers District Engineer, New Orleans.

Background information and description of the project plan will be given at 9:15 a.m. by Richard P. Richter and Stanley C. Shelton, project engineers, while a presentation of enviromental considerations will be presented by Glen N. Montz, Enviromental Resources Branch of the U.S. Army Engineer District, New Orleans, at 9:45 a.m.

Discussion for the disposal of dredged materials will be held at 10 a.m. followed by presentations of statements by public officials at 10:15 a.m.

At 1 p.m. organizations and individuals can present their statements. Individual oral presentations will be limited to five minutes.

The Chef Menteur Complex. This complex includes a gated flood control structure with approach channels, a navigation structure with approach channels, and a closure dam to close the natural pass. These structures are connected to the US Highway 90 embankment east of the complex and with the New Orleans East levee system west of the complex. A realignment of the Gulf Intracoastal Waterway (GIWW) at this location is required to provide interrupted navigation along that waterway.

The Seabrook Complex. This complex includes a gated flood control structure to pass flows as desired, a navigation lock, and a connecting rock dike.

Improvement of existing levees along the lakeshore of Jefferson Parish and New Orleans from the St. Charles — Jefferson Parish line to the IHNC.

Construction of new levees along the lakeshore of Citrus and New Orleans East from the IHNC to South Point, La.

Improvement of existing levees from South Point to the GIWW, continuing along the northern bank of the GIWW and the MR-GO in Citrus and New Orleans East to the IHNC.

Construction of levees and floodwalls along both banks of the IHNC.

Strengthening and repair of the existing floodwall in Mandeville, La. (Planning on this feature is currently inactive due to the lack of financial participation in the project by St. Tammany Parish sponsors.)

Extension of the barrier to the east side of the junction of US Highways 90 and 190 and then northerly along US Highway 190.

The barrier plan as initially authorized by Congress provided for construction of a new earthen levee along the St. Charles Parish lakeshore from the Bonnet Carre Floodway to the St. Charles-Jefferson Parish line. The inclusion of Bayous Trepagnier and La Branche in the Louisiana Natural and Scenic Rivers System currently forecloses the possibility of proceeding with the levee without contravening State law. Should the impediment imposed by the Natural and Scenic Rivers System be removed in the future, additional studies will be needed to fully evaluate the relationship of the marsh to the surrounding ecosystem, and provide a basis for a decision on whether the levee should be built. Accordingly, construction of the feature of the project has been indefinitely deferred.

The Chalmette Area Plan is a wholly independent protective system included in the overall hurricane protection project, since the Chalmette area is outside of the influence of the barrier complexes. This plan consists of the following features:

Construction of a levee and floodwall system from the Mississippi River levee in New Orleans along the east bank of the IHNC and the south banks of the GIWW and MR-GO to the vicinity of Verret, La., with a return levee from Verret to the Mississippi River levee at Caernarvon, La.

Construction of navigable floodgates on Bayous Bienvenue and Dupre near their junctions with the MR-GO.

Access to Lake Pontchartrain, with barrier structures in place would be, as included in the present project concept, located at the Seabrook Lock, the Rigolets Lock, and the Chef Menteur Complex Navigation structure.

The corps statement continues:

The currently approved dimensions for the Seabrook Lock are 800-foot usable chamber length, 84-foot chamber width with a sill depth of -15.0 mean low gulf (m.l.g.). This lock will serve navigation by reducing adverse current velocities and eddies in the IHNC. Such currents jeopardize marine safety, erode channel banks and undermine wharves and bridge foundations along that canal.

The normal daily operating procedure for this structure provides for the lock gates to remain in the opened position allowing unimpaired vessel transit through the chamber, until the current velocity through the structure exceeds 3 feet per second (ft/s). The lock gates would then be closed and vessels would require lockage.

Studies show that lockage would be required for about 7 hours over each 24-hour period. The vessels which currently utilize the IHNC, and the future prime users of Seabrook Lock, are in vast majority industrially related. The lock will benefit these users by alleviating the adverse currents now causing hazardous conditions along the IHNC.

"In advance of a hurricane, and throughout the storm, the lock gates will be closed. Locking operations will continue until safe lockages can no longer be accomplished. During such periods the flood control structure adjacent to the lock will provide flood relief to industrial concerns in the canal.

"The currently planned dimensions for The Rigolets Lock are 800-foot usable chamber length, 110-foot chamber width, and a sill depth of -13.2 m.l.g. Like the Seabrook Lock, this structure will remain open during all normal conditions allowing free navigational transit, until the current velocities through the lock chamber become prohibitive for safe passage. Only then would vessels have to be locked through. Study reveals that locking would be required only for about 5 hours per day for 15 days of each month. During hurricane periods, the lock gates will be closed; however, lockages will be permitted until such operations can no longer be safely accomplished.

"The dimensions planned for the Chef Menteur navigation structure are 84-foot width and a sill depth of -16.0 feet m.l.g. This structure will provide continuous uninterrupted access to the lake at Chef Menteur Pass. This structure will remain open at all times except when a serious storm or hurricane threatens from the Gulf. Under hurricane conditions, the structure would be closed coincident

Chef Menteur Complex and the Seabrook Complex. Each of these complexes includes a gated flood control structure, a navigation structure, and a closure embankment.

The purpose of these structures is to control water level increases in Lake Pontchartrain when a hurricane threat is imminent. When a hurricane approaches the La. coastline, the area in advance of the storm experiences a gradual rise in sea level generated by the storm. Under natural conditions, this rise would elevate Lake Pontchartrain by 5 to 7 feet above normal lake levels. This rise, combined with the "tilting effect", could produce lake levels from 10 to 13 feet above normal elevations at any location adjacent to the lake. This phenomenon occurred during Hurricane Betsy in 1965."

The barrier structures are designed to prevent the lake from attaining such high levels. **As a hurricane moves toward the city, the gated flood control structures at Chef Menteur Pass, The Rigolets and at Seabrook would be closed, thereby preventing the hurricane produced tides from entering and raising the lake to extreme heights.** To the greatest extent possible, this closure would maintain the lake at near normal levels just prior to the passage of the storm."

The barrier concept has many important advantages over the high level plan. Firstly, it affords a higher degree of protection to all land areas adjacent to Lake Pontchartrain since the water level of the lake would be as much as 6 feet lower with the barrier plan than with the high level plan. This factor produces collateral benefits in several ways. Storm drainage pumped into the lake may be discharged more efficiently when lake levels are lower, thus benefiting interior drainage. **Present and future levee systems adjacent to the lake can be built to lower elevations under the barrier concept with attending benefits of smaller rights-of-way requirements, less costly construction, and fewer and less costly relocations of utilities, property and persons."**

Secondly, the Seabrook Complex feature of the barrier plan will provide a means for regulating the salinity level of the lake. Since the construction of the MR-GO, salinity levels in Lake Pontchartrain have risen. The MR-GO provides a direct connection between Breton Sound and Lake Pontchartrain via the IHNC at Seabrook, transporting the highly saline Gulf waters with little dilution.

If the rise in the salinity level of the lake were allowed to continue without adequate controls, the environment of the lake could be detrimentally altered, and its value as an important nursery area for many aquatic species would be lost. **The gated control structure at Seabrook Complex will allow the salinities in the lake to be regulated to beneficial levels."**

"Thirdly, the barrier complexes will afford a means of flood relief for the industries along the IHNC. In this respect, the Seabrook Complex functions as a safety valve to reduce high flood levels in the IHNC. When the IHNC water levels reach the top of the canal banks the gated flood control structure at Seabrook would be fully opened permitting flood relief to the industries along the IHNC.

This relief would only be available with the lower water level in Lake Pontchartrain made possible by the barrier complexes. A high level plan would not prevent tidal rises in the lake, and such flood relief would not be available. Since the lake is very large with respect to the inlet at Seabrook, the flows which would be permitted into the lake at Seabrook under the recommended plan of operation would not appreciably affect the elevation of the lake and would not violate the concept of the barrier plan."

"Fourthly, the barrier plan will require a shorter period for construction and will therefore reduce the number of years that the area is exposed to hurricane threats without adequate protection."

"Lastly, and of great importance, is that the barrier plan will cost less than the high level plan. Comparative estimate plans revealed that the high level plans would cost about 50% more than the barrier plan."

The corps' "recommended plan" for the project is printed in its entirety, as follows:

"The recommended project consists of two major protective systems — the Lake Pontchartrain Barrier Plan and the Chalmette Area Plan.

"The Lake Pontchartrain Barrier Plan consists of the following features:

The Rigolets Complex. This complex includes a gated flood control structure with approach channels, a navigation lock with approach channels, and a closure dam to link the control structure and lock across a portion of the natural pass. These structures are connected to the US Highway 90 embankment north and south of The Rigolets by earthen levees.

U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
St. Bernard News
29 Jan 75

Public meeting calle for Hurricane Protection Plan

The controversial Lake Pontchartrain and Vicinity Hurricane Protection Plan will once again be the topic of a public meeting scheduled by the U.S. Army Corps of Engineers.

The meeting will begin at 9 a.m., Saturday, February 22, in the University Center Ballroom [Room 203] at the University of New Orleans.

The meeting is being held, according to the corps statement, "to discuss all aspects of the Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection Project, including the enviromental effects of the project," and to "provide a hearing on planned or alternative procedures for the disposal of dredged materials occassioned by the construction of certain project features, as required by Section 404 of the Federal Water Pollution Control Act of 1972."

The corps report states that the project was authorized by the Flood Control Act of 1965, and approved Oct. 27, 1965.

They state that the purpose of the project is to provide hurricane protection to the Greater New Orleans metropolitan area. That area includes portions of Orleans, Jefferson, St. Bernard, St. Charles and St. Tammany Parishes.

The statement details the effects of hurricanes on the southeast Louisiana area and points to artificial means to "protect ourselves" from "this annual hurricane threat."

An exerpt from the background report on hurricanes reads:

"Under existing conditions, as a hurricane approaches the city from the Gulf of Mexico, the tides in advance of the hurricane would be elevated to above-normal heights. The rate of this rise varies depending on the storm, but it is generally rather gradual. Due to the natural connections with the Gulf waters at Chef Menteur Pass, The Rigolets, and at Seabrook (junction of IHNC at Lake Pontchartrain), water levels in Lake Pontchartrain would rise above normal elevations. Levels in Lake Borgne would also be well above normal elevations. **"Low-lying, unprotected areas adjacent to the lakes would be inundated. Greater New Orleans would be virtually surrounded by high waters. If the center of the storm passed in close proximity to the city,** the high winds of the storm **would produce large waves on top of the already elevated water levels in the lakes thereby worsening the flood threat.** Since the storm drainage systems of adjacent communities discharge into Lake Pontchartrain, high water levels in the lake would deny adequate pumping and prevent relief against flooding from heavy rainfalls."

Although Lake Pontchartrain is a very large lake (surface area of about 640 square miles), it is relatively shallow. In a sense, it can be likened to a large saucer full of water. The large yet shallow nature of the lake causes it to respond very quickly to high winds; therefore, waves may develop very rapidly on the lake surface. Under sustained high winds, the lake also experiences a very unusual effect. **This is termed the "tilting" effect because under sustained high winds the water surface in the lake tilts against the windward shore. The combined effects of high tides, waves, and the tilting phenomenon create a severe threat of flooding to shoreline area."**

Two plans were studied by the corps, the "high level" plan and the "barrier concept." **The corps states that the "high level" plan,** one calling for the raising of all existing hurricane protection levees and where necessary to construct new level levees to a height that **would prevent flooding in developed areas, "had many serious drawbacks."** Among them were described poor foundation conditions, length of construction time, more land for rights-of way, displacement of homes and problems of drainage.

Thus the corps developed the $327,000,000 "barrier concept." Of those funds, cost as of July, 1974, $224,000,000 are federal costs and $103,000,000 non federal costs.

Advantages of the "barrier concept," as put forth by the corps, follow:

"The 'barrier concept' is indeed the most distinguishing element of the recommended hurricane protection plan. The barrier consists of three basic features: namely, the Rigolets Complex, the

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U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
TIMES-PICAYUNE
JAN 30 1975

Flood Barriers, Floodgates at Rigolets, Chef Pass 'Best Plan'--Meteorologist

By J. DOUGLAS MURPHY

A national meteorological expert, brought to New Orleans this week to endorse the U.S. Army Corps of Engineers Lake Pontchartrain and Vicinity Hurricane Protection Project, Wednesday said the controversial plans for the construction of flood barriers and floodgates at The Rigolets and Chef Menteur Pass "is the best plan I can think of at this time."

Dr. Robert H. Simpson, first director of the National Hurricane Research Laboratory, and until last year director of the National Hurrican Center in Miami, spoke before the Hurricane and Levee Protection Committee of the Regional Planning Commission (RPC).

Committee sources said Simpson had been brought to New Orleans to back the Corps' barrier plan, which is opposed by several local environmental groups. The sources said the RPC had authorized $3,000 for Simpson's appearance.

"No amount of reasonable preparedness measures can eliminate the risk of substantial damage from severe hurricanes (here) whenever they occur," Simpson said.

"However, the flooding in the greater New Orleans area can be realistically minimized, and with it the risk of great loss of life, by taking the engineering steps now under consideration to reduce the water level rise in Lake Pontchartrain by the intrusion of sea water as a hurricane approaches," he said.

Simpson spoke hypothetically about potential "model" hurricanes that might hit the New Orleans area — the "worst cases."

Such a storm would move toward the area from the southeast out of the Gulf, he said, and turn northeast as it approached the lake. Water in the lake would be "stacked" in the north and west, he said, only to fall back as a flood on the south shore of the lake after the storm passed.

Simpson said the barrier plan would provide protection . . . from a "storm surge" of Gulf water pouring into Lake Pontchartrain from Lake Borgne. A surge would raise the water level of the lake, he added, increasing the intensity of flooding.

"You're going to have a storm surge, barriers or not," Simpson said. "But if you can maintain a lower level of Lake Pontchartrain (using barriers) the surge will be that much lower."

The meteorologist, who admitted he is not an expert on the flooding aspects of hurricanes, said he was speaking after "simply reviewing the Corps' plans."

He was unable to say what a storm surge from Lake Borgne would do if blocked by the barriers. Several questioners in the audience suggested the water would "find a way to get past those barriers, either by going over them or around them through Slidell."

The "seeding" of hurricanes with chemicals to make them break up, once hoped to be the technological salvation of hurricane-affected areas, is still in an early stage of development, Simpson said.

Seeding is still "encouraging" as a process, he said, but tends to spread hurricanes, with an increased radius of maximum winds and storm surge. "We're looking for a better approach," Simpson said.

Greg J. Lannes Jr., chairman of the RPC subcommittee . . . introduced Simpson and also seemed to support the Corps barrier plan.

Lannes said the alternative to the barrier plan, the raising of present levee heights "is a very expensive and complex alternative, and, we are told by the Corps, the least desirable alternative at this time."

He said the barrier system would provide for flood insurance for new housing "particularly in the eastern half of the city of New Orleans," and would eventually benefit the area financially.

Lannes said his committee would sponsor other hearings on the barrier plan, and perhaps offer opponents a chance to present their views to the RPC, "if we can find the money to bring in experts, and if we can find the experts."

-Picayune

PARTLY CLOUDY

with a 50 per cent chance of rain, 20 per cent at night, and variable winds at less than 10 m.p.h. is the National Weather Service forecast. High Friday, near 90; low, low 70s. High Thursday, 91; low, 74. Map, details, Sec. 6, Page 16.

RNING, SEPTEMBER 3, 1976 SINGLE COPY 10 CENTS

RUSH STORM PROJECT, GAO URGES ENGINEERS

By BARTON REPPERT

WASHINGTON (AP) — The Army Corps of Engineers should take new steps to insure "timely completion" of its hurricane protection project at Lake Pontchartrain, the General Accounting Office said Thursday.

The GAO, the accounting arm of Congress, also said that because of local opposition, some key elements of the $352 million project may not be completed — thus increasing the threat of hurricane damage in the low-lying area near New Orleans.

The project involves building a series of concrete floodwalls, levees and control structures to protect the Lake Pontchartrain area from sea surges and heavy rainfall caused by hurricanes.

In its report, the GAO noted that the estimated cost of the project has climbed from $85 million in 1965 to $352 million and its completion has been delayed 13 years, until 1991.

Almost two-thirds of the cost increase is due to inflation, the GAO found, adding that "in spite of this, the project retains a benefit-to-cost ratio of about 13 to 1."

Commenting on delay of the project's estimated completion from 1978 to 1991, the report said that "while many of the factors are outside the control of the Corps of Engineers, its own belated completion of design, plans and specifications has contributed to the delays."

The GAO said that "as early as March 1966, the March 1978 completion date was no longer valid; however, the Corps did not revise its completion date officially until January 1971."

Also, the agency estimated that the likely completion date for the Pontchartrain project will be pushed back another two years, until 1993.

Criticizing the Corps' scheduling of construction work up to now, the GAO said that "the secretary of the Army should instruct the Corps of Engineers to develop and use a system that will schedule critical construction features to facilitate timely completion of the project."

The report noted that "some local groups oppose construction of the key elements of the project, such as the barrier complexes at the Rigolets and Chef Menteur."

"If local support is not obtained, construction of key project elements may not be completed and hurricane-induced surges and waves may not be prevented from entering Lake Pontchartrain," the GAO said.

The Corps and the Orleans Levee

[illegible] barriers. When a storm threatens the area, the barrier locks could be closed, keeping storm-driven waters out of the lake.

Opponents say the barriers would disturb the ecology and marine life of the lake, and harm area fishing.

Others believe the barriers could not keep massive storm tides out of the lake anyway. Some North Shore residents fear that storm tides, piling up outside the barriers, would be forced into their area through the Pearl River and nearby waterways.

An environmental group, Save Our Wetlands Inc. (SOWL), has filed suit in federal court against the barriers.

St. Tammany "Farmer"
March 1977

District Engineer Explains Barrier Plan

Col. Early Rush spoke to the Florida Parishes Chapter of the Retired Officers Association in Covington Country Club Friday night, explaining the workings of the proposed Lake Pontchartrain and Vicinity Hurricane Protection Plan.

Col Rush, New Orleans District Engineer for the U.S. Army Corps of Engineers, talked about some of the misconceptions concerned in the barrier plan issue.

"Contrary to some opinions, the barrier plan will dramatically reduce flooding in St. Tammany Parish," he said after explaining the technical aspects of the plan. The barrier would lower hurricane flood levels by three and a half feet in the Slidell area and by as much as four and a half feet in Mandeville, he said, quoting research statistics provided by hydraulics experts.

Without the barrier plan, Col. Rush said that some 4950 homes in St. Tammany Parish would be flooded up to four feet by a "standard project hurricane," whereas with the barrier plan, only 1200 St. Tammany homes would be flooded and then only to a two foot level.

"And this was based on 1970 data," he commented, saying that even more St. Tammany homes would be affected with the growth in the Slidell area since 1970.

"I know there is a concern with hurricanes in this parish, because many people evacuate the area when a storm threatens," Col. Rush noted. "We've done years of study and research, and we've come to the conclusion that none of the adverse effects mentioned by opponents will occur. The project is engineeringly sound, it will not cause northshore flooding and it will not adversely affect the salinity of the lake."

The barrier plan appears to be truly capable of protecting all shore areas of Lake Pontchartrain from hurricane flooding, he said: "We won't be able to prevent all flooding, of course, but the flooding will be lessened," he told the audience of some 56 retired officers and their wives.

Questions following his talk concerned small boat traffic through the pass control structures ("There will be locking in and out of the lake about six hours a day"), charges for lock use ("There are no charges planned at present, although there may be charges on the Seabrook complex in the future"), the the increase in water velocity through the lock structures (two feet per second now, up to four feet per second with the structures).

Also of concern was the forcing of high water into the Pearl River Swamp when the lake was closed off, and Col. Rush stated that the studies indicated no significant amount being diverted in that direction.

Col Rush was introduced by Col. George Haney of Lacombe, vice president of the chapter, after Art Brown, president, had to leave the meeting early.

The Colonel was accompanied by three members of his staff who explained technical aspects of the plan, some using a slide projector and a large chart showing the three main phases of the project.

The barrier plan involves flood gates and navigational locks at the Seabrook complex at the lake end of the Industrial Canal in New Orleans and the Rigolets, with a gate control structure and flood gate at Chef Menteur Pass.

The Rigolets flood gate will consist of 16 bays going down 30 feet, level with the bottom of the pass, for a tot width of 110 feet. The Ch Menteur gate will have eig bays going down 25 feet wi a width of 400 feet.

The idea of all the stru tures is to control the level the water in the lake. B shutting off hurricane tid the Corps will be able to ke the lake water level lo during high hurricane wind Col. Rush said. Those wind when combined with hig tides, could cause a "tiltin effect," building up th water level on one side of th lake. Col. Rush said th "tilting effect" could crea serious flooding problems either the south or nor shore of the lake. By keepin the hurricane tides out of th lake via the control stru tures, the tilting effe caused by the high winds wi be contained by existing an improved levees which a part of the overall plan.

Also part of the plan wer a levee on the lake side of S Charles Parish and a ne seawall for Mandeville. Du to local and environment opposition, however, thes two portions have bee suspended for the tim being.

Col. Rush assured tho present that the Corps deeply concerned with th

(Continued on page two)

Rep. Ed Scogin Hits LeMieux Criticism

State Representative Ed Scogin of Slidell has responded to several allegations by Guy LeMieux of the Orleans Parish Levee Board concerning the Lake Pontchartrain and Vicinity Hurricane Protection Barrier.

LeMieux criticized Rick Tonry of the U.S. Congress for his recent opposition to the barrier plan as he talked with St. Tammany parish officials.

Scogin, in letters to a New Orleans newspaper and television station, charges that LeMieux is using the issue for political purposes, since he is an "avowed candidate for Mayor of New Orleans."

"I call on Mr. LeMieux to tell us the real reasons why he shows such total disregard for the value of human lives and property, as well as the destruction of several hundred thousand acres of productive estuary," Scogin said in his letter. He said the Environmental Protection Agency has not given final approval for the structures in the Passes, and he said that while a certain few will gain financially from the plan, it will be the taxpayers who will have to pay off the four hundred million dollar cost of the project.

Those who will be hurt financially by the project include marinas, shipyards, fishermen, trappers and boat and bait dealers, Scogin said. He also called LeMieux to task for apparently quoting inaccurate information on wave height and flooding conditions possible without the barrier.

Representative Scogin said that such hurricane protection can be provided without damming the great Rigolets Pass, Chef Menteur Pass or Seabrook. He feels that the project will eventually make Lakes Pontchartrain and Maurepas nothing more than "gigantic septic tanks."

Scogin has been opposed to the hurricane protection barrier plan for some time, and he was joined in the fight by the St. Tammany Parish Police Jury recently which has hired an attorney to file suit against the Corps' project.

St. Tammany "Farmer"
March 1977

DISTRICT—

(Continued from page on

ecology of the lake, and barrier plan was desig not to interfere with estu tidal flow or salinity changes.

The project will cost million overall, he said, w local sources to contrib $118 million of that. Since St. Tammany Parish Po Jury has refused to finan its portion, the state office public works, in department of tra sportation and developme has assumed that financ responsibility, he said. "T state thinks the project important to Louisiana Col. Rush said.

He told briefly about t history of the project, how started with a study in 19 and how it was authorized Congress in 1965, im mediately after Hurrica Betsy. He also explained ho the National Weather Se vice provided the "standar project hurricane" data aid in the project design an how the Experimenta Waterways Station Vicksburg, Miss., built working model of Lak Pontchartrain to test out an revise certain portions the plan.

He mentioned also th lawsuit by Save Ou Wetlands, Inc., (SOWL seeking to halt the project but said that no injunction had been issued yet. Man manhours of work have been expended in answering questions brought up by that and subsequent suits, he commented.

He said the Corps ha contracted with expert environmentalists to aid in drafting the most respon sible design for the project while those in the oppositio have no expert studies t back up their charges.

On the issue of citizens voting down milleages to pay local portions of the barrier construction, he declined to comment, other than saying that local government agencies have been paying so far and indications were that they would continue to participate.

Many portions of the overall plan have been or are being completed now, work such as flood walls and levee improvement. It is reaching

construction of the barrier structures can begin.

The overall project is scheduled for completion in 1992, Col. Rush said, but benefits are expected to be derived from partial completion as early as 1984. All in structures are expected to keep 90 per cent of the hurricane flood tides out of Lake Pontchartrain.

"This is a tense issue here, and it's an intense issue," Col. Rush concluded. "We think it will help the north shore in the event of a hurricane."

He offered to address other

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

April 21st, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

I darn well would like to see or have explained to me how Slidell and surrounding communities are separated from the low ones by a 10' to 15' contour, so that you needn't put up any barrier in the Pearl River.

Could you bring something to the meeting on the 27th that would show this, or shall I run up to your office one day?

Thanks and best regards.

Sincerely,

cc: Mr. Poche Waguespack, Jr.
Mr. Harry England
Commodore Herbert O'Donnell
Mr. George Janvier, Jr.
Mr. Tom Purdy

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

April 19th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans, District,
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Re: LMNED-DD

Dear Mr. Chatry:

Many thanks for your good letter of April 13th and the articles illustrating the Narragansett Bay drainage basin.

It is good to hear that the vertical lift gates would not take more than six hours to close and another six hours to open.

However if the so-called tainter gates requiring approximately thirty minutes to operate could be installed, that would of course be better still provided you find this practical.

I note what you write regarding protection of Slidell and surrounding communities and will give this a little more study as I am dictating on a morning when my desk is stacked and I have to make a speech before the American Legion on "Preparedness", something that has been a thing with me for many more years even than this hurricane protection plan.

I do appreciate your willingness to inform this layman about all that's going on, and I want to assure you the appreciation of the people who are joining in the effort to help you get this matter through.

I have just heard from Lindy Boggs that her Subcommittee on Appropriations approved Guy LeMieux's request for the $14,400,000.00. I hope it will be forthcoming shortly.

I'm looking forward to seeing you at the luncheon on April 27th to which I have invited you and your men as my guests.

The best regards.

Sincerely,

cc: Mr. Poche' Waguespack, Jr.
Mr. Harry England
Commodore Herbert O'Donnell
Mr. George Janvier, Jr.
Mr. Tom Purdy

EBB.bjb
Enclosures

Mr. Chatry/kn/240

IN REPLY REFER TO
LMNED-DD

19 April 1977

Mr. Edward B. Benjamin
Suite 825, Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

Thank you for your invitation of 11 April 1977 for me and members of my staff to be your guests at the Chamber's Members' Council on 27 April 1977.

We have already accepted an invitation from the Chamber, but look forward to seeing you on the 27th.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

for JOHNSON
LMNED-DD

BRUPBACHER
LMNED-D

CHATRY
LMNED

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

April 11th, 1977

Dear Mr. Chatry:

Please be my guest when Colonel Early Rush talks before the Chamber's Members' Council on April 27th and bring with you anybody you want as my guests also.

I look forward to seeing you and send best regards.

Sincerely,

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

EBB.bjb

IN REPLY REFER TO
LMNED-DD

13 April 1977

Mr. Edward B. Benjamin
Suite 825, Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

Reference is made to your letter of 28 March 1977 regarding the Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection project.

In response to your request for information on the hurricane protection barrier in Providence, Rhode Island, I have inclosed several copies of an article describing the Fox Point Barrier. I believe the article is self explanatory.

Apparently there is a misconception about the operating time of vertical lift gates. (Referred to as "slab type" gates in your letter.) The vertical lift gates being considered for the barrier control structures would take approximately 6 hours to close and another 6 hours to open. Even though this operating time is obviously much more practical than the "2 or 3 days" operating time referred to in your letter, we still recognize certain advantages to an even quicker operating time. It is for this reason that we are still considering the use of tainter gates which require approximately 30 minutes to operate. The pros and cons, including relative costs, of each type gate are presently being considered.

Regarding the protection of Slidell and surrounding communities, we do not believe a barrier in the Pearl River area is required. It is possible for a tidal surge to move up the Pearl River and into the lowlands; however, Slidell and surrounding communities are separated from the lowlands by the 10-to 15-foot contour. We would be privileged to illustrate this point on a topographic map if required. Furthermore, the project plan calls for continuous protection to only 9.0 feet above mean sea level (m.s.l.) on both sides of the Rigolets Pass. Where the

Mr. Guizerix/jh/445

LMNED-DD
Mr. Edward B. Benjamin

13 April 1977

highway embankment is below 9.0 feet m.s.l., a levee will be constructed to that elevation.

I trust you will find this information useful. Of course, if there are additional questions, feel free to call or write me.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

1 Incl (quad)
As stated

JOHNSON
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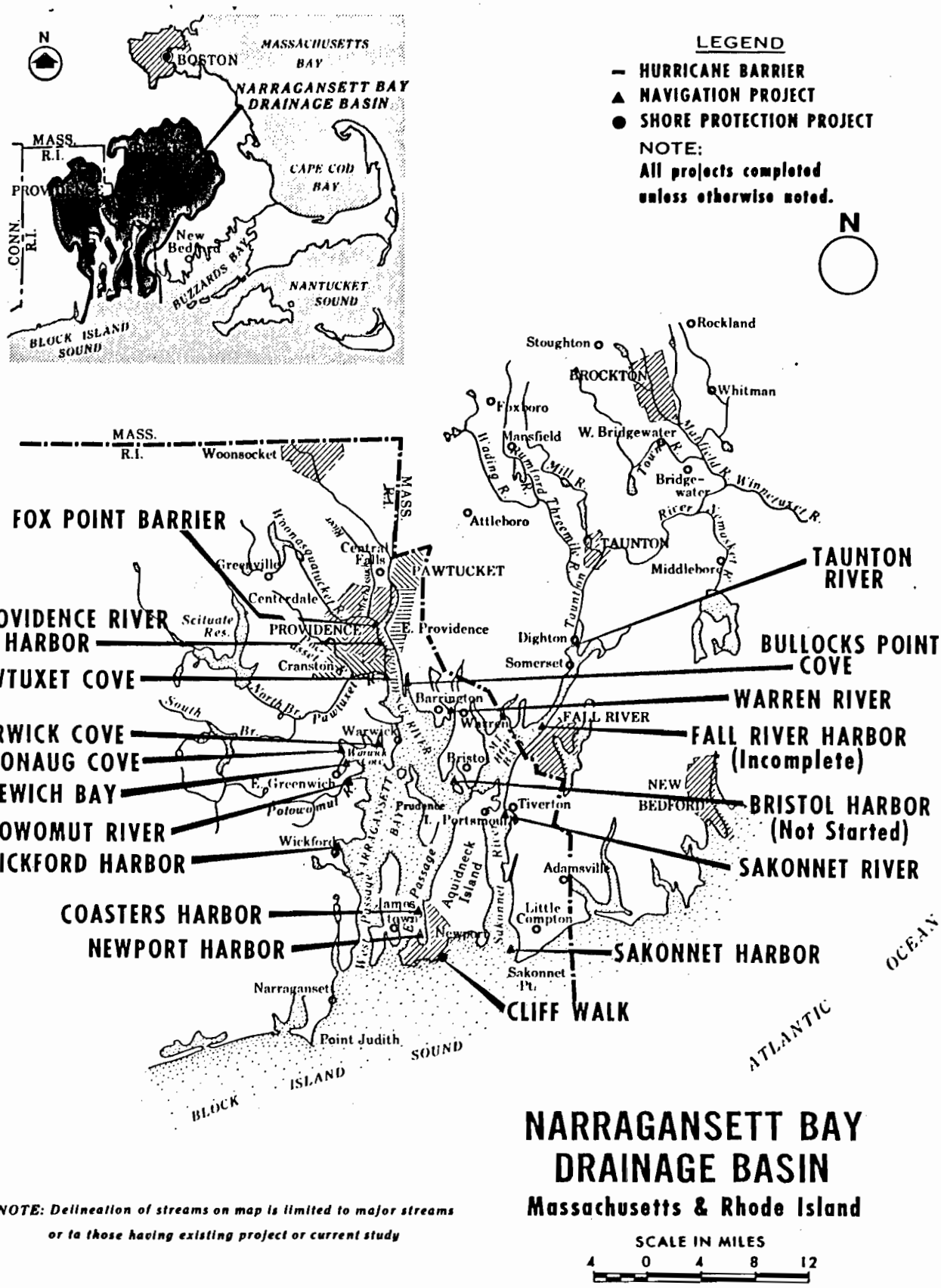

NOTE: Delineation of streams on map is limited to major streams or to those having existing project or current study

NARRAGANSETT BAY DRAINAGE BASIN

Massachusetts & Rhode Island

SCALE IN MILES

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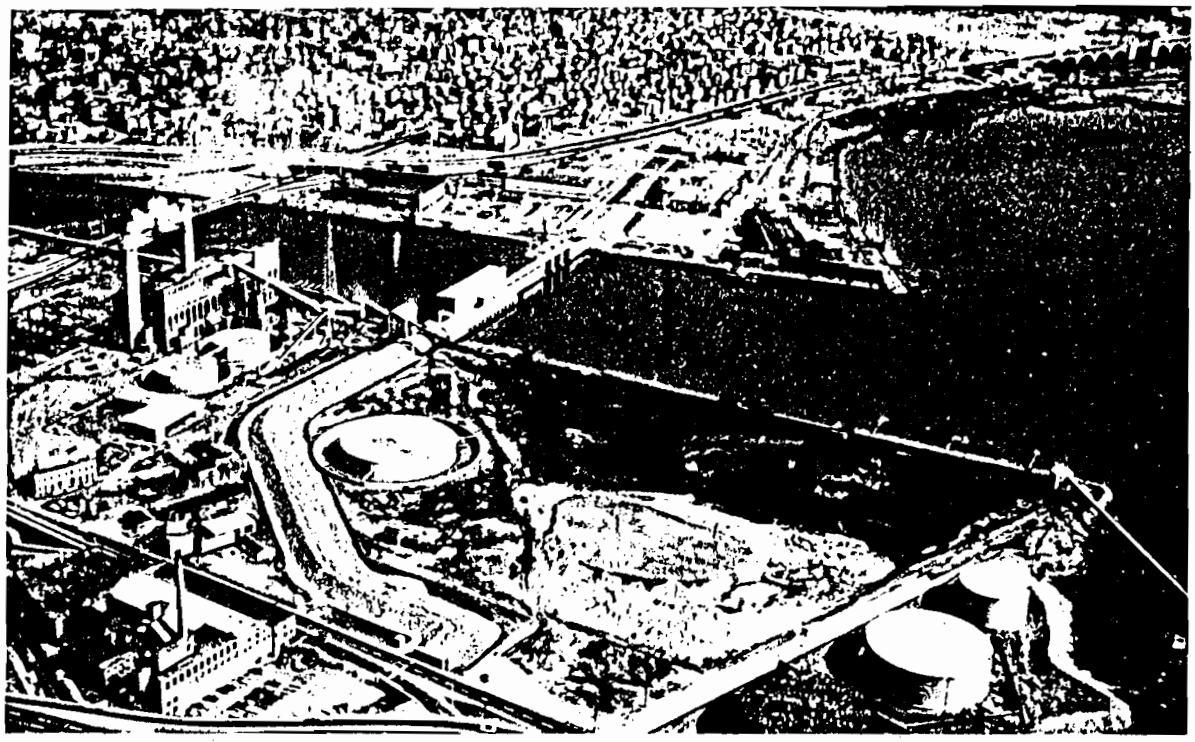


Fox Point Barrier viewed from the west

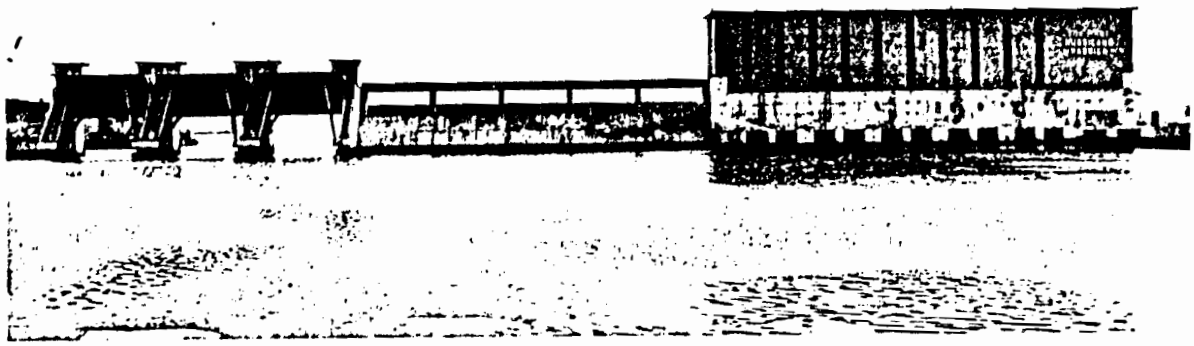
NARRAGANSETT BAY DRAINAGE BASIN
Upper Narragansett Bay Projects

FOX POINT BARRIER, Providence

Fox Point is located about one mile south of the heart of Providence, at the east side of the narrow upper section of the tidal estuary known as the Providence River. The hurricane-flood protection project, authorized in 1958, is located immediately south of the Narragansett Electric Company plant and extends across the Providence River about 0.2 mile north of Fox Point. Started in the spring of 1961, the project was operational in 1965 and completed in 1966.

The barrier consists of a concrete gravity dam about 700 feet long with connecting dikes and extends across the Providence River from Tockwotton Street to Globe Street. Included in the barrier are three river gates and a pumping station. Intake gates, located in the pumping station, admit condenser cooling water to thermal powerplants located just behind the barrier. The river gates, with three 40-foot wide openings, pass normal river and tidal flow including full flood runoff in the Providence River from design rainfall and, when closed, prevent the entry of tidal floodwaters from the bay. When raised, they permit passage of small boats and barges. The pumping station contains the cooling water intake gates and 5 electrically-driven 119-inch diameter pumps, having a combined discharge of 7,000 cubic feet per second, to evacuate the flood runoff of the Providence River when the gates are closed. Maintenance and operation of the project is a local responsibility. The project was turned over to local interests for operation in August 1966.

The project provides virtually complete protection against hurricane tidal flooding for the major portion of Providence, the chief manufacturing city and capital of Rhode Island. It protects the commercial and industrial center of the city, extensive transportation facilities, public utilities and many homes.

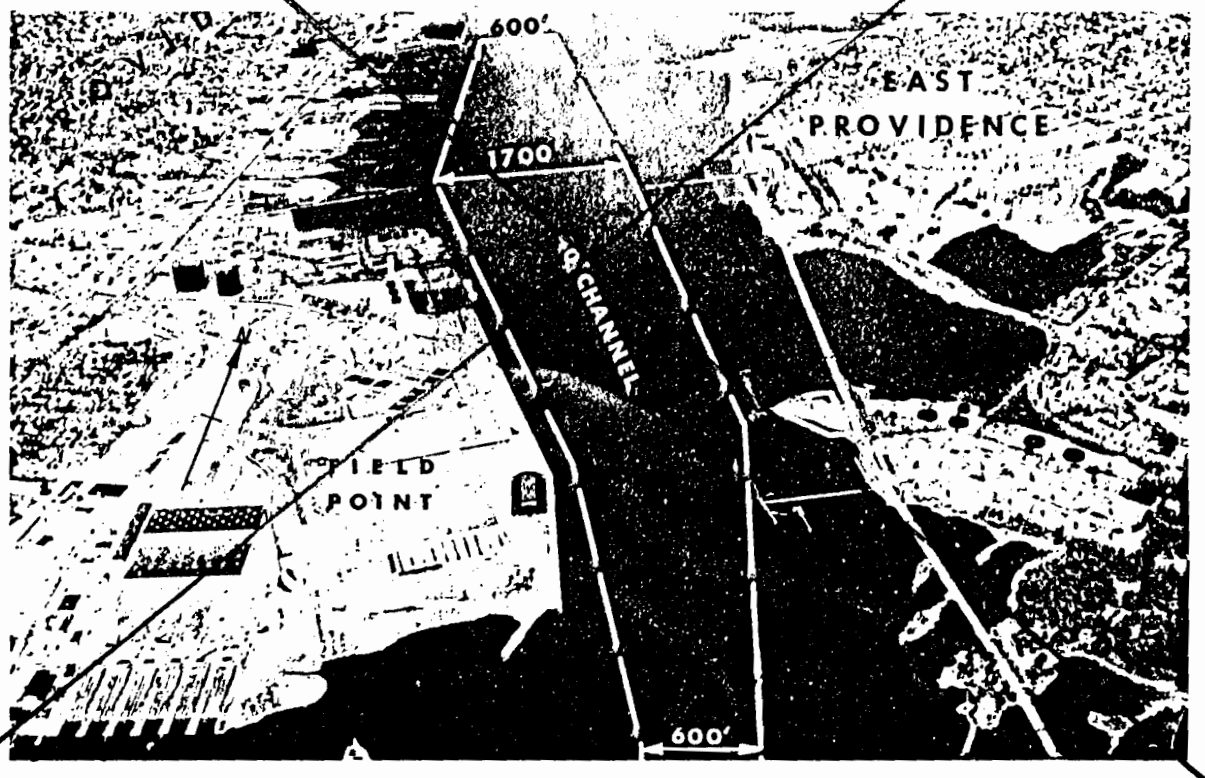


Looking downstream at Fox Point Barrier river gates, the non-overflow section and the pumping station

PROVIDENCE, RIVER AND HARBOR
(Modification in Progress)

Providence River is tidal and is formed at the city of Providence by the junction of the Seekonk tidal portion of the Blackstone River and two small streams, the Woonasquatucket and Moshassuck Rivers, which rise in northern Rhode Island. It flows southerly about 8 miles in a deep channel between broad flats and empties into Narragansett Bay.

Improvement of the waterway was first authorized in 1852 to provide for a 9-foot deep channel near the head of the existing harbor. Subsequent improvements were authorized through 1913, which provided for deepening the waterway to a depth of 25 feet from deep water in Narragansett Bay off Bullocks Point to Fox Point in Providence, a distance of 5.5 miles. Further improvement was authorized in 1937 for a 10.6-mile long channel, 35 feet deep from deep water in Narragansett Bay off North Point (Popasquash Neck) to Fox Point.



Providence River and Harbor

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

March 28th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

Herbie O'Donnell, an old and very good friend, was certainly the man with whom to discuss the promotion of the hurricane protection plan.

Herbie, a civil engineer, has been keeping up with this thing right along and tells me there were conferences a couple of years ago on design.

Herbie also takes the position that the slab type of floodgates, which would take two or three days to plug up and two or three days to unplug, would not be practical, and I think he's right because I had noted the effects of a hurricane at Wilmington, ~~Delaware~~ Maine 700 miles away at Marion, Massachusetts, and precaution has to be taken well in advance of the incidence of a hurricane.

Also the water would have to be let out of the lake promptly when the eye of the hurricane passed over and the winds changed, driving the water from St. Tammany Parish south and southeast.

Herbie tells me that Colonel Early Rush diagrammed for him a possible swing-gate to fill the mouths of the Rigolets, the Chef and perhaps the Seabrooke. Such swing gates look good to me at first glance. I think they would act quickly both for prevention of ingress and for allowing egress.

I gave Herbie my latest correspondence on this hurricane protection project, including the enclosed from the head of the Providence Journal, whose mother was a devoted friend, the great beauty of the Cabot family.

My assumption is that the barrier erected to protect Providence was put in place by the Engineers.

Could you let me, Herbie and Poche' have a sketch or plans showing just what this barrier consists of?

I have sailed the waters up to Providence incidentally, and know a good deal about the lay of the land up there.

I am in hopes that Colonel Early Rush has accepted the invitation to speak before the Members' Council, as there has been very little publicity on this hurricane protection plan, and in my opinion it still remains a must.

There may be involved the necessity of a barrier that can be put into position promptly and removed promptly at the mouth of the Pearl River, in order to protect the country to the north, including Slidell. And you will probably have to raise the highway level approaching the Rigolets Bridge, if you want to use this as a protection levee, which Herbie points out.

But after all, the basic necessity is there, to keep the waters of the Gulf out of Lake Pontchartrain when a hurricane is behind these waters.

I look forward to hearing further from you.

I'm asking Mr. O'Donnell when he gets his ~~cites~~ eights all set, to get in touch with Mr. Pettit as Mr. Pettit should be vitally interested for the protection of East Jefferson.

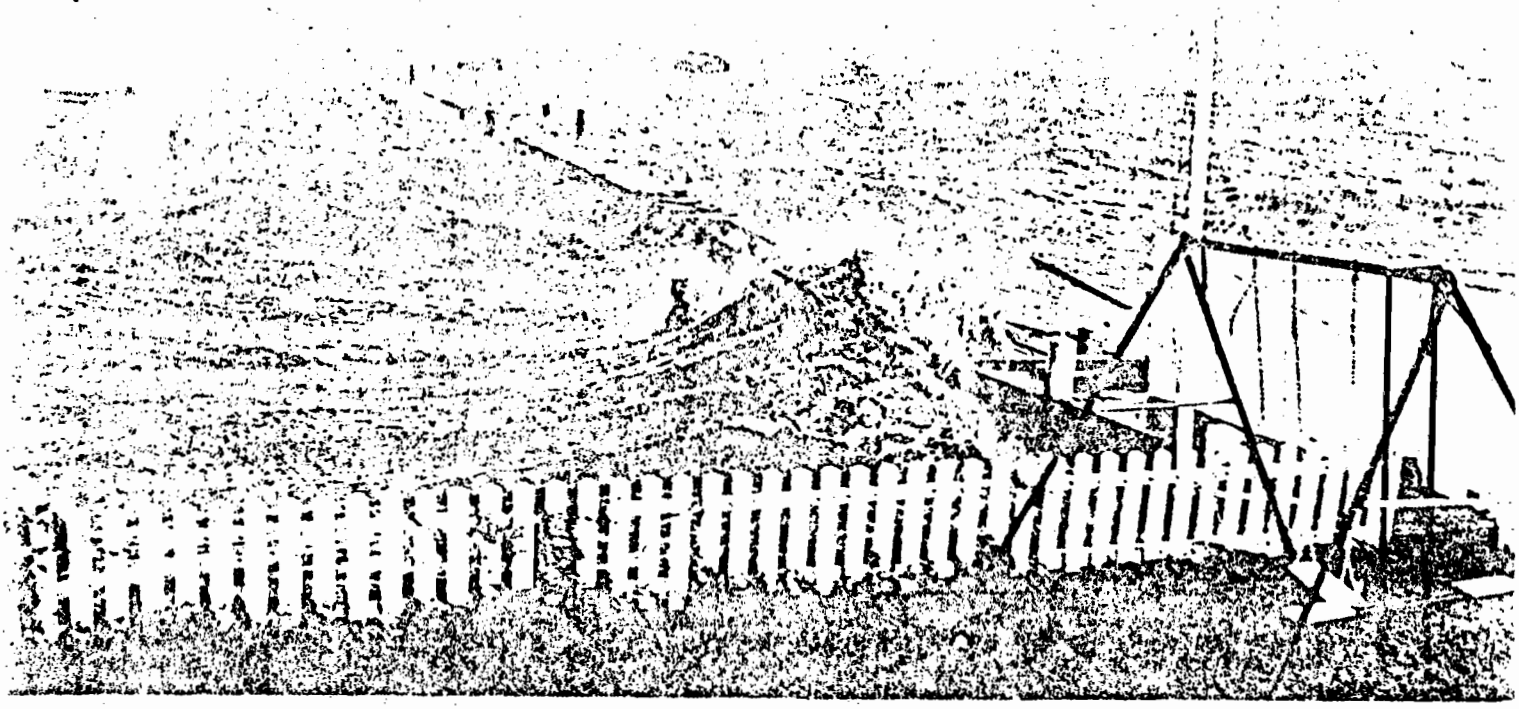
In my years of association with Herbie, I have never found anybody more reliable and I am awfully glad that he is informed about this situation and can take a hand in recommending what directions should be taken.

Kindest regards.

Sincerely,

cc: Commodore Herbert O'Donnell
Mr. Poche' Waguespack, Jr.
Mr. Tom Purdy

EBB.bjb



Carol — a Pretty Name for a Monster

IN 1954 Rhode Island realized it must learn how to live with hurricanes. The hard fact was driven home, leaving no chance to rationalize. Another huge cyclonic storm, spawned in the subtropics, had come and gone. Banshee winds and massive tides had done their savage work once more.

Sixteen years before, on September 21, 1938, the greatest hurricane in Rhode Island history raged across the state leaving 317 dead and $100,000,000 in property damage in its wake. It was a freak, said many as they picked through the debris, and will never happen again.

But in 1944, in the predawn darkness of September 14, there was grim warning that this was not the case. Another hurricane zeroed in upon the state, smashed down thousands of trees, ripped at roofs and roared impotently along the shores, its power impaired by an unfavorable tide.

Then on August 31, 1954, the lesson was learned. Pouring out of the night, the winds of Hurricane *Carol* brought Rhode Island summer to a premature end. The storm arrived at express train speed and departed as fast, leaving the shores of the state a shambles, 19 dead, scores injured, and the business district of the state's largest city spitting out dirty flood water from its basements and street level shops for the second time in 16 years.

Carol, a pretty name for a monster, was the third hurricane of the year to form in the warm latitudes of the Atlantic. Some said the U.S. Weather Bureau chose women's names for the storms because they were unpredictable. *Carol* was unpredictable, lazing along the southern coast for days before taking deadly aim, but there its feminine characteristics stopped.

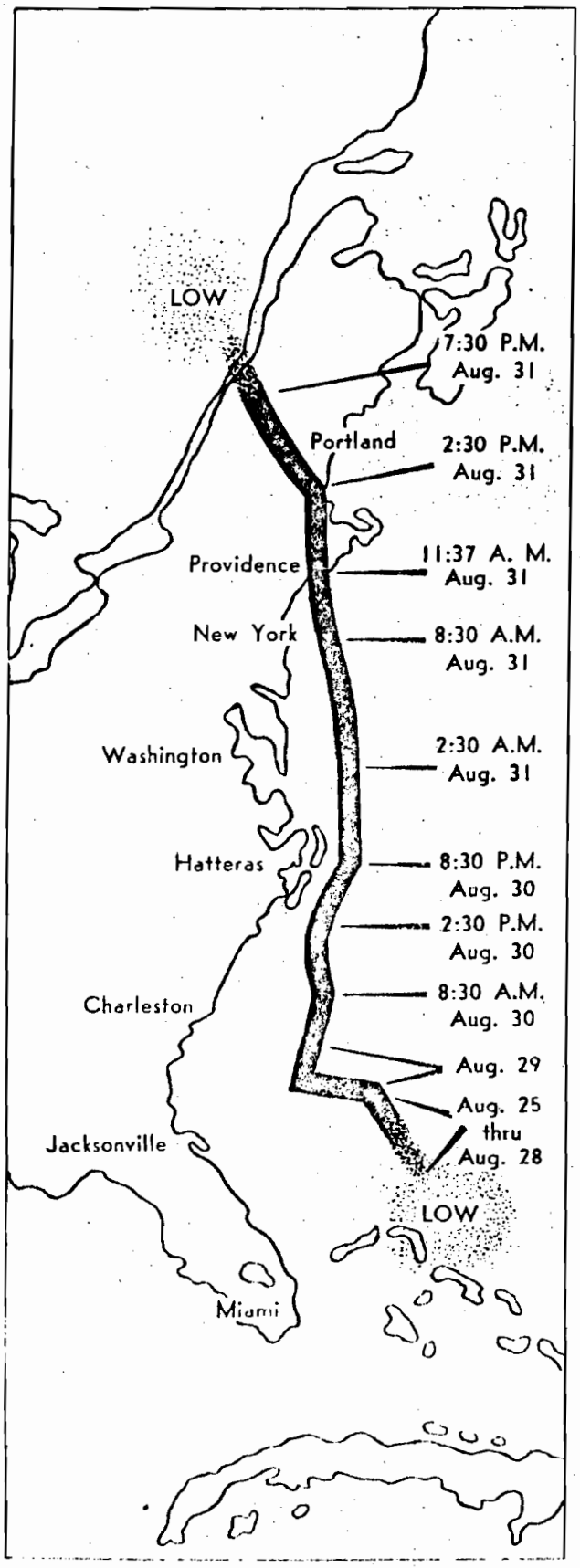
The forces of nature built a roadway for *Carol*, a low pressure area suitably moistened by rains, and the hurricane bored in. It caught Rhode Island and eastern Massachusetts in the outside arc of its counter-clockwise winds, with its center moving along the Rhode Island-Connecticut boundary line. The state lay in the zone where the speed of the vicious storm, estimated at more than 50 miles an hour, is added to the speed of the winds whirling within it.

The result: devastation. Property damage totaled at least $200,000,000 in Rhode Island alone, possibly half a billion dollars in the entire Northeast. Nearly 3,800 Rhode Island homes simply disappeared or lay in shattered heaps along the beaches. More than 2,000 boats, skiffs, fishing craft and proud yachts were destroyed or seriously damaged.

But these are cold statistics.

The real story was in the hearts and eyes of the people who suffered, the waterfront home owners who clambered to rooftops in terror as great gray waves chewed out the insides of their neat dwellings, the boatowners who watched helplessly as their gallant craft fought at their moorings for hours and then disintegrated, the store owners in Providence who saw the flood tides thrust down the aisles, swell over countertops and destroy millions of dollars worth of choice merchandise.

After the storm the state gasped for breath for days, and those who lived and worked inland realized that they too had been hit. Almost all electric power, the life blood of a modern community, had ceased to flow over the wires. An estimated 200,000 workers were idle as repair crews sought to restore power to the business offices and manufacturing plants. Home-



CAROL'S course, from its origin near the Bahama Islands to its breakup in Canada, shows rate the hurricane picked up speed

owners ate suppers cooked over charcoal or Sterno, by candlelight, and kept perishables and milk in tubs or picnic cold boxes filled with ice.

Some residents in the rural areas had no water. Their electric pumps were useless. And others found service through certain water systems reduced or interrupted for various reasons attributed to the storm.

The great storm had its heroes, hundreds of them, who waded, swam and floundered through swirling water to bring their marooned fellows to safety. And along the shore areas it brought forth the best in human nature as neighbors pooled their meagre resources to help one another.

It spawned a small but ugly crop of human vultures too, the looters who moved into stricken homes and shops even before the waters completely receded to fatten on the possessions of the victims.

Police acted fast in the days that followed to offer what protection they could. Aided by the full force of the National Guard, military reserve units and civil defense workers, they cordoned off the battered sections of the state to all except emergency workers.

Gradually order replaced chaos as bulldozers thrust back the deep sand dunes where once there had been roads and great cranes lifted the hulks of sunken boats. Carpenters beat a staccato symphony on thousands of damaged roofs while fleets of trucks, pressed into service from many sources, roamed the streets of city and hamlet alike gathering the mountainous piles of limbs and trunks which once spread a green canopy over the state. Gradually power returned. Lights winked on and the big factories summoned their workers back.

And in the talk of the veterans of the storm comparisons were made. Which was the greater, Hurricane *Carol* or the nameless fury of September 21, 1938? The facts were indisputable. The hurricane of 1938 was still without peer. Its flood tides mounted 13 feet nine inches above normal high water level in Providence. Hurricane *Carol* had pushed the tide up precisely 13 feet above normal.

The 1938 storm moved more slowly and poured its peak destruction on the state for about two hours, with sustained winds of 121 miles an hour and gusts of far greater force. Hurricane *Carol* lashed the state with its peak winds for about half as long, reaching full force at 11:37 a.m. when a gust estimated at 105 to 115 miles an hour thrust the anemometer needle off the dial at the U.S. Weather Bureau at Hillsgrove. Moments earlier the top sustained velocity of 90 miles an hour was recorded.

The 1938 storm was a massive doughnut with its center over the Connecticut River Valley. Its deadly eastern semicircle spread a wide band of destruction through the heart of New England. Hurricane *Carol* achieved its greatest fury in a band stretching from New London, Conn., to the Cape Cod Canal.

Loss of life was not comparable. Yet in this fact there was a puzzle. The shore areas where damage was greatest in both storms appeared to have suffered almost equal devastation. The surge of tide thrust up by Hurricane *Carol* was almost as high. And on August 31, 1954, the summer season at Rhode Island's beach resorts was at the zenith. Yet the death toll was low.

Carol

struggling for the safety of a stairway, rooftop or improvised raft, was relatively high. The hurricane of 1938 reached its peak about 5:15 p.m., nearly a month later in the year. Almost complete darkness came with the storm. This time thousands fled from unprotected sections before the storm reached its full fury. Before, many refused to believe what they saw, clung to their exposed dwellings to the last and actually rushed to the shore to watch the water rise.

The lesson had been partially learned, but not completely.

On the afternoon of August 31 and the days that followed complaints arose that the U.S. Weather Bureau had provided insufficient warning of the storm's approach. Its bulletins had spoken of northeasterly gales and abnormal tides until too late to take full precautions for the southeast hurricane winds and flood tides which actually arrived.

Power failed over much of the state at 9:10 a.m. on August 31, and when the full import of the storm was realized radio warnings were almost useless.

Two days after the storm the season's fourth hurricane rushed harmlessly past, well out to sea, touching off brief panic in certain exposed coastal communities. Then on Friday, September 10, eleven days after Hurricane *Carol*, the state settled down to the business of living with the storms.

Hurricane *Edna*, a huge storm with 135 mile an hour winds near its center, rolled toward the battered shore. This time the state was ready.

Through the daylight hours of Friday newspapers, radio and television warned of the storm's progress. All radio and television stations went on night-long watch. Storm shutters and sandbags appeared. Waterfront districts were evacuated as sweating clerks in downtown stores cleaned out cellars only recently cleared of flood water, removed all merchandise to upper floors. Firemen, police, civil defense units, the Red Cross and other welfare agencies mobilized all personnel. Never in the history of Rhode Island had such complete preparations against disaster been made.

At the last moment the storm veered northeastward, arriving on an ebb tide. Rhode Island caught the backlash of its winds, suffering relatively minor damage.

A glancing blow. The state now knew that two facts are vital once hurricane warnings have gone out: the condition of the tide when the storm arrives and the location of its center.

In 1815, 1938 and on August 31, 1954, the storm center had passed to the westward and the hurricane had arrived at high tide with destructive force. In 1869, 1944 and September 11, 1954, the tide was on the ebb.

The ledger was neatly balanced, three and three.

AFTER THE STORM passed, shore residents trudged sadly back to their ruined cottages, like war refugees, to salvage belongings. These people are at Quonochontaug.

The Great Hurricane

and Tidal Wave

★

RHODE ISLAND

September 21, 1938

ON the afternoon of September 21, 1938, a hurricane of subtropical origin whirled out of the Atlantic Ocean and struck the northeast shore of the United States at Long Island. It advanced with ever-increasing speed and wind velocities — and Rhode Island stood directly in the path of its dangerous semi circle.

Mounting winds and a blinding torrent of rain heralded this fury in mid-afternoon.

Before night fell, 312 men, women and children were dead and missing in this State and on the immediately adjacent shores of Massachusetts summer resorts; $100,000,000 worth of damage had been wrought from Westerly to Sakonnet Point and inland; entire beach communities had been wiped from the map, the State's contour was changed, beaches had been obliterated, thousands of trees and utility poles felled, yacht fleets smashed, sunk and flung up hundreds of feet beyond high water, and the streets of downtown Providence buried to a depth of 10 feet and more beneath the waters of the Bay.

Never in history had such a disaster visited these shores. No mere recital of statistics on damage and death could tell the story of that cyclonic madness. It had to be learned from the lips of the man whose wife and children were torn from his arms by towering waves on the South County shore; from the priest who, with his mother, rode the screaming wings of the storm from the west to the east shore of Narragansett Bay; from those who raced inland and looked back to see their homes collapse before the surge of water and the roar of wind; from the mute but eloquent sight of the drowned body of a man on Westminster Street in the business section of Providence.

The story can never emphasize too much the element of people's unawareness of the hurricane's imminence, and the strange, weird thought, even as the wild storm was shattering the community, that it was a fantastic piece of imagination, a mad dream. It was so alien a thing: an anachronism, that did not belong here in northern latitudes.

It was this very element of unawareness that cost scores of lives, the lives of those who stayed and thought they were safe, and were swept away when a sea whipped to great heights engulfed them and their homes.

But it was no dream when Rhode Island counted its dead, its more than 16,000 stricken families, its wrecked buildings and wharves and ships, and its devastated communications, lighting and transportation systems. For hours after the winds and waters abated, this State might just as well have been a lifeless commonwealth as far as communication with the outside world was concerned, and it was days before some small communities were again linked with that complex network of life-lines that so governs modern civilization.

Great crises call forth the best — and the worst — in the nature of man, and the hurricane of September 21 did just that. The days that followed brought tales of heroism that swelled the heart and renewed the faith in man's spirit and spirituality. Into the face of the storm's unbridled wrath men flung their puny strength to go to the rescue of the drowning. Some of them won. Others exemplified that "greater love" and laid down their lives that others might live.

But it must be recorded too that even before the flood waters subsided and the howl of the wind died down, looters descended upon the devastated areas, summoned by some obscene grapevine telegraph to pick and claw at the vitals of a stricken community.

Jewelry shops were stripped, windows were smashed and looters, streaked with the mud of flooded gutters, crawled in to thieve and pilfer. Boats cast up on shore were swept clean, yachts of their fittings, fishing boats of their gear. Small craft were even loaded aboard trucks in the dead of night and carted away.

At 3 o'clock in the afternoon of September 21st, the Weather Bureau here reported winds of 40 to 45 miles an hour, and 10 minutes later by telegraph to the Journal office from a news service came a hurricane warning, to the effect that the tropical disturbance would cross Long Island Sound and reach the Rhode Island-Connecticut border "early tonight."

In Providence, pedestrians were then having difficulty keeping their footing. Trees began to crash. Telephone and electric light wires were down in a hundred spots. The utility companies were flooded with calls. There is, perhaps, a touch of wry humor in the call that came to the Providence Journal office. A woman wanted to complain that a tree had fallen on her property, and the forestry department wouldn't do anything about it.

Not until later was the picture of fast-approaching fury on the coastline pieced together, for even in midafternoon communication was difficult. At Westerly, Charlestown, all along the exposed South County shore, the wind began to build up at 2:30 o'clock, the surf rose high, and at 3:30 p. m., more than three hours before scheduled high tide, the Atlantic had reached its expected high water mark. It was an evil omen of what was to come.

Briefly, torrents of rain were driven almost horizontally before the wind at about 3:30 o'clock, and there was a new and threatening note in the voice of the gale as it tore through the canyons of streets, threatening to tear the very clothes from a man's back. People began to realize that here was something more than a September blow, an equinoctial storm, a "line storm," as old timers called them. Windows began to bulge inward. Slates flew from roofs. Roads in every part of the State were blocked by great fallen trees.

When a piece of the Public Library roof went flying, and like happenings were duplicated in a hundred places over the State, terror flew in on the wings of the wind and the State began to know it was presenting its face to a new thing that struck fear to the heart. The tale of the outlying areas was told then only by the fact that one by one they were severed from all connection with their neighbors and with the heart of the State at the head of Narragansett Bay.

The whirling winds advanced north, and at 5:05 p. m., the Weather Bureau clocked the velocity at 87 miles an hour. Rhode Island was then officially experiencing a hurricane as measured by the Beaufort scale. The battered pedestrians in Providence, the fishermen of the shore who watched their means of livelihood smashed into matchwood, and those of the isolated areas whose homes collapsed in surging waves of tide, who themselves struggled in the clutch of water fathoms deep, needed no Beaufort scale to tell them of the hurricane's force.

* * *

Of necessity, the record must be set down in piece-meal fashion because fantastically different experiences were suffered by different sections of the State.

At about 4 o'clock in the afternoon, preparations were going forward in the office of the Evening Bulletin to include in a late "sports extra" the story of the storm up to the time of going to press. The edition was never born. At 5:16 o'clock, all vestige of electric power died. The news room lights faded and went out. The basement of the newspaper plant, housing the presses and electrical equipment, was flooded. The most dramatic and crushing disaster that ever hit the State was wreaking its ruin everywhere — and the newspaper stood in impotent silence. Its tongue was not to be restored to it for 11 days, as far as speaking through its own equipment was concerned. It did publish without missing an issue through other facilities, and that is another part of the record.

Those down the bay realized some time before the new terror that was about to strike at the upper reaches, but it was not until late in the afternoon that a series of facts began to string themselves together in the minds of those who were in Providence who were 40 miles away from the State's Atlantic shore face.

A wind of hurricane force was blowing from the southeast into the funnel that is Narragansett Bay. The tide was flooding. It was an equinoctial tide, higher than the usual high tide under normal circumstances. The centre of the hurricane was not far to the westward, and the storm would bring with it a cone of water rushing north at express-train speed.

Even as the weather-wise mind began to grasp the implications of these coincidental circumstances, the waters of Narragansett Bay, driven by a 121-mile-

an-hour wind, piled into the upper bay, squeezed into the restricted reaches of the harbor, overflowing in great surges as they came, and topped the ramparts of the Providence River in the very heart of the city at about 5 p. m.

So swift was the onrush that time and incident were lost. In Market Square and vicinity — including the great banking and business structures there — thousands of persons were marooned on upper floors. Within 10 minutes, the river-head area was a great mass of water whipped by hurricane wind. Within 30 minutes there was a depth of six feet at that sector which is cut through by Union Street in the Providence business section.

The waters rose, and the whole downtown area took on the appearance of a nightmare. Trapped people leaped from busses and cars. They waded knee-deep, bending their bodies to a screaming wind. They struggled waist-high in water, and the waters still rose. They were chin-deep in places where yesterday they had shopped, eaten lunch, stopped to talk with friends. They swam, swam for their lives, and many were saved only because refugees in second floors flung them ropes and hauled them up from the wind-whipped flood.

The mosaic picture of the whole was gradually pieced together from the tales of those who stood and watched a downtown Providence inundated by the waters of Narragansett Bay.

A 50-year-old man drowned in Exchange Place between City Hall and the trolley terminal, and another younger man drowned on Westminster Street opposite the Phenix National Bank. The body of the latter was found beneath the wheels of an automobile when the flood waters receded.

There were two other deaths by drowning within the city. One body was found on a South Water Street dock near Point Street, and a second at Gano and Freemont Streets, a section which was flooded by water from the Seekonk River.

A woman and two girls, riding in cars in three different sections of the city, were crushed to death beneath felled chimneys.

Hundreds of automobiles were submerged, their tops two feet below the surface. Department stores, banks, hotels, restaurants, shops of all kinds, were flooded nearly to the ceilings of the first floors. Basement machinery was completely smothered, and at the peak, the waters rose to just over 13 feet above mean high water, lapping at the sides of buildings in low spots eight to ten feet above gutter levels and flooding as far west in the downtown area as the edge of La Salle Square.

Two great coal barges were flung ashore by the storm-driven wind and water, blocking South Water Street near Point Street bridge; a tug was lifted and dropped into the cribwork of the India Point bridge in the Seekonk; great sections of river docks, still bolted together, were washed a quarter-mile inland and rested like barricades on Dorrance Street. Five-ton trucks were hurled about as a child's toys, cars were overturned and sent crashing into the sides of buildings, walls collapsed under water pressure.

At the moment the Weather Bureau anemometer registered 87 miles an hour at 5:05 p. m., the roof blew off the shack atop the Turks Head building and wrecked the wind-measuring equipment.

And through the whole black, chaotic night there came an eerie cacophony of sound, continuous, varied in tone and nature. It was the night-long blaring of automobile horns and clanging of burglar alarms short-circuited by the flood waters.

* * *

But though a staggering story of flood was told in Providence, it paled in comparison when the frightful picture of death and devastation on the coast from Westerly to Little Compton materialized through the abating storm.

From Watch Hill to Narragansett, the South County shore's playground for all classes of people, was devastated. Great sections of it had been wiped from the map. Its beaches were gouged out by surging seas.

But, worst of all, from the communities of Watch Hill, Misquamicut, Quonochontaug, Charlestown Beach, Green Hill and Matunuck, scores of persons, and in some cases whole families, had been swept to their deaths. Not a beach home was left standing at some of those gay shores, and the beach itself upon which the dwellings had stood was ground down and swallowed by a furious sea made mad by wind.

Men came from that area who had their families snatched from their very grasp by raging waters, and they swore they saw a tidal wave 100 feet high, white-crested and breaking, as the land tugged at its base.

They did see waves of tide, driven by a wind that reached 121-miles-an-hour velocity at the peak of the storm; waves that mounted to 30 feet or more in height under the triple influence of wind, the hurricane suction of water, and the tripping of the rolling masses as they, in succession, felt the drag of land rising sharply from the ocean depths.

On the Westerly-Charlestown shore alone, 118 were dead and missing, a check showed two weeks

after the hurricane, and the debris of hundreds of houses was flung, in some instances, a half-mile inland. Here, as all along the Rhode Island shore, hundreds of men dug into the wreckage for days before the grievous tale was told in lines of corpses that filled the temporary morgues. Gruesome though the detail may be, the Governor of the State had to despatch undertakers to that area so that the embalming of bodies could keep pace with their discovery.

Ten women attending a church social at Misquamicut were swept to sea when the waves engulfed their cottage. A mother, struggling far from shore, put her small boy on a raft in the hope he would be carried ashore. He was never seen again. But a nine-year-old girl rode a log in safety through the surf to the shore.

The fishing villages of Jerusalem and Galilee found no protection behind the breakwater there, and they were demolished, and with them went the fishing boats and gear with which men earned a living.

Block Island suffered as badly as far as its fishing fleet was concerned. Two men went to their deaths there, one of them last seen clinging to the mast of his boat as it hurdled a dock at the Old Harbor and headed out into a boiling ocean.

No more eloquent testimony of the storm's power could be had than its destruction of the granite-block sea wall at Narragansett Pier. Not even that barrier could withstand the relentless fury of wind-driven water, and the storm roared on to undermine summer homes and dwellings, and to bring down Sherry's Pavilion — famous Pier landmark — and fling it, a twisted mass of wreckage, across the highway. Just a little further north, the Dunes Club was shaken in its foundations, its front torn out and its bath houses reduced to splinters.

A Philadelphia woman and her son, visitors at the Pier for years, were traveling on the Ocean Drive in their car when a great wave swept them into the sea. It was such waves as those which not only destroyed the sea wall, but gouged out the drive itself.

North from there, the steel constructed Whale Rock Lighthouse crashed down from its rocky base and the lightkeeper went with it. Bonnet Shores residents fled for their lives as the waters took the very ground from beneath their houses and tumbled them into the sea. At Plum Beach Light, astounded watchers saw a streamlined yacht travel fully 60 miles an hour with the storm on its stern, strike shore and run 300 yards inland at Anthony's Beach, North Kingstown.

More than 700 permanent residences were destroyed in Warwick, and hundreds of summer places at the shore settlements, and from that area came some of the most fantastic stories of death, building demolition and miraculous escape.

Three aged women in a Shawomet Beach house were swept into the sea when the circle of the hurricane, shifting north, pushed the wind through the south and into the southwest. Two of them were lost, but the third clung to the house porch and in 30 minutes was carried through heaving waves and blinding spray to the East Providence shore.

Rev. Thomas F. McKitchen, rector of SS. Peter and Paul Cathedral, and his mother, vacationing at Conimicut Point, found their house completely surrounded by water. They took to a skiff, but all his struggles could bring the shore no nearer. Between them and the east shore lay a two-mile width of hurricane-swept water. He lost an oar. The boat raced and spun. The priest had almost reached the end of hoping and was about to administer the last rites of the Church to his mother, when a shift of current headed them for shore and they grounded on Anawamscutt Beach in Barrington.

A Blackstone, Mass., girl lost her parents at Conimicut Point, but she rode a kapok mattress through four terrible hours in a furious sea until a tremendous wave hurled her ashore at Narragansett Terrace.

Rocky Point, that Mecca of politicians and shore dinner consumers, fell like a house of cards before the southeast fury. The roller coaster was shattered, the great dining hall that could seat thousands was a soggy mass of lumber, a thousand bathing suits hung from the backwoods trees, and only the boilers stood where once a huge bath house had been. The oldest and most famous shore resort of the State was no more.

Although first winds of the hurricane blew from the southeast as the dangerous semi-circle of the storm moved northward to hammer at Rhode Island shores, the shores of the bay facing west were not spared, for the winds whirled out of the southwest as the centre of the disturbance advanced.

On the East Providence shore, barges were flung up high and dry, and tank cars on railroad tracks were tossed in the crazy confusion left by a petulant giant.

Barrington Parkway was flooded over as the bay waters rushed across the railroad tracks and into the cove at the edge of the Metacomet golf course. One man drowned there when his car was thrown into the cove mud and he was trapped beneath the rush of water.

Just as Narragansett Bay formed a funnel up which rushed a great body of wind-driven water,

built wave upon wave for 30 miles, so did the Barrington and Warren Rivers present smaller but just as inviting funnels to the fury of the storm. It was as though they sucked it in and then found they could not accommodate it.

There was nothing that resembled a tidal wave there. The waters from Rumstick Point north built up steadily, relentlessly, in a forward-surging mass until they buried the bridges across the main State highway, smashed down the railroad bridges beyond, and then went on to carry away the long bridge at the White Church, which lost its steeple.

On that bridge was a Warren man who could not swim. With him in his car was a girl. When the span began to give way, he urged her to jump and make for shore. She did and she survived. He drowned.

Yachts 40 feet long were hurled from the Barrington Yacht Club basin, carried over the parapet of the bridge and dropped athwart the State highway. An oyster boat was rushed up the Warren River and laid across the Warren end of the other highway bridge as neatly as a constructed barricade.

Bristol County to the south of the Warren River was virtually unapproachable. Fallen trees and poles balked traffic on every road, and Bristol was isolated for nearly two days. Not even telephone communication could be put through there.

The famous Herreshoff ship yards were wrecked. Three America's Cup defenders were badly damaged, and great sheds were collapsed on the exposed water front. The Bristol Yacht Club owned nothing more than a flagpole when the day was done, and the shore front streets of the town were littered with bell buoys, spars and channel markers.

The 90-foot yacht Firenze blocked the street in front of the Herreshoff yard, and the Lobster Pot, popular eating place nearby, was blown to bits.

Newport County was shut off from communication with the mainland of Rhode Island, and 18 persons at Island Park alone perished when that colony was almost completely destroyed. Troops with dynamite finished the job on tottering buildings when the storm was done.

In Newport, fashionable Bailey's Beach was obliterated, and only the entrance stood intact—and that was pushed back from the shore. The bath houses there were carried on the wind and scattered a half-mile away.

The hurricane showed no discrimination, for it destroyed Newport Beach, too, and dumped the roller coaster there clear across the highway. Other beaches along the southern shore fared no better.

Across Sakonnet River in Little Compton, the storm struck with vicious force at the broad peninsula that dares to stick its face out into the Atlantic.

Groups of cottages on Sakonnet Point vanished when thunderous surf piled in from the southwest and rose 25 feet as it met the waters of the harbor.

Along these shores and at Newport, observers were generally agreed that the sea built up steadily and swiftly until a height of 15 feet above mean high water was reached at about 5 p. m.

Four fishermen at Sakonnet Point climbed to the roof of a cottage and sailed on it through the air when it was torn off and landed in the harbor. They were pulled aboard a fishing boat.

The islands of the bay constitute a story in themselves. Both ferries to Jamestown in the East and West passages were grounded comparatively early in the afternoon before the winds reached hurricane force, and the island was isolated.

Seven school children in a bus were swept to their deaths at Mackerel Cove on Conanicut Island when the bus came to a halt behind a stalled automobile. Four of the youngsters came of one family. On the narrow strip of land connecting the Beaver Tail end of the island with the north the bus came to a halt, and as the driver attempted to get the children out, three great waves swept over the land. The pavilion there was destroyed by the force of the water, and two persons were carried into the sea in an automobile.

At Sand Point Lighthouse on Prudence Island, five persons including the wife of the light keeper were carried out to sea when the keeper's house that had stood the batterings of years of easterly gales crashed before the savagery of the hurricane. Onlookers saw the house carry away, and they stood held helpless by high surf as the light keeper's wife and his son disappeared into the raging waters.

Her husband, outside battening down at the time, was carried away, but a contrary sea threw him back on the land.

The savagery of the storm was well demonstrated by its destruction of the Whale Rock lighthouse and its extensive damage to the lights and keepers' homes at Beavertail, Bullock's Point and Sand Point. The Whale Rock light, cast-iron plated and built on the sub-surface rock with a concrete and steel-reinforced base, stood since 1882 until it was dropped into a raging sea with its keeper alone in the tower.

While inland Rhode Island suffered enormous damage to its buildings, trees, farms and communications, power and transportations systems, it was on the long water front that the drama and power of the hurricane was displayed most astoundingly. Yacht clubs, outstanding among them the Rhode Island Club which stood out on piers, disintegrated

before the onrush of wind and water, and the yachting fleets of the State suffered hundreds of thousands of dollars damage.

Clawed as by giant hands, the shape of coastal Rhode Island literally was changed. Greater erosion had taken place in a few hours than normally would be done in centuries of time. Not only were beaches destroyed and land marks obliterated, but deeps had been changed to shallows and shallows to deeps.

Seven days after the hurricane, the Department of Commerce informed mariners through a bulletin that aids to navigation as marked on Coast and Geodetic Survey charts were useless to a great extent from Cape Cod to Cape May, with particular reference to Narragansett Bay, showing that not only had the Whale Rock light disappeared, but fog signals on six other light stations had been destroyed.

At 7:30 p. m. on the 21st., after the tide started to ebb, the wind abated and the flood waters began to recede, Rhode Island had been deprived almost completely of every service which man has developed for himself.

The greater part of the State was in darkness. Its communications system was crippled. Radio stations were silent and had been since before the storm reached its peak. Transportation simply did not exist. Automobile drivers could not get gasoline because there was no electricity to operate station pumps. Many water sources had been contaminated and all such sources were suspect until analysed.

It was days—in some cases almost two weeks—before the large stores, banks and business houses of the downtown Providence area dug themselves out from beneath the debris of the flood and resumed operations.

The State was bereft of all those safeguards which surround modern living, and when troops were called out to patrol devastated areas and prevent widespread looting they had to be called by couriers one by one.

When the lights faded and went out in the Providence Journal building and all power ceased to flow, a vital problem was presented—and solved. Rhode Island had to be furnished immediately with a means by which the people could be made to know what really had happened to them and what they should do about it. State and local authorities had to have a means of sending out their health orders and measures of discipline. The people had to be told of the details of the general rehabilitation program, where they could go for food, shelter, clothes, anti-toxins and serums. The names of the dead and the missing had to be published as the search for bodies went on.

Working by the light of candles and electric torches, the staffs of the Providence Journal and Evening Bulletin gathered all immediately available information on the disaster, dispatched one staff of men to Woonsocket, another to Boston, and maintained a third which covered the State from one end to the other to gather the complete story.

The Woonsocket Call, true to the best traditions of the newspaper trade, made its facilities available. An emergency edition of the Journal was published there on the morning of the 22nd., and distributed through the State. The Call continued to publish the Journal until power was restored to the Fountain Street plant on Oct. 3.

The Boston Post responded to the call for help and opened its doors for publication of the Evening Bulletin. News copy was telephoned from Providence to Boston or rushed over the road by automobile, and about noon in the days that followed the afternoon newspaper left Boston on trucks for Rhode Island. The Post published nine emergency editions of the Bulletin, until publication was resumed in Providence with the afternoon paper of Oct. 3.

Meantime, Most Rev. Francis P. Keough, Bishop of Providence, offered the facilities of the Providence Visitor, diocesan newspaper, for any extra editions which might be necessary. It was at the Visitor that the Bulletin published a "peace" extra on the afternoon of Sept. 29 when Sudetan areas of Czechoslovakia were yielded to Germany to prevent a European war.

The hurricane of Sept. 21, 1938, passes, of itself, into history to take its place, spaced by the years, with the lesser wind-engendered disaster of Sept. 23, 1815.

The printed word and the camera lens have made a permanent record of its relentless savagery, its enormous power, its devastation.

The face of Rhode Island will bear some of its scars for a half-century, and the children of today will tell the tale of it to their grandchildren in what may then correspond to the chimney corner where the story was told of the big blow of 1815 which occurred more than a hundred years before this one.

But this generation of Rhode Islanders will want to speak rather of the rehabilitation of their coast line, for engineers have already told them that with proper permeable jetty construction to build up their sand dunes and their beaches, and by a proper location of hotels and summer residences back from the shore, in many places bordered by protective salt ponds, Rhode Island not only can repair the damage, but build to an even greater beauty as a recreation centre than it has ever known before and can build with security to life and property as well.

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

April 4th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

Thank you ever so much for your excellent letter of March 29th outlining the hurricane protection program, which letter will be much appreciated by all those receiving it, I am sure.

It is a relief to know that you do have a finite completion date in mind for this project.

I assume too from your letter that you now have in mind what you intend to do in the way of constructing the flood barriers.

In that connection, if you have no objection, I'm going to ask ex-Commodore Herbert O'Donnell of the Southern Yacht Club, a civil engineer with long experience on the water, to contact you about the design, and to relay what you have to say to me. I figure that Herbie is much better qualified to understand this aspect than I am.

It looks to me from your letter as if you can furnish all the ammunition needed in defending the Engineers against a suit being brought by the St. Tammany Police Jury. But for the life of me I cannot understand why they are bringing up their objections. I have read their articles in the paper very carefully, and as you know I have written these people. There seems to be

something behind the action of the St. Tammany people. If it is the thought that they can make that side of the lake commercial and build ocean-going vessels, that's pretty far-fetched, because I don't see how a channel could be kept open across the lake for vessels of any considerable draft.

I have sent Mr. Gallinghouse a chart of Narragansett Bay and photostats of the articles on the horrors of the 1938 and 1954 hurricanes that affected Providence, Rhode Island. This material should help the defense also.

If charts of Narragansett Bay and copies of the articles have not been sent to Poche Waguespack, Harry England and Captain Joe Domino, this will be done too. Herbert O'Donnell already has these exhibits.

It is mighty good of you to have taken the time to write in as much detail as you have. It may be that this letter of yours, or the data in it, should be brought to the attention of the public through the newspapers. I'm going to leave that up to Poche and you to decide. But my impression is that the public is woefully ignorant and ought to know the story in full.

I won't be leaving here under our present plans until the end of this month. I then go to my Greensboro, North Carolina office for a month, where my telephone number is (919) 299-2514 and my mailing address is Post Office Box 60, Greensboro 27402.

In case you want to talk to me or send me copies of any correspondence, I will always be glad to hear from you. And don't hesitate a minute to phone me collect.

Many thanks again and every good wish.

Sincerely,

P.S. I still feel you should have a barrier against hurricane waters at the entrance to Pearl River in Lake Borgne.

cc: Mr. Poche Waguespack
Captain Joe Domino
Mr. Harry England
Mr. Herbert O'Donnell
Mr. Tom Purdy

EBB.bjb

LMNED-MP 29 March 1977
Mr. Edward G. Benjamin

You ask, in effect, how can expeditious completion of the project be assured. It is my conviction that, in this country, the people ultimately prevail. When their desires are known, they get what they want. As an organization with a clear obligation to serve the public interest, the New Orleans District will continue to provide, to the people, the best information we can on the consequences of available choices in the critical area of hurricane protection.

The following information is offered in response to questions raised in your letter of 25 February 1977.

The control structures at The Rigolets and Chef Menteur Passes will be closed for approximately 3 days when a hurricane enters the Gulf of Mexico. Based on historical records, we expect this to occur on an average of three times per year, thus resulting in a closure time of approximately 9 days or 2.5 percent of the average year. Operation of the control structure at Seabrook will be governed throughout the year by salinity control criteria established by the Louisiana Wildlife and Fisheries Commission.

In addition to materials already in place, approximatley 22.3 million cubic yards of earthfill, 1.2 million cubic yards of clamshell, and 1.5 million tons of riprap stone are required to complete the project. The riprap stone is generally obtained from out-of-state quarries. The clamshell is obtained from commercial beds located in Lake Pontchartrain. The earthfill comes from various sources depending upon the location of the construction. Generally speaking, earthfill for The Rigolets and Chef Menteur complexes (including the barrier levees) will come from designated borrow areas in Lake Pontchartrain and in The Rigolets and Chef Menteur Passes. Earthfill for levees adjacent to the Gulf Intracoastal Waterway (GIWW) and the Mississippi River Gulf Outlet (MR-GO) generally is dredged from the respective channel bottoms. Fill for the Chalmette levee from Verret to Caernarvon was obtained from the Mississippi River. On all other construction in the project, borrow areas are designated in Lake Pontchartrain and/or in the Bonnet Carre spillway.

Contractors may, at their option, utilize privately owned sources of borrow provided the fill is of acceptable quality. For instance, some portions of the New Orleans East levees were constructed with fill obtained from private borrow pits along Interstate 10 in the vicinity of Slidell, Louisiana.

Regarding the law suit filed against the project by Save Our Wetlands, Inc., and the Clio Sportsman's League, it is the contention of the plaintiffs, among other things, that wetlands within the protected areas of New Orleans East (14,000 acres) and Chalmette (21,000 acres) will be irreparably damaged by the project by interrupting the movement of waters between the wetlands and Lakes Pontchartrain and Borgne.

LMNED-MP 29 March 1977
Mr. Edward B. Benjamin

Flood insurance rates have been drastically lowered by project construction in areas of St. Bernard and Orleans Parishes; in some areas without project construction, rates were so high as to comprise over 50 percent of the total note on an average home.

Despite the effectiveness of the works already constructed, much of the area remains vulnerable to the large killer hurricane. We can only hope that the validity of this statement is not to be proven by the passage of such a hurricane without the necessary protective works. We are pushing designs of the barrier features to the maximum extent. Under the advantages of the Hebert bill, which permits long term repayment of the local share of the project cost, local assuring agencies have been moving aggressively to acquire rights-of-way needed for construction of the barrier system. This support is, of course, vital.

There is, obviously, opposition to the project. Residents of St. Tammany Parish, with Representative Edward C. Scogin as their most articulate advocate, have effectively and aggressively set forth their opposition. Recently, newspaper accounts describe the opposition of US Representative Richard A. Tonry, and allude to plans on his part to seek a cessation of funding for the project. Save Our Wetlands, Inc., (SOWL), an environmental group, has filed suit and seeks to enjoin construction of certain project features, including the barrier system. Newspaper reports indicate that the St. Tammany Parish Police Jury is planning to file suit in opposition to the barrier plan. The Environmental Defense Fund, a national environmental organization with a background of use of litigation as a means of accomplishing its goals, has expressed concern over the possible environmental effects of the project and the way the benefits expected to flow from it have been computed.

The project does enjoy widespread support at the institutional level, although, for the most part, this support has not been expressed with the aggressiveness and persistence which have marked the opposition. The Governor of Louisiana, the Mayor of New Orleans, the Louisiana Department of Transportation and Development, Office of Public Works (formerly Department of Public Works), the Orleans Levee District, the Pontchartrain Levee District, the St. Bernard Parish Police Jury, the Lake Borgne Basin Levee District, the New Orleans City Council, the New Orleans City Planning Commission, the St. Bernard Parish Planning Commission, the Jefferson Parish Council, State Representative A. Charles Borrello, State Senator Nat G. Kiefer, State Representative Theodore J. Marchand, the East Orleans Civic Council, the New Orleans East Business Association, the Sertoma Club of New Orleans, the Kiwanis Club of New Orleans, the New Orleans Chapter of the Louisiana Engineering Society, the Lake Terrace Woman's Club, the Village De L'Est Improvement Association, the Young Men's Business Club of Greater New Orleans, the Kenilworth Civic and Improvement Association and the Lake Oaks Civic Association, are all recorded as supporting the project.

IN REPLY REFER TO
LMMED-MP

29
~~24~~ March 1977

Mr. Edward B. Benjamin
Suite 825, Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

This is a reply to your 11 February 1977 and 25 February 1977 letters concerning the Lake Pontchartrain and Vicinity, Louisiana, Hurricane Protection project.

We are generally on schedule with the remaining designs for the uncompleted features of this project. The congressional funding to help support this design schedule has been more than ample to date. The requirements imposed on local sponsors in the authorizing act have been met.

Also the local assurers (the Orleans Levee District, the Pontchartrain Levee District, the Lake Borgne Basin Levee District/St. Bernard Parish Police Jury) that have had to provide some part of their share of the cost have done so in a manner sufficient to support an effective construction program.

Our schedule shows that the design and eventual construction of the Chef Menteur and Rigolets Complexes will be completed in the mid-1980's. Of course, this is contingent on the outcome of the present and future litigation, which I will subsequently discuss. The Seabrook Complex, which is not an issue in the litigation, is scheduled to be constructed early in the 1980's.

These portions of the project completed to date have generated manifold benefits to the metropolitan area. In 1969 Hurricane Camille produced water elevations in the Industrial Canal within inches of those experienced during Hurricane Betsy. In stark contrast to the devastating flooding and attendant human misery produced by Hurricane Betsy, there was negligible flooding during Hurricane Camille, and nearly $100 million in flood damages were prevented in the Industrial Canal area alone.

Mr. Dicharry/Guizerix
10 March 1977 pbs/430

LMNED-MP
Mr. Edward B. Benjamin

With the exception of the wetland acreage required to construct the barrier levees, the plaintiffs have not emphasized concern over wetlands to be covered by levees. In the case of New Orleans East we contend that the area was leveed in 1956 by the Orleans Levee District and that the hurricane project simply upgrades this protection. The project provides for gravity flow drainage structures through the South Point to GIWW levee which can be operated to permit limited tidal interchange. We consider that some development is likely to occur in that area irrespective of whether the project is built or not.

Regarding the Chalmette area, navigable floodgates are provided in the levee at Bayous Bienvenue and Dupre. These two floodgates, which are closed only in the event of an approaching hurricane, continue to provide just tidal interchange between the protected side marshes and Lake Borgne as was experienced prior to project construction.

We appreciate your continued support of this worthwhile project and if we can be of further assistance, please do not hesitate to contact us.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

BARTON
LMNED-MP
HARRINGTON
LMNED-M
BECNEL
LMNED-H
BRUPBACHER
LMNED-D
CHATRY
LMNED
LMNFO

CF:
Mr. F. Poché Waguespack, President
Chamber of Commerce of the
Greater New Orleans Area
P.O. Box 30240
New Orleans, LA 70190

Mr. Harry England
312 Cuddihy Drive
Metairie, LA 70005

Captain Joe Domino
5520 River Road
Marrero, LA 70072

LMNED-DD

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

February 11, 1977

Mr. Frederic M. Chatry
Chief Engineering Division
DEPARTMENT OF THE ARMY
New Orleans District, Corps. of Engineers

Re: LMNED-MP

Dear Mr. Chatry:

I am very much obliged for your February 4th letter and the maps and charts accompanying therewith.

You seem to have everything in mind.

The question is how we can get this in hand, and do so before the middle 1980's?

This concerns me very much and also concerns Mr. Poche' Waguespack, President of the Chamber of Commerce, I am sure.

Could you outline to me or Mr. Waguespack the steps you think ought to be taken to expedite?

How long will it be before you have finished your design for the locks and flood gates?

If you can outline to Mr. Waguespack or to me, it would enable us to try to get in behind this project, forcefully.

I am keeping one of the six charts sent showing the whole hurricane plan and forwarding the other five to Mr. Waguespack.

I am also furnishing him a photostat of the small map, Enclosure 1, that accompanied your letter.

Thanks & regards

Sincerely,

EBB:gb

cc: Mr. Poche' Waguespack
Captain Joe Domino
Mr. Harry England

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

February 25th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

In connection with the opposition to the hurricane protection project, may I ask the following:

1. Won't the water from the Gulf be kept out of the lake only during hurricane season?

2. How many thousand yards of mud must you obtain still for the levees in connection with the plan?

3. Just where is this mud coming from? What justification is there for the stand taken by the Wetland people?

Poche' Waguespack has been extremely busy over the Carnival season. I am endeavoring to obtain this information for him and his associates.

I would appreciate hearing from you on the above and ask that you send copies of your letter to all those shown below.

Kindest regards.

Sincerely,

Edward B. Benjamin

cc: Colonel Early Rush
Mr. Poche' Waguespack
Captain Joe Domino
Mr. Harry England

Dictated by Mr. Benjamin
and signed in his absence
to avoid delay.

EBB:bjb

ROUTING AND TRANSMITTAL SLIP		ACTION
1 TO C/ENVRG DIV	INITIALS	CIRCULATE
	DATE	COORDINATION
2 [illegible]	INITIALS	FILE
	DATE	INFORMATION
3	INITIALS	NOTE AND RETURN
	DATE	PER CONVERSATION
4	INITIALS	SEE ME
	DATE	SIGNATURE

REMARKS

FRED:

MY ONLY COMMENT IS THAT THE POSITION THAT NEW ORLEANS EAST WILL BE DEVELOPED WITH OR WITHOUT THE PROJECT NEEDS TO BE TEMPERED WITH THE REALITY THAT SUCH DEVELOPMENT IN WETLANDS WILL REQUIRE A PERMIT FROM THE DEPT OF THE ARMY AND WILL BE SUBJECT TO A FULL PUBLIC INTEREST REVIEW. THEREFORE SUCH DEVELOPMENT IS NOT ASSURED.

Do NOT use this form as a RECORD of approvals, concurrences, disapprovals, clearances, and similar actions

FROM	DATE
EARLY J. RUSH III Colonel, CE District Engineer	15 MAR 77 PHONE

OPTIONAL FORM 41
AUGUST 1967
GSA FPMR (41CFR) 100-11.206

★ GPO : 1969 O—352-829 5041-101

ROUTING AND TRANSMITTAL SLIP		ACTION
1 TO (Name, office symbol or location) Col Rush	INITIALS	CIRCULATE
	DATE	COORDINATION
2	INITIALS	FILE
	DATE	INFORMATION
3	INITIALS	NOTE AND RETURN
	DATE	PER CONVERSATION
4	INITIALS	SEE ME
	DATE	SIGNATURE

REMARKS

I am holding this correspondence pending the outcome of the "Carter massacre". Pls return.

Do NOT use this form as a RECORD of approvals, concurrences, disapprovals, clearances, and similar actions

FROM (Name, office symbol or location)	DATE 3/14/77
	PHONE

OPTIONAL FORM 41 GPO 043—10—81418-1 419-015 5041-101
AUGUST 1967
GSA FPMR (41CFR) 100-11.206

ROUTING AND TRANSMITTAL SLIP		ACTION
1 TO (Name, office symbol or location) Col Rush	INITIALS	CIRCULATE
	DATE	COORDINATION
2	INITIALS	FILE
	DATE	INFORMATION
3	INITIALS	NOTE AND RETURN
	DATE	PER CONVERSATION
4	INITIALS	SEE ME
	DATE	SIGNATURE

REMARKS

I am holding this correspondence pending the outcome of the "Carter massacre". Pls return.

Do NOT use this form as a RECORD of approvals, concurrences, disapprovals, clearances, and similar actions

FROM (Name, office symbol or location)	DATE 3/14/77
	PHONE

OPTIONAL FORM 41
AUGUST 1967
GSA FPMR (41CFR) 100-11.206

GPO 643—16—81418-1 419-018 5041-101

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

March 25th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

Enclosed is a letter received a day or two ago from the Executive Director of the Chamber of Commerce, wherein he gives his impression of the status of the hurricane protection project, and encloses photostat of the Chamber Director's minutes, showing endorsement of the project.

Also enclosed is copy of my reply to Mr. Purdy.

I had actually forgotten that my approach to the Chamber on this project was as far back as the early part of '62. Actually it was a few weeks before this when Mr. Willoz and the Engineers gave a briefing to Rear Admiral Retired Whittaker Riggs, the executive director then and Joe Simon, his assistant.

Personal Regards

Sincerely,

EBB.bjb
Enclosures

CHAMBER OF COMMERCE OF THE NEW ORLEANS AREA
Camp and Gravier Streets, P. O. Box 30240, New Orleans, La. 70190 Telephone 524-1131

Tom Purdy
Executive Director

March 18, 1977

Mr. Edward B. Benjamin
President
Benjamin Minerals, Inc.
Whitney Building
New Orleans, LA 70130

Dear Mr. Benjamin:

In reply to your letter of February 17, asking for dates on the Lake Pontchartrain Hurricane Project, we have located the following data:

1. The briefing for the Chamber Board was held February 27, 1962. A copy of the minutes is enclosed.

2. Financing:

   A study which might lead to a Hurricane Protection Project was authorized by Congress January 15, 1955 in Public Law 71 of the 84th Congress. Authority to go ahead with construction was given in 1965.

   Between 1955 and 1965, a total of $5,360,000 was expended on the feasibility study. Of this total $350,000 was authorized in 1962; $360,000 in 1963; and $200,000 in 1964. Since 1965, a total of $87 million has been appropriated for the construction phase of the project. It is estimated that this will be sufficient to complete the project.

I hope this provides the answers you need. If you need any further information, please do not hesitate to contact me.

Sincerely,

Tom Purdy

/db

Enclosure

Mr. W. O. Turner moved that the projected Programs of Work of the Trade Development Division for 1962 be approved, in principle, by the Board. Seconded by Mr. Henry Walther, Jr. and unanimously carried.

Copies of the Work Programs are attached.

PROPOSAL TO CONVERT OLD CIVIL COURTS BUILDING INTO OPERA HOUSE: The President advised that a report was at hand from the Central Area Committee opposing the use of the Old Civil Courts Building for an Opera House. He added that another Committee of the Chamber, the Civic Affairs Committee, also had had the subject under consideration and after hearing the side of the proponents was disposed to recommend approval of the project. However, the President continued, the Chairman of that Committee, Mr. Richard B. Montgomery, has indicated that his group would like to meet with the Central Area Committee to discuss the matter instead of having the subject presented at this time with conflicting recommendations.

The President stated that if it was agreeable to the Chairman of the Central Area Committee, Mr. Lawrence A. Merrigan, the subject would be deferred until the next meeting of the Board.

Mr. Merrigan stated he was in complete accord with the idea, commenting that his group would be glad to meet with Mr. Montgomery's Committee at any time that would be mutually agreeable. He observed it would be desirable to have unison in recommendations, if possible.

Mr. Montgomery did not feel that Committees should come up with different recommendations without first attempting to reconcile views and get harmonious action.

Under the circumstances, the Board delayed consideration of the subject and went on to the next item.

HURRICANE STUDY OF LAKE PONTCHARTRAIN AND VICINITY: As the Directors had been informed in the notice of the meeting, the President stated, the Board would be briefed this morning with respect to the hurricane study of Lake Pontchartrain and vicinity being conducted by the U. S. Corps of Engineers.

In connection with the subject, the President mentioned that members of the Board had received a lengthy letter from Mr. Edward B. Benjamin who is very much interested in the problem so that they knew something of what it was all about.

Proceeding, the President stated that he would first call upon Col. Edw. B. Jennings, District Engineer, New Orleans District, U. S. Army Engineers, and that the Board would hear later from Mr. Gerald J. Gallinghouse, President of the Board of Levee Commissioners, Orleans Levee District on the subject.

As a matter of information, the President mentioned that among our guests this morning were

Mr. Edw. B. Benjamin, Attorney
Mr. Chester A. Peyronnin, Jr. Hydraulic Engineer,
U. S. Army Engineer District, New Orleans

BOARD
FEBRUARY 27, 1962

#8

Mr. W. B. Dodd, Executive Asst. U. S. Army Engineers
Mr. Armand Willoz, Chief Engineer, Orleans Levee Board
Col. Wm. H. Lewis, Planning Coordinator, Dock Board
Mr. L. P. DeLaureal, N. O. Civil Defense
Col. Provosty Dayries, " " "

After his introduction to the meeting, Col. Jennings said he welcomed the opportunity to be here this morning in connection with hurricane protection plan for the New Orleans area, sometimes called Lake Pontchartrain protection plan. He commented that statements have appeared in the press concerning the matter, some favorable and some unfavorable, and, therefore, the opportunity to outline plan as it has been developed to date was appreciated. He added that the final plan has not been completely worked out or forwarded to the Chief of Engineers for consideration, but was in the formative stage at the present time.

Continuing, Col. Jennings stated that the Engineers feel that a hurricane protection plan is a necessity for the New Orleans area. In this connection he advised he would like to have a representative of his staff give a general outline of the study undertaken, discuss it a little bit in detail, and then have a question and answer period regarding the subject.

Col. Jennings then introduced members of his staff who were present, stating they would be glad to assist in answering questions relative to the matter. The group included -

Mr. Geo. H. Hudson, Chief, Engineering Division
Mr. J. C. Bear, Chief of Planning and Reports
Mr. W. B. Dodd, Executive Assistant
Mr. Chester A. Peyronnin, Jr., Hydraulic Engineer

With the statement that Mr. Peyronnin would make the presentation, Col. Jennings turned the meeting over to him.

In his opening remarks, Mr. Peyronnin stated that when talking about the study, he felt it desirable to spend one or two minutes giving some background information.

Mr. Peyronnin advised that the program started back in 1956 shortly after Congress passed a law which stated, in effect, that the Corps of Engineers were to study what could be done to protect various areas from the devastating effects of hurricanes. He reported that the New Orleans District Engineers are concerned primarily with Coastal Louisiana which covers several designated areas. Mr. Peyronnin then described the areas as follows:

Area I - involves Metropolitan New Orleans and Lake Pontchartrain and is the one under discussion
Area II - The Mississippi River Delta at and below New Orleans
Area III- Grand Isle and vicinity
Area IV - Morgan City and vicinity
Area V - Lake Charles and vicinity
Area VI - Interlying Coastal Areas of Louisiana

Mr. Peyronnin used slides of maps of the Lake Pontchartrain area and pictures in connection with his presentation. These gave his audience a visual grasp of his remarks with reference to hurricane wind patterns and characteristics, hurricane paths, potential effects of hurricanes, and protective structures under consideration.

With regard to possible methods of protection, Mr. Peyronnin told the meeting that the Engineers have two plans under consideration.

The first, Mr. Peyronnin continued, which is referred to as the "high level plan", would materially increase the level of the existing protective works along the Orleans and Jefferson Parish lakefronts and would extend the protection, as may be justified, westward along the St. Charles Parish lakefront to the Bonnet Carre Spillway east guide levee and eastward along the Orleans Parish lakefront to the vicinity of U. S. 11. Mr. Peyronnin voiced the opinion that the property owners and residents along the lakefront would not like the idea of high levees. This plan, he stated, would also include protection levees along the eastern portion of Orleans Parish, from Lake Pontchartrain at U. S. 11 to the back protection levees paralleling the Mississippi River in the vicinity of Violet.

As to the matter of protection being afforded all around the Lake, Mr. Peyronnin commented that at present all areas did not warrent the expenditure. He declared the requirements are that a project must be economically justified.

With respect to the second plan, Mr. Peyronnin declared it has a little more finesse. He explained it is referred to as the "barrier plan" and provides for a gated barrier along the eastern shore of Lake Pontchartrain, a structure in the Industrial Canal, and a levee along the St. Charles Parish lakefront. Mr. Peyronnin mentioned there would be an increase in the present protective lakefront works in Jefferson and Orleans, but not much. Proceeding, he advised that the plan would also include a system of levees and other protective structures extending from the south lake shore in the vicinity of U. S. 11 to the back protection levees in the vicinity of Violet. The barrier, connecting the system of back levees and the escarpment in St. Tammany Parish, will include gated openings required for the normal interchanges of tidal and fresh water flows and for navigation. Mr. Peyronnin stated further that the gated control structures would be designed to have a capacity that would not materially alter the salinity of the water in the area. He also advised that the plan incorporated construction of a highway bridge over U. S. 90.

Mr. Peyronnin went on to discuss this second plan in detail, including the benefits which would accrue therefrom, not only in the way of reduction in potential damages from hurricanes but in the development of areas now undeveloped because of inadequate protection against storm tides and backwater flooding. After the meeting copies of a paper prepared by Mr. Peyronnin dealing with the Engineers study of the problem were distributed to the Directors. A copy is attached.

With respect to the study, Mr. Peyronnin advised it is being made in cooperation with the U. S. Fish and Wildlife Service, the U. S. Weather Bureau, the Department of Health, Education and Welfare and other Federal agencies as well as the Department of Public Works and the Department of Wildlife and Fisheries at the State level.

In discussing potential hurricanes and resultant damages, Mr. Peyronnin painted a bleak picture for New Orleans should it experience under present conditions winds of the force of Hurricane Carla which struck the Texas coastal area last year with such disastrous results. It is estimated, he stated, that the potential overtopping elevation in Lake Pontchartrain was in the order of several feet above existing protective works. He said he felt he need not dwell on what it would mean, for example, to have some two feet of water rushing into the New Orleans lakefront area. While he recognized that sections behind the seawall reclaimed by the Levee Board had a higher elevation than some other areas in the City, and it was not expected that the water would remain there at the level of the inflow after the hurricane had passed, he pointed out that the damage nevertheless would be severe, particularly where residences are constructed on slab foundations at natural ground levels. With regard to other sections where the ground is many feet below sea level, he declared the situation would be even more catastrophic. And, Mr. Peyronnin concluded, the seriousness of the situation could be compounded by heavy rainfall which usually accompanies a hurricane.

Proceeding, Mr. Peyronnin advised that method of solution was still in the planning stage at this time, with no definite recommendations made and the matter of cost yet to be determined. He stated it is expected to have the report completed this summer. With regard to subsequent procedure, Mr. Peyronnin advised that the report will come up for review by the Chief of Engineers, be passed on by the Rivers and Harbors Board and eventually be presented to Congress which will decide whether they want to authorize money for the project.

In response to the question of Mr. Geo. S. Dinwiddie about financing, Col. Jennings replied that the Federal Government would assume 70 per cent of the cost, if approved, with 30 per cent to be borne by non-Federal sources.

Mr. Thomas A. Prevost inquired when the report of the Engineers would be released and if it would contain recommendations. In reply Mr. Peyronnin stated the report probably would be ready late in the summer and it would embody recommendations, but added that at the moment he did not know what they be. In this connection he mentioned they could recommend the high level plan, the gated barrier plan or that nothing be done.

After several other questions had been asked and answered, the President called upon Mr. Gallinghouse, President of the Levee Board, to comment on the subject.

Mr. Gallinghouse stated he wished to emphasize the seriousness of the situation confronting us with respect to the hurricane menace. He referred to the devastation experienced

by other communities in the Gulf area from hurricanes in the past and the ever present threat to the New Orleans area. Taking a realistic view of the situation, he declared we should see to it that every possible precaution is taken to protect lives and property in our area from hurricane flood waters from Lake Pontchartrain.

Proceeding Mr. Gallinghouse stated that the Levee Board was satisfied that the conclusions reached by the Corps of Engineers are valid; that they have made very comprehensive studies of the problem. He added his organization's own studies verify the conclusions the Engineers have reached.

With respect to the hurricane danger, Mr. Gallinghouse observed that if Carla had struck New Orleans at its peak it would not be necessary to convince the citizens here of the urgent need for a hurricane flood protection system because extensive damage would have been suffered.

Continuing, Mr. Gallinghouse stated that the people of this area must be made aware of the serious potential of hurricane floods from Lake Pontchartrain. He stated the studies of the Corps of Engineers point up the urgent need of a protection plan.

Mr. Gallinghouse estimated that an adequate protection project would involve an expenditure of approximately $60 million, with the Federal Government bearing 70 per cent of the cost and local and State interests assuming the other 30 per cent. This would mean, he stated, that it would be necessary for us down here to provide about $18 million for the purpose.

Commenting further, Mr. Gallinghouse mentioned that the existing Levee Board system is operating in excellent condition, but the time has come when we must face up to realities based on what has happened to other areas and take steps to protect ourselves from devastating hurricanes such as Carla. He stated the sooner we get started on such a project, the better it is going to be for all concerned.

Mr. Gallinghouse stated that in the considered judgment of the Levee Board, a protective plan is the only insurance against hurricane floods from Lake Pontchartrain. He advised further that the Board has concluded that the gated structure barrier plan would be much better and more economical than the so-called high level system.

In conclusion, Mr. Gallinghouse declared that this matter rated the highest priority; that the safeguarding of large areas of the City against serious consequences from super-hurricanes like Carla was involved. He stated the members of the Levee Board would be glad to meet with any group of citizens to discuss the seriousness of the situation and the need for the best protective system we can employ to protect the community.

President Simon thanked Col. Jennings, Mr. Peyronnin and Mr. Gallinghouse for their presentations. He stated the Chamber

undoubtedly would study the report and recommendations of the Corps of Engineers when released and take a position in the matter at the proper time.

ADJOURNED:

March 24th, 1977

Mr. Tom Purdy
Executive Director
CHAMBER OF COMMERCE OF THE GREATER
NEW ORLEANS AREA
Post Office Box 30240
New Orleans, Louisiana 70190

Dear Tom:

Thank you much for your March 18th letter and for digging up the minutes of the Chamber Board meeting held February 27, 1962.

Unfortunately the cost of the hurricane protection project is now estimated at nearly $400 million, mainly due to the erosion of the dollar, but partially due to an extension of the area protected.

Notwithstanding, this protection matter seems to me just as important as ever, moreso now that we have Camille as an example of what a 25' surge can do.

I am sending you under separate cover copy of Chart 11006, which shows how small an area the Mississippi River Delta, Lake Borgne, Lake Pontchartrain and the City consists of, as compared with the upper part of the Gul .

The chart is in fathoms.

Bear in mind that the land you see along the Mississippi River Delta is only about 1 foot high. A 50 foot tidal wave, such as occurred in Narragansett Bay twice would cover most of the area of the River Delta, and pile up so much water in Lakes Borgne and Pontchartrain so as to inundate the City.

Of course water would top the levees of the River because of the fact that the River Couldn't flow out, and generally there would be hell to pay.

But at least we can protect New Orleans if we do put in floodgates at the Rigolets, the Chef and the mouth of the Industrial Canal at the Lake.

Incidentally, believe it or not, with 25 or 30 knot winds combining with incoming tides from the Gulf outlet, current has been clocked at 15 knots at the Seabrook Bridge just inside the mouth of the Industrial Canal.

When Colonel Lewis told me this, I argued with him, because up in the Pacific northwest where I cruise, there are 12 knots of current in the narrow channels between the islands on the way up to Alaska, and this is thought to be an astounding amount of current. Boats have to stand by and wait for slack tide before they negotiate these passages. I couldn't see how in blazes any boats could come into the Industrial Canal with this amount of current.

But there you are.

Such water coming into the Lake during a hurricane would be incalculable.

I will be awfully glad to hear Colonel Early Rush bring us up to date on the whole project at the next Members' Council meeting in April.

Thank you again for taking the trouble to resurrect the minutes.

Every good wish.

Sincerely,

EBB.bjb

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

March 22nd, 1977

Senator Russell B. Long
Senator J. Bennett Johnston
Congresswoman Lindy Boggs
Congressman David C. Treen
Congressman Gillis W. Long
Congressman Joe D. Waggoner, Jr.
Congressman John B. Breaux
Congressman Jerry Huckaby
Congressman Richard A. Tonry
Congressman W. Henson Moore

Dear Senators and Congressmen:

Re: Hurricane Protection Plan

It has just come to my attention that the hurricane protection plan for New Orleans and the vicinity, worked on for years by the U.S. Engineers, is coming up for review with the other water projects that are being examined at this time.

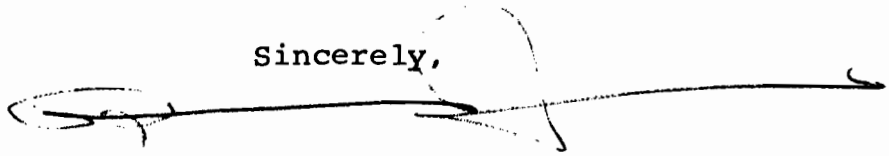
Because of having to avoid summer heat and summer refrigeration, I ranged the coastal and intracoastal waters between here and Maine over a long period of years, became thoroughly familiar with hurricane effects, and I can tell you that unless New Orleans and Jefferson Parish get the hurricane protection involved, the effect may actually be catastrophic.

The volume of water pouring in through the Rigolets, the Chef and the Industrial Canal under ordinary circumstances, is almost unbelievable at times. Another 200-mile hurricane like Camille, striking just fifty miles to the west, would have half of St. Tammany Parish underwater and when this water was blown down on New Orleans as the eye of the storm moved north or northwestward, the build-up of water through the drainage canals, over the lake levees, through the opening into the former St. John Bayou from the Lake, et cetera, would have a good part of this city and of Jefferson Parish underwater.

Bear in mind that we have scores of thousands of cottages with gabled roofs. People could not get up on these gabled roofs and stay astride the peaks in high winds. We actually might have as many as 100,000 or 200,000 people drown in the area.

Please do everything possible to see that this hurricane protection program for our area is funded.

Sincerely,



cc: U.S. Attorney Gerald Gallinghouse
Mr. Poche' Waguespack, Jr., President, N.O. Chamber of Commerce
Mr. Frederic M. Chatry, U. S. Corps of Engineers

EBB:bjb

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 18 [illegible]

SUBJECT OF CONVERSATION

Lake Pontchartrain and Vicinity

	INCOMING CALL	
PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION

	OUTGOING CALL	
PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
Joe Dicharry	[illegible] Engr. Sec. Design Memo Br.	4?0
PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION
Mr. McCalloster	N.O. Cham. of Comm.	524-1131

SUMMARY OF CONVERSATION

Mr. McCalloster, in ~~[illegible]~~ conjunction with Mr. [illegible]min's request, called and asked about money that was appropriated in 1962 or 1963 for this project.

I called him back and ~~a~~ told him that appropriations under the 1955 Act for Lake Pont. was ~~[illegible]~~, thru 1962, $4,800,000. In 1963 $350,000 was appropriated and in 1964 $200,000. (This info was from back up materials of Frank [illegible])

He also asked what ~~was~~ has been appropriated to date for the 1965 Authorization. I told him $5 mil. He asked if we needed any money. I told him no.

Joe Dicharry

DA FORM 751 [illegible]

United States Department of Justice

UNITED STATES ATTORNEY
EASTERN DISTRICT OF LOUISIANA
NEW ORLEANS, LOUISIANA 70130

March 8, 1977

COPIES TO:

Col. Early Rush
Mr. [illegible]
Captain Joe [illegible]
Mr. Frederic M. Chatry
Mr. Harry England
Mr. Ed [illegible]

Edward B. Benjamin, Esquire
Suite 825
Whitney Building
New Orleans, Louisiana 70130

Re: Save Our Wetlands, Inc. (SOWL)
v. Early Rush, et al
Civil Action No. 75-3710 Section "A"

Dear Mr. Benjamin:

I have received a copy of your letter to the St. Tammany Police Jury and wish to express my appreciation for your encouragement in completion of this project. As you may be aware, this office is presently involved in active litigation over the environmental effects of the project on Lake Pontchartrain. It is refreshing to hear from someone who realizes the necessity for Hurricane Protection in this area.

I would also like to express my appreciation for the chart you have provided with your letter. I will be able to use the chart in my continued defense of this project.

If I may be of assistance to you please do not hesitate to contact me at 589-3545.

Sincerely,

GERALD J. GALLINGHOUSE
UNITED STATES ATTORNEY

ROBERT L. BOESE
Assistant United States Attorney

RLB:gb

EDWARD B. BENJAMIN
SUITE 826 WHITNEY BUILDING
NEW ORLEANS 70130

March 3rd, 1977

Mr. Earl D. Broom, President
St. Tammany Parish Police Jury

Mr. Malcolm T. Stein, Sr.
Mr. Herman A. Sharp
Mr. James H. "Red" Thompson
Mr. E. "Dutz" Baudot
Mr. Ogise Richardson
Mr. Claude Polk
Mr. Shannon Davis
Mr. Sidney Crawford
Mr. James E. Morrison
Mr. Ralph H. Privette
Mr. M. W. Hart
Mr. Robert J. Innerarity
Mr. Robert Pecoraro

Post Office Box 628
Covington, Louisiana 70433

Dear Mr. Broom and Fellow Members of St. Tammany Police Jury:

Re: Hurricane Protection

This comes from a 79-year-old sea dog, who has been on the water since boyhood and who not only knows Lake Pontchartrain thoroughly, but has had to contend with hurricane forces all the way from here to Maine.

Somehow or other, a mistake has taken hold in your minds regarding the effect of the hurricane protection plan upon St. Tammany Parish. The proposed flood gates at the Rigolets, at the Chef and at the Seabrook Bridge where the Industrial Canal enters Lake Pontchartrain, would not keep any water out of the Lake except when these flood gates were shut. That would occur only when a hurricane was approaching and during the hurricane.

The net effect would be to prevent the lake from being flooded with a monstrous amount of water that would overflow a good portion of your Parish, and then blow back down on New Orleans.

Such a tremendous in-flow might disturb the ecology. The prevention of this in-flow certainly would not disturb the ecology.

Won't you write me if you have any further thoughts about this matter?

On returning here from an absence of several months this fall, I was astounded not to see any work begun on the flood gates at the Rigolets, the Chef, and the Lake-end of the Industrial Canal - I know what enormous amounts of water can come in through these estuaries.

Every good wish.

Sincerely,

P.S. Under separate cover I am sending each of you Chart #11006, which shows the exposure of Lake Borgne and the mouth of the Mississippi both to the Gulf with its tremendous depth of water. This Chart is in fathoms.

cc: Col. Early Rush
Mr. Poche Waguespack
Captain Joe Domino
Mr. Frederic M. Chatry
Mr. Harry England

EBB:bjb

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

February 25th, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

In connection with the opposition to the hurricane protection project, may I ask the following:

1. Won't the water from the Gulf be kept out of the lake only during hurricane season?

2. How many thousand yards of mud must you obtain still for the levees in connection with the plan?

3. Just where is this mud coming from? What justification is there for the stand taken by the Wetland people?

Poche Waguespack has been extremely busy over the Carnival season. I am endeavoring to obtain this information for him and his associates.

I would appreciate hearing from you on the above and ask that you send copies of your letter to all those shown below.

Kindest regards.

Sincerely,

Edward B. Benjamin

cc: Colonel Early Rush
Mr. Poche' Waguespack
Captain Joe Domino
Mr. Harry England

Dictated by Mr. Benjamin and signed in his absence to avoid delay.

EBB:bjb

EDWARD B. BENJAMIN
SUITE [illegible] BUILDING
NEW ORLEANS 70130

February 18th, 1977

Mr. F. Poché Waguespack
President
CHAMBER OF COMMERCE OF THE
GREATER NEW ORLEANS AREA
Post Office Box 30240
New Orleans, Louisiana 70150

Dear Poché:

Is the Chamber going to do anything in the suit against the U.S. Engineers being brought by St. Tammany Parish referred to in the enclosed article from this morning's T-P?

Sincerely,

cc: Mr. Frederic M. Chetry
Mr. Joe Domino
Mr. Harry M. England

EBB:bjb

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

February 16, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

I want to tell you about some experiences I have had on the water, that could have a bearing in hastening the Hurricane Protection Project.

Back in 1920 or 1921 I set out one day from West End on my 50-ft. express cruiser for Tangipahoa Bayou across Lake Ponchartrain.

Incidentally this cruiser was a converted Navy World War I surplus inspection boat from the Great Lakes with a 200 h.p. motor, bought for a song.

When I was just five or six miles off the opposite shore, a completely unpredicted gale of 50 or 60 miles an hour came up from the west and actually blew the water in the lake up in sheets.

I was able to get into the Bayou all right and once in deep water, went up the Bayou about a mile, and then moored along the eastern bank in six or seven feet of water.

It wasn't an hour or two until my boat was resting in the mud. That gale had actually blown water out of the lake in just two or three hours.

In the hurricane of 1938 there was 10-ft. of water in the lobby of the Biltmore Hotel in Providence, Rhode Island, about 45 miles inland from Point Jude Light at the entrance to Narragansatt Bay, as a boat would navigate.

The lobby itself was five or six feet above the street-- I measured it. That is what a hurricane can do to a city.

On a later occasion, along about 1952, I was moored or anchored at Marion Yacht Club, Marion, Mass., off Buzzard's Bay. A hurricane was approaching Wilmington, North Carolina. Believe it or not, winds got up to 50 or 60 miles an hour seven hundred miles away in Marion Harbor.

The rise in water ahead of a hurricane can be terrific.

I don't think there should be the slightest delay in going ahead with the Hurricane Protection Plan here, and I am hoping that Mr. Waguespack will be in touch with you about this now and you in turn with your men will go ahead and finish all the necessary designing.

Please come back at me on any part of this letter that is not clear.

I could quote you other instances of hurricane incidence, but these three mentioned above ought to do.

Kindest regards.

Sincerely,

cc Colonel Early Rush
Mr. Poche Waguespack
Captain Joe Domino

EBB:t

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

February 11, 1977

Mr. Frederic M. Chatry
Chief Engineering Division
DEPARTMENT OF THE ARMY
New Orleans District, Corps. of Engineers

Re: LMNED-MP

Dear Mr. Chatry:

I am very much obliged for your February 4th letter and the maps and charts accompanying therewith.

You seem to have everything in mind.

The question is how we can get this in hand, and do so before the middle 1980's?

This concerns me very much and also concerns Mr. Poche' Waguespack, President of the Chamber of Commerce, I am sure.

Could you outline to me or Mr. Waguespack the steps you think ought to be taken to expedite?

How long will it be before you have finished your design for the locks and flood gates?

If you can outline to Mr. Waguespack or to me, it would enable us to try to get in behind this project, forcefully.

I am keeping one of the six charts sent showing the whole hurricane plan and forwarding the other five to Mr. Waguespack.

I am also furnishing him a photostat of the small map, Enclosure 1, that accompanied your letter.

Thanks & regards

Sincerely,

EBB:gb

cc: Mr. Poche' Waguespack
Captain Joe Domino
Mr. Harry England

IN REPLY REFER TO
LMNED-MP

4 February 1977

Mr. Edward B. Benjamin
Suite 825, Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

Reference is made to our telephone conversation of 12 January 1977 concerning the Lake Pontchartrain, Louisiana, and Vicinity, hurricane protection project.

We discussed an allegation that has been made by certain interests that the barrier structures to be constructed in the Chef Menteur Pass and The Rigolets will be "flanked" through the Pearl River bottoms. The foregoing allegation seems based largely on the assumption that with the passes closed, the water will build up in Lake Borgne to a higher level than it would without the barriers in place.

Besides the barrier structures to be located in The Rigolets and Chef Menteur Pass the existing Highway 90 embankment will be incorporated into the barrier plan. Parts of this highway that will be used in the barrier are located on inclosure 1. Low segments of the roadway along Highway 90 will be raised by constructing levees which will provide a continuous barrier along Highway 90 for some 18 miles between its junction with Highway 11 on the west and West Pearl River on the east. The total length of the Chef Menteur and The Rigolets control structures is about 2 miles as opposed to the 18 miles of highway and levee embankment in the same reach. The height of Highway 90 and Chef Menteur barrier east and west levees and The Rigolets barrier north and south levees forming the barrier will be 5 feet lower than the height of the structures. (Refer to the inclosure.) As a separate feature of the overall project, a short segment of protection levee which will tie into high ground along the east side of Highway 190 will be constructed to protect developments now existing along the east of Highway 190. The Highway 190 roadway embankment precludes any "flanking" threat from the Pearl River to the east of Slidell.

Messrs. Dicharry-Soileau/gze/430

LMNED-MP
Mr. Edward B. Benjamin

4 February 1977

During the maximum winds of the hurricane, the structures will have been closed and the waters from Lake Borgne will build up until they overtop the low barrier levees and highway embankment and spill into Lake Pontchartrain just as these waters do now under present conditions. This overtopping will have only minor effects on Lake Pontchartrain but will at the same time provide relief to Lake Borgne to practically the same degree as occurs under present conditions. Therefore the water levels in the adjacent streams tributary to Lake Borgne will be only slightly affected by the operation of the barrier complexes during a hurricane.

In further response to your inquiries regarding design wind velocities for the Lake Pontchartrain project, in particular your letter dated 14 January 1977, the maximum sustained wind velocity for which we design our structures is 150 miles per hour (mph). It is important to understand that designing for 150 mph sustained wind offers sufficient protection against short duration wind gusts in excess of 150 mph.

The short duration wind forces do not have as severe an impact on our structures as the sustained wind forces. Furthermore, let me say that our structures are principally hydraulic in nature and, with few exceptions, the forces applied to our structures by waves and water are generally the critical factor in our design.

Inclosed for your future use in supporting our project are six copies of a large project map (inclosure 2).

I hope this will clear up your questions about the design wind velocities and the effects the barriers may have on the surrounding areas. If I can be of further assistance in this or any other matter, please do not hesitate to contact me.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

2 Incl
As stated

EEB
BARTON
LMNED-MP
HARRINGTON
LMNED-M
BRUPBACHER
LMNED-D
BEGNEL
LMNED-H
CHATRY
LMNED

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

January 14, 1977

Mr. Frederic M. Chatry
Chief, Engineering Division
Department of the Army
New Orleans District
Corps of Engineers
P.O. Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

Your January 12th letter is noted.

Aren't you planning to design for more than 150 mile-per-hour winds at the Rigolets and the Chef?

Regards.

Sincerely,

EBB:jg

Mr. Guizerix/ga/445

IN REPLY REFER TO
LMNED-DD

27 January 1977

Mr. F. Poche Waguespack, President
Chamber of Commerce of the New Orleans Area
301 Camp Street
New Orleans, LA 70130

Dear Mr. Waguespack:

It was a pleasure meeting with you after the 20 January 1977 luncheon. We appreciate having had the opportunity to discuss the Lake Pontchartrain, Louisiana and Vicinity hurricane protection project. It is always a pleasure to witness sincere interest in the project by responsible members of the community since the ultimate completion of the project depends on local community and government support.

Inclosed for your information are two copies of the project map; one of which has been marked to indicate the approximate construction status as of this date. We would be glad to furnish further information on the project if you so desire.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

TJ
JOHNSON
LMNED-DD

BRUPBACHER
LMNED-D

CHATRY
LMNED

1 Incl (dupe)
As stated

Copy furnished: without inclosure

Mr. Edward B. Benjamin
Suite 825 Whitney Building
New Orleans, LA 70130

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS, LA. 70130

January 26, 1977

Councilman Joseph V. DiRosa
Councilman Joseph I. Giarrusso
Councilman Frank Friedler
Councilman A. L. Davis
Councilman Mike Early
Councilman Brod Bagert
Councilman Philip C. Ciaccio

Dear Councilmen:

IN RE: HURRICANE PROTECTION PLAN

Over a period of sixty-six years, my yachts and my fathers' have ranged to coastal and intra-coastal waters between here and Maine. These boats have had to ride out hurricanes and to seek hurricane protection in various areas.

This has given me some unusual familiarity with hurricane effects.

I could send you charts of the coast from Maine on down here, and tell you what happened in various hurricanes. But in order to save you time, just let me summarize by pointing out the following:

The Hurricane Protection Plan being put into effect by the U. S. Engineers, and begun about ten years ago, has bogged down, through a lack of interest primarily on the part of the various agencies in this section. When the engineers called a meeting two years ago, only one city councilman attended.

If you don't have flood barriers and locks at the Rigolets, flood barriers that can be used at the Rigolets temporarily, at Chef Menteur and at Seabrook (the lake end of the Industrial Canal), you can have water up to ten or fifteen feet in half of this city, if a terrific hurricane hits the area between the Rigolets and the city limits.

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS, LA. 70130

Aside from the rise that may take place in the lake simply as a result of the oncoming hurricane and winds, when the eye of the hurricane changes, and the winds come down from the northeast, they will blow back onto the city and into our drainage canals all the water that has been spilled on the northeast, north and northwest side of the lake.

The result would be horrible.

I earnestly suggest that you get behind this U. S. Engineers Hurricane Protection Project now as a major undertaking for yourselves and include the Mayor if possible.

To my astonishment, the Engineers haven't yet finished designing the flood gates mentioned herein.

Sincerely,

P.S. In the 1938 hurricane, there was ten feet of water in the lobby of the Hotel Biltmore in Providence, Rhode Island, located 45 miles inland from the lighthouse at Point Jude at the entrance to Narragansett Bay.

E. B. B.

c.c. Mayor Moon Landrieu
Mr. Poche Waguespack, President
Chamber of Commerce of the New Orleans Area
Dr. Herbert E. Longenecker, President
Metropolitan Area Committee
Colonel Early Rush
U. S. Corps of Engineers
Mr. Frederich Chatry
U. S. Corps of Engineers

Hurricane Protection

EDWARD B. BENJAMIN
825 Whitney Building
New Orleans, La. 70130

January 10, 1977

Mr. Poche Wagueapack
President
Chamber of Commerce of the Greater
New Orlean Area
813 Perdido Street
New Orleans, Louisiana 70112

Dear Poche:

Over a period of sixty-five years my yachts, and my father's before me have ranged the coastal and intracoastal waters between here and Maine, which has given me an understanding of wind, tide and hurricane effects that few people have.

When I first got onto the fact accidentally, that the Levee Board was party to a hurricane protection plan the Engineers were getting up and familiarized myself with this, I walked up from the Levee Board office to the Chamber and asked my old friend, Bill Riggs, what he was going to do about the plan. Bill said, "I've never heard of it".

I then brought the Levee Board and the Engineers to the Chamber for two meetings, first with Bill, Joe Simon and one or two of the other officers, and then with the Board as a whole, and I wrote letters to the Board beforehand and sent each individual member a series of charts of areas between here and Maine where my boats had had to ride out hurricanes or seek refuges from hurricanes.

This got things underway and an appropriation was obtained from the Congress for some $2-1/2 million necessary to complete the engineering studies as I recall it.

As you know, I am away from here six months of the year. I was under the impression that this hurricane protection plan was going right ahead. To my astonishment I find that the construction of the flood gates and lock at the Rigolets, the Chef, and the Industrial Canal have all been held up on account of some notions about ecology.

I want to say that these notions are absolute nonsense. The water in Lake Pontchartrain will not be changed. For perhaps a period of only forty-eight hours these flood gates and locks will be closed, to keep water out of the Lake and offthe north shore of the lake, that could come back down on New Orleans and flood it to the middle of town to a depth you wouldn't believe possible, unless you understand that the city is saucer-shaped.

With our city consisting mostly of shotgun cottages, with ridged roofs, there wouldn't be any place that people could get out of the water except on the roofs and they couldn't sit on the gables.

This whole matter must be taken in hand immediately and gotten righted.

Now seventy-nine, I don't want to take it on myself to head up such an effort, as I did with parking for the Auditorium and the Theatre - this just takes too much out of me, aside from the expense involved. But certainly the Chamber might be grossly negligent if it didn't have this hurricane protection plan completed.

I spent Wednesday morning at the Engineers with Mr. Chatry and his assistants to check over every aspect of the project. I wanted to be absolutely sure there wouldn't be damming-up of water in the Chalmette area, the Industrial Canal, et cetera.

The Engineers have got this all worked out to a T - you can go ahead with absolute assurance, and you must do this, if you want to insure against catastrophe at some time in the future of this city.

Hurricane occurrence is a mystery. Hurricanes can come at intervals of fifty years, or they can come back to back.

If the barriers are not built at the Rigolets, the Chef and the Industrial Canal, a big hurricane right on course for us might put 15' or 20' of water additionally into Lake Pontchartrain. This would come back into the city not only over the levees at the lakefront, but through the drainage canals.

In India, at the mouth of the Ganges or the other big river to the southeast, hurricane tidal waves drowned 300,000 in this century and another 300,000 about 1875.

Best regards.

Sincerely,

Edward B. Benjamin

cc: Mr. Harry England
Captain Joe Domino
Mr. Tom Purdy

EBB/bjb

IN REPLY REFER TO
LMNED-DD

Mr. Guizerix/jh/445
12 January 1977

Mr. Edward B. Benjamin
Suite 825 Whitney Building
New Orleans, Louisiana 70130

Dear Mr. Benjamin:

Thank you for the interest you expressed in the Lake Pontchartrain, Louisiana and Vicinity hurricane protection project during your visit to my office on 5 January 1977. Citizen involvement and understanding are most important to the project's acceptance by the community and continued support by local authorities.

In response to your inquiry concerning wind loadings applied to U. S. Army Corps of Engineers' structures in the New Orleans area, we design for 150 mile-per-hour winds for structures on the open water, such as the lock and control structure at Seabrook, and 120 mile-per-hour winds for inland structures. Since our structures are designed with a factor of safety, low probability, short duration winds exceeding the design winds do not threaten the safety of our structures, but merely reduce the factor of safety in design.

It should be noted that our structures seldom exceed 30 feet in height and, thus, are not subjected to the higher velocities usually experienced with greater height. Our work in the New Orleans District does not include the design of high rise buildings; therefore, we cannot draw from our own experiences regarding wind loadings on high rise buildings. We can point out, however, that the New Orleans Building Code requires that buildings be designed for minimum wind loads which increase with height.

If we can be of further assistance, please let me know.

Sincerely yours,

FREDERIC M. CHATRY
Chief, Engineering Division

TJ
JOHNSON
LMNED-DD

BRUPBACHER
LMNED-D

CHATRY
LMNED

EDWARD B. BENJAMIN
SUITE 825 WHITNEY BUILDING
NEW ORLEANS 70130

December 29. 1976

Mr. Frederick M. Chatry
Chief of Engineering Division
Post Office Box 60267
New Orleans, Louisiana 70160

Dear Mr. Chatry:

My yachts have ranged the coastal and intracoastal waters of this country from here to Maine over a long period of years, which has given me insight into the effects of wind, tide and hurricanes that few people have.

By accident, I was the fellow who carried the news of the hurricane protection plan from the Levee Board to the Chamber of Commerce and got the Chamber of Commerce active in this some years ago.

Because of the spread of my interests, I am here only six months of the year. I learn to my consternation that the hurricane protection program has been held up and has bogged down as result of interference of various kinds.

There are some things about this program that I would like to understand a little more clearly, before going to bat for it a second time. My home is on Walnut Street just about six blocks from your headquarters. May I come and see you for a half an hour some day?

Please notify me here to the office, telephone 522-8683.

Sincerely,

Met with him
10 a.m.
5 Jan 77
attended by Chatry, Seale, Soileau, Guizerix & Dickerry

EBB/bjb