A0004765

LMVED-TD (OCE 25 Aug 76) 5th Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 1 Mar 77

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

1. The procedure described in the 4th Ind is considered acceptable. However, this procedure should be specified as an alternative, not as the only acceptable method. Bidders could then exercise their own judgment and ingenuity as to the method they actually use to install the pipe.

2. During preparation of plans and specifications the necessity of installing a 12-in. culvert inside the jacked in-place 30-in. pipe should be investigated.

FOR THE DIVISION ENGINEER:

R. H. RESTA
Chief, Engineering Division

MP

Lake Pontchartrain, La. & Vic., GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Design Br (2 cy)
C/Hyd & Hydro Br (2 cy)
C/F&M Br

C/Design Memo Br

8 Feb 77
Mr. Dicharry/Chenevert/pbs/
430

1. Reference is made to our DF dated 14 Jan 76, subject as above.

2. Inclosed are a complete set(s) of comments for your information and retention.

1 Incl
as

HARRINGTON

LMNED-MP

Lake Pontchartrain, La. & Vic., DM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

SEE DISTRIBUTION

C/Eng Div

8 Feb 77

Mr. Dicharry/Chenevert/pbs/
430

1. Reference is made to our DF dated 14 Jan 76, subject as above.

2. Inclosed is a complete set of comments for your information and retention.

1 Incl
as

CHATRY

DISTRIBUTION:
Area Engr, New Orleans AO
C/Prog Dev Ofc
Value Engr
C/Const Div
C/Ops Div
C/Plng Div
C/Real Est Div

LMNED-MP (OCE 15 Aug 76) 4th Ind
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, LA 70160 2 Feb 77

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

Based on the experience gained from a thorough investigation made during the ongoing construction of the New Orleans East Lakefront levee, Paris Road to South Point job, the following procedure was selected to install the drainage culverts through the railroad embankment:

A 30-inch-diameter steel pipe will be installed by jacking through the existing railroad embankment. The pipe will be jacked into the embankment as the material and any obstructions are removed through the pipe. The length of the 30-inch pipe will be limited to the minimum required to penetrate the embankment (maintaining railroad company criteria).

After the 30-inch pipe is satisfactorily in place, the 12-inch CMP drain pipe shall be placed inside the 30-inch pipe. After the 12-inch CMP is in place, the casing void will be filled with sand or other suitable material and a closure plate will be welded to each end of the 30-inch pipe. Lengths of the 12-inch CMP, size of the catch basins, pipe slopes and other details will be as shown in the GDM.

FOR THE DISTRICT ENGINEER:

FREDERIC M. CHATRY
Chief, Engineering Division

EEB
BARTON
LMNED-MP

HARRINGTON
LMNED-M

BRUEBACHER
LMNED-D

CHATRY
LMNED

LMVED-TD (NOD 26 May 76) 5th Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 13 Jan 77

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

The actions taken to resolve the comments in the 3d Ind are satisfactory.

FOR THE DIVISION ENGINEER:

wd incl

R. H. RESTA
Chief, Engineering Division

CF:
DAEN-CWE-B (13 cy)
w 13 cy 4th Ind and Incl 4

LMNED-MP 10 January 1977

MEMO TO FILES

SUBJECT: Agreement with the Southern Railroad to place the culverts for the Citrus Lakefront Levee at 600-foot intervals

During the preparation of the GDM supplement for the Citrus Lakefront levee, substantial coordination was necessary with the Southern Railroad. This coordination was necessary because the minimal distance between the existing railroad and the proposed levee enlargement presented several design problems. These problems were resolved by both parties making certain concessions. To illustrate one example, our studies determined that culverts to drain the area between the levee and the Southern Railroad embankment should be placed at 900-foot intervals. The Southern Railroad opined that their experiences dictated a 600-foot interval is necessary to drain this area without causing any damage to their embankment. After giving consideration to the opinion of the railroad and in the interest of expediting the remaining planning work for and the eventual construction of this reach of the hurricane protection project, we agreed to the 600-foot spacing and that the additional cost would be considered a project cost.

Thomas E. Harrington

THOMAS E. HARRINGTON, JR.
Chief, Design Memo Branch

DJD
DICHARRY
LMNED-MP

EEB
BARTON
LMNED-MP

CF:

LMVED-TD
U. T. Ammon

Ex. 262

MORGAN

R.E. ~~Moore~~, LMVED-TD

~~[illegible]~~

SENT COPY OF PUBLIC RECORD FOR LAKE PONTCHARTRAIN PUBLIC MEETING TO THE ABOVE, BY ~~BEK~~ BULK MAIL, ON 22 DEC 76. HE HAD REQUESTED BOB GUIZERIX TO DO THIS OVER ~~ON~~ THE TELEPHONE

RE: Citrus Lakefront GDM

AJD
22 Dec 76

Sent him a copy of statement of findings, the 1 Oct 75 letter from EPA and our 15 Oct 75 response. Were not attached to public record.

AJD
29 Dec 76

Mr. Dicharry/kn/430

LMNED-MP (26 May 76) 4th Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, LA 70160 1 Dec 76

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

1. Disposition of the comments contained in the 3d Ind is as follows:

a. Para a. Concur. Inclosure 4 is a revised stone gradation curve reflecting this change.

b. Para b. Comment is noted and the files will be documented as requested.

c. Para c. None of the comments and/or recommendations made in the four referenced letters pertained specifically to the Citrus Lakefront levee, IHNC to Paris Road reach of the project. Therefore, copies of these letters were not included in the subject report.

2. Only one comment contained in the four letters pertains to the entire project. That one was offered by the Louisiana Wildlife and Fisheries Commission in their statement for the 22 February 1975 public meeting, which was discussed in paragraph f of the 2d Ind to this chain of correspondence. The remaining recommendations pertain to other specific features of the project. Copies of the letters and/or statement and our responses pertaining to the specific reaches will be included in future design memorandums for the respective reaches.

3. Copies of the letters from the US Fish and Wildlife Service (17 March 1975) and the National Marine Fisheries Service (21 March 1975) and the Louisiana Wildlife and Fisheries Commission statement at the 22 February 1975 public meeting can be found in the Record of Public Meeting for the subject meeting dated June 1975. The 1 October 1975 EPA letter and our response are included in the chain of correspondence dealing with the Statement of Findings for the above meeting dated 22 August 1975. Responses to the other three letters/statement are included in the Statement of Findings.

FOR THE DISTRICT ENGINEER:

FREDERIC M. CHATRY
Chief, Engineering Division

1 Incl
Added incl 4
4. as

EEB
BARTON
LMNED-MP

HARRINGTON
LMNED-M

BECN
LMNED-H

CHATRY
LMNED

ROY
LMNPD

Enc 11128

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vic., Lake Pontchartrain Barrier Plan, General Design Memo No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Real Est Div FROM C/Eng Div DATE 23 Nov 76 CMT 1

Mr. Dicharry/pbs/430

Inclosed is a copy of the 3d Ind to the letter of transmittal for the subject report for your information, ~~specifically~~ and compliance with paragraph b.

CHATRY

1 Incl
as

TO C/Eng Div FROM C/Real Est Div DATE 29 Nov 76 CMT 2

~~Mr.~~ Crabtree/hl/885-6802

In compliance with the request contained in the above CMT 1, inclosed is a copy of the memorandum to file prepared as suggested.

for Crabtree
COLE

2 Incl
Added 1 incl
2. As stated

LMNED-MP

Lake Pontchartrain, La. & Vic., Lake Pontchartrain Barrier Plan, General Design Memo No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

C/Real Est Div

C/Eng Div

23 Nov 76
Mr. Dicharry/pbs/430

Inclosed is a copy of the 3d Ind to the letter of transmittal for the subject report for your information, and compliance with ~~specifically~~ paragraph b.

1 Incl
as

CHATRY

TO C/Eng Div

FROM C/Real Est Div

DATE 29 Nov 76 CMT 2
Mr. Crabtree/hl/[redacted]

In compliance with the request contained in the above CMT 1, inclosed is a copy of the memorandum to file prepared as suggested.

2 Incl
Added 1 incl
2. As stated

COLE

LMVED-TD (NOD 26 May 76) 3d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 12 Nov 76

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

The information furnished and actions taken in response to comments in the 1st Ind are satisfactory subject to satisfactory resolution of OCE comments in para 5a of letter dated 25 Aug 76, subject as above, as discussed in our 3d Ind, dated 9 Nov 76, and to the following:

a. Para 1.aa and Inclosure 2. The lower limit of the D_{15} stone size for the 30-inch riprap is too small and could result in an excess of fines. This limit should be changed to approximately 25 pounds.

b. Paragraph 1b. The statements therein contained are correct. Although the 1966 assurance is binding, the project should not proceed in the absence of an agreement complying with PL 91-646 as to the Barrier Plan; however, since paragraph 1i states there are no relocations pursuant to Public Law 91-646 involved in this reach, you should so document your files. With this documentation, this item of work can proceed. This is an exception in this case only and does not constitute total endorsement of such procedure.

c. Para 1f. It is stated that the draft EIS was distributed in April 1972, that agencies were sent a copy of the final EIS in August 1974, and that coordination subsequent to 1968 was too extensive to include in this report. The stated dates are incorrect. The draft and final EIS were distributed in May 1972, and September 1974, respectively. Copies of letters from the U. S. Fish and Wildlife Service (17 Mar 75), the National Marine Fisheries Service (21 Mar 75), the Louisiana Wildlife and Fisheries Commission (22 Feb 75), and the EPA (1 Oct 75), should appear in Appendix A. District's responses to comments contained in this more recent coordination should be included in the report.

FOR THE DIVISION ENGINEER:

wd all incl

R. H. RESTA
Chief, Engineering Division

CF w 13 cy 2d Ind & Incl 2&3:
DAEN-CWE-B (13 cy)

Incl 1

LMNRE-AP

Memorandum to File

Lake Pontchartrain, La. & Vic., Lake Pontchartrain Barrier Plan, General Design Memo No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

29 Nov 1976
Mr. Crabtree/hl/885-6802

1. The Division Engineer of Lower Mississippi Valley Division by third endorsement dated 12 November 1976, on NOD letter LMNED-MP of 26 May 1976 stated in paragraph 3 that the files should be documented to indicate that even though an agreement for complying with Public Law 91-646 as to the barrier plan has not been received, there are no relocations pursuant thereto, involved in this reach. This documentation is based on paragraph 1.1 of subject memorandum which states "There are no relocations pursuant to Public Law 91-646 involved in this reach."

2. The above-mentioned third endorsement specifically stated that this is an exception in this case only, and does not constitute total endorsement of such procedure as to other projects, or situations.

CRABTREE

CF
LMNED-MP

2nd 2

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 24 Nov 76

SUBJECT OF CONVERSATION: Citrus Levee - OLD Field Office Bldgs.

INCOMING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION
Larry Bodet	Orleans Levee Bd.	523-5042
PERSON CALLED	**OFFICE**	**PHONE NUMBER AND EXTENSION**
Bill Proffitt	LMNED-MP	430

OUTGOING CALL

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

SUMMARY OF CONVERSATION

I called Mr. Bodet on 18 Nov 76 concerning OLD's desire to include their field office and maintenance bldgs. at Lakefront Airport in the authorized hurricane protection plan. He responded today, after a discussion with Mr. McNamara, that in view of the delay and additional local interest cost that would result if the plan were extended that OLD desires to pursue this matter no further. Mr. McNamara will confirm this decision in a letter to Mr. Chatry.

PROFFITT

CF:
Mr. Guizerix

DA FORM 1 APR 66 751 REPLACES EDITION OF 1 FEB 58 WHICH WILL BE USED.

* U.S. GPO: 1973—540-841/8521

Proposed
Authorized

ROUTING AND TRANSMITTAL SLIP		ACTION
1 TO (Name, office symbol or location) ~~Mr. Barton~~	INITIALS	CIRCULATE
	DATE 11/23	COORDINATION
2 ~~Mr. Harrington~~	INITIALS JCH	FILE
	DATE 23 Nov	INFORMATION ✓
3 ~~Mr. Chatry~~	INITIALS	NOTE AND RETURN
	DATE	PER CONVERSATION
4 Col ~~Rush~~	INITIALS	SEE ME
	DATE 24	SIGNATURE

REMARKS → ENGR DIV Mr. Dicharry

Attached is a memo explaining our proposed action to reply to the 3rd Ind in a timely manner. Also attached are the basic letter, ~~and~~ 1st and 2nd indorsements that preceded. ~~For your information.~~

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

FROM (Name, office symbol or location)	DATE
Joe Dicharry JD	23 Nov 76
	PHONE 430

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

GPO 613—16—81418-1 419-015 5041-101

23 Nov 76

MEMO FOR RECORD

The problem of installing the culverts through the RR embankment was identified during the initial trials to install the culverts in the New Orleans East lakefront levee, Paris Road to South Point, job. The contract has been modified to include an alternative method of jacking the 12-inch culverts through the RR embankment.

The contractor has not yet initiated the alternative method. Since the RR embankment for the Citrus lakefront levee is identical to the New Orleans East lakefront levee, the method that works for the ongoing construction job will be used for the Citrus job. It is anticipated that by the end of January we will have a method that will work for installing these culverts through the RR embankment. We will reply to the subject indorsement at that time.

Joe Dicharry

JOE DICHARRY

ROUTING SLIP (AR 340-15)	NEVER USE FOR APPROVALS, DISAPPROVALS, CONCURRENCES, OR SIMILAR ACTIONS.		
	TO	INIT: \LS	DATE
	District Engineer	DQ	17
	Deputy Dist Engr		
X	Executive Asst	*	17
	Environmental Off		
	ADPC		
	Audit		
	Comptroller	M. Slattery	
	Construction Div	M. Harrington *	
X	Engineering Div		
	EEO Officer		
	Office Admin Svcs		
	Office of Counsel		
	Operations Div		DQ 17
	Personnel Ofc		
	Planning Div	* Regan	
	Proc & Sup Div	Regan	
	Program Dev Ofc		
	Public Affairs Ofc		
	Real Estate Div		
	Safety Ofc		
	Value Engineer		
	WCSC		

FRED: WHO WE BE ABLE TO RESOLVE IN A TIMELY MANNER?

* Orig Signed W/Incl

CHECK ACTION DESIRED

X	INFOR-MATION		SIGNA-TURE		NOTE AND RETURN		
	CIR-CULATE		NECES-SARY ACTION		SEE ME		

FROM	TELEPHONE	DATE
LMNAS-F		

ORGANIZATION

DA FORM 1 NOV 54. 1222 (Stencil)

LMVED-T (OCE 25 Aug 76) 3d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 11 Nov 76

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

The actions indicated in the 2d Ind are satisfactory subject to the understanding that comment 5a of basic letter will be resolved as a part of this chain of correspondence prior to completion of the plans and specifications.

FOR THE DIVISION ENGINEER:

for Robert L Kaufman

R. H. RESTA
Chief, Engineering Division

CF w 13 cy 1st & 2d Ind:
DAEN-CWE-B (13 cy)

COPY

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

REPLY TO
ATTENTION OF:

DAEN-CWE-B

25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. Reference 1st Indorsement LMVED-TD, 12 July 1976, on letter LMNED-MP, 25 May 1976, subject as above.

2. The comments in the following paragraphs on the subject Supplement No. 5A are furnished for appropriate action.

3. Paragraphs 29a and 40a; paragraphs 2a and 2e(2) of above referenced 1st Indorsement; and Plates 14, 15, 33 and 34. The sections shown on Plates 33 and 34 show embedded stone layers with portions less than the 36-inch minimum depth for derrick stone and no underlying 12-inch riprap blanket. The sections shown on Plates 14 and 16 do not indicate the protection stone details for the lake end of the levee drains. In considering both the additional excavation over that shown and the amount of derrick stone and riprap bedding required, extension of the drain pipe appears to be advisable so that the wave wash protection will be on a continuous plane. By avoiding discontinuities to the plane of protection, the probability of assuring the effectiveness of and reducing the maintenance requirements for the protection will be increased. The analyses of jacking costs versus cut and cover costs should govern the installation procedure. The outer boundaries of the 12-inch stone on a 4-inch shell protection surrounding the catch basins cannot be constructed as shown. The extremities of the protection layer on the levee and railroad sides should be horizontal with levee and railroad backfill overlain to grade; other extremities should abut excavation slopes. Dimensions should indicate the extent of full layer thickness with extremity runout accomplished beyond.

4. Paragraphs 29b and 40c(2) and Plate 35. Consideration should be given to locating the drainage control structure on the lake side adjacent to the levee crown; the installations should cost less and access from the levee crown would be easier.

DAEN-CWE-B 25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

5. Plates 33 and 34.

a. The proposed procedures for jacking the pipes beneath the existing railroad embankment should be included. The provisions should be addressed which insure no adverse impact on the railroad embankment with fluctuations in the lake level.

b. Paragraph 2j(2) of the above referenced 1st Indorsement. Concur in this comment; however, the old drain pipes should be grouted.

FOR THE CHIEF OF ENGINEERS:

for HOMER B. WILLIS
Chief, Engineering Division
Directorate of Civil Works

LMVED-TD (OCE 25 Aug 76) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5a, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 27 Sep 76

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

1. Referred for appropriate action.

2. The following additional comments should also be considered:

a. The procedure used to install the culverts through the railroad embankment should be based on a thorough investigation of the embankment and the experience gained from the problems encountered in trying to jack small culverts through the railroad embankment on the East Lakefront levee, Parish Road to South Point job.

b. The specifications should state all known difficulties that could affect the installation of the culverts and leave the exact method of installation to the Contractor.

FOR THE DIVISION ENGINEER:

R. H. RESTA
Chief, Engineering Division

LMNED-MP (OCE 25 Aug 76) 2d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, LA 70160 7 Oct 76

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

The New Orleans District concurs with the comments contained in the basic letter and the 1st Ind. Appropriate actions in accordance with those comments will be taken during preparation of the plans and specifications for this reach.

FOR THE DISTRICT ENGINEER:

for William B. Seale
FREDERIC M. CHATRY
Chief, Engineering Division

23 Nov 76

MEMO FOR RECORD

The problem of installing the culverts through the RR embankment was identified during the initial trials to install the culverts in the New Orleans East lakefront levee, Paris Road to South Point, job. The contract has been modified to include an alternative method of jacking the 12-inch culverts through the RR embankment.

The contractor has not yet initiated the alternative method. Since the RR embankment for the Citrus lakefront levee is identical to the New Orleans East lakefront levee, the method that works for the ongoing construction job will be used for the Citrus job. It is anticipated that by the end of January we will have a method that will work for installing these culverts through the RR embankment. We will reply to the subject indorsement at that time.

Joe Dicharry

JOE DICHARRY

LMNED-MP

Lake Pontchartrain, La. & Vic., Lake Pontchartrain Barrier Plan, General Design Memo No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

C/Real Est Div

C/Eng Div

23 Nov 76
Mr. Dicharry/pbs/430

Inclosed is a copy of the 3d Ind to the letter of transmittal for the subject report for your information, and compliance with ~~specifically~~ paragraph b.

1 Incl
as

CHATRY

Barton

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-HD	Lake Pontchartrain, LA and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO	FROM	DATE	CMT 1
C/Design Memo Br	C/Hyd & Hydro Br	23 Nov 76 Mr. Broussard/jlh/328	

RDB

1. Reference is made to LMVD's 3d indorsement to the subject GDM No. 2.

2. Responses relating to questions concerning hydrology and hydraulics are provided below:

a. Para. 1.aa and Inclosure 2. We concur. Indications are that local boundary shear might cause movement in those rocks in the lower gradation. Therefore, an increase in the lower gradation to 25 pounds is acceptable.

b. We are furnishing a revised stone gradation curve (Inclosure 1). This curve should be sent to Division as a substitute for the one previously furnished.

3. Having no other comments, it is suggested that if further information is required, contact Mr. Broussard, ext 328.

for BECNEL

1 Incl
as

for 30Nov23

LMNED-HD

Lake Pontchartrain, LA and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

C/Design Memo Br

C/Hyd & Hydro Br

23 Nov 76
Mr. Broussard/jlh/328

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b. We are furnishing a revised stone gradation curve (Inclosure 1). This curve should be sent to Division as a substitute for the one previously furnished.

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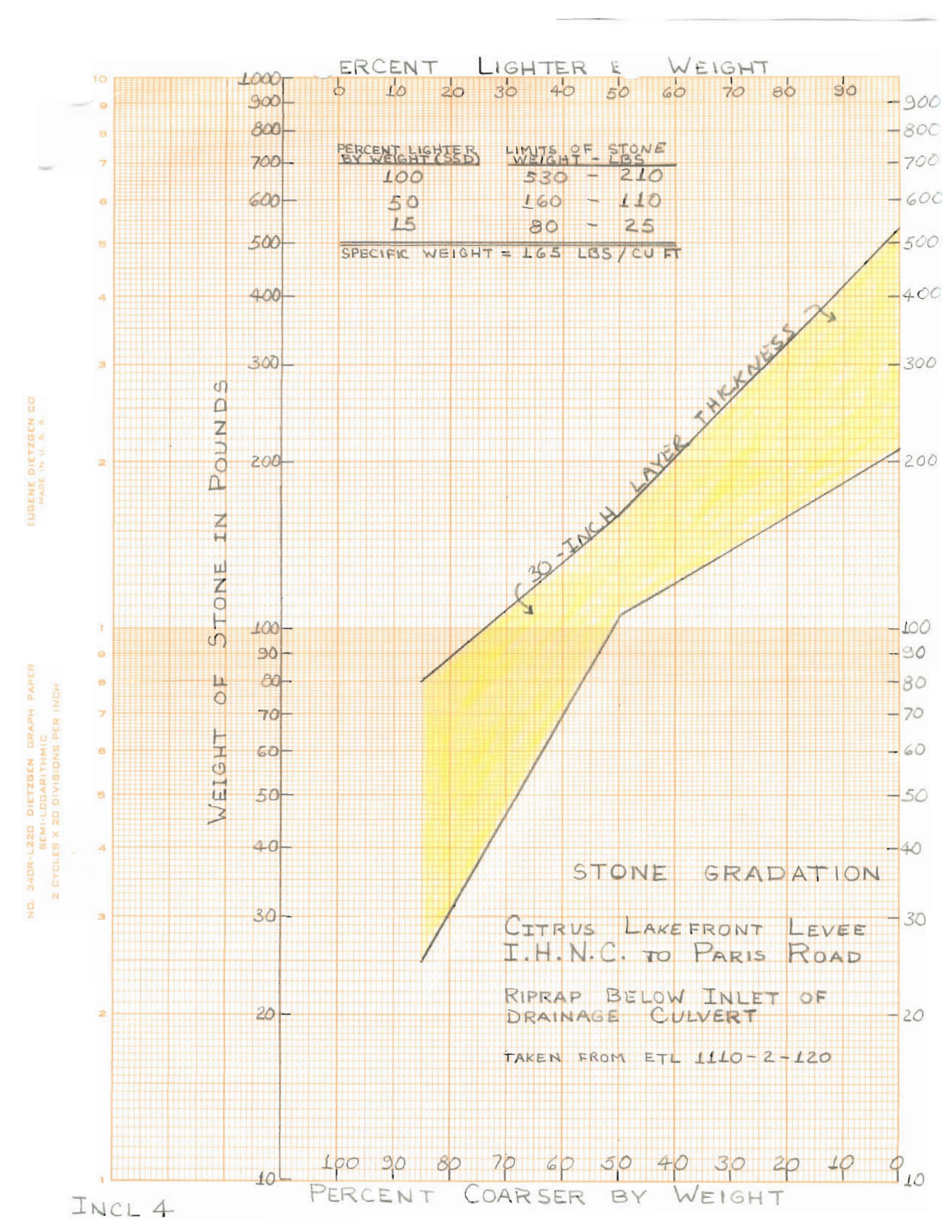
1 Incl
as

BECNEL


PERCENT LIGHTER BY WEIGHT
0 10 20 30 40 50 60 70 80 90
1000 900 800 700 600 500 400 300 200 100 90 80 70 60 50 40 30 20 10
WEIGHT OF STONE IN POUNDS
PERCENT LIGHTER BY WEIGHT (SSD) | LIMITS OF STONE WEIGHT - LBS
100 | 530 - 210
50 | 160 - 110
15 | 80 - 25
SPECIFIC WEIGHT = 165 LBS / CU FT
30-INCH LAYER THICKNESS
STONE GRADATION
CITRUS LAKEFRONT LEVEE
I.H.N.C. TO PARIS ROAD
RIPRAP BELOW INLET OF
DRAINAGE CULVERT
TAKEN FROM ETL 1110-2-120
100 90 80 70 60 50 40 30 20 10 0
PERCENT COARSER BY WEIGHT

INCL 4

LMVED-TD (NOD 26 May 76) 3d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 12 Nov 76

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

The information furnished and actions taken in response to comments in the 1st Ind are satisfactory subject to satisfactory resolution of OCE comments in para 5a of letter dated 25 Aug 76, subject as above, as discussed in our 3d Ind, dated 9 Nov 76, and to the following:

a. Para 1.aa and Inclosure 2. The lower limit of the D_{15} stone size for the 30-inch riprap is too small and could result in an excess of fines. This limit should be changed to approximately 25 pounds.

b. Paragraph 1b. The statements therein contained are correct. Although the 1966 assurance is binding, the project should not proceed in the absence of an agreement complying with PL 91-646 as to the Barrier Plan; however, since paragraph 1i states there are no relocations pursuant to Public Law 91-646 involved in this reach, you should so document your files. With this documentation, this item of work can proceed. This is an exception in this case only and does not constitute total endorsement of such procedure.

c. Para 1f. It is stated that the draft EIS was distributed in April 1972, that agencies were sent a copy of the final EIS in August 1974, and that coordination subsequent to 1968 was too extensive to include in this report. The stated dates are incorrect. The draft and final EIS were distributed in May 1972, and September 1974, respectively. Copies of letters from the U. S. Fish and Wildlife Service (17 Mar 75), the National Marine Fisheries Service (21 Mar 75), the Louisiana Wildlife and Fisheries Commission (22 Feb 75), and the EPA (1 Oct 75), should appear in Appendix A. District's responses to comments contained in this more recent coordination should be included in the report.

FOR THE DIVISION ENGINEER:

wd all incl

R. H. RESTA
Chief, Engineering Division

CF w 13 cy 2d Ind & Incl 2&3:
DAEN-CWE-B (13 cy)

LMMED-MP

Lake Pontchartrain, LA, and Vicinity, Lake Pontchartrain Barrier Plan—Citrus Lakefront Levee, IHNC to Paris Road

C/Design Br

C/Design Memo Br

4 Nov 76
Mr. Dicharry/gze/430

1. Inclosure 1 is a list of items you are requested to investigate during the preparation of the P&S for the subject project. The origin of these items is specified on the inclosure.

2. Inclosure 2 is DAEN-CWE-B letter dated 25 August 1976 subject as above and the 1st and 2d Ind thereto. As mentioned in the 2d Ind, you are requested to take appropriate actions in accordance with the comments contained in the basic letter and 1st Ind.

3. We have been requested by the Orleans Levee District to investigate the possibility of including their field offices, located at the Lakefront Airport near the Seabrook Bridge, into the protected area by realining the floodwall in that area. We are determining the feasibility of such a change and will notify you at the earliest possible date by separate DF if this change to the floodwall alinement will be made.

4. Any questions should be directed to Mr. J. Dicharry or Mr. S. Shelton, ext. 430.

2 Incl
as

HARRINGTON

ITEMS TO INVESTIGATE DURING PREPARATION OF P&S
FOR CITRUS LAKEFRONT LEVEE-IHNC TO PARIS ROAD

1. Comments made during in-house review of the draft GDM.

a. Check feasibility of an earthen embankment in lieu of the I-wall underneath the Seabrook bridge. Refer to plates 6 and 7 of the GDM.

b. Check feasibility of changing Gate #1 from an overhead roller gate to a swing gate. Some concrete work may be deleted.

c. Vehicle ramps for operation and maintenance purposes should be considered at the following locations:

(1) Near the Lakefront Airport for access to levee crown from Hayne Blvd., near levee B/L station 28+31.

(2) Near the eastern end of I-wall construction at Lincoln Beach, station 115+30.

(3) At intersection of Hayne Blvd. and Paris Road, station 331+50.

2. Comments made during coordination with the Southern Railroad.

a. Provide more efficient transitions between levee and floodwall at Lincoln Beach (both ends) to conform to the railroad criteria of 15 feet from south rail to ℄ of drainage ditch.

b. Investigate need for a shift of the floodwall towards Hayne Blvd. at Lincoln Beach to fit it in with respect to the railroad embankment to also conform to railroad criteria.

c. Change design of Gate No. 2 to provide for more adjustment in the extender plate to resolve the problems of superelevation, the possibility of raising only one set of tracks at a time and the 3-inch initial track raising. Coordination with the Southern Railroad and the Orleans Levee District will be needed.

3. Comments made by LMVD during review of the final GDM, which we concurred with and stated that the P&S will include.

a. Immediately after placement of the drain pipes, the sequence of construction should have the placement of the riprap protection at the outlet end of each pipe. This will prevent scour holes developing.

b. The lake end of the pipe will be located flush with the surrounding riprap, therefore requiring no support.

c. The minimum width of rung on ladders should be 1'4".

c. Grabbards should comply with OSHA 1910.27(d)(4).

Mr. Dicharry/gze/430

LMNED-MP (OCE 25 Aug 76) 2d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, LA 70160 7 Oct 76

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

The New Orleans District concurs with the comments contained in the basic letter and the 1st Ind. Appropriate actions in accordance with those comments will be taken during preparation of the plans and specifications for this reach.

FOR THE DISTRICT ENGINEER:

FREDERIC M. CHATRY
Chief, Engineering Division

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

LMVED-TD (OCE 25 Aug 76) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5a, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 27 Sep 76

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

1. Referred for appropriate action.

2. The following additional comments should also be considered:

a. The procedure used to install the culverts through the railroad embankment should be based on a thorough investigation of the embankment and the experience gained from the problems encountered in trying to jack small culverts through the railroad embankment on the East Lakefront levee, Parish Road to South Point job.

b. The specifications should state all known difficulties that could affect the installation of the culverts and leave the exact method of installation to the Contractor.

FOR THE DIVISION ENGINEER:

R. H. RESTA
Chief, Engineering Division

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

REPLY TO
ATTENTION OF:

DAEN-CWE-B

25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. Reference 1st Indorsement LMVED-TD, 12 July 1976, on letter LMNED-MP, 25 May 1976, subject as above.

2. The comments in the following paragraphs on the subject Supplement No. 5A are furnished for appropriate action.

3. Paragraphs 29a and 40a; paragraphs 2a and 2e(2) of above referenced 1st Indorsement; and Plates 14, 15, 33 and 34. The sections shown on Plates 33 and 34 show embedded stone layers with portions less than the 36-inch minimum depth for derrick stone and no underlying 12-inch riprap blanket. The sections shown on Plates 14 and 16 do not indicate the protection stone details for the lake end of the levee drains. In considering both the additional excavation over that shown and the amount of derrick stone and riprap bedding required, extension of the drain pipe appears to be advisable so that the wave wash protection will be on a continuous plane. By avoiding discontinuities to the plane of protection, the probability of assuring the effectiveness of and reducing the maintenance requirements for the protection will be increased. The analyses of jacking costs versus cut and cover costs should govern the installation procedure. The outer boundaries of the 12-inch stone on a 4-inch shell protection surrounding the catch basins cannot be constructed as shown. The extremities of the protection layer on the levee and railroad sides should be horizontal with levee and railroad backfill overlain to grade; other extremities should abut excavation slopes. Dimensions should indicate the extent of full layer thickness with extremity runout accomplished beyond.

4. Paragraphs 29b and 40c(2) and Plate 35. Consideration should be given to locating the drainage control structure on the lake side adjacent to the levee crown; the installations should cost less and access from the levee crown would be easier.

DAEN-CWE-B 25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

5. Plates 33 and 34.

a. The proposed procedures for jacking the pipes beneath the existing railroad embankment should be included. The provisions should be addressed which insure no adverse impact on the railroad embankment with fluctuations in the lake level.

b. Paragraph 2j(2) of the above referenced 1st Indorsement. Concur in this comment; however, the old drain pipes should be grouted.

FOR THE CHIEF OF ENGINEERS:

for HOMER B. WILLIS
Chief, Engineering Division
Directorate of Civil Works

Mr. Dicharry/khp/430

LMNED-MP (NOD 26 May 1976) 2d Ind 6 Oct 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

these plans for local interests, who will construct this closure. It would be difficult to request local interests to change their plans at this late date. Also the stability of the closure was checked during our review and an adequate factor of safety was calculated using the section as it is shown in the GDM.

z. Para 2i (2). On the contract plans the lake end of the pipe will be located flush with the surrounding riprap, therefore, support will not be required.

aa. Para 2j (1). Based on possible storm surges and wave action, 30-inches of riprap underlain by 6-inches of gravel on a plastic filter cloth having the stone size presented on incl 2 should be used as minimum layer thickness for riprap below the invert of the drainage culverts. We are also furnishing the stone gradation (incl 3) for the 12-inches of riprap underlain by 4-inches of shell around the catch basins. Note, these layer thicknesses and stone sizes also apply to plate 33.

bb. Para 2j (2). Concur

cc. Para 2k (1) & (2). Concur. The contract plans will be appropriately noted.

dd. Para 2l. Concur. The wood mat was developed for the purpose of obtaining the railroad company's concurrence in allowing materials to be cast over the tracks. The railroad company will not allow substitution unless they approve the substitute plan. The plans and specifications will allow the contractor to propose a substitute plan.

FOR THE DISTRICT ENGINEER:

FREDERIC M. CHATRY
Chief, Engineering Division

2 Incl
wd Incl 1
Added 2 incl
as

CF: w/incl
HQDA (DAEN-CWE-B)

BARTON
LMNED-MP
HARRINGTON
LMNED-M
BECNEL
LMNED-H
BRUPBACHER
LMNED-D
PICCIOLA
LMNED-F
COLE
LMNRE
ROY
LMNPD
CHATRY
LMNED

LMNED-MP (NOD 26 May 1976) 2d Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, New Orleans District, Corps of Engineers, PO Box 60267, New Orleans, LA 70160 6 Oct 76

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

1. The disposition of comments contained in the 1st Ind is as follows:

a. Para 1a. We concur. Para 3, page 2 of the GDM should be changed by adding the following paragraph:

"c. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (Public Law 91-646). The local interests are required to comply with the applicable provisions of this act."

b. Para 1b. New assurance agreements embodying the deferred payment plan have been received from Orleans Levee District and are complete as to supporting documents. Instructions from LMVRE-A were that separate assurances would not be forwarded for acceptance, but rather that all assurances be forwarded in one assembly.

We do have an acceptable assurance supplementing the 1966 assurance covering Public Law 91-646, but for the Chalmette Area Plan only. Nonetheless, the 1966 assurance is, although not supplemented to include Public Law 91-646 for the Barrier Plan, binding under contract law for all other requirements contained therein, and shall remain binding until acceptable separate assurances are received from other agencies covering the entire project.

c. Para 1c. The 54-inch diameter sluice gate will remain open at all times except when a hurricane strikes. It will then be closed to prevent water from flowing to the protected side. This gate will be closed well in advance of a hurricane. The operation of this gate is the responsibility of the Orleans Levee District.

d. Para 1d. EPA's comments and applicable letters thereon regarding maintaining water quality are responded to in the GDM in para 64b, page 35. We stated that measures incorporated to reduce the impact of this work on the water quality will be added to the project during preparation of the plans and specifications for this reach. It is beyond the scope of a GDM to specify these measures.

LMNED-MP (NOD 26 May 1976) 2d Ind 6 Oct 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

e. Para 1e. There has been more extensive coordination with the Southern Railroad that was not shown in the GDM and/or has occurred subsequent to the 2 Sep 75 letter. In fact, this GDM could have been submitted months earlier if we did not have the trouble of obtaining the Southern Railroad's approval of our plan. They have been very adamant on every point.

Furthermore, the Orleans Levee District is very interested in getting this reach of the project built as soon as possible because this area is the weak spot in the existing hurricane protection system for New Orleans.

Therefore, since we expect stiff opposition from the Southern Railroad about this matter and in the interest of expediting the remaining planning work for and the eventual construction of this reach, we recommend the additional cost (approximately $25,000) to provide the 600-foot spacing be considered a project cost. The Orleans Levee District agrees with this approach.

f. Para 1f (1) The draft environmental statement for the entire Lake Pontchartrain, Louisiana, and Vicinity hurricane protection project was distributed for review and comment in April 1972. No significant modifications have been made to the project plan including this reach presented therein. Copies were sent to the US Department of the Interior who responded by letter dated 8 November 1972, the US Department of Commerce who responded by letter dated 26 June 1972, the Environmental Protection Agency who responded by letter dated 7 June 1972, and the Louisiana Wildlife and Fisheries Commission who responded by letter dated 24 July 1972. Each of these agencies were sent a copy of the final environmental statement in August 1974.

Environmental agencies were provided an additional opportunity to evaluate the effects of the project on the areas of their expertise on the occasion of the 22 February 1975 public meeting. The Regional Director of the US Fish and Wildlife Service by letter dated 17 March 1975 made six recommendations concerning the construction of the project. All but one of these recommendations will definitely be implemented. The remaining recommendation is still being studied. The Regional Director of the National Marine Fisheries Service by letter dated 21 March 1975 endorsed, in essence, the recommendations of the US Fish and Wildlife Service. The Director of the Louisiana Wildlife and Fisheries Commission in a statement for the 22 February 1975 public meeting requested that the design of the ponding areas for

the Chef Menteur Complex be coordinated with that agency. He also recommended a periodic review and evaluation regarding the project effects on fish and wildlife. Both will be done.

On 22 August 1975, copies of the record of the 22 February 1975 public meeting and the statement of findings on same were forwarded for review and for approval of the dredged material disposal plan. By letter dated 1 October 1975, the Regional Administrator of the US Environmental Protection Agency approved the dredged material disposal plan and made two other recommendations, one of which is being implemented and one of which is still being studied.

This extensive coordination subsequent to 1968 is considered to be sufficient. The coordination was too extensive to include in this report.

g. Para 1f (2). The alinement along the lakeshore would have directly affected campsites and disrupted the esthetic natural state along the lake in this area. The alinement between the Southern Railway embankment and the Hayne Blvd. right-of-way would preserve the lakeshore campsites and the natural setting of the shoreline of Lake Pontchartrain in this reach.

The Final EIS has been reviewed and adequately covers the impacts of the project. The results of the environmental studies and assessments noted on page 4, paragraph 5h of the GDM, are included in the Final EIS.

The Citrus area consisting of 14,800 acres is presently leveed. Of this total, 13,750 acres are residential, commercial, and/or nonswamp wooded lands, and 1,230 acres are leveed swamp. The impact of the additional protection on the existing wildlife habitat will be minimal since the non-developed areas are nonwetlands and are covered mostly with marsh elder, eastern baccharis and willow which are marginal for food value to wildlife species. All three species provide excellent cover but are generally considered marginal as wildlife habitat.

h. Para 1g (1). The real estate costs were verified by the values determined in a gross appraisal report made in December 1975. However, under Table 5 - Lands and Damages, 01 Lands, construction easements should show 2.514 acres instead of 3.034 acres.

i. Para 1g (2). There are no relocations pursuant to Public Law 91-646 involved in this reach. This item should appear between "Contingencies and Real estate hired labor" under Table 5 - Lands and Damages, page 43, and it should show zero cost.

LMNED-MP (NOD 26 May 1976) 2d Ind 6 Oct 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

j. Para 1g (3). The acreage figures shown on the pertinent data sheet should be changed from "54 to 2.5" to "11.26 to 2.94", respectively.

k. Para 1h. Annotations marked in red on pages 22 and 38 and plates 3, 15 and 18 were noted.

l. Para 2a. We concur. The fourth sentence should be changed to read, "A 12-inch diameter corrugated metal drain pipe, sloped approximately 1 on 60 will extend from the catch basin under the railroad embankment into a narrow drain outlet in the wave wash protection from B/L station 64+00 to B/L station 331+50."

m. Para 2b. Slope sloughing of the landside levee slope due to prolonged hurricane rainfall was analyzed using the method of planes analysis and is shown on plates 50, 51 and 52. These analyses were performed using one-half of the friction angle in sand to simulate steady seepage conditions.

n. Para 2c. Predrilling is not necessarily required for installing the service piles. However, past experiences have shown difficulty in driving concrete piles to the desired grade through sands and silty sand materials. Also, driving resistances as shown on the capacity curves of the test piles may indicate the necessity for predrilling. The P&S will be written to allow the contractor to drive the piles without predrilling. But, if he has difficulty, the contractor will be required to predrill.

o. Para 2d (1). Concrete sheet piling is required in the railroad embankment in lieu of steel sheet piling in order to avoid corrosion problems. The air pockets which are present in the ballast would enhance the occurrence of corrosion if steel piling were used.

p. Para 2d (2). Since the railroad embankment consists of ballast and other pervious materials, sheetpiling is needed to prevent the occurrence of piping.

q. Para 2e (1). Concur. The contract specifications will require the contractor to keep the pipes clear throughout the term of the contract. If erosion is still occurring at the conclusion of the contract, the Corps will request the Orleans Levee District to keep the lines clear until the erosion ceases. Any costs incurred by the levee district in this regard would be creditable toward their required 30 percent contribution.

LMNED-MP (NOD 26 May 1976) 2d Ind 6 Oct 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

r. Para 2e (2). Concur. The contract plans will be so noted.

s. Para 2e (3). The installation of the sluice gate in the 54-inch diameter culvert will be included into phase three.

t. Para 2f. Ramps were used where possible when enough space was available. Ramps are cheaper than floodgates, require no closure prior to a hurricane and are a more efficient closure because of no leakage. The ramps also provide access to and from the protected side for a longer period of time during the approach of a hurricane.

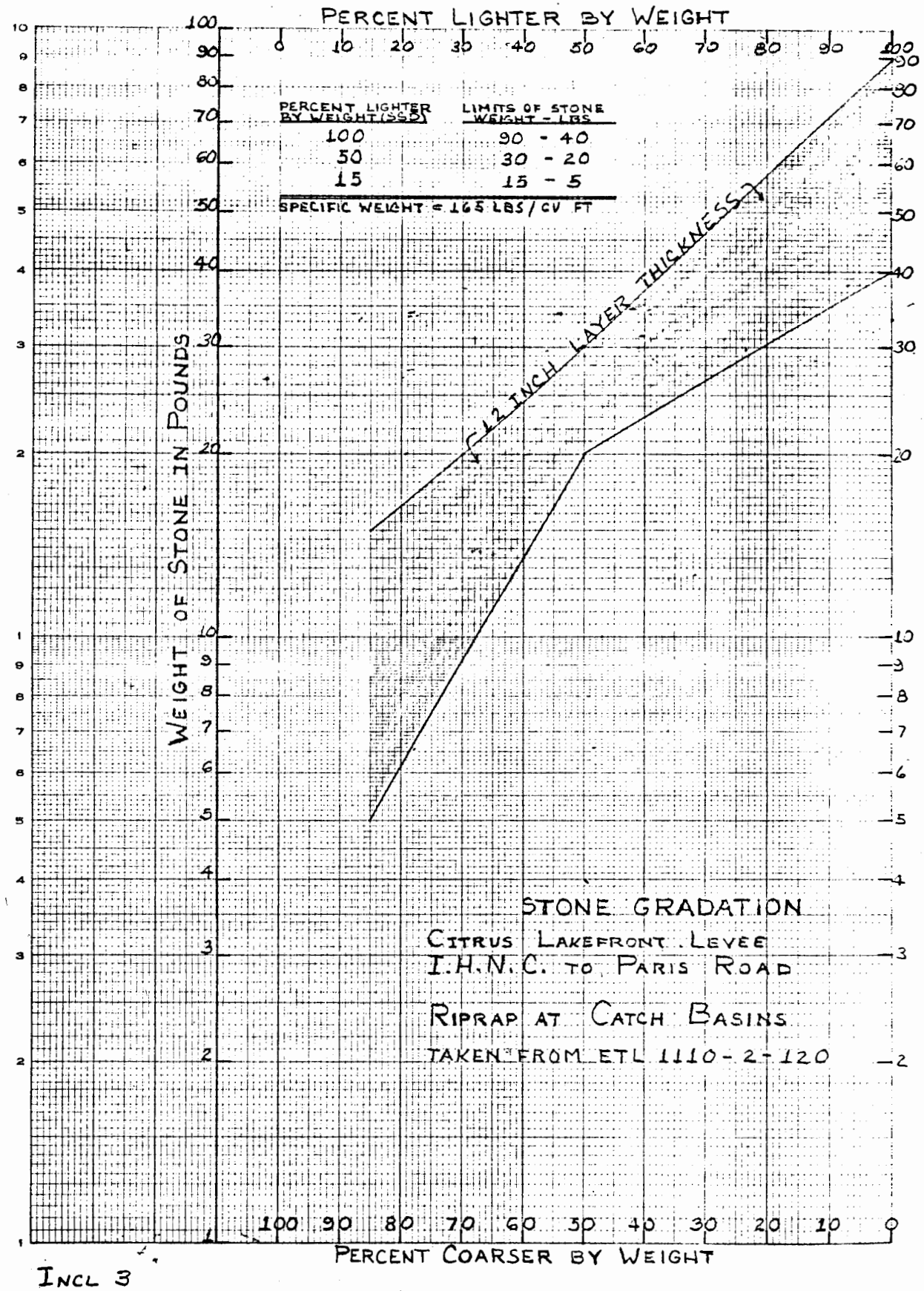
u. Para 2g. The Jahncke Pumping Station will not require further modification. Local interests will be given credit towards their 30 percent share of the cost for the installation of the sluice gates at the Jahncke Pumping Station. Therefore, the items are listed in the cost estimate as a project cost even though the modification is complete.

v. Para 2h (1). The sluice gate structure is a relocation item and will be constructed by local interests. The proposed connecting conduit is not a part of the project and, as a result, we have impressed upon local interests the wisdom of constructing the conduit with the sluice gate structure and local interests are presently considering this alternative.

w. Para 2h (2). The 50-inch pipe is the discharge line from the existing pumping station. The pipe passes over the top of the enlarged levee and is equipped with a vacuum breaker, therefore, no positive closure is required.

x. Para 2h (3). Plate 15 clearly shows a dashed line with arrows projecting from each side which designate who will construct what at this location. Others will construct everything to the right of the dashed line and the government will construct everything to the left of the dashed line. The Citrus Canal Closure will be constructed prior to our levee work.

y. Para 2i (1). The 2-foot thickness of riprap on the lakeside of the levee is needed for interim wavewash protection because this closure will be built prior to the wavewash protection for the entire project. This 2-foot thickness of riprap should replace the extra 2 feet of clay cover requested. Furthermore, we have already approved



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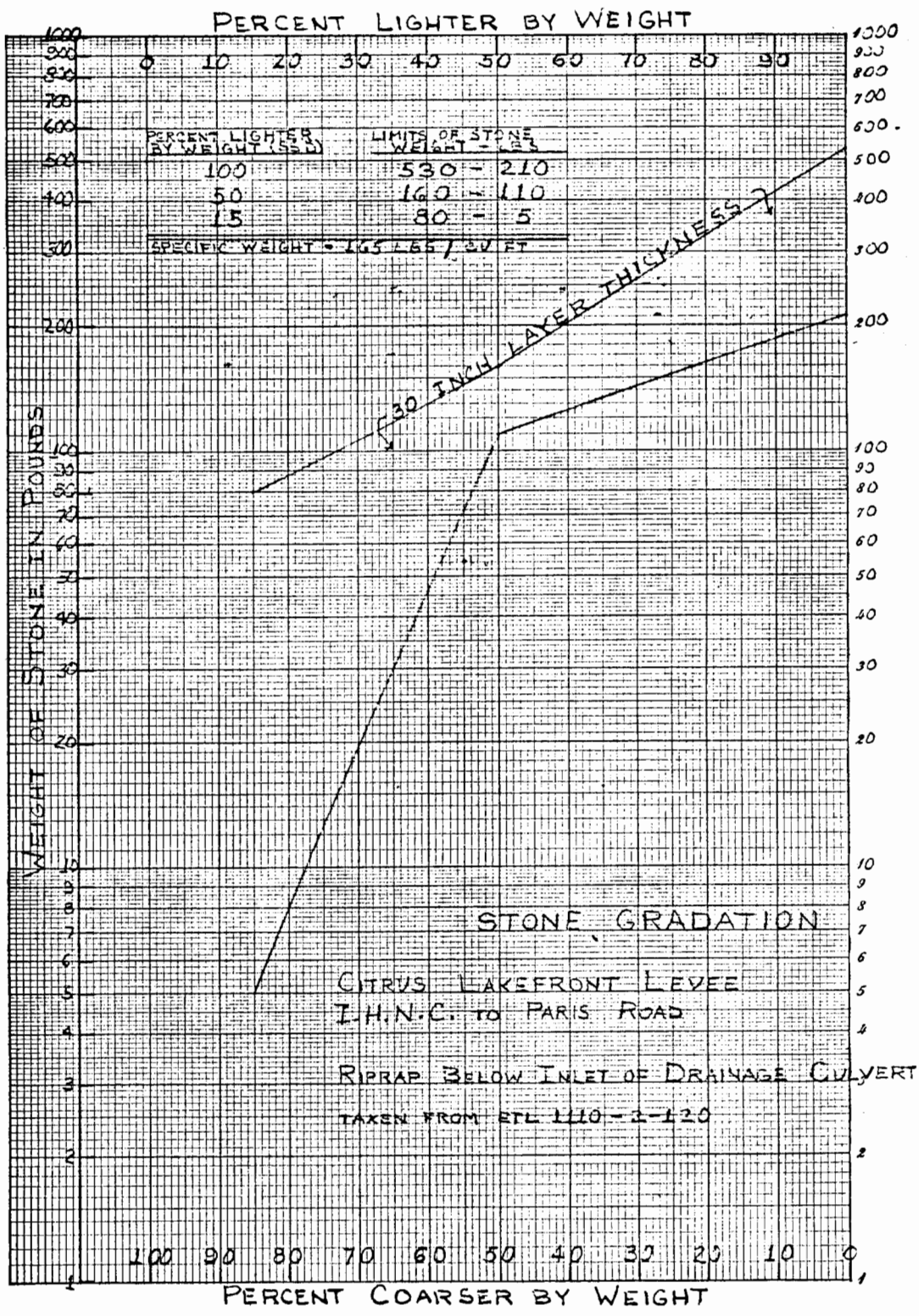

INCL 2

Barton

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-FS	Lake Pontchartrain, La. and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, I.H.N.C. to Paris Road

TO C/Design Memo Br FROM AC/F&M Br DATE 7 Sep 76 CMT 1

Mr. Cali/mhg/885-7104

The comments of the 1st Ind. dtd 12 Jul 76, subject as above, to the letter of transmittal for the subject report have been reviewed and the response of this branch to each comment is as follows:

1a. Page 2, Para. 3. No comment.

1b. Page 6, Para. 8d. No comment.

1c. Page 25, Para. 40c(2). No comment.

1d. Page 35, Para. 64. No comment.

1e. Page 36, Para. 65b(4), Appendix C, Page C-5, Para. 6. No comment.

1f. Page 35, Para. 63 and Page 37, Para. 66. No comment.

1g. Table 5, Estimate of First Cost. No comment.

1h. Pages 22 and 38, Plates 3, 15, & 18. No comment.

2a. Page 14, Para. 29a(2). No comment.

2b. Page 15, Para. 30b. Slope sloughing of the landside levee slope due to prolonged hurricane rainfall was analyzed using the method of planes analysis and is shown on plates 50, 51, and 52. These analyses were performed using one-half of the friction angle in sand to simulate steady seepage conditions.

2c. Page 21, Para. 33c (2). Predrilling is not necessarily required for installing the service piles. However, past experiences have shown difficulty in driving concrete piles to the desired grade through sands and silty sand materials. Also, driving resistances as shown on the capacity curves of the test piles may indicate the necessity of predrilling. The P&S will be written to allow the contractor to drive the piles without predrilling. But, if he has difficulty, the contractor will be required to predrill.

2d. Page 21, Para. 34a (2).

(1) F&M Branch has no preference to the type (concrete or steel) of sheetpiling used to construct the cutoff wall. This branch determines the depth of the sheetpiling needed to cut off weak strata. Design Branch should resolve this comment.

(2) Since the railroad embankment consists of ballast and other pervious materials, sheetpiling is needed to prevent the occurrence of piping.

2449

LMNED-FS (7 Sep 76)
SUBJECT: Lake Pontchartrain, La. and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, I.H.N.C. to Paris Road

2e. Page 22, Para. 37b (1). No comment.

2f. Page 24, Para. 39c. No comment.

2g. Page 24, Para. 40c (1). No comment.

2h. Plate 15. No comment.

2i. Plate 16. Wavewash Protection for Citrus Canal Shell Closure.

(1) Concur.
(2) No comment.

2j. Plate 34. No comment.

2k. Plate 36. No comment.

2l. Plate 42. No comment.

PICCIOLA

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-FS	Lake Pontchartrain, La. and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, I.H.N.C. to Paris Road

TO C/Design Memo Br FROM AC/F&M Br DATE 7 Sep 76 CMT 1

Mr Cali/mhg/885-7104

The comments of the 1st Ind. dtd 12 Jul 76, subject as above, to the letter of transmittal for the subject report have been reviewed and the response of this branch to each comment is as follows:

1a. Page 2, Para. 3. No comment.

1b. Page 6, Para. 8d. No comment.

1c. Page 25, Para. 40c(2). No comment.

1d. Page 35, Para. 64. No comment.

1e. Page 36, Para. 65b(4), Appendix C, Page C-5, Para. 6. No comment.

1f. Page 35, Para. 63 and Page 37, Para. 66. No comment.

1g. Table 5, Estimate of First Cost. No comment.

1h. Pages 22 and 38, Plates 3, 15, & 18. No comment.

2a. Page 14, Para. 29a(2). No comment.

2b. Page 15, Para. 30b. Slope sloughing of the landside levee slope due to prolonged hurricane rainfall was analyzed using the method of planes analysis and is shown on plates 50, 51, and 52. These analyses were performed using one-half of the friction angle in sand to simulate steady seepage conditions.

2c. Page 21, Para. 33c (2). Predrilling is not necessarily required for installing the service piles. However, past experiences have shown difficulty in driving concrete piles to the desired grade through sands and silty sand materials. Also, driving resistances as shown on the capacity curves of the test piles may indicate the necessity for predrilling. The P&S will be written to allow the contractor to drive the piles without predrilling. But, if he has difficulty, the contractor will be required to predrill.

2d. Page 21, Para. 34a (2).

(1) F&M Branch has no preference to the type (concrete or steel) of sheetpiling used to construct the cutoff wall. This branch determines the depth of the sheetpiling needed to cut off weak strata. DESIGN BRANCH SHOULD RESOLVE THIS COMMENT.

(2) Since the railroad embankment consists of ballast and other pervious materials, sheetpiling is needed to prevent the occurrence of piping.

2e. Page 22, Para. 37b (1). No comment.

2f. Page 24, Para. 39c. No comment.

2g. Page 24, Para. 40c (1). No comment.

2h. Plate 15. No comment.

2i. Plate 16. Wavewash Protection for Citrus Canal Shell Closure.

(1) Concur.
(2) No comment.

2j. Plate 34. No comment.

2k. Plate 36. No comment.

2l. Plate 42. No comment.

PICCIOLA

LMNRE-AP (31 August 1976)
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Engineering Div FROM C/Real Estate Div DATE 13 Sep 76 CMT 2
ATTN: Mr. Dicharry Pizzolatto/gde/885-6803

Attached are requested comments.

for COLE

1 Incl wd
1 Incl added
As stated

LMMRE-AP (31 August 1976)
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Engineering Div FROM C/Real Estate Div DATE 3 Sep 76 CMT 2
ATTN: Mr. Dicharry Pizzolatto/gde/885-6803

Attached are requested comments.

1 Incl wd
1 Incl added
As stated

COLE

COMMENTS

1. a. Page 2, Para 3 - We concur

b. Page 6, Para 8d (Para 8d is on pages 8 and 8a) New Assurance agreements embodying the deferred payment plan have been received from Orleans Levee District and are complete as to supporting documents. Instructions from LMVRE-A were that separate assurances would not be forwarded for acceptance, but rather that all assurances be forwarded in one assembly.

We do have an acceptable assurance supplementing the 1966 assurance covering Public Law 91-646, but for the Chalmette Area Plan only. Nonetheless, the 1966 assurance is, although not supplemented to include Public Law 91-646 for the Barrier Plan, binding under contract law for all other requirements contained therein, and shall remain binding until acceptable separate assurances are received from other agencies covering the entire project.

2. g. (1) The Real Estate costs have been verified by the values as submitted in the gross appraisal of 19 Dec 75. However, under Table 5 - Land and Damages: 01 Lands - construction easements should show 2.514 acres instead of 3.034 acres.

g. (2) Public Law 91-646 was shown on the gross appraisal as "resettlement (PL 91-646)" and the amount was "none." This item should be inserted between "contingencies and real estate hired labor" to be consistent with the gross appraisal.

g. (3) Under pertinent data, behind the table of contents,

Rights-of-way (should be)

Permanent rights-of-way	11.261 acres
Construction easements	2.940 acres

instead of 54 acres and 2.5 acres respectively.

Incl 1

LMNED-MP

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Planning Div.
C/Real Estate Div.

C/Engineering Div.

3 Aug 76
Mr. Dicharry/dma/430

1. Inclosed is a copy of the 1st Indorsement (incl 1) to the letter of transmittal for the subject report.

2. You are requested to respond to the comments marked for your division. Even though some of the comments may be resolved concurrent with preparation of P&S it will be to our convenience to resolve them now.

3. Your reply is requested by 20 Aug 76. Any questions may be directed to either Mr. Joe Dicharry or Mr. Stan Shelton, ext. 430.

for CHATRY

1 Incl
as

ROUTING AND TRANSMITTAL SLIP

1 TO: DISTRICT ENGINEER NOD ATTN: LMNED-NP	INITIALS DATE	ACTION CIRCULATE COORDINATION
2 M. Seale	INITIALS DATE	FILE INFORMATION
3 ENGR DIV MGR	INITIALS DATE	NOTE AND RETURN PER CONVERSATION
4 Mr. Harrington	INITIALS DATE	SEE ME SIGNATURE

REMARKS

ADVANCE COPY

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

FROM	DATE	PHONE
LMVED-TD	30 Aug 76	250

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

5041-101-01

★ GPO: 1975-588-906

ED-T

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

REPLY TO
ATTENTION OF:

DAEN-CWE-B

25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. Reference 1st Indorsement LMVED-TD, 12 July 1976, on letter LMNED-MP, 25 May 1976, subject as above.

2. The comments in the following paragraphs on the subject Supplement No. 5A are furnished for appropriate action.

3. Paragraphs 29a and 40a; paragraphs 2a and 2e(2) of above referenced 1st Indorsement; and Plates 14, 15, 33 and 34. The sections shown on Plates 33 and 34 show embedded stone layers with portions less than the 36-inch minimum depth for derrick stone and no underlying 12-inch riprap blanket. The sections shown on Plates 14 and 16 do not indicate the protection stone details for the lake end of the levee drains. In considering both the additional excavation over that shown and the amount of derrick stone and riprap bedding required, extension of the drain pipe appears to be advisable so that the wave wash protection will be on a continuous plane. By avoiding discontinuities to the plane of protection, the probability of assuring the effectiveness of and reducing the maintenance requirements for the protection will be increased. The analyses of jacking costs versus cut and cover costs should govern the installation procedure. The outer boundaries of the 12-inch stone on a 4-inch shell protection surrounding the catch basins cannot be constructed as shown. The extremities of the protection layer on the levee and railroad sides should be horizontal with levee and railroad backfill overlain to grade; other extremities should abut excavation slopes. Dimensions should indicate the extent of full layer thickness with extremity runout accomplished beyond.

4. Paragraphs 29b and 40c(2) and Plate 35. Consideration should be given to locating the drainage control structure on the lake side adjacent to the levee crown; the installations should cost less and access from the levee crown would be easier.

DAEN-CWE-B 25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

5. Plates 33 and 34.

a. The proposed procedures for jacking the pipes beneath the existing railroad embankment should be included. The provisions should be addressed which insure no adverse impact on the railroad embankment with fluctuations in the lake level.

b. Paragraph 2j(2) of the above referenced 1st Indorsement. Concur in this comment; however, the old drain pipes should be grouted.

FOR THE CHIEF OF ENGINEERS:

for HOMER B. WILLIS
Chief, Engineering Division
Directorate of Civil Works

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

REPLY TO
ATTENTION OF:

DAEN-CWE-BB

25 August 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

District Engineer, New Orleans
ATTN: LMVED-TD

Extra copies of the subject material, having served their purpose, are returned herewith.

FOR THE CHIEF OF ENGINEERS:

1 Incl (2 cys)
as

C. E. Slayton
CHARLES E. SLAYTON
Chief, Project Engineering Section
Engineering Division, Civil Works

A total of 8 extra copies were received from OCE [redacted] with this letter.

XQD
27 Aug 76

ENG FL 33, Sep 75

Barto

LMNPD-RE
SUBJECT: Lake Pontchartrain, La. & Vicinity, - GDM No. 2 Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Engineering Division FROM C/Planning Division DATE 24 Aug 76 CMT 2
Mr. Montz/khp/378

1. Reference your DF dated 17 May 76, subject as above.

2. Subject GDM and copy of the 1st Indorsement to the letter of transmittal for the subject report have been reviewed and the following comments are submitted for your consideration.

a. Page 35, paragraph 63 and page 35, paragraph 64 of the GDM. These subjects are not correctly assigned and are not a function of Planning Division.

b. Page 37, paragraph 66 of the GDM. The alignment along the lakeshore would have directly affected campsites and disrupted the esthetic natural state along the lake in this area. The alignment between the Southern Railway embankment and the Hayne Blvd. right-of-way would preserve the lakeshore campsites and the natural setting of the shoreline of Lake Pontchartrain in this reach. The Final EIS has been reviewed and adequately covers the impacts of the project. The results of the environmental studies and assessments noted on page 4, paragraph 5h of the GDM, are included in the Final EIS. The citrus area consisting of 14,800 acres is presently leveed. Of this total, 13,750 acres are residential, commercial, and/or nonswamp wooded lands, and 1,230 acres are leveed swamp. The impact of the additional protection on the existing wildlife habitat will be minimal since the non-developed areas are nonwetlands and are covered mostly with marsh elder, eastern baccharis and willow which are marginal for food value to wildlife species. All three species provide excellent cover but are generally considered marginal as wildlife habitat.

ROY

1 Incl
nc

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Planning Div.
C/Real Estate Div.

FROM C/Engineering Div.

DATE 3 Aug 76

CMT 1

Mr. Dicharry/dma/430

1. Inclosed is a copy of the 1st Indorsement (incl 1) to the letter of transmittal for the subject report.

2. You are requested to respond to the comments marked for your division. Even though some of the comments may be resolved concurrent with preparation of P&S it will be to our convenience to resolve them now.

3. Your reply is requested by 20 Aug 76. Any questions may be directed to either Mr. Joe Dicharry or Mr. Stan Shelton, ext. 430.

for Seale
CHATRY

1 Incl
as

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆ U.S. G.P.O. 1976-665697/10

LMNED-MP

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Planning Div.
C/Real Estate Div.

C/Engineering Div.

3 Aug 76
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1 Incl
as

CHATRY

LMVED-TD (NOD 26 May 76) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 12 Jul 76

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

1. Approved subject to the following comments:

a. Page 2, Para 3. An additional item of local cooperation is compliance with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646. This is treated under Paragraph 55; however, it should be set forth as an item of local cooperation. Real Estate

b. Page 6, Para 8d. We concur in the last sentence of this paragraph; however, the new assurance agreements embodying the deferred payment plan require approval of the Office, Chief of Engineers. The 1966 assurances, of course, do not cover the requirements imposed by Public Law 91-646. The supplemental assurances (paragraph 8b) were not in acceptable form. Thus, we have no agreement which meets the requirements of law. The agreement referred to in paragraph 8d should be finalized and approval of OCE secured prior to initiation of construction. Real Estate

c. Page 25, Para 40c(2). Operating criteria should be developed for the 54-inch diameter sluice gate. Design Memo

d. Page 35, Para 64. EPA (then FWPCA) comments and applicable letters thereon regarding maintaining water quality are not responded to in this document. Response should include measures incorporated to reduce impact of construction on water quality, any silt detention devices at construction sites, any measures to confine turbidity at borrow areas. ? Planning Division

e. Page 36, Para 65b(4), Appendix C, Page C-5, Para 6. As stated in these two paragraphs, the spacing between catch basins could be at 900-foot intervals and still provide adequate drainage for the area during the design storm. Therefore, if the Southern Railway dictates the interval to be 600 ft (Appendix A, letter of 2 Sep 75) then they (the railroad) should be required to pay the additional cost to provide this betterment. Design Memo

f. Page 35, Para 63 and Page 37, Para 66. (1) Para 66a states that extensive coordination has been accomplished with appropriate agencies relative to fish and wildlife and water quality. Information elsewhere in the report (Appendix A) indicates that the most recent direct coordination with USFW and FWPCA (now EPA) was in May 1968. ? Planning Division

Incl 1

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

Subsequent to 1968, there have been several changes in project design, including alignment. Environmental interests have become more acute. The 1968 coordination predates the 1969 National Environmental Policy Act and many current policies on interagency coordination. In view of these changes, you should consider the need for additional coordination with environmental agencies.

(2) Para 66 should contain an assessment of the changes in impacts created by the changed alignments. A statement should also be made indicating that the existing EIS has been reviewed and adequately covers the impacts of the project or that the existing statement will be supplemented if the assessment reveals this is necessary. The results of the environmental studies and assessments referred to on page 4, para 5h, could have been included as a basis of establishing the adequacy of the current EIS. The impact of the additional protection on the existing wildlife habitat is not adequately covered. ✓ Planning Division

g. Table 5, Estimate of First Cost. (1) Real Estate costs should be verified. Real Estate

(2) Table 5 (cont'd), page 43, includes no item for Public Law 91-646. The only improvement listed is chain link fence. In view of paragraph 55, at some place in the report it should be shown whether there are relocations pursuant to Public Law 91-646 involved. Real Estate

(3) The total acreage shown in Table 5, page 43, does not agree with the pertinent data tabulation inserted behind the table of contents. This discrepancy should be reconciled. Design Memo

h. Annotations in red on pages 22 & 38, and Plates 3, 15, & 18.

2. The following comments may be resolved concurrent with preparation of plans and specifications:

a. Page 14, Para 29a(2). In the fourth sentence the slope of the 12-inch diameter CMPs is stated as varying. This does not agree with IV on 60H slope as indicated on Plate 34, para 40a, or para 6 in Appendix C. Para 29a(2) should be corrected to agree with the other portions of the DM. H & H Branch

b. Page 15, Para 30b. The last sentence states that analyses were made to investigate sloughing of the landside levee slope due to prolonged hurricane rainfall. For record purposes the procedures used in these analyses should be described. F&M Branch

c. Page 21, Para 33c(2). This paragraph mentions predrilling as a means for installing the service piles. There are no apparent reasons why the concrete piles cannot be driven to the desired grade. F&M Branch

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

(3) This plate shows that a sluice gate structure with a sheet pile cutoff will be constructed at the Citrus Canal Crossing. Para 29c, however, states that these items will be constructed by others. The questions of who will construct these items and at what point in the sequence of construction should be clearly explained. Design Memo

i. Plate 16. Wavewash Protection for Citrus Canal Shell Closure.
(1) The section shows a 2-ft thickness of semicompacted clay covered by riprap on the lakeside of the levee. The 2-ft thickness is considered to be too thin and should be increased to 4 ft. It also appears that the 2-ft thickness of riprap on the lakeside of the levee could be deleted since protection is being provided by the wavewash protection located lakeward. Design Branch

(2) The lake end of the pipe should be supported. Design Branch

j. Plate 34. (1) To insure that adequate riprap protection is provided at the outlet end of each pipe, a minimum blanket thickness should be specified. H & H Branch

(2) The section at drain pipe shows an existing catch basin and pipe to be plugged and a new catch basin and drain pipe to be constructed at the same location. In order to prevent possible leakage through the old drain pipe, suggest the new catch basins be constructed at different locations from the existing catch basins. Design Memo

k. Plate 36. (1) Minimum width of rung should be 1'4".

(2) Grabbars should comply with OSHA 1910.27(d)(4).

l. Plate 42. Suggest that in lieu of explicitly stating that the wood mats illustrated on this plate be the one and only way to protect the rails paralleling this item, the Contractor should assume the responsibility for the protection of the rails as well as the safety of passing trains. The mats illustrated on this plate could be advanced as one acceptable method for rail protection. Design Branch

FOR THE DIVISION ENGINEER:

1 Incl
Mkd cy Incl 1

R. H. RESTA
Chief, Engineering Division

CF:
DAEN-CWE-B (14 cy)
w/Mkd cy Incl 1

d. Page 21, Para 34a(2). (1) The reason for using concrete sheet piling instead of steel sheet piling beneath the railroad embankment is not apparent and should be explained since use of concrete sheet piling could require the Contractor to have additional equipment on the job. F&M Branch

(2) Since this railroad embankment ties into earthen levee on either side, the need for sheet piling should be explained.

e. Page 22, Para 37b(1). (1) In following the construction sequence outlined in this paragraph, the District should insure that the 12-inch drain pipes do not become clogged with material removed by rainfall runoff from the newly constructed and/or enlarged levee. To prevent this from occurring, each pipe should be inspected after a significant rainfall and cleaned out if needed. This procedure should be repeated until a good sod cover is established. Design Branch

(2) Immediately after placement of the drain pipes, the sequence could include the placement of riprap protection at the outlet end of each pipe. This will prevent scour holes developing at each outlet. Design Branch

(3) This paragraph should be expanded to specify the phase that will include the installation of sluice gate in the 54-inch diameter culvert.

f. Page 24, Para 39c. The first sentence states, "In lieu of gates, roadways will be ramped over the flood protection in two locations." The reasons for providing ramps instead of floodgates should be explained. Design Memo

g. Page 24, Para 40c(1). The fourth sentence states that the Jahncke Pumping Station will not require modification. Item 02 of the cost estimate, page 43 shows, however, a list of items to be constructed at the Jahncke Pumping Station. This apparent discrepancy should be resolved.

h. Plate 15. (1) A note on the Citrus Canal Crossing section states that the temporary walls of the sluice gate structure will be removed at a later time and replaced by conduit. Since this procedure would no doubt require the excavation of a large portion of the closure section to be built under this contract, consideration should be given to placing this conduit before constructing the closure section. Design Branch

(2) The Citrus Canal Crossing plan shows a 30-inch steel pipe to be constructed by others. The need for this item should be discussed in the text along with the method for providing closure. Design Branch

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-DD	Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Design Memo Br FROM C/Design Br DATE 18 Aug 76 CMT 1

Mr. Guizerix/jh/445

1. Reference is made to your multiple DF dated 3 Aug subject as above.

2. Our responses to the comments are as follows:

a. Comment 2 e (1): Concur. The contract specifications will require the contractor to keep the pipes clear throughout the term of the contract. If erosion is still occurring at the conclusion of the contract, the Corps will request the Orleans Levee District to keep the lines clear until the erosion ceases. Any costs incurred by the Levee District in this regard would be creditable toward their required 30 percent contribution.

b. Comment 2 e (2): Concur. The contract plans will be so noted.

c. Comment 2 e (3): Concur.

d. Comment 2 h (1): The sluice gate structure is a relocation item and will be constructed by local interests. The proposed connecting conduit is not a part of the project and, as a result, we have no control as to when it may be constructed. However, we have impressed upon local interests the wisdom of constructing the conduit with the sluice gate structure and local interests are presently considering this alternative.

e. Comment 2 h (2): The 50-inch pipe is the discharge line from the existing pumping station. The pipe passes over the top of the enlarged levee and is equipped with a vacuum breaker, therefore, no positive closure is required.

f. Comment 2 i (1): This comment will be addressed by F&M Branch.

g. Comment 2 i (2): On the contract plans the lake end of the pipe will be located flush with the surrounding riprap, therefore, support will not be required.

h. Comment 2 k (1) & (2): Concur. The contract plans will be appropriately noted.

i. Comment 2 l: Concur. The wood mat was developed for the purpose of obtaining the railroad company's concurrence in allowing materials to be cast over the tracks. The railroad company will not allow substitution unless they approve the substitute plan. The plans and specifications will allow the contractor to propose a substitute plan.

for WDJ

BRUPBACHER

LMMED-DD

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Design Memo Br

C/Design Br

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BRUPBACHER

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-HD	Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Design Memo Br FROM C/Hyd & Hydro Br DATE 12 Aug 76 CMT 1

Mr. Broussard/jmh/328

RDB

1. Reference is made to your 3 Aug 76 multiple DF subject as above, requesting response to comments on the 1st Ind to the subject GDM No. 2.

2. Responses relating to questions concerning hydrology and hydraulics are provided below:

a. Page 14, para. 2ga(2). We concur. The fourth sentence should be changed to read, "A 12-inch diameter corrugated metal drain pipe, sloped approximately 1 on 60 will extend from the catch basin under the railroad embankment into a narrow drain outlet in the wave wash protection from B/L station 64+00 to B/L station 331+50."

b. Plate 34. Based on possible storm surges and wave action, 30-inches of riprap underlined by 6-inches of gravel on a plastic filter cloth having the stone size presented on incl 2 should be used as minimum layer thickness for riprap below the invert of the drainage culverts. We are also furnishing the stone gradation (incl 1) for the 12-inches of riprap underlined by 4-inches of shell around the catch basins. Note, these layer thicknesses and stone sizes also apply to plate 33 of DM No. 2.

3. This information should be sufficient to answer questions posed in the subject 1st Ind and should be of value in preparation of the P&S. Having no other comments, it is suggested that if further information is required, contact Reynold Broussard, ext. 328.

LBF for
MOSS
LMNED-HD

2 Incl
as

BECNEL

SOLLIDAY
LMNED-HC

CF: C/LMNED-HC

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆ U.S. G.P.O. 1976-665697/1018

LMNED-HD

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A, Citrus Lakedront Levee, IHNC to Paris Road

C/Design Memo Br

C/Hyd & Hydro Br

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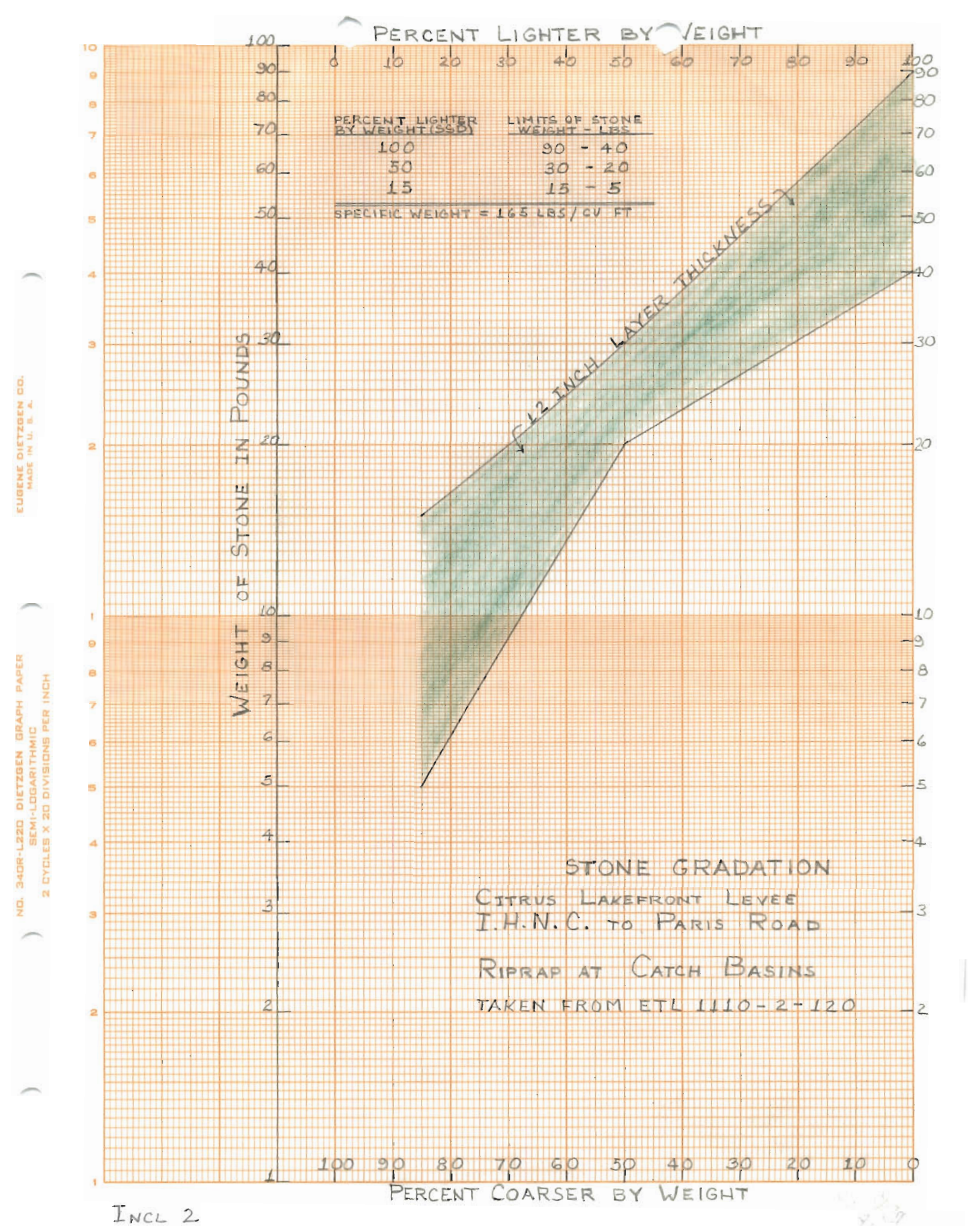
MOSS
LMNED-HD

2 Incl
as

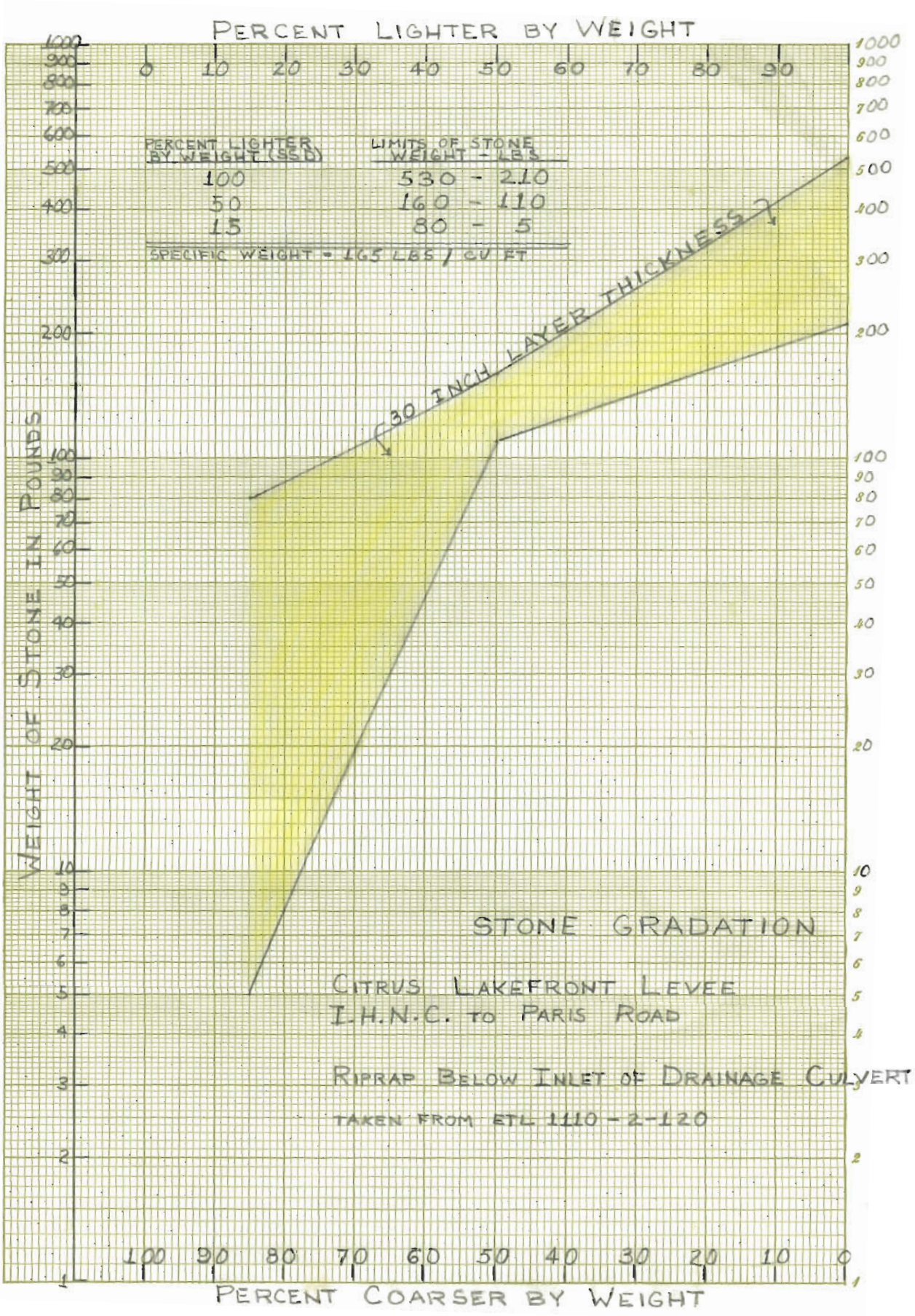
BECNEL

SOILEAU
LMNED-HC

CF: C/LMNED-HC


PERCENT LIGHTER BY WEIGHT
WEIGHT OF STONE IN POUNDS
PERCENT COARSER BY WEIGHT
PERCENT LIGHTER BY WEIGHT (SSD)
LIMITS OF STONE WEIGHT - LBS
100
90 - 40
50
30 - 20
15
15 - 5
SPECIFIC WEIGHT = 165 LBS / CU FT
1.2 INCH LAYER THICKNESS
STONE GRADATION
CITRUS LAKEFRONT LEVEE
I.H.N.C. TO PARIS ROAD
RIPRAP AT CATCH BASINS
TAKEN FROM ETL 1110-2-120

INCL 2



INCL 3

LMNED-MP

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Design Br.
C/H&H Br.
C/P&M Br.

C/Design Memo Br.

3 Aug 76
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1 Incl
as

HARRINGTON

LMNED-MP

Lake Pontchartrain, La. & Vic. - GDM No. 2, Supp. No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Planning Div.
C/Real Estate Div.

C/Engineering Div.

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1 Incl
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CHATRY

LMVED-TD (NOD 26 May 76) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 12 Jul 76

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

1. Approved subject to the following comments:

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Incl 1

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SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

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(2) Table 5 (cont'd), page 43, includes no item for Public Law 91-646. The only improvement listed is chain link fence. In view of paragraph 55, at some place in the report it should be shown whether there are relocations pursuant to Public Law 91-646 involved. Real Estate

(3) The total acreage shown in Table 5, page 43, does not agree with the pertinent data tabulation inserted behind the table of contents. This discrepancy should be reconciled. Design Memo

h. Annotations in red on pages 22 & 38, and Plates 3, 15, & 18.

2. The following comments may be resolved concurrent with preparation of plans and specifications:

a. Page 14, Para 29a(2). In the fourth sentence the slope of the 12-inch diameter CMPs is stated as varying. This does not agree with IV on 60H slope as indicated on Plate 34, para 40a, or para 6 in Appendix C. Para 29a(2) should be corrected to agree with the other portions of the DM. H & H Branch

b. Page 15, Para 30b. The last sentence states that analyses were made to investigate sloughing of the landside levee slope due to prolonged hurricane rainfall. For record purposes the procedures used in these analyses should be described. F&M Branch

c. Page 21, Para 33c(2). This paragraph mentions predrilling as a means for installing the service piles. There are no apparent reasons why the concrete piles cannot be driven to the desired grade. F&M Branch

d. Page 21, Para 34a(2). (1) The reason for using concrete sheet piling instead of steel sheet piling beneath the railroad embankment is not apparent and should be explained since use of concrete sheet piling could require the Contractor to have additional equipment on the job. F & M Branch

(2) Since this railroad embankment ties into earthen levee on either side, the need for sheet piling should be explained.

e. Page 22, Para 37b(1). (1) In following the construction sequence outlined in this paragraph, the District should insure that the 12-inch drain pipes do not become clogged with material removed by rainfall runoff from the newly constructed and/or enlarged levee. To prevent this from occurring, each pipe should be inspected after a significant rainfall and cleaned out if needed. This procedure should be repeated until a good sod cover is established. Design Branch

(2) Immediately after placement of the drain pipes, the sequence could include the placement of riprap protection at the outlet end of each pipe. This will prevent scour holes developing at each outlet. Design Branch

(3) This paragraph should be expanded to specify the phase that will include the installation of sluice gate in the 54-inch diameter culvert.

f. Page 24, Para 39c. The first sentence states, "In lieu of gates, roadways will be ramped over the flood protection in two locations." The reasons for providing ramps instead of floodgates should be explained. Design Memo

g. Page 24, Para 40c(1). The fourth sentence states that the Jahncke Pumping Station will not require modification. Item 02 of the cost estimate, page 43 shows, however, a list of items to be constructed at the Jahncke Pumping Station. This apparent discrepancy should be resolved.

h. Plate 15. (1) A note on the Citrus Canal Crossing section states that the temporary walls of the sluice gate structure will be removed at a later time and replaced by conduit. Since this procedure would no doubt require the excavation of a large portion of the closure section to be built under this contract, consideration should be given to placing this conduit before constructing the closure section. Design Branch

(2) The Citrus Canal Crossing plan shows a 30-inch steel pipe to be constructed by others. The need for this item should be discussed in the text along with the method for providing closure. Design Branch

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

(3) This plate shows that a sluice gate structure with a sheet pile cutoff will be constructed at the Citrus Canal Crossing. Para 29c, however, states that these items will be constructed by others. The questions of who will construct these items and at what point in the sequence of construction should be clearly explained. Design Memo

i. Plate 16. Wavewash Protection for Citrus Canal Shell Closure. F&M Branch ~~Design Branch~~

(1) The section shows a 2-ft thickness of semicompacted clay covered by riprap on the lakeside of the levee. The 2-ft thickness is considered to be too thin and should be increased to 4 ft. It also appears that the 2-ft thickness of riprap on the lakeside of the levee could be deleted since protection is being provided by the wavewash protection located lakeward.

(2) The lake end of the pipe should be supported. Design Branch

j. Plate 34. (1) To insure that adequate riprap protection is provided at the outlet end of each pipe, a minimum blanket thickness should be specified. H&H Branch

(2) The section at drain pipe shows an existing catch basin and pipe to be plugged and a new catch basin and drain pipe to be constructed at the same location. In order to prevent possible leakage through the old drain pipe, suggest the new catch basins be constructed at different locations from the existing catch basins. Design Memo

k. Plate 36. (1) Minimum width of rung should be 1'4".

(2) Grabbars should comply with OSHA 1910.27(d)(4).

l. Plate 42. Suggest that in lieu of explicitly stating that the wood mats illustrated on this plate be the one and only way to protect the rails paralleling this item, the Contractor should assume the responsibility for the protection of the rails as well as the safety of passing trains. The mats illustrated on this plate could be advanced as one acceptable method for rail protection. } Design Branch

FOR THE DIVISION ENGINEER:

1 Incl
Mkd cy Incl 1

R. H. RESTA
Chief, Engineering Division

CF:
DAEN-CWE-B (14 cy)
w/Mkd cy Incl 1

LMVED-TD (NOD 26 May 76) 1st Ind
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 12 Jul 76

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

1. Approved subject to the following comments:

a. Page 2, Para 3. An additional item of local cooperation is compliance with the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646. This is treated under Paragraph 55; however, it should be set forth as an item of local cooperation.

b. Page 6, Para 8d. We concur in the last sentence of this paragraph; however, the new assurance agreements embodying the deferred payment plan require approval of the Office, Chief of Engineers. The 1966 assurances, of course, do not cover the requirements imposed by Public Law 91-646. The supplemental assurances (paragraph 8b) were not in acceptable form. Thus, we have no agreement which meets the requirements of law. The agreement referred to in paragraph 8d should be finalized and approval of OCE secured prior to initiation of construction.

c. Page 25, Para 40c(2). Operating criteria should be developed for the 54-inch diameter sluice gate.

d. Page 35, Para 64. EPA (then FWPCA) comments and applicable letters thereon regarding maintaining water quality are not responded to in this document. Response should include measures incorporated to reduce impact of construction on water quality, any silt detention devices at construction sites, any measures to confine turbidity at borrow areas.

e. Page 36, Para 65b(4), Appendix C, Page C-5, Para 6. As stated in these two paragraphs, the spacing between catch basins could be at 900-foot intervals and still provide adequate drainage for the area during the design storm. Therefore, if the Southern Railway dictates the interval to be 600 ft (Appendix A, letter of 2 Sep 75) then they (the railroad) should be required to pay the additional cost to provide this betterment.

f. Page 35, Para 63 and Page 37, Para 66. (1) Para 66a states that extensive coordination has been accomplished with appropriate agencies relative to fish and wildlife and water quality. Information elsewhere in the report (Appendix A) indicates that the most recent direct coordination with USFW and FWPCA (now EPA) was in May 1968.

Subsequent to 1968, there have been several changes in project design, including alignment. Environmental interests have become more acute. The 1968 coordination predates the 1969 National Environmental Policy Act and many current policies on interagency coordination. In view of these changes, you should consider the need for additional coordination with environmental agencies.

(2) Para 66 should contain an assessment of the changes in impacts created by the changed alignments. A statement should also be made indicating that the existing EIS has been reviewed and adequately covers the impacts of the project or that the existing statement will be supplemented if the assessment reveals this is necessary. The results of the environmental studies and assessments referred to on page 4, para 5h, could have been included as a basis of establishing the adequacy of the current EIS. The impact of the additional protection on the existing wildlife habitat is not adequately covered.

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(2) The Citrus Canal Crossing plan shows a 50-inch steel pipe to be constructed by others. The need for this item should be discussed in the text along with the method for providing closure.

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

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FOR THE DIVISION ENGINEER:

1 Incl
Mkd cy Incl 1

R. H. RESTA
Chief, Engineering Division

CF:
DAEN-CWE-B (14 cy)
w/Mkd cy Incl 1

Mr. SHELTON /pbs/430
Mr. Dicharry/

IN REPLY REFER TO
LMNED-MP

18 June 1976

Mr. John P. McNamara, Chief Engineer
Board of Levee Commissioners
Orleans Levee District
200 Wildlife and Fisheries Building
418 Royal Street
New Orleans, Louisiana 70130

Dear Mr. McNamara:

Inclosed for your information and use in coordinating with the Southern Railroad is an advance copy of General Design Memorandum No. 2, Supplement 5A, Citrus Lakefront Levee, IHNC to Paris Road from the Lake Pontchartrain, Louisiana and Vicinity hurricane protection project. We will advise you of any significant changes to this document.

BARTON
LMNED-MP

HARRINGTO
LMNED-M

CHATRY
LMNED

Exec Ofc

Sincerely yours,

1 Incl (fwd sep)
As stated

EARLY J. RUSH III
Colonel, CE
District Engineer

18

LMNED-MP

Lake Pontchartrain, LA & Vicinity - GDM No. 2, Suppl 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Hyd & Hyd Br
C/Design Br
C/F&M Br

C/Design Memo Br

14 Jun 76
Messrs. Dicharry-Shelton/gze/430

Transmitted herewith is subject GDM. Comments will be furnished when available.

1 Incl
as

HARRINGTON

LMNED-MP

Lake Pontchartrain, LA & Vicinity - GDM No. 2, Suppl 5A,
Citrus Lakefront Levee, IHNC to Parish Road

SEE DISTRIBUTION

C/Engineering Div

14 Jun 76
Messrs. Shelton-Dicharry/gze/430

Transmitted herewith is subject GDM. Comments will be furnished when available.

1 Incl
as

CHATRY

DISTRIBUTION
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C/PDO
Value Engr
C/Const Div
C/Ops Div
C/Plng Div
C/Real Estate Div

FINAL DISTRIBUTION
GDM 2, SUPPL 5A, CITRUS LAKEFRONT LEVEE

1-16 OCE-HRC See below
17 File copy (Proj. Engr. Sec.)
18 Hyd & Hyd Br
19 Hyd & Hyd Br
20 Design Branch
21 Design Branch
22 F&M Br
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25 Value Engr
26 Const Div
27 Operations Div
28 Planning Div.
29 Real Estate
30 Orleans Levee Dist.
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54 Missing Appendix A (Soc Declaration)

1,2,7,9,10,14,15 OCE-LMVD

3,4,5,6,8,11,12,13 Returned copies from OCE, Now in file

16 Marked copy from LMVD with 1st Ind.

GJD
27 Aug 76

13 John Mathews

Messrs. Shelton-Dicharry/gze/430

IN REPLY REFER TO
LMNED-MP

26 May 1976

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC to Paris Road

Division Engineer, Lower Mississippi Valley
ATTN: LMVED-TD

1. The subject supplement is submitted herewith for review and approval, and has been prepared generally in accordance with the provisions of ER 1110-2-1150 exclusive of the Phase I-Phase II planning procedure.

2. Approval of this supplement is recommended.

BARTON
LMNED-MP

HARRINGTO
LMNED-M

for CHATRY
LMNED

1 Incl (16 cy)
GDM No. 2,
Suppl. No. 5A fwd sep

EARLY J. RUSH III
Colonel, CE
District Engineer

Exec Ofc

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Citrus Lakefront Levee

TO C/Hyd & Hyd Br FROM Asst C/Engr Div DATE 30 Mar 76 CMT 1
Mr. Dicharry/gze/430

1. As per discussion between Messrs. Moss and Falgoust of your branch and Mr. Dicharry of this branch on 25 Mar 76, you are requested to design a collector pipe on the lakeside of the railroad embankment from station 28+31 to 63+00 as per inclosure 1.

2. This information is required by 2 April 1976. If you require any additional information or have any questions, please contact J. Dicharry, extension 430.

SEALE

1 Incl
as

LMNED-HD

TO C/Design Memo Br FROM C/Hyd & Hydro Br DATE 16 Apr 76 CMT 2
Mr. Broussard/esk/328

1. The design of the proposed collector pipe on the lakeside of the embankment from station 28+31 to 63+00 is submitted herewith. Inclosure 1 contains levee design sections and cross-sectional views pertinent to the design of the collector pipe. The Rational Method of design of storm water systems was used in estimating peak rates of rainfalls and storm water runoff from the lakeside levee slopes. Friction losses in the pipe were computed using the Darcey-Weisbach equation. This pipe was designed to convey the flow from a 25-yr frequency rainfall. The pipe was also designed to slope from an elevation of 2.5 ft m.s.l. at station 31+00 to elevation 0.0 ft m.s.l. at the floodwall on the eastern edge of the airport. Peak rate of flow was about 7 c.f.s. with an intensity of about 3.8 inches/hr and a drainage time of approximately 2 hrs. Considering the invert of the collector pipe, the size of the collector pipe and the flow rates expected a flap gate at the downstream end of the collector pipe is not recommended.

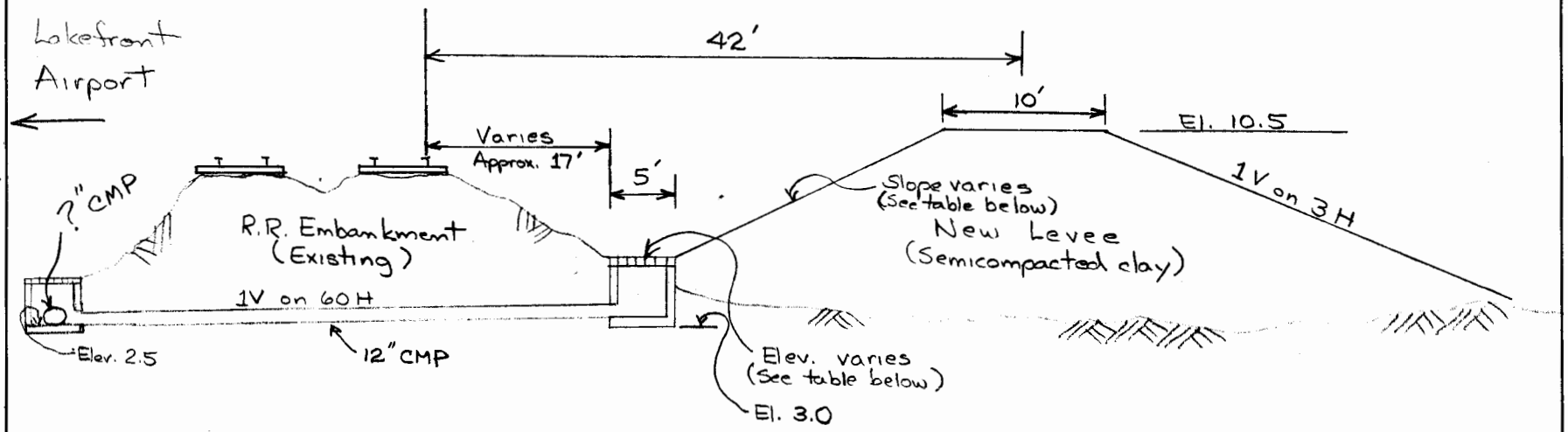
2. With the above modifications in design the hydrology and hydraulics appendix to the Lake Pontchartrain Louisiana and Vicinity--Citrus Lakefront Levee: IHNC to Paris Road DM No. 2 needs revision. Inclosure 2 contains those revision.

3. For any additional information or assistance, please contact Messrs. Falgoust or Broussard, ext. 328.

BECNEL

2 Incl
wd incl 1
Added 2 incl
as

Sheet 1



Levee Station	Levee Floodside Slope
28+31 to 39+00	1V on 3H
40+00 to 53+00	1V on 4H
54+00 to 61+00	1V on 3H
61+00 to 63+00	1V on 4H

Catch Basin Station	Elev. of Top of Catch Basin (ft-msl)
31+00	6.0
37+00	6.0
43+00	5.0
49+00	5.0
55+00	5.0
61+00	6.0

COMPUTATION SHEET

PROJECT

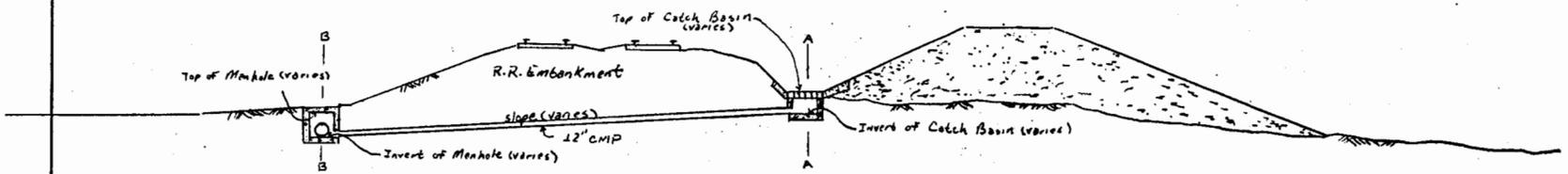
SUBJECT

Page ___ of

COMPUTED BY DATE

CHECKED BY DATE

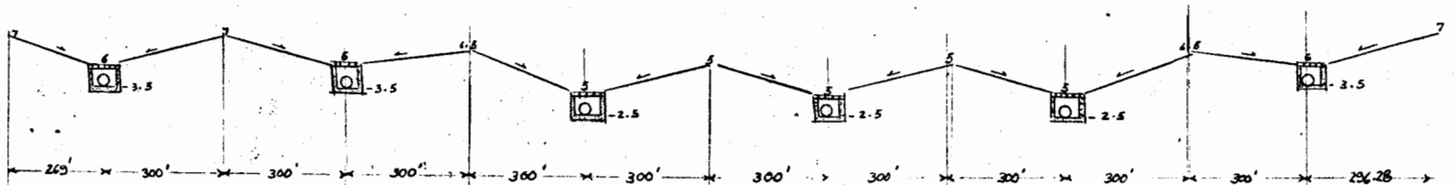
PROJECT		COMPUTED BY	DATE
CITRUS LAKEFRONT LEVEE - I.H.N.C. TO PARIS ROAD	Page ___ of ___		
SUBJECT		CHECKED BY	DATE
TYPICAL LEVEE DESIGN SECTIONS STA 28+31 B/L TO STA 63+00 B/L			



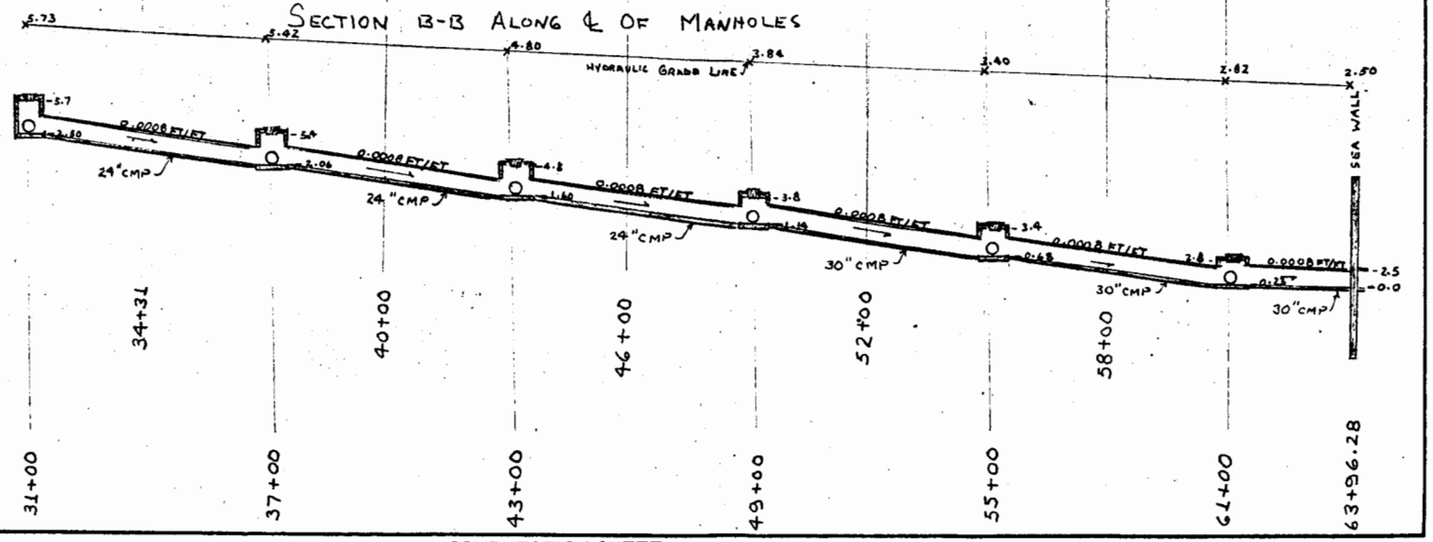
CATCH BASIN STATION	Elev. of top of catch Basin (ft. m.s.l.)	South Rail to edge of Catch Basin feet	Width of Catch Basin feet	Invert of Catch Basin ft., m.s.l.	Invert of Manholes ft., m.s.l.	Elev. Of Top of* Manhole ft. m.s.l.	Slope of 12" CMP Jacked from B/B X ON 60	FT/FT	Width of Manholes feet
31+00	6.0	18.0	5	3.5	2.5	5.7	1 ON 60	0.0167	5
37+00	6.0	18.5	5	3.5	2.0(	5.4	1.44 ON 60	0.0240	5
43+00	5.0	13.0	3.5	2.5	1.60	4.8	0.90 ON 60	0.0150	5
49+00	5.0	15.5	5	2.5	1.14	3.8	1.36 ON 60	0.0227	5
55+00	5.0	16.5	3	2.5	0.68	3.4	1.82 ON 60	0.0303	5
61+00	6.0	17.0	5	3.5	0.23	2.8	3.27 ON 60	0.0545	5

*Tentative Elevations Based On Slope of Hydraulic Grade Line

SECTION A-A ALONG ℄ OF CATCH BASINS



SECTION B-B ALONG ℄ OF MANHOLES



INCL 1

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY
LAKE PONTCHARTRAIN BARRIER PLAN
DESIGN MEMORANDUM NO. 2 - GENERAL DESIGN
SUPPLEMENT NO. 5A
CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD

APPENDIX C
HYDROLOGY AND HYDRAULICS

1. General. This appendix presents all hydrologic and hydraulic design criteria and analyses associated with the Citrus Lakefront levee. The overall plan of improvement is described in detail in the main body of this memorandum and references to the main text are cited where appropriate.

2. Tidal Hydraulics.

a. General. The Hydrology and Hydraulic Analysis design memorandum for the Lake Pontchartrain and Vicinity Barrier-Low Level plan was presented in a series of three separate reports entitled Design Memorandum No. 1 and subtitled Part I-Chalmette, Part II-Barrier, and Part III-Lakeshore. The reports were approved on 27 October 1966, 18 October 1967 and 6 March 1969, respectively. These memoranda presented detailed descriptions of the climatology and hydrologic regimen of the area and detailed descriptions and analyses of the hydraulic methods and procedures used in design of the features for the plan. Also included in the memoranda are essential data, assumptions and criteria used, and results of studies which provide the basis for determining surges, routings, wind tides, wave runup and overtopping, and frequencies. All basic hydraulic information required for design of the Citrus lakefront protective structures from the Inner Harbor Navigation Canal to Paris Road is included in Part III-Lakeshore.

b. Design hurricane.

(1) Selection of design hurricane. The standard project hurricane (SPH) was selected as the design hurricane (Des H) due to the urban nature of the project area. A design hurricane of lesser intensity would indicate a lower net levee grade and expose the project area to disastrous flooding in the event of the occurrence of a hurricane approximating SPH character.

(2) Design hurricane characteristics. The design hurricane for the Citrus lakefront has a frequency occurrence of

INCL 2

once in about 300 years. The design hurricane would have a central pressure index of 27.4 inches of mercury; a maximum 5-minute average wind velocity offshore of 100 m.p.h., 30 feet above the surface at a radius of 30 nautical miles; a forward speed of 6 knots; and the hurricane would progress along a track critical to the area of interest. Plate C-1 shows the hurricane track, isovels and wind direction at the critical hour for the Citrus area. Detailed information on the design hurricane is presented in Design Memorandum No. 1, Hydrology and Hydraulic Analysis, Part I-Chalmette.

TABLE C-1
DATA USED TO DETERMINE WAVE CHARACTERISTICS
DESIGN HURRICANE

Pertinent Factors		Citrus Lakefront Levee
F	- Length of fetch, miles	5
U	- Windspeed, m.p.h.	83
s.w.l.	- Stillwater elevation, feet	8.5
d	- Average depth of fetch, feet	21.4
d_t	- Depth at toe of structure, feet	11.5

TABLE C-2
WAVE CHARACTERISTICS
DESIGN HURRICANE

Characteristics		Citrus Lakefront Levee
H_S	- Significant wave height, feet	7.5
T	- Wave period, seconds	6.8
L_o	- Deepwater wave length, feet	236.8
d/L_o	- Relative depth	0.0904
H_S/H'_o	- Shoaling coefficient	0.9418
H'_o	- Deepwater wave height, feet	7.97
H'_o/T^2	- Wave steepness	0.172

c. Design wave runup freeboard and design elevations. The design hurricane would produce a maximum wind tide level of 8.5 along the Citrus lakefront and 12.0 along the IHNC. Design elevations for the protective structures and respective runup and freeboard for specific reaches are shown in Table C-3 below:

TABLE C-3
WAVE RUNUP FREEBOARD AND
DESIGN ELEVATIONS OF PROTECTIVE STRUCTURES

Reach	Type of Protective Work	Wind Tide Level (ft msl)	Runup (ft)	Freeboard (ft)	Net Design Elev. (ft msl)
Sta. 0+00 W/L to Sta. 10+13.20 W/L	Floodwall	12.0	-	1.0[1]	13.0
Sta. 10+13.20 W/L to Sta. 34+26 W/L	Floodwall	8.5	-	2.0	10.5
Sta. 28+31 B/L to Sta. 64+00 B/L	Levee	8.5	-	2.0	10.5
Sta. 64+00 B/L to Sta. 289+58.59 B/L	Levee	8.5	5.0	-	13.5
Sta. 100+00 W/L to Sta. 101+20 W/L	Floodwall	8.5	5.0	-	13.5
Sta. 101+20 W/L to Sta. 114+23.81 W/L	Floodwall	8.5	-	2.0	10.5
Sta. 114+23.81 W/L to Sta. 115+43.81 W/L	Floodwall	8.5	5.0	-	13.5
Sta. 304+31.48 W/L to Sta. 331+50 W/L	Levee	8.5	5.0	-	13.5

3. Description of drainage area. The Citrus area is comprised mainly of developed land and land for which developments are planned. The area is relatively flat ranging in elevation from -8.0 to 0.0. It is presently drained by six pumping stations three of which are located near the new levee alinement and discharge into Lake Pontchartrain. They are located on the landside of Hayne Boulevard at the St. Charles, Citrus and Jahncke Canals and have capacities of 1,000, 460 and 1,000 cubic feet per second (c.f.s.), respectively. The other three are

[1] The elevations for the protective works along the IHNC have already been set. Therefore the recent change in freeboard requirements was not applied to the reach of floodwall along the IHNC.

located on the Dwyer Canal discharging into the IHNC (120 c.f.s.) and Elaine and Grant Streets discharging into the MR-GO (90 c.f.s. and 32 c.f.s., respectively). The new hurricane protection levee will not interfere with the operation of these pumping stations. The entire area is subject to periodic inundation from hurricane surges.

4. Proposed drainage improvements. The only runoff that will be intercepted by this new levee is that which will flow between the new levee and the existing railroad embankment. The runoff from the levee and railroad embankment will be collected in the ditch and discharged into the lake through drainage culverts that will be drilled through the railroad embankment. Catch basins will be installed to collect the flow for each culvert.

5. Hydraulic computations.

a. Embankment runoff. Runoff from the lakeside levee slope was computed using the rational method because the area is small. The formula used was $Q = CIA$ in which Q is the runoff in c.f.s.; C is the coefficient of imperviousness; I is the rainfall intensity in inches per hour; and A is the drainage area in acres. The values of "C" were estimated from a table of typical values shown in a publication by the US Army Engineer School, Fort Belvoir, Virginia, titled "Student Reference Drainage," dated January 1964. All the surfaces were considered to be impervious with vegetal cover. Values of "C" used were 0.43 for the levee crown and 0.58 for the levee slope. The values of "I" were obtained from the US Weather Bureau Technical Paper No. 25, "Rainfall Intensity - Duration -Frequency Curves" dated December 1955. The curves used are shown on Plate C-2.

b. Drainage culvert rating curve. A rating curve for the embankment drainage culverts was computed using the continuity equation, $Q = AV$, where Q is the discharge in c.f.s., A is the cross-sectional area in square feet and V is the average velocity in the culverts. For these computations the culverts were assumed flowing full. For the determination of entrance and exit losses, values of 40 percent and 100 percent of the velocity head were used, respectively. Friction losses were computed according to the Darcey-Weisbach equation, $H_f = f(L/D)(V^2/2g)$, in which H_f = head loss due to friction (ft.), f = friction factor; L = length of culvert (ft.); D = diameter of culvert (ft.); V = average velocity (ft./sec.); g = acceleration due to gravity (ft./sec.^{2}).

c. Collector ditch. The Manning Formula with a roughness coefficient of 0.070 was used to determine friction losses in the ditch. A typical rating curve is shown on plate C-3. The curve shown is for a 12-inch diameter corrugated metal pipe on a slope of 1 on 50 which is generally the slope of the embankment. Since culverts in this reach will have slightly different slopes therefore the rating curve will vary somewhat.

collector ditch between the levee and the railroad embankment. This formula and coefficient was also used to verify the velocity which had been assumed to determine the time of concentration needed to determine the value of "I" in the use of the rational method. The coefficient of imperviousness, C, was assumed to be 0.53 for the collector ditch. ~~From B/L station 64+00 to B/L station 331+50 T~~he collector ditch will have a 1 foot slope towards each catch basin from the mid-point between the catch basins. ~~Between B/L stations 28+31 and 63+00 the ditch will slope from an elevation of 6.0 at station 28+31 to an elevation of 5.0 at B/L station 63+00.~~

6. Embankment drainage structures and culvert spacing. ~~Each~~ structures will consist of a 12-inch diameter corrugated metal pipes with a catch basins collecting the flow. Dimensions and inverts of the catch basins and culverts can be obtained from the tables shown on Plate 33 and 34 of the main text. The slope of the culverts will be approximately 1 vertical on 60 horizontal. These structures were designed to convey the flow from a 25-year frequency rainfall assuming that the spacing between the catch basins will be such that the water in the collector ditch will not overtop the railroad embankment. ~~In the reach from station 64+00 to station 331+50 T~~he culvert catch basins will be on 600-foot centers. The hydraulic analysis showed that the catch basins could be spaced at 900-foot intervals and sufficiently drain the area. But, as was explained in paragraph 65 of the main text, we have complied with the railroad's recommendation of 600-foot spacings. ~~In the reach from B/L station 28+31 to B/L station 64+00 one 12-inch culvert and catch basin will be placed at B/L station 63+00.~~ A grating on the catch basins will be provided to trap debris. Losses through the grating were considered minimal provided it is kept free of debris. Riprap protection will be provided around the catch basins to protect against localized scouring. Details of the riprap are shown on Plate 33 and 34 of the main text.

Do Not Use

In the reach between station 28+31 to station 64+00, the 12-inch diameter corrugated metal pipes will be discharging into a collector pipe on the airport side of the railroad instead of directing into the lake. Manholes will be provided at each 12-inch culvert intersection with the collector pipe. The collector pipe will discharge into the lake on the eastern edge of the airport through the existing Floodwall. Details of the collector pipe and manholes are shown on plate 33.

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNPD-RR	Lake Ponchartrain, La., and Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO	FROM	DATE	CMT 1
C/Eng Div	C/Plng Div	30 Mar 76 Mr. Waguespack/lt/232	

1. In reference to your DF dated 16 Jan 76, Planning Division has conducted a cultural resources survey of this project area rights-of-way. The cultural resources report is included as Inclosure 1.

2. The DM No. 2 - General Design Supplement No. 5A for subject project should include the revised paragraph included as Inclosure 2.

W.E.S.

ROY

2 Incl
as

LMNPD-RR

Lake Ponchartrain, La., and Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

C/Eng Div

C/Plng Div

30 Mar 76
Mr. Waguespack/lt/232

1. In reference to your DF dated 16 Jan 76, Planning Division has conducted a cultural resources survey of this project area rights-of-way. The cultural resources report is included as Inclosure 1.

2. The DM No. 2 - General Design Supplement No. 5A for subject project should include the revised paragraph included as Inclosure 2.

2 Incl
as

ROY

Mr. Shell

university of new orleans
lake front new orleans louisiana 70122 (504)288-3161

DEPARTMENT OF ANTHPOPOLOGY AND GEOGRAPHY

March 18, 1976

Mr. Leslie Wagespack
Planning Division
U.S. Army Corps of Engineers
P.O. Box 60267
New Orleans, La. 70160

Dear Les:

I finally finished two days worth of survey along Hayne Blvd. between Downman Road and Paris Road including a few side junkets down cross streets in an attempt to locate the remains of previously recorded sites. A detailed report is appended of specifically what was accomplished.

In brief, I can state that enlarging the levee between the railroad and Hayne Blvd. will have no adverse effect on any cultural resourse, historic or pre-historic.

A few photographs were taken but the roll is not finished. I expect that this can be done on the next job.

Sincerely,

J.Richard Shenkel

Incl 1

Cultural Resourse Survey
Hayne Boulevard
Between Downman Road and Paris Road

A survey of the remaining cultural resources was run on Hayne Boulevard between Downman Road and Paris Road with the expressed purpose of noting what the adverse affects would be on those resources if the existing levee, presently located between Hayne and the bed of the tracks of the Southern Railroad, was enlarged.

The survey was run in several segments including at least one complete traverse by foot and another by automobile to check mileage location by odometer. Sites were recorded on U.S.G.S. Quadrangle maps, 7.5 minute series, Spanish Fort, La., and Little Woods, La. Block numbers and street names were taken from the Transit Guide and Street Map of New Orleans published by New Orleans Public Service, Inc. 1974.

As of this writing, Hayne Blvd. is undergoing widening along the entire length of the project area. When complete, it will be four lanes wide and run from the toe of the existing levee on the lake side to the riverside right-of-way including curbs, asphalt shoulders and sidewalk. The project is complete from Downman Road to the Citrus Canal, a distance of 2.5 miles. The remaining 3.38 miles between Citrus and Paris Road is currently under construction.

A thourough assessment of remaining prehistoric resources not possible without extensive testing as the entire project strip has been covered over by rocks, fill soil, shell fill, concrete, asphalt, railroad rip-rap and existing levee. Those clues by which sites are typically looked for in the Pontchartrain Basin are virtually useless in the case of this developed area. The typical archaeological site in the basin is a shell midden projecting above the level of the surrounding marsh and characterized by stands of Live Oak and Hackberry trees. These trees seem to prefer the slightly higher elevations of the midden as well as the alkaline soils provided by the shell. The shells and trees are also characteristic of stranded natural shell beaches. The entire project length is reported to have such a beach. Previously recorded sites in the project area are reported to have been associated with that beach. Further complicating factors are present cultural affinities for Live Oak trees which are planted in developing areas for their asthetic qualities. Substantial Live Oak trees can be found the entire length of Hayne Blvd. and their presence could be indicative of any of the above conditions.

Only one site is specifically recorded for the project envolvement. That site 16 OR 24 has two noted locations: 1) 30°02'23" N., 90°00'22" W. or on the lakeshore at the intersection of Hayne and Edward. 2) 30°02'32" N., 89°59'55" W. or at the intersection of Hayne and Benson. Both loci have oak trees along the riverside of Hayne Blvd. and a shell beach on the lake edge. Artifacts were not found at either location. The widened Hayne Blvd. comes to within 10 feet of the existing levee.

Another recorded site, 16 OR 15, initially recorded as being near Hayne at the intersection of N. Little Woods Street and West Little Woods Street might reach Hayne as oak trees line Hayne at this point.

Other recorded sites, 16 OR 1, 2, 3, 4, 5, 9, 10, 20 and 26 are all one block or more away from Hayne and, if anything remains of them, they will not be affected by levee construction. Two sites near to and east of the intersection of Paris and Hayne are 16 OR 28 and 11. OR 28 is approximately 100 yards northeast of the intersection under the railroad. OR 11 is a dredged shell medden about 400 yards southeast of the intersection on the northeast corner of the junction of Rodgers Lagoon and the Dwyer Canal. This site was examined in May 1975 and was noted to have only a thin edge of the medden remaining, the rest now being a dredged hole.

J.Richard Shenkel
March 18, 1976

68. Cultural Resources. The entire project strip has been covered over by rocks, fill soil, shell fill, concrete, asphalt, railroad, rip-rap, and existing levee. Those clues by which sites are typically looked for are virtually useless in the case of this developed area.

a. A cultural resources survey was conducted by Dr. J. Richard Shenkel, Professor of archeology at Tulane University of New Orleans, along the rights-of-way for this project in March 1976. Only one site is specifically recorded in the project rights-of-way. The site has two locations, on the lakeshore at the intersection of Hayne Blvd. and Edward, and at the intersection at Hayne Blvd. and Benson. Artifacts were not found at either location.

b. There are no properties in the Citrus area which are included in the latest National Register of Historic Places published in the Federal Register on 10 February 1976.

c. According to Dr. Shenkel, project features will have no adverse effect on any known cultural resource, pre-historic or historic.

Incl 2

LMNRE-AP (19 Feb 76)
SUBJECT: Lake Pontchartrain, Louisiana & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO Chief, Engineering Div FROM Chief, Real Estate Div DATE 6 Mar 76 CMT 2
Mr. Whitaker/ct/885-6803

Draft of GDM for subject project has been received and the following comments are furnished:

a. It is proposed to place riprap and derrick stone on the lakeside of the railroad embankment by casting from the landside over the railroad tracks by use of a dragline.

b. The Southern Railway System has objected to this method of placing riprap and derrick stone. They are concerned about the possible damage to their rails or roadbed by falling stones. They have presented criteria to the district that would be acceptable for this work. This would consist of constructing a platform of heavy timber to be used at all work areas. The platform would have to be moved at such times as trains would use this reach of track.

c. The estimate for casting over the tracks should include this increased cost for operations as required by Southern Railway.

Cole

1 Incl COLE
wd

This is already covered. See plate 41 and table 5.
12 Mar 76

Aug. Br

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, Louisiana & Vicinity-Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 19 Feb 76 CMT 1

Mr. Shelton-Mr. Dichatry/gze/239

1. Reference is made to multiple DF dated 16 Jan 76, subject as above.

2. The requested submission date for comments on subject GDM was 13 Feb 76. Please advise this office of the expected submission date of your comments.

CHATRY

EEO
WRS

DISTRIBUTION
C/Ops Div
C/Real Estate Div ✓
[redacted]
NO Area Office
C/PDO
District Counsel

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆GPO—1975—665-422/1063

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 16 Jan 76 CMT 1

Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

CHATRY

1 Incl
as

DISTRIBUTION:
Acting C/Plan Div
Safety Ofc
C/Construction Div
C/Operations Div
C/Real Estate Div
Value Engineer
NO Area Office
C/Prog Dev Office
District Counsel

Hand carried comments to this office on 4 Mar 1976. Comments consisted of comments marked in red in the draft of the text.

DJD
4 Mar 76

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-DL	Lake Pontchartrain, La. and Vicinity, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Design Memo Branch FROM Asst C/Design Branch DATE 26 Feb 76 CMT 1

Mr. Steinwinder/dc/314

1. As requested in your DF of 16 Jan 76, inclosed are the Design Branch comments pertaining to the draft supplement no. 5A, GDM no. 2.

2. Attached with this DF are:

a. One sheet containing cost estimate data for revising the construction cost of the wave wash protection in Table No. 5 in the GDM draft submitted by Levees Section.

b. A draft copy of GDM marked up in red and green.

c. Two sets of pencil calculations to be incorporated into the GDM data.

d. One roll of original GDM plates that have been revised and corrected by the Structural Design Section, and one roll of GDM prints marked up in red by the Levees Section.

3. It is requested that GDM plates, sent to Design Branch for review, have the plate number references filled in.

4 Incl
as

BRUPBACHER

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED. GPO : 1968 O - 282-480

July 1975 price levels

RE[illegible]ONABLE CONTRACT ESTIMATE 1r NOV 75 | SHEET [illegible] OF [illegible]

PROJECT: IHNC to PARIS ROAD GDM | INVITATION NO.

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
	Wave Wash Protection				
	Cost Estimate				
	Mob & Demob	1 Job	L.S.		90,000
	clearing	1 Job	L.S.		5,000
	Railroad Crossing	1	L.S.		3,500
	Railroad Guard Mat	4	ea.	3,000	12,000
	Shell (citrus crossing)	1500	C.Y.	10.00	15,000
	Riprap	75,000	TON	18.00	1,350,000
	Derrick Stone	167,000	TON	20.00	3,340,000
	Subtotal				4,815,500
	Enviromental (0.7%)				34,000
	Subtotal				4,850,000
	Contingencies (20%)				970,000
	Subtotal				5,820,000
	E. & D. (11% ±)				640,000
	S. & A (8% ±)				466,000
	TOTAL, CONSTRUCTION				# 6,926,000

ENG FORM 1738 APR 67 SUPERSEDES ENG FORM 1738, 1 APR 54, WHICH IS OBSOLETE.

REASONABLE CONTRACT ESTIMATE (NOV 75) SHEET [redacted] OF [redacted]

PROJECT: IHNC to PARIS ROAD GDM

INVITATION NO.:

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	ESTIMATED AMOUNT
	Relocations for LEVEE				
	Removal (only) of concrete walkways over levee	64	ea.	1,000	64,000
	Removal & replacement of electric & water lines crossing over levee	110	ea.	900	99,000
	Subtotal				163,000
	Contingencies (20%)				33,000
	subtotal				196,000
	E & D (10% ±)				20,000
	S & A (7% ±)				14,000
	TOTAL, RELOCATIONS				# 230,000

ENG FORM APR 67 1738 SUPERSEDES ENG FORM 1738, 1 APR 54, WHICH IS OBSOLETE.

GPO : 1967 O-241-683

DISPOSITION FORM

WBD 2/27/76

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNNO	Lake Pontchartrain, La., and Vicinity, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Engineering Division FROM A/E, New Orleans DATE 25 Feb 76 CMT 1

Mr. Hutchinson/jl/255-7104

1. The subject GDM has been reviewed by this office and the following comments are offered.

2. Plates 6 and 7 call for I-wall underneath the Seabrook Bridge. Recommend that the feasibility of an earthen embankment be investigated. I-wall construction will require splicing of sheet pile, use of a small drop hammer to drive the pile, use of a concrete pump to place the concrete and difficulty in handling the I-wall forms. An embankment would be much easier to construct.

3. Plate 5: It is recommended that a roller gate with rails across base slab be used in lieu of the trolley type gate. Some concrete work can be deleted in columns and removable beam.

4. Plate 24: (Typical Section) A joint should be constructed across base slab to eliminate involved forming.

DUCARPE

1 Incl
GDM

LMNOD-OF (18 Feb 76)
SUBJECT: Lake Pontchartrain, LA. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road.

TO: C.Engr Div FROM: C/Ops Div DATE: 24 Feb 76 CMT 2
Mr. Ziegler/ar/446

Operations Division comments on subject GDM were submitted on 18 Feb 76. (Copy inclosed).

1 Incl

NETTLES

Proj. Opn. Rr.

DISPOSITION FORM

• For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, Louisiana & Vicinity-Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 19 Feb 76 CMT 1

Mr. Shelton-Mr. Dachstry/gze/239

1. Reference is made to multiple DF dated 16 Jan 76, subject as above.

2. The requested submission date for comments on subject GDM was 13 Feb 76. Please advise this office of the expected submission date of your comments.

CHATRY

EED
WBS

DISTRIBUTION
C/Ops Div ✓
C/Real Estate Div
[redacted]
NO Area Office
C/PDO
District Counsel

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE. ☆GPO—1975—665-422/1063

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

2/24/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, Louisiana & Vicinity-Citrus Lakefront Levee, IHNC to Paris Road

TO Actg C/Design Br
C/F&M Br

FROM C/Design Memo Br

DATE 19 Feb 76

CMT 1

Mr. Shelton-Mr. Dougherry/gze/239

1. Reference is made to multiple DF dated 16 Jan 76, subject as above.

2. The requested submission date for comments on subject GDM was 13 Feb 76. Please advise this office of the expected submission date of your comments.

Seale
SEALE

LMNED-DL (19 Feb 76)

TO C/Design Memo Br

FROM Actg C/Design Br

DATE 23 Feb 76

CMT 2

Mr. Lee/dc/532

Lee

Comments on the subject GDM will be forwarded before COB 27 Feb 76.

ERB.
BRUPBACHER

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆GPO—1975—665-422/1063

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

2/20/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-FS	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO ✓ Chief, Design Memo Br FROM Chief, F&M Br DATE 19 Feb 76 CMT 1

Mr. Steinbeck/mhg/885-7102

Reference is made to LMNED-MP DF dtd. 16 Jan 76, subject as above. The subject GDM has been reviewed and the following comments are furnished relative to Foundations and Materials Branch input. All comments are also shown in red pencil on the draft GDM and accompanying plates.

Para. 22. Change the last sentence to read "The soil borings in this proposed borrow area are shown on plate 57."

Para. 23. Delete all except first two sentences as shown in red pencil.

Para. 29.a.(1) & (2). The location of the catch basins should be revised based on 600 foot spacing as required by others. Once this is done the station of the last catch basin should be added where shown in red pencil on the draft of the GDM.

Para. 29.c. Delete "...with a clay plug 4 feet thick extending down to elevation -10 feet" from the 2nd to last sentence.

Para. 32.a. Change "...see plates 5 and 13" to "...see plates 5 thru 13".

Para. 32.b. Add "...except where the soil boring data indicated that a slightly deeper penetration would be preferable...," afer the words "...sheetpile floodwall..." in the last sentence.

Para. 37. Add the following to paragraph 37. Not applicable

c. Ramps. The ramps will be constructed in one phase to the gross grades shown in Levee Data Table No. 2.

d. Railroad Gate. Construction of the railroad gate will be as follows:

(1) The false work and sheeting will be installed.

(2) The contractor will excavate material from the railroad embankment, construct the railroad gate, construct the connecting T-type and I-type floodwalls, and will backfill with semicompacted clay.

e. Floodwalls. The I-wall, T-wall, and road gates will be constructed to gross grade.

Table 2, 3, and 4 - Revise as shown in red on draft of GDM.

PLATES.

Pl. 10. Station 30+76.27 to 32+47.46 only needs to be overbuilt by 0.50 feet for settlement; therefore, the top of the I-wall should be at elevation 11.0 between these stations. The last two monoliths can be overbuilt where they transition into the road ramp, which must be constructed to a gross grade of 11.5.

☆GPO—1975—665-422/1063

LMNED-FS (19 Feb 76)
SUBJECT: Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

Pl. 14. Add minor changes shown in red pencil.

Pl. 15. To agree with plate 16, the drainpipe through the wave wash protection should have a slope of 1V on 40H.

Pl. 18. Change stationing of clay core section, as shown in red pencil, to agree with that shown on plate 10.

Pl. 33. This plate should be revised to show catch basins at 600 ft. intervals. Also, add comments shown in red pencil to the existing catch basins.

Pl. 34. Add the clay plug as shown in red.

Pls. 42, 43, and 45 thru 47. Add minor changes shown in red on each plate.

Pl. 48. Section at Sta. 33+21 B/L must agree with the same section shown on plate 34. The walkway must be deleted and replaced with clay fill as shown in red. Also, note other changes shown in red pencil on this plate.

Pls. 49 thru 51. Add minor changes shown in red on each plate.

Pl. 57. Delete the clay plug and add the sheetpile cutoff to elevation -50.4 as shown. Also, delete the plan view and profile of the clay plug as this information is already shown on plate 15. Note other minor changes shown in red.

Pls. 53 thru 99. Add minor changes shown in red pencil on each plate.

for R. Piccola
CANNON

1 Incl
nc

LMNED-MP

Lake Pontchartrain, Louisiana & Vicinity-Citrus Lakefront Levee, IHNC to Paris Road

SEE DISTRIBUTION

C/Engineering Div 19 Feb 76
Mr. Shelton-Mr. Dicharry/gze/239

1. Reference is made to multiple DF dated 16 Jan 76, subject as above.

2. The requested submission date for comments on subject GDM was 13 Feb 76. Please advise this office of the expected submission date of your comments.

CHATRY

DISTRIBUTION
C/Ops Div
C/Real Estate Div
~~Value Engr~~
NO Area Office
C/PDO
District Counsel

LMNED-MP

Lake Pontchartrain, Louisiana & Vicinity-Citrus Lakefront Levee, IHNC to Paris Road

Actg C/Design Br
C/F&M Br

C/Design Memo Br

19 Feb 76
Mr. Shelton-Mr. Dicharry/gze/239

1. Reference is made to multiple DF dated 16 Jan 76, subject as above.

2. The requested submission date for comments on subject GDM was 13 Feb 76. Please advise this office of the expected submission date of your comments.

SEALE

DISPOSITION FORM

2/20/76

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNOD-OF	Lake Pontchartrain, LA. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO C/Engineering Div | FROM C/Operations Div | DATE 18 Feb 76 | CMT 1

Mr. Landry/Mr. Ziegler/ar/446

1. Subject draft GDM has been reviewed and the following comments are submitted for consideration:

a. The existing ground and levee sections along both sides of the floodwalls should be readily accessible for maintenance and inspection without violating private property rights. There are various areas where the right-of-way is only 5 to 7 feet wide.

b. Vehicle ramps should be considered at following locations:

(1) Near the Lakefront Airport for access to the levee crown from Hayne Blvd., near levee B/L station 28+31.

(2) Near the end of I-wall construction approximate station 115+30.

(3) Near the corner of Hayne Blvd. - Parish Road, vicinity of B/L station 331+50.

c. Access should be provided across drainage ditch and railroad tracks to the airport drainage canal structure B/L station 33+21.

d. Access along the levee crown should be provided in the vicinity of the Citrus Canal Crossing, St. Charles Pumping Station and Jahncke Pumping Station. If access can not be provided through these areas on the levee crown, then by-pass ramps should be provided.

e. Consideration should be given to using concrete slab around perimeter of catch basins in lieu of 12" of stone and 4" of shell. Water will filter through stone and shell and will pond 1.33' deep around catch basin inlet. Also, riprap, always presents a maintenance problem.

2. It is requested that Engineering Division develop standards (designs) for pipelines, walkways, etc., crossing the levees and floodwalls. These standards would be for use by those making applications to the Orleans Levee Board. Based on the numbers of camps in GDM reach, a large number of permits can be expected.

Nettles

1 Inc

NETTLES

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

2/18/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNPL-RE	Lake Pontchartrain, La. and Vicinity - Citrus Lakefront Levee IHNC to Paris Road

TO C/Eng Div FROM Acting C/Plng Div DATE 13 Feb 76 CMT 1

Mr. Monts/cp/291

1. Reference is made to your multiple DF dated 16 Jan 76 subject as above.

2. We have reviewed the subject Draft DM and found that the Historical and Cultural environment section as presented is inadequate. The original archeological survey for the Citrus reach was conducted on the lake side of the railroad. No survey has been conducted to date on the area in question. An archeological survey will be conducted as soon as possible in this area and the necessary information will be forwarded around 12 March 1976.

ROY

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆GPO—1975—665-422/1063

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 16 Jan 76 CMT 1

Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

CHATRY

1 Incl
as

DISTRIBUTION:
Acting C/Plan Div
Safety Ofc
C/Construction Div
C/Operations Div
C/Real Estate Div
Value Engineer
NO Area Office
C/Prog Dev Office
District Counsel

Reference

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED WITH A FEW CHANGES

DISPOSITION FORM

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

NWL 2/17/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 16 Jan 76 CMT 1
Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

CHATRY

EEB
NWL

1 Incl
as

DISTRIBUTION:
Acting C/Plan Div
~~Safety Ofc~~
C/Construction Div
C/Operations Div
C/Real Estate Div
Value Engineer
NO Area Office
C/Prog Dev Office
District Counsel

LMNSO

TO C/Engineering Div FROM C/Safety Ofc DATE 13 Feb 76 CMT 2
Mr. Singer/ea/24

Re the fixed ladder thru out (e.g. Plates 25,35,37). All should comply with paras 30.B.11 & 12, EM 385-1-1. Re the sluice gate operation wheels on dwg 37. Recommend this design be reviewed to assure that it complies with para 16.A.10 of the EM.

SINGER

Incl
nc

DISPOSITION FORM

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

NBS 2/9/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-HD	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO C/Design Memo Br FROM C/Hyd & Hydro Br DATE 6 Feb 76 CMT 1

Mr RDB Broussard/jmh/328

1. Hyd & Hydro Br has reviewed the above subject draft and we submit the following comments:

a. Appendix C, para. 5, part b, sentence 4 should read, "Friction losses were computed according to the Darcey-Weisbach equation, $H_f = f(L/D)\ (V^2/2g)$, in which H_f = head loss due to friction (ft.); f = friction factor; L = length of culvert (ft.); D = diameter of culvert (ft.); V = average velocity (ft./sec.); g = acceleration due to gravity (ft./sec.^{2})."

b. Appendix C, para. 6, sentence 8 should read, "In the reach from sta. 28+31 to sta. 64+00 one 12-inch culvert and catch basin will be placed at sta. 63+00."

c. We have no further comments to add on the subject draft.

2. Any questions concerning the above subject matter should be directed to Lester Falgoust or Reynold Broussard, ext. 328.

Soileau for

LBF for Moss

BECNEL

1 Incl
as

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

GPO : 1966 O - 202-466

Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

LMNED-HD

C/Design Memo Br

C/Hyd & Hydro Br

6 Feb 76
Mr. Broussard/jmh/328

1. Hyd & Hydro Br has reviewed the above subject draft and we submit the following comments:

a. Appendix C, para. 5, part b, sentence 4 should read, "Friction losses were computed according to the Darcey-Weisbach equation, $H_f = f(L/D)\ (V^2/2g)$, in which H_f = head loss due to friction (ft.); f = friction factor; L = length of culvert (ft.); D = diameter of culvert (ft.); V = average velocity (ft./sec.); g = acceleration due to gravity (ft./sec.^{2})."

b. Appendix C, para. 6, sentence 8 should read, "In the reach from sta. 28+31 to sta. 64+00 one 12-inch culvert and catch basin will be placed at sta. 63+90."

ca. We have no further comments to add on thesubject draft.

2. Any questions concerning the above subject matter should be directed to Lester Falgoust or Reynold Broussard, ext. 328.

1 Incl
as

BRCNEL

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO C/H&H Br
C/Design Br (2 cy, 1 cy of plates fwd previously)
C/F&M Br

FROM C/Design Memo Br

DATE 19 Jan 76

CMT 1

Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

Seale

SEALE

EEB

1 Incl
as

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

GPO : 1966 O - 253-480

DISPOSITION FORM

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

1/26/76

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO SEE DISTRIBUTION FROM C/Engineering Div DATE 16 Jan 76 CMT 1

Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

CHATRY

1 Incl
as

DISTRIBUTION:
Acting C/Plan Div
Safety Ofc
~~C/Construction Div~~
C/Operations Div
C/Real Estate Div
Value Engineer
NO Area Office
C/Prog Dev Office
District Counsel

LMNCD-CS

TO C/Engineering Division FROM C/Construction Div DATE 22 Jan 76 CMT 2

Mr. Heckathorn/eaa/289.

Subject draft GDM has been reviewed and no comments are offered.

SMITH

1 Incl
nc

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

LMNED-MP

Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

C/H&H Br
C/Design Br (2 cy, 1 cy fwd previously)
C/P&M Br

C/Design Memo Br

16 Jan 76
Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

1 Incl
as

SEALE

LMNED-MP

Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

SEE DISTRIBUTION

C/Engineering Div

16 Jan 76

Messrs. Shelton-Dicharry/mm/430

1. Inclosed herewith is a copy of the draft of the subject GDM, including plates and appendixes.

2. You are requested to review this draft pertaining to your area of expertise, and return your comments with the draft by 13 February 1976.

3. If you have any questions, contact Messrs. Shelton or Dicharry, ext. 430.

1 Incl
as

CHATRY

DISTRIBUTION:
Acting C/Plan Div
Safety Ofc
C/Construction Div
C/Operations Div
C/Real Estate Div
Value Engineer
NO Area Office
C/Prog Dev Office
District Counsel

LMNOD-OS (4 Nov 75)
SUBJECT: Lake Pontchartrain and Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO: C/Engineering Division FROM: C/Operations Division DATE: 26 Nov 75 CMT
Mr. Brehm/tlm/418

1. Reference your DF of 4 Nov 75 requesting annual operations and maintenance charges for certain features of Lake Pontchartrain and vicinity Citrus Lakefront levee, IHNC to Paris Road. Listed below are the respective estimates based on conditions stated in your DF:

a. Hurricane protection levee (5.5 miles)
(1) Mowing - $2400.00/yr. (6 mowings/yr.)
(2) Maintain crown; drainage, inspection - $2300.00/yr.

b. Catch basin and culvert
(1) Clearing catch basin - $100.00/yr.
(2) Clearing culvert - $ 100.00/yr.

c. Wave wash protection (24 acres)
(1) Herbicide treatment - $1600.00/yr.

d. Overhead roller and swing gates
(1) Inspection, routine maintenance, and painting - $100.00 each/yr.

4 Incl NETTLES
nc

CITRUS GDM Draft Distribution List

	Draft No.	Rec'd Cmts	Plate Set No
Mr. Chatry	1	Nonc	1
Mr. Seale	2	None	2
Mr. Barton	3	Nonc	3
H&H Branch	4	9 Feb 76	4
Design Branch	5, 6	26 Feb 76	5, 6
F&M Branch	7	13 Feb	7
Plan. Div	8	3 Feb	8
Safety Ofc	9	18 Feb	9
Const. Div	10	None	10
Oper. Div.	11	18 Feb	11
R/E Div.	12	6 Mar	12
Value Engineer	13	X	13
N.O. Area Office	14	5 Feb	14
Prog. Dev. Office	15	4 Mar	15
District Counsel	16	X	16
Mr. Dicharry	18	✓	18
Mr. Shelton	19	✓	19
Consolidation Copy	20		20

1/13/76

LMNED-DL (4 Aug 75)
SUBJECT: Lake Pontchartrain, La. & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road

TO C/Design Memo Branch FROM Assistant C/Design Branch DATE 12 Jan 76 CMT 2
Mr. Steinwinder/dm/314

1. Inclosed is the data requested in comment 1.

2. The original GDM drawings were previously hand-carried to the Design Memo Branch when they were completed in order to accomplish other work on the subject GDM.

for Bordelon
for BRUPBACHER

for Hart

5 Incl
Wd incl 1-8
Added 5 incl
9-13 as

LMNED-DL (4 Aug 75)
SUBJECT: Lake Pontchartrain, La. & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road

TO C/Design Memo Branch FROM Assistant C/Design Branch DATE 12 Jan 76 CMT 2
Mr. Steinwinder/dm/314

1. Inclosed is the data requested in comment 1.

2. The original GDM drawings were previously hand-carried to the Design Memo Branch when they were completed in order to accomplish other work on the subject GDM.

5 Incl
Wd incl 1-8
Added 5 incl
9-13 as

BRUPBACHER

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La. & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road

TO C/Design Br FROM C/Design Memo Br DATE 4 Aug 75 CMT 1

Mr. Joachim/mm/430

1. The subject DM is currently being prepared. Accordingly, it is requested that input from Design Br be furnished for inclusion in the report. Inclosure 1 is a copy of the previously furnished writeup from Design Br for the subject DM. Please review this for adequacy. The DM entitled "New Orleans East Lakefront Levee; Paris Road to South Point" should be used as a reference. Inclosures 2 thru 4 are the plan views of the project area.

2. The requested input should include quantity estimates for the levee and costs for the proposed work. See inclosures 5 thru 8 for typical sections.

3. A floodwall elevation revision was necessitated by a change in the freeboard requirements specified by H&H Br. The new minimum freeboard is 2 feet. Therefore, the top of the floodwall from station 10+58.20 W/L to station 30+77.39 W/L should be raised 1 foot from gross elevation 10.0 ft. m.s.l. to gross elevation 11.0 ft. m.s.l. The design elevation, or net grade, will be raised from 9.5 ft. m.s.l. to 10.5 m.s.l. This revision will require a review of the design of the floodwall by your branch. Also, the T-wall section at gate no. 4 will have to be raised 1 foot from 9.5 ft. m.s.l. to 10.5 ft. m.s.l. Please furnish the revised floodwall sections before the remaining input is furnished so F&M Br can check the foundation design.

4. The current design for Lincoln Beach remains unchanged, using only one access gate thru the floodwall. When the plans are finalized for the Lake Forest Marina, they will be incorporated into the DM.

5. A plate showing the general features of the Citrus Pumping Station closure that is being done by private contractor should be included in your report.

6. Please furnish this branch with finished originals of all necessary design plates. All required input for inclusion in the subject DM should be furnished to this branch by COB 31 Nov 75.

7. Work should be charged to account no. BE C21304 Z10A CKO. This amount should not exceed $12,000.

8. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on ext. 430.

Seale
SEALE

8 Incl
as

523-5042

The Board of Levee Commissioners

OF THE

Orleans Levee District

200 WILDLIFE AND FISHERIES BUILDING
418 ROYAL STREET

New Orleans, La.
70130

GUY F. LEMIEUX, PRESIDENT
BERNEL R. SANDERS, PRES. PRO-TEM
DANIEL P. KELLY, JR.
JOHN D. LAMBERT, JR.

EUGENE V. MACON
JAMES C. SCALISE
Richard J. Kernion

PROTECTING YOU AND YOUR FAMILY

RICHARD J. McGINITY, GENERAL COUNSEL
JOHN P. McNAMARA, CHIEF ENGINEER & SECRETARY
GEORGE J. LABRECHE, EXECUTIVE ADMINISTRATOR

November 26, 1975

Mr. Stan Shelton
Engineering Dept.
Department of the Army
New Orleans District
Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Mr. Shelton:

I am submitting to you the information requested with respect to the existing drainage system in front of the New Orleans Airport east of Downman Road, and also copies of the drainage and pump house plans, as they were originally installed in Lincoln Beach.

If any further information is needed, please advise me.

Sincerely yours,

E. R. Medina

Enrique Medina
Engineering Specialist III

EM/cwt

Enclosures

xc: Guy F. LeMieux

Original & inclosures forwarded to Structures Section 7 Jan 76 /R/

LMNRE-E (13 Nov 75)
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity Hurricane Protection, IHNC to Paris Road, Land Costs

TO C/Engr Div FROM C/Real Estate Div DATE 22 Dec 75 CMT 2
Mr. deSambourg/mlw/885-6806

1. As you requested in Comment 1, we have updated and revised the gross appraisal 17 July 1973 in accordance with the changes in acreages as shown on your inclosure 1.

2. Included in the appraisal is the estimate of value of six acres as described in paragraph 3 above and shown on inclosure 2. The value estimate of the 43 acre as required in paragraph 3 has been omitted at the verbal request of Mr. Dicharry of Engineer Design Memo Branch with Mr. deSambourg of the Appraisal Branch on 25 November 1975.

Cole
COLE

2 Incls
wd incl 2, 3 & 4
Added 1 incl
5. Gross Appraisal - 51219

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, Louisiana, and Vicinity Hurricane Protection, IHNC to Paris Road, Land Costs

TO C/Real Estate Div FROM C/Engr Div DATE 13 Nov 75 CMT 1

Mr. Dicharry/gze/430

1. Inclosure 1 is a copy of the Gross Appraisal Report submitted by your Division by DF dated 17 July 1973, subject as above.

2. You are requested to update the report with respect to today's land values. The acreages have changed slightly as shown in red on inclosure 1. Drawings depicting the subject reaches are the same as furnished previously.

3. In addition to the above, you are requested to furnish the land costs for 43 acres of the existing levee along Haynes Blvd. from B/L station 64+00 to 331+50, excluding the reach in front of Lincoln Beach. This reach is shown on inclosures 2, 3, and 4. Also, the land costs for 6 acres of the land between Haynes Blvd. and the existing railroad embankment from B/L station 28+31 to 64+00 is needed. This reach is shown on inclosure 2. These acreages will be required for right-of-way only.

4. All of these costs will be incorporated into the subject GDM. You should charge your work to account number BEC21304Z10ACPA. This information is requested by 28 Nov 75.

5. If you have any questions, please contact Mr. J. Dicharry, Design Memo Branch, extension 430.

William E. Simmen

CHATRY

4 Incl
as

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

GPO : 1966 O - 323-400

Identification No.
30717

GROSS APPRAISAL REPORT

LAKE PONTCHARTRAIN AND VICINITY, HURRICANE PROTECTION
INNER HARBOR NAVIGATION CANAL TO PARIS ROAD

1. Location and General Data:

This report presents estimated real estate costs in connection with the acquisition of right-of-way, construction easements, and drainage easements required for a portion of subject project. It is related to the gross appraisal report identified as No. 30615.

The within estimates are based on drawings, bearing no file number, which were furnished with DF dated 3 July 1973 to Chief, Real Estate Division from Chief, Engineering Division, subject as above. The drawings are identified as IHNC to Paris Road Plan and Profile, Plates Nos. 2 thru 10 and Plate 32.

The area involved is located in the City of New Orleans and is in two sections where mainly I-Wall construction will be utilized for hurricane protection. One section begins at the end of an existing I-Wall along Jourdan Road near the Inner Harbor Navigation Canal, and extends in a northerly direction to the New Orleans Lakefront Airport. It then runs eastwardly along the south side of the airport to Station 32+24.76, turns south, and ends at Station 34+95.

The other section is in the Lincoln Beach area near Paris Road, extending from Sta.100 to Sta.115+43.81 where the concrete I-Wall will end.

The project encompasses street and railroad right-of-ways, New Orleans Levee Board and Airport property. The only improvement evaluated herein is the chain link fencing.

2. Relocation of pipelines and utilities are not evaluated in this report. Neither are the transit shelters at Lincoln Beach included.

3. There are no churches, schools, major buildings, nor cemeteries involved.

4. Subsurface rights are not estimated since mineral interests will not be acquired.

5. No severance damage is indicated.

6. Uniform Relocation Assistance and Real Property Acquisition Policies Act. (P.L.91-646) is not applicable.

Incl 1

7. Market Data:

The following sales were used in evaluation of the land. Sales Nos. 1, 2, 3 and 4 are considered to be the most nearly comparable to the subject property at the New Orleans Lakefront Airport. They are all located in the Lake Forest Industrial Park near the intersection of Jourdan Road and Hayne Blvd., very close to subject property.

Sales Nos. 5, 6, 7 and 8 are homesites near the Lincoln Beach area. These sales were used in estimating the value of subject properties after consideration of the factors which influence real property values.

Sale No. 1

Grantor:	Lake Forest, Inc.
Grantee:	Harry B. Rainold
Date:	August 1972
Recorded:	COB 712/360, Orleans Parish
Consideration:	$18,370.00
Size:	72 x 150 = 10,800 SF
Unit Price:	$1.70 SF or $74,052 acre
Location:	Lot L7C2T, Townsend Place

Sale No. 2

Grantor:	Lake Forest, Inc.
Grantee:	Jack Scariano et al
Date:	July 1972
Recorded:	COB 710/215, Orleans Parish
Consideration:	$45,000.00
Size:	140 x 183 = 25,620 SF
Unit Price:	$1.76 SF or $76,665 acre
Location:	Lot L7C2C, Townsend Place

Sale No. 3

Grantor:	Lake Forest, Inc.
Grantee:	Michael L. Martinolich
Date:	July 1972
Recorded:	COB 712/220, Orleans Parish
Consideration:	$18,513.00
Size:	50 x 217.8 = 10,890 SF
Unit Price:	$1.70 SF or $74,052 acre
Location:	Lot L7C2F, Townsend Place

Sale No. 4

Grantor:	Lake Forest, Inc.
Grantee:	Alvin J. Boos et al
Date:	September 1972
Recorded:	COB 713/373, Orleans Parish
Consideration:	$19,057
Size:	50 x 217.8 = 10,890 SF
Unit Price:	$1.75 SF or $76,230 acre
Location:	Lot L7C2G, Townsend Place

Sale No. 5

Grantor:	Kirfam, Inc.
Grantee:	Leon G. Connelly, Jr.
Date:	June 1973
Recorded:	COB 718/477
Consideration:	$5,000
Size:	40 x 115 = 4,600 SF
Unit Price:	$1.09 or $47,480 acre
Location:	Hayne Blvd., Villa Sites

Sale No. 6

Grantor:	R. C. Schaefer
Grantee:	Otis R. Willis
Date:	February 1973
Recorded:	COB 717/108 Orleans Parish
Consideration:	$5,625
Size:	60' x 100' = 6,000 SF
Unit Price:	.94¢ SF or $40,946 acre
Location:	Weaver Ave., South Shores

Sale No. 7

Grantor:	S. A. Morlier
Grantee:	Ralph J. Kastner, Jr.
Date:	March 1973
Recorded:	COB 716/205 Orleans Parish
Consideration:	$6,000
Size:	75' x 120' = 9,000 SF
Unit Price	.67¢ SF or $29,019 acre
Location:	Mercier St., Edgelake Subdivision

Sale No. 8

Grantor: Oscar Encardes, Jr.
Grantee: Floyd A. Caro
Date: April 1972
Recorded: COB 706/649
Consideration: $4,500
Size: 50 x 110 = 5,500 SF
Unit Price .82¢ SF or $35,719
Location: S. Littlewoods Dr., Little Woods

8. Estimate of Value:

Land:		
R/W Lakefront Airport Area:		
4.210 ~~4.070~~ acres in R/W		
-0.730 acres in Streets - no value		
3.480 ~~3.340~~ acres @ $75,000	$250,500.00	
R/W Lincoln Beach Area:		
1.781 ~~2.059~~ acres in R/W @ $50,000	- 102,950.00	
Estimated Value of R/W -		$353,450.00
Construction Easement Airport Area:		
1.933 ~~1.952~~ acres in Easement Area		
- .520 acres in Streets - no value		
1.413 ~~1.432~~ acres @ $11,250 -	$16,110.00	
Construction Easement Lincoln Beach Area		
1.101 ~~0.909~~ acres @ $7,500	6,817.50	
Estimated Value 2-Year Construction Easement	$22,927.50	
Rounded		22,950.00
Drainage Easements - 29 areas		
0.426 ~~0.366~~ acres @ $25,000		
Estimated Value Drainage Easements		9,150.00
Total Land Value		$385,550.00
Severance Damage - None		-
Improvements:		
3,075 L.F. Chain Link Fence @ $2.25		
Total Improvement Value - Rounded		6,900.00

Lands and Improvements	$392,450.00
Contingencies (approx. 20%)	78,550.00
Resettlements (P.L. 91-646) None	-
Acquisition Costs (4 tracts)	
Real Estate Hired Labor @ $1,000 -$4,000	
Acquisition by Others @ $1,000 - 4,000	8,000.00
Total Estimated Real Estate Costs	$479,000.00

10. Certificate:

I certify that I have inspected subject properties, and that in my opinion the values stated above are reasonable and represent my best judgment as to the estimated value of the rights to be acquired. I have no present or anticipated future interest in subject properties.

H. L. HARGROVE, JR.
Appraiser
17 July 1973

Approved:

ELROY J. SCHULIN
Chief, Appraisal Branch
17 July 1973

IDENTIFICATION
NO. 51219

GROSS APPRAISAL REPORT

LAKE PONTCHARTRAIN, LOUISIANA AND VICINITY HURRICANE PROTECTION, INNER HARBOR NAVIGATION CANAL TO PARIS ROAD

PURPOSE OF APPRAISAL

The purpose of this report is to estimate the fair market value of perpetual easements for levee, floodwall and drainage and temporary easement for construction. This report, in addition to revising and updating gross appraisal report with identification Number 30717, also includes area not appraised in the previous report.

DATE OF VALUATION

18 December 1975.

LOCATION AND GENERAL DATA

The estimates of value of the rights-of-way for the floodwalls and the drainage and construction easements are based on the same drawings as referred to the Gross Appraisal No. 30717 but with the areas revised by Exhibit A. The estimate of value for the 6 acre levee rights-of-way is based on the Corps of Engineers Map File No. H-2-26533, Plate 2.

The area involved is located in the City of New Orleans and is in three segments with segments 1 and 3 the portions of Gross Appraisal No. 30717 being revised where mainly I-Wall construction will be utilized for hurricane protection. Segment 1 begins at the end of the existing I-Wall along Jordan Road parallel to the east bank of Inner Harbor Navigation Canal, and extends in a northerly direction to the New Orleans Lakefront Airport after making a jog to pass under the elevated approach of Lakeshore Drive at the I.H.N.C. Bridge. It then runs eastwardly along the south side of the airport property to floodwall Station 32+24.76 where it turns south. At this point a levee ties in and runs to floodwall Station 34+60 which concludes this segment. The second segment starts at this point which is equal to Base Levee Station 28+31 and runs parallel to Hayne Blvd. to Base Levee Station 64+00. This entire segment is for levee rights-of-way and is that part of the appraisal which is not a revision. The third segment is located across the entrance to the now vacated Lincoln Beach Amusement Park. This segment is to be I-Wall, between Station 100 and Station 115+43.81, which will connect to earthen levees on each end.

Incl 5

The project encompasses street and railroad rights-of-way, New Orleans Levee Board and airport property. The only improvement involved and evaluated in this report is chain link fencing.

The highest and best use of Segment 1 is light industry and takes this appearance even though on city zoning maps part of it is shown as RS-2 (residential). The area in which segment 2 is located is zoned residential and this is its highest and best use. Segment 3 is located in an area zoned B-1 (neighborhood business). It is proposed to convert this old beach area in a marina in the future since piers into the lake are already there. This is considered as its highest and best use.

Since the entire project is within New Orleans, all city services are available with schools, churches, shopping centers, medical and recreational facilities in the immediate area. There is no significant difference of the economy of this area from that of other areas of New Orleans.

RELOCATION OF PIPELINES AND UTILITIES

These items are not evaluated in this report. Neither are the transit shelters at Lincoln Beach.

CEMETERIES, CHURCHES AND SCHOOLS

There are no churches, schools, cemeteries located in the project area nor are there any visible signs of individual graves.

TIMBER

There is no timber in the project area.

MINERALS

Subsurface rights will not be acquired and are not evaluated in this report.

SEVERANCE

Severance damage does not occur in this instance.

UNIFORM RELOCATION ASSISTANCE

No benefits are applicable under Public Law 91-646.

MARKET DATA

An investigation of the market produced recent sales, which were confirmed, inspected and analyzed. The most comparable of these sales were used to estimate the land value of the subject project and are shown below:

SALE NO. 1

GRANTOR:	C. J. Dufau
GRANTEE:	South Central Bell
DATE:	July 1974
RECORDATION:	COB 725, Folio 132
LOCATION:	Lots L7C2EE and FF. Fronts on east side of Harbor Circle in LaKratt Industrial Park.
SIZE:	34,848 sq. ft.
CONSIDERATION:	$78,408
VERIFICATION & INSPECTION:	Verified with Ms. da Quana of vedee company 8 December 1975. Inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	These were two adjoining vacant lots with total of 160' frontage on Harbor Circle. (See narrative description of Sale 2)
SALE ANALYSIS:	$2.25 per sq. ft. or $98,010 per acre

SALE NO. 2

GRANTOR:	H. B. Rainold
GRANTEE:	South Central Bell
DATE:	July 1974
RECORDATION:	COB 727, Folio 95
LOCATION:	Lots L7C2JJ and DD. Fronts on east side of Harbor Circle in LaKratt Industrial Park.
SIZE:	34,848 sq. ft.

CONSIDERATION:	$78,408
VERIFICATION & INSPECTION:	Verified with Ms. daQuana of vendee company 8 December 1975. Inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	These were two adjoining vacant lots with total of 160' frontage on Harbor Circle. These lots together with the two in Sale No. 1 were in turn sold by South Central Bell to Richard B. Spangenberg in August 1975 for $2.27 per square foot (purchase price plus recording fees, etc.) Spagenberg is having improvements built to South Central Bell's specifications and will upon completion lease back to them the property on a long term basis. The improvements are presently under construction.
SALE ANALYSIS:	$2.25 per sq. ft. or $98,010 per acre.

SALE NO. 3

GRANTOR:	New Orleans Import Company
GRANTEE:	Kansas Packing Company of New Orleans
DATE:	November 1974
RECORDATION:	COB 726, Folio 439
LOCATION:	Lots L7C2BB. Fronts on west side of Harbor Circle in LaKratt Industrial Park.
SIZE:	50,013 sq. ft. or 1.15 ac.
CONSIDERATION:	$106,000
VERIFICATION & INSPECTION:	Verified with Mr. Jack Burger of vendee company on 10 December 1975. Inspected 7 December 1975 by Warren E. de Sambourg.

NARRATIVE DESCRIPTION:	This vacant lot fronts 184.5' on Harbor Circle and was purchased as a site for building which is now under construction. Grantor had originally intended on construction of building but due to economic situation sold lot instead.
SALES ANALYSIS:	$2.12 or $92,323 per acre

SALE NO. 4

GRANTOR:	Advance Excelsior Company, Inc.
GRANTEE:	Merle P. Mohr
DATE:	January 1974
RECORDATION:	COB 719, Folio 437
LOCATION:	Lot L7C2D. Fronts on west side of Townsend Place in LaKratt Industrial Park.
SIZE:	17,424 sq. ft.
CONSIDERATION:	$36,590
VERIFICATION & INSPECTION:	Verified with owner of company that sold property 8 December 1975. Inspected 7 December 1975.
NARRATIVE DESCRIPTION:	This vacant land lot fronts 80' on Townsend Place. Grantor had originally planned on constructing building on property and moving his operation from the downtown area of the city. When business fell off, he decided against this expansion and sold the property.
SALE ANALYSIS:	$2.10 per sq. ft. or $91,475 per acre

SALE NO. 5

GRANTOR:	Harold Heintz

GRANTEE:	City of New Orleans
DATE:	February 1974
RECORDATION:	COB 719 Folio 476
LOCATION:	Hayne Blvd at Lucerne St., Edgelake Subdivision
SIZE:	10,800 sq. ft.
CONSIDERATION:	$10,185
VERIFICATION & INSPECTION:	Verified with grantor 8 December 1975. Inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	Vacant lot at intersection of Haynes Blvd. and east side Lucerne Street. City purchased this and other properties in order to extend Wright Road to Hayne Blvd. The property measures 84' along Hayne and 125' along Lucerne.
SALES ANALYSIS:	$0.97 per sq. ft. or $42,153 per acre.

SALE NO. 6

GRANTOR:	Nick A. Elsensohn
GRANTEE:	City of New Orleans
DATE:	June 1974
RECORDATION:	COB 726 Folio 57
LOCATION:	Lucerne Street, Edgelake Subdivision (approx. 450' from Hayne Blvd.)
SIZE:	5,675 sq. ft.
CONSIDERATION:	$5,700
VERIFICATION & INSPECTION:	Verified with vendor 8 December 1975.

	Inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	This vacant lot fronts 50' on Lucerne Street near Hayne Blvd. Like sale above, purchase by City for street extension.
SALE ANALYSIS:	$1.00 per sq. ft. or $43,752 per acre.

SALE NO. 7

GRANTOR:	Walter S. Rodrigues
GRANTEE:	Antonio Alonso
DATE:	August 1974
RECORDATION:	COB 728, Folio 178
LOCATION:	Hayne Blvd (Edgelake Subdivision); located 55' east of Parry Street.
SIZE:	6,875 sq. ft.
CONSIDERATION:	$8,500
VERIFICATION & INSPECTION:	Verified with grantee 16 December 1975. Inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	This vacant lot has 50' frontage on Hayne Blvd. by depth of 125'.
SALE ANALYSIS:	$1.24 per sq. ft or $53,856 per acre.

SALE NO. 8

GRANTOR:	Robert T. Barnes
GRANTEE:	Delcuze Development Company
DATE:	June 1975

RECORDATION:	COB 729, Folio 141
LOCATION:	7622 Mercier Street (Edgelake Subdivision) 2½ blocks from Hayne Blvd.
SIZE:	6,000 sq. ft.
CONSIDERATION:	$6,000
VERIFICATION & INSPECTION:	Sale was verified with Carl Delcuze, owner of purchasing company by H. Fields. Property was inspected 7 December 1975 by Warren E. de Sambourg.
NARRATIVE DESCRIPTION:	This vacant lot has 50' frontage on Mercier Street by a depth of 120'. Since purchase a new dwelling has been constructed on property. In addition to this property, grantee also purchased one vacant lot on Lehigh Street in January 1975 and another vacant lot on Michigan Street in September 1975. Each of these lots has 6,000 sq. ft. (50' frontage) and were purchased for $1.00 sq. ft.
SALE ANALYSIS:	$1.00 per sq. ft. or $43,560.

FACTORS CONSIDERED IN VALUATION

The cost approach is used in estimating the depreciated value of improvements (fence only). Market data approach is used to estimate the value of land cost. The value conclusions which follow are estimated from an analysis of the inclosed comparable sales plus additional sales in the area. Properties offered for sale were also checked, although not included, to test the upper limits of the market.

The major factors considered in valuing the various segments of the project area when compared with the analyzed sales are present use of the land, the use to which it is best adaptable, the present and possible future zoning, and location with respect to present and prospective development.

The perpetual easements to be acquired for floodwall and levee rights-of-way are considered as equivalent to the fee value of the surface estate. Since the construction easement is for a two year period, 20% of fee value is considered reasonable for this estate. The drainage easements will be perpetual as they are to be subsurface pipe running through the railroad embankment from catch basins. These easements are estimated at 50% of fee value which is reasonable for this type estate.

COMPARISON AND CORRELATION

Sales 1 through 4 are in the vicinity of Segment 1 of the project as appraised and are all located in a rather newly developed industrial park. Although much of the rights-of-way in Segment 1 is zoned by the city as residential, the area is developed as an airport with its supporting facilities. With respect to value, this segment compares more to the sales in the industrial park. Sales 1 and 2 are analyzed at $2.25 per square foot while Sale 3 is at $2.12 and Sale 4 at $2.10. No adjustments are made for time since these are relatively current and the market does not indicate any significant change in this area. Since Sales 1 and 2 were purchased from different parties to form a larger tract for a specific purpose, more wieght is given to Sales 3 and 4, therefore, indicating an estimated value of $2.15 per square foot or rounded to $93,500 per acre for Segment 1.

Sales 5 through 8 indicate a range $0.97 to $1.24 per square foot for residential lots fronting on Hayne Blvd., or on side streets off Hayne. The market indicates that no adjustment for time is necessary for these sales. Since more of the sales fell near $1.00 per square foot, this indicates a proper level. Segment 2, being located between the railroad embankment and Hayne Blvd., is somewhat less desirable as residential sites due to lack of depth off Hayne. Stub streets would have to be cut off Hayne were this area to be used for residential sites in order to meet the city code. Also, being adjacent to the railroad rights-of-way is an undesirable feature. Considering all factors, the estimate of value for Segment 2 is $0.85 per square foot or $37,000 per acre.

The immediate area where Segment 3 is located is zoned B-1 (neighborhood business). The floodwall with gates here will be across the entrance of Lincoln Beach with the rights-of-way being equivalent of a partial taking since the major portion of Lincoln Beach, located on the lake side of the railroad embankment, is connected to the entrance with an underpass. There were no sales with this zoning in this area. Therefore, it is concluded that this area is considerably less desirable than the area of Segment 1, but has a higher and better use than the land in Segment 2, due to this being part of a beach property. It is recognized that Lincoln Beach is in a decaying, abandoned type condition but it does possess prospects for future development. The estimated value of this segment is, therefore, $50,000 per acre.

ESTIMATE OF VALUE

Land:			
R/W Segment 1			
4.210 acres in R/W			
-0.730 acres in streets - no value			
3.480 acres @ $93,500/acre		$325,380	
R/W Segment 2			
6 acres in R/W @ $37,000/acre		222,000	
R/W Segment 3			
1.781 acres in R/W @ $50,000/acre		89,050	
Estimated Value of R/W			$636,430
Construction Easement Segment 1			
1.933 acres in construction area			
- .520 acres in streets - no value			
1.413 @ $18,700/acre		$ 26,423.10	
Construction Easement Segment 3			
1.101 acres @ $10,000/acre		11,010	
Estimated Value of 2-year Construction Easements		$ 37,433.10	$ 37,430 (rounded)
Drainage Easements - 29 acres			
0.426 acres @ $18,500/acre		$ 7,881	
Estimated Value Drainage Easements			$ 7,880 (rounded)
Total Land Value			$681,740
Severance Damage - none			-
Improvements:			
3,075 lin. ft. chain link fence @ $2.80			
Total Improvement Value			8,610
Land and Improvements			$690,350
Contingencies (approx. 25%)			172,650
Resettlement (P.L. 91-646) - none			-
Acquisition Costs (4 tracts)			
Real Estate Hired Labor @ $800		$ 3,200	
Acquisition by Others @ $1,200		4,800	8,000
Total Estimated Real Estate Costs			$871,000

CERTIFICATE

I hereby certify that I have inspected the subject project area and the estimates as developed in this report represent my unbiased judgment of the value of the estimates to be acquired as described herein. I further certify that I have no undisclosed present or intended future interest in the project area.

Warren E. de Sambourg

WARREN E. de SAMBOURG
Appraiser
19 December 1975

Approved:

for Henry K. Fields

JAMES C. BURGE
Chief, Appraisal Branch
19 December 1975

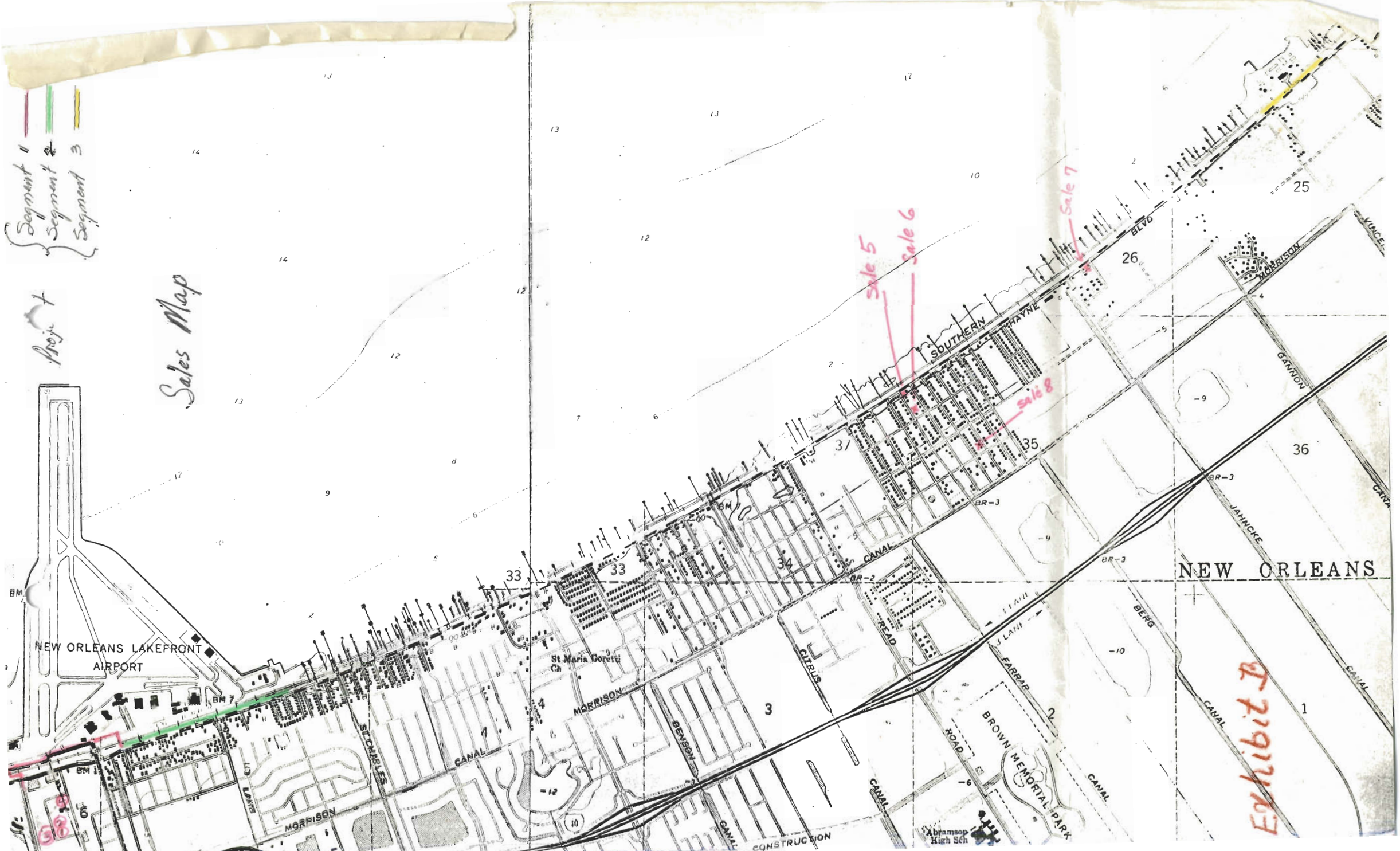
Sale No. 8

Grantor: Oscar Encardes, Jr.
Grantee: Floyd A. Caro
Date: April 1972
Recorded: COB 706/649
Consideration: $4,500
Size: 50 x 110 = 5,500 SF
Unit Price .82¢ SF or $35,719
Location: S. Littlewoods Dr., Little Woods

8. Estimate of Value:

Land:		
R/W Lakefront Airport Area:		
4.210 ~~4.070~~ acres in R/W		
-0.730 acres in Streets - no value		
3.480 ~~3.340~~ acres @ $75,000	$250,500.00	
R/W Lincoln Beach Area:		
1.781 ~~2.059~~ acres in R/W @ $50,000	- 102,950.00	
Estimated Value of R/W -		$353,450.00
Construction Easement Airport Area:		
1.933 ~~1.952~~ acres in Easement Area		
- .520 acres in Streets - no value		
1.413 ~~1.432~~ acres @ $11,250 -	$16,110.00	
Construction Easement Lincoln Beach Area		
1.101 ~~0.909~~ acres @ $7,500	6,817.50	
Estimated Value 2-Year Construction Easement	$22,927.50	
Rounded		22,950.00
Drainage Easements - 29 areas		
0.426 ~~0.366~~ acres @ $25,000		
Estimated Value Drainage Easements		9,150.00
Total Land Value		$385,550.00
Severance Damage - None		-
Improvements:		
3,075 L.F. Chain Link Fence @ $2.25		
Total Improvement Value - Rounded		6,900.00

Exhibit A


Segment 1
Segment 2
Segment 3
Project
Sales Map
Sale 5
Sale 6
Sale 7
Sale 8
NEW ORLEANS LAKEFRONT AIRPORT
NEW ORLEANS
SOUTHERN
HAYNE
BLVD
MORRISON
GANNON
JAHNCKE
CANAL
BR-3
BR-2
BM
St Maria Goretti Ch
SECURITIES
BENSON
CURLIS
READ
FARRAR
ROAD
BERG
BROWN MEMORIAL PARK
Abramson High Sch
CONSTRUCTION
25
26
35
36
33
34
3
4
2
1
Exhibit D

MEMO FOR COLONEL RUSH

LAKE PONTCHARTRAIN, LOUISIANA, AND VICINITY
HURRICANE PROTECTION PROJECT

CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD 5 December 1975

The Citrus Lakefront Levee consists primarily of an enlargement of an existing levee from the east end of the Lakefront Airport to Paris Road with a short length of floodwall at Lincoln Beach (a former amusement park). A new levee is to be constructed from the east end of the Lakefront Airport to the vicinity of the Downman Road underpass with a new floodwall from there to tie in with the IHNC floodwall system. Sluice gate structures will be provided in the levee for the St. Charles and Citrus pumping stations. One has already been constructed by local interests at Jahncke pumping station. Local interests will be given partial credit for the existing levee and full credit for the sluice gate structures which they will construct. Portions of the levee work were begun prior to the authorization of the project and are thus not creditable. The levee is located on the land side of the double-tracked Southern Railroad embankment between that embankment and Hayne Blvd. which is currently being widened by the state highway department with the reach from Downman Road to the Citrus Canal already complete. The right-of-way available for this levee is extremely limited and it has taken protracted negotiations with the Southern Railroad and compromises of our design standards to produce an acceptable levee design that will satisfy the horizontal and vertical spacing and drainage demands of the railroad. In a letter to the Southern Railroad dated 21 November 1975, we presented finalized levee designs which we feel meet all of their demands.

We are presently preparing the draft GDM with submission scheduled for February 1976. Our currently estimated award and completion dates for the floodwall portions are September 1977 and September 1980 respectively. The currently estimated award and completion dates for the levee portions are November 1977 and February 1979 respectively. The total cost including wave wash protection is $11,860,000.

The Orleans Levee Board proposes to accomplish the closure of the Citrus Canal and the construction of the sluice gate structure there in the near future. The existing pumping station located on the south side of the Hayne Blvd. bridge is not operable. The existing pumping capacity is provided by an externally mounted electric pump located on the protected side of the pumping station and pumping through a 50-inch steel pipe which passes under Hayne Blvd. and over the existing low levee and empties into the canal between the Hayne Blvd bridge and the Southern Railroad trestle (see attached drawing).

The least expensive means of providing for a pumping outlet through the levee system would be to close the canal and route the 50-inch pipe over the raised levee. The pipe invert would be above the still water elevation thus satisfying our protection criteria. It would, however, introduce additional head into the system by raising the pipe to the new levee elevation. This would reduce the pumping capability somewhat. This reduced capability may be equal to the present requirements, but it is still a reduced capability and it will not be equal to future requirements. Therefore, some type of structure in the levee is in order through which the existing pumping capability can be maintained and by which positive cutoff can be provided to prevent backflow under storm conditions. Under the terms of local cooperation, the construction of such a structure is a local interest responsibility but the cost is creditable toward the local interest share of the project cost. Local interests intend to replace the pumping station and greatly expand the existing pumping capacity at a future date as development in the area dictates. It is logical, therefore, to provide a sluice gate structure of sufficient size to accommodate these future expansions. With this in mind, we determined that the cost of constructing a larger sluice gate structure, though excessive in terms of current needs, would be creditable. The basic premise for allowing this credit, however, is that a structure is needed through which the existing pumping capacity can be maintained. The drawings upon which we agreed to credit the structure showed the 50-inch pipe passing through the structure.

On 6 October 1975, the Orleans Levee Board (Mr. McNamara) submitted plans and specifications for the accomplishment of the canal closure and sluice gate structure for our review. These plans indicate that the 50-inch pipe will pass over the raised levee and will not be tied into the sluice gate structure. This seems to indicate that the resulting reduced pumping capacity is adequate until such time as the station is rebuilt. This in turn throws doubt on the propriety of crediting the cost of this undertaking. We feel that the 50-inch pipe, which must be routed over the levee during construction, should be eventually tied into the sluice gate structure, and that ideally this should be done at the time of construction of the structure. At the very least, the routing over the levee should be indicated as being temporary with a firm commitment from the levee board that either the pumping station improvement with resulting tie in with the structure will be accomplished in the near future or the 50-inch pipe will be tied into the structure in the near future.

I communicated the above position to Mr. Bodet of the Orleans Levee Board. Mr. McNamara was on vacation at the time and Mr. Bodet indicated that he would discuss the matter with Mr. McNamara upon his return and then coordinate with me on an easy way to resolve the matter. He has not as yet contacted me and we have not proceeded with the review of their plans and specifications. Mr. LeMieux may wish to discuss this issue in detail.

Met with OLD 11 Dec 75.
NOD agreed to examine possibility of including OLD buildings within floodwall system. OLD will provide statement on scheduled work on pumping station. OLD said to use one floodgate at Lincoln Beach.

1 Attachment

STAN SHELTON

CITRUS PUMPING STATION

BENCH MARK SEE NOTE 2.

HAYNE BLVD

Concrete Bridge

Edge of Buckstop

Edge of Blacktop

50" Pipe Reserver

ROW of Hayne Blvd And Southern Railroad

WOOD SHEET PILING TO REMAIN

APPROX TOE OF LEVEE

EXIST. DISCHARGE PIPE ASSEMBLY TO BE REMOVED

EXIST 50" I.D. STL. PIPE/CONCRETE COATED TO BE REMOVED

STA 0+75 ℄ EXIST. BLDG.

CITRUS CANAL

STA 0+77.7 ℄ PROPOSED PUMPING STATION AND DISCHARGE CANAL

EXIST. DISCHARGE PIPE ASSEMBLY TO BE REMOVED

PROPOSED SLUICE GATE STRUCTURE

EXIST. STEEL SHEET PILE WALL TO BE REMOVED

TEMPORARY STEEL SHEET PILE CELL-SEE DETAILS SHEET No 9.

Canal Bank

PERMANENT SHEET PILE CUT OFF WALL W/CONCRETE CAP

TOP OF NEW LEVEE

℄ SHEET PILE WALL

TEMPORARY CONC. WALLS SEE NOTE 6

REQ'D. 90° BEND

REQ'D. PILE BENT TYPE 1 SEE SHT. No 2 FOR DETAIL

REQ'D 22½° BENDS

REQ'D 45° BENDS

REQ'D. 10" BEND

REQ'D. 50" I.D. STEEL DISCHARGE PIPE

REQ'D. 11° BEND

REQ'D. 5½° BEND

NEW STONE WAVE WASH PROTECTION

End of Steel Sheet Pile Wall & End of Wood Sheet Pile Wall

Exist Ditch drains to Catch Basin Located 200'± west of Curve ℄

Exist Cone Steps w/ Wood Hand Rails

Top of Exist Levee

Toe of Exist Levee

℄ OF NEW LEVEE

℄ RAIL

℄ TRACKS 0+00 SURVEY BASELINE

NAIL IN R.R. TIE

Railroad Trestle

NOTES:
1. All Elevations Cairo Datum
2. Bench Mark Cross Cut in Conc. Door Sill of West Doorway of Citrus Pumping Station Elev. 22.43 C.D.
3. See Sheet 10 for Location of Overhead Wiring and Electrical Requirements
4. See Sheet 4 for Levee Grading Plan
5. All Dimensions and Locations of Utilities in the Field Verified by Contractor
6. Temporary Walls to be removed at a future date under another Contract

No	DATE	REMARKS
6		
5		
4		

REVISIONS

No	REMARKS
3	
2	
1	

REVISIONS

N-O ASSOCIATES, INC.
CONSULTING ENGINEERS
ARCHITECTS & PLANNERS

CITRUS CANAL CLOSURE LEVEE AND
LOCK GATE STRUCTURE
THE ORLEANS LEVEE DISTRICT
GENERAL LAYOUT AND SITE PLAN

No. 30-E-74

Sheet No. 1

WRB
12/8/75

LMNED-FS (4 Aug 75)
SUBJECT: Lake Pontchartrain, La., & Vicinity -- Citrus Lakefront Levee;
IHNC to Paris Road DM No. 2, General Design Supplement 5A

TO: Chief, Design Memo Br FROM: Chief, F&M Br DATE: 5 Dec 75 CMT 2
Mr. Steinbeck/mhg/885-7102

RH

As requested in CMT #1, the input from our branch for the subject DM has been revised. All design plates that had changes were forwarded as they were completed to Mr. Dicharry. Changes made to the text are shown in red on the attached inclosures. All other input from this branch remains the same as previously furnished.

for CANNON

4 Incl
1. Levee data table
2. Sheet pile data table
3. Seepage cutoff data table
4. Revised page 7 of text

LMNED-FS (4 Aug 75)
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4 Incl
1. Levee data table
2. Sheet pile data table
3. Seepage cutoff data table
4. Revised page 7 of text

CANNON

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La., & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road DM No. 2, General Design Supplement 5A

TO C/Fdns & Matls Br FROM C/Design Memo Br DATE 4 Aug 75 CMT 1

Mr. Joachim/mm/430

1. The subject DM is currently being prepared. Accordingly, it is requested that foundations investigation and design input pertinent to the subject DM be provided for inclusion into the report. Inclosure 1 is a copy of the previous foundations investigation and design writeup for the subject DM for your reference. Also use the DM entitled "New Orleans East Lakefront Levee; Paris Road to South Point" as a guide. Inclosures 2 thru 4 are the plan views of the project area.

2. Typical sections of the levee in this reach have been revised; and hence, new stability analyses should be performed. This revision was necessary due to right-of-way and railroad drainage requirements. Inclosures 5 thru 8 show the revised typical sections of levee for the project.

3. Also, a floodwall elevation revision was necessitated by a change in the freeboard requirements specified by H&H Branch. The new minimum freeboard is 2 feet. Therefore, the top of the floodwall from station 10+58.20 W/L to station 30+77.39 W/L should be raised 1 foot from gross elevation 10.0 ft. m.s.l. to gross elevation 11.0 ft. m.s.l. The design elevation, or net grade, will be raised from 9.5 ft. m.s.l. to 10.5 ft. m.s.l. This revision will require a check of the design of the floodwall by Design Br and subsequently, a check of the design of the foundation by your branch. Upon receipt of the revised floodwall sections from Design Br, they will be furnished to you.

4. ~~Inclosed~~ Inclosure 9 are the previous originals of plates supplied by your branch. Please return to this branch all original plates after revisions have been made.

5. Design work should be charged to account no. BE C21304 Z10A CFO. Computer charges should be made to account no. BE C21304 Z10A CFB. Please furnish this branch with an estimate of charges to perform this work and a date by which we can expect completed input.

6. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on ext. 430.

Seale

SEALE

9 Incl
as

Incl 9 (fwd. separately)

GPO : 1969 O - 352-466

LEVEE DATA TABLE

STATIONING ALONG BASELINE	ELEVATIONS - M.S.L.				DISTANCE FROM SOUTH RAIL		SHEAR STABILITY F.O.S.			GDM PLATE NUMBER
	NET LEVEE GRADE	GROSS LEVEE GRADE	WIND TIDE LEVEL	DESIGN WATER TABLE	LEVEE CENTER-√ LINE	EROSION PROT. C/L	(S) CASE SLOPE SLOUGH	(Q) CASE LAKE SIDE	(Q) CASE LAND SIDE	
ROAD RAMP S+97.38 W/L	13.5	14.0	N.A.	5.0	N.A.	N.A.	N.A.	—	2.60	
ROAD RAMP 32+96 W/L	~~9.5~~ 10.5	~~10.5~~ 11.5	8.5	2.0	N.A.	N.A.	N.A.	—	~~2.67~~ 2.41	
33+21.74 TO 34+48 W/L	~~9.5~~ 10.5	~~10.5~~ 11.0	8.5	2.0	N.A.	N.A.	N.A.	—	2.41	
34+00 TO 33+21	~~9.5~~ 10.5	~~10.5~~ 11.0	8.5	0.0	~~40~~ 42	N.A.	N.A.	—	~~2.17~~ 2.25	
CULVERT 33+21	~~9.5~~ 10.5	~~10.5~~ 11.5	8.5	0.0	~~40~~ 42	N.A.	N.A.	—	~~1.49~~ 1.46	
33+21 TO 64+00	~~9.5~~ 10.5	~~10.5~~ 11.5	8.5	0.0	~~40~~ 42	N.A.	N.A.	—	~~2.64~~ 2.27	
64+00 TO 73+70	13.5	14.0	8.5	0.0	~~36~~ 40	30'	N.A.	2.10	2.11	
ST. CHARLES & JAINCKE PUMP STAS 74+00 & 236+50	13.5	14.0	8.5	0.0	~~35~~ 43	30'	N.A.	2.85	2.75	
SEC. A 74+30 to 108+00	13.5	14.0	8.5	0.0	~~35~~ 43.5	30'	1.14	2.03	2.01	
SEC. B 108+00 to 120+00	13.5	14.0	8.5	0.0	~~35~~ 42	30'	1.36	2.02	~~1.41~~ 1.59	
120+00 to 154+00	13.5	14.0	8.5	0.0	~~35~~ 41	30'	1.45	1.58	~~1.72~~ 1.79	
CITRUS CANAL CROSSING 154+50	13.5	14.0	8.5	0.0	~~35~~ 37.5	30'	N.A.	1.92	~~2.17~~ 2.10	
SEC. C 157+00 to 235+00	13.5	14.0	8.5	0.0	~~36~~ 41	30'	1.46	1.74	~~1.59~~ 1.62	
235+00 to 289+68.59	13.5	14.0	8.5	0.0	~~35~~ 42	30'	1.49	1.75	~~1.71~~ 1.51	
0+00 to 1+50 W/L 13+85 to 15+35 W/L	8.0	8.0	8.5	0.0	30'	N.A.	N.A.	—	2.07	
1+50 to 6+90 W/L 9+05 to 13+85 W/L	5.0	5.0	8.5	0.0	30'	N.A.	N.A.	—	2.33	
304+21.4 to 331+50	13.5	14.0	8.5	0.0	~~35~~ 42	30'	1.49	1.75	~~1.71~~ 1.51	

NOTE: N.A. denotes not applicable. Slope sloughing stability analyzed for steady seepage conditions parallel to the landside slope caused by hurricane rainfall, F.O.S. ≥ 1.0 acceptable for this analysis.

STATIONING ALONG WALL LINE	ELEVATIONS M.S.L.				STEEL SHEET PILE PENETRATION			RECOMMENDED SHEET PILING		REPORT PLATE NUMBER
	TOP OF WALL		WATER STAGE		(S) STAB. FOS=1.5		BY CREEP			
	NET	GROSS	W.T.L.	DESIGN	LENGTH FEET	TIP EL. M.S.L.	WCR=7 TIP EL.	LENGTH FEET	TIP EL. M.S.L.	
0+00 to 1+11	13.0	14.0	NA	13.5	11.0	-1.0	-7.0	19.0	-9.0	
1+11 to 2+15.79	"	"	"	"	20.5	-12.5	-15.5	20.5	-12.5	
5+43.38 to 5+79.38	"	"	8.5	"	24.0	-16.0	-16.0	23.5	-16.0	
6+15.38 to 7+65	"	"	"	"	27.0	-19.5	-18.0	27.0	-19.5	
7+65 to 9+71.20	"	13.5	"	13.0	24.5	-17.0	-16.5	24.5	-17.0	
10+13.2 to 17+40	10.5 ~~9.5~~	11.0 ~~10.0~~	9.5 "	10.5 ~~9.5~~	23.0 ~~20.0~~	-17.0 ~~-13.5~~	-13.9 ~~-8.5~~	23.0 ~~20.0~~	-17.0 ~~-13.5~~	
17+40 to 18+40	"	"	"	"	14.8 ~~10.8~~	-7.3 ~~-3.3~~	-12.4 ~~-4.0~~	20.0 ~~11.5~~	-12.5 ~~-4.0~~	
18+40 to 22+20	"	"	"	"	12.2 ~~8.5~~	-4.2 ~~-0.5~~	-11.9 ~~-1.8~~	20.0 ~~10.0~~	-12.0 ~~-2.0~~	
22+20 to 24+00	"	"	"	"	14.7 ~~10.8~~	-7.2 ~~-3.3~~	-12.4 ~~-4.0~~	20.0 ~~11.5~~	-12.5 ~~-4.0~~	
24+00 to 26+00	"	"	"	"	17.5 ~~13.5~~	-10.5 ~~-6.5~~	-12.9 ~~-6.7~~	20.0 ~~13.5~~	-13.0 ~~-6.5~~	
26+00 to 27+00	"	"	"	"	20.0 ~~16.5~~	-13.5 ~~-10.0~~	-13.4 ~~-8.5~~	20.0 ~~16.5~~	-13.5 ~~-10.0~~	
27+00 to 28+99.39	"	"	"	"	23.1 ~~19.5~~	-17.1 ~~-13.5~~	-13.9 ~~-11.0~~	23.5 ~~19.5~~	-17.5 ~~-13.5~~	
29+30.39 to 31+25	"	"	"	"	23.1 ~~19.5~~	-17.1 ~~-13.5~~	-13.9 ~~-11.0~~	23.5 ~~19.5~~	-17.5 ~~-13.5~~	
31+25 to 32+72.26	10.5 "	11.0 ~~10.5~~	9.5 ~~"~~	10.5 ~~10.0~~	18.7 ~~17.4~~	-12.7 ~~-11.4~~	-13.9 ~~-12.9~~	20.0 ~~18.5~~	-14.0 ~~-12.5~~	
0+00 to 1+50	13.5	14.0	8.5	13.5	17.0	-8.0	-11.0	19.0	-10.0	
13+85 to 15+35	"	"	"	"	"	"	"	"	"	
1+50 to 6+00	10.5	11.0	"	10.5	18.5	-12.5	-14.0	19.0	-13.0	
9+05 to 13+85	"	"	8.5	"	"	"	"	"	"	

NOTE: WCR is Lane's Weighted Creep Ratio.
WCR = ($\Sigma V' + 1/3 \Sigma H'$) ÷ Net Head'. (Value ≃ 7.0 O'K')

TABLE 3

SEEPAGE CUTOFF DATA TABLE
T-WALLS, GATES, RAMPS, LEVEE, AND CANAL CROSSING

STATIONING ALONG WALL LINE	ELEVATIONS M.S.L.				PENETRATION FOR WCR=3		TYPE OF PROTECTIVE FEATURE	RECOMMENDED SHEET PILING		REPORT PLATE NUMBER
	DESIGN WATER		PROT. GRADE							
	FLOOD SIDE	PROT. SIDE	NET	GROSS	LENGTH FEET	TIP EL. M.S.L.		LENGTH FEET	TIP EL. M.S.L.	
2+15.79 to 2+65.79	12.5	3.0	13.0	13.0	11.5	-10.0	T-wall	14.25	-11.5	
2+65.79 to 3+15.79	"	2.5	"	"	12.0	-11.0	"	13.25	-12.0	
3+15.79 to 3+67.80	"	1.5	"	"	13.0	-13.5	"	13,25	-13.5	
3+67.80 to 4+45.80	"	0.0	"	"	15.5	-17.5	Road-Gate	15.0	-17.0	
4+45.80 to 5+03.38	"	"	"	"	19.5	-17.5	T-wall	19.0	-17.0	
5+03.38 to 5+43.38	"	5.0	"	"	10.0	-5.0	R.R.Gate	21.0	-16.0	
5+75.38 to 6+19.38	"	6.5	13.0	14.0	-	-	Road Ramp	8.5	CORE 3.5	
9+71.20 to 10+13.20	"	"	"	13.0	4.0	-1.0	Road Gate	13.25	-10.0	
28+99.39 to 29+30.39	9.5	5.0	10.5 ~~9.5~~	10.5 ~~9.5~~	4.0	-1.0	Road Gate	13.25	-10.0	
32+68.26 to 33+25.74	"	2.5	"	11.5 ~~10.5~~	-	-	Road Ramp	10.0	CORE -1.0	
33+25.74 to 34+48	"	"	"	"	-	2.0	Levee	3.5	CORE TRENCH -1.0	
34+40 to 35+10	"	2.0	"	"	-	2.0	Sh.Pile in RR Embl	18.5	-10.0	
ST. CHARLES PUMP STA. 73+70 to 74+30 B/L	8.5	1.0	13.5	14.0	-	-	P. Sta. Conduit	(Existing)	-50.0	
CITRUS CANAL X'ING 154+80 to 156+20 B/L	"	2.0	13.5	14.0	-	-	Canal Crossing	20.0	-10.0	
JAINCKE PUMP. STA. 236+20 to 236+80 B/L	"	1.0	13.5	14.0	-	-	P. Sta. Conduit	(Existing)	-50.0	
LINCOLN BEACH 6+90 to 9+05 W/L	10.0	0.0	10.5	10.5	11.0	-13.5	Gate & T-Wall	12.0	-13.5	

NOTE: The structures are supported on bearing piles and piping is not a threat to their integrity, therefore, a [illegible] can be tolerated.

(2) Recommended. Catch basins and drain pipes will be installed on ~~900~~ 600 foot centers from baseline station 64+00 to station 325+00 and will collect and dispose of surface runoff from the lakeside levee slope. The catch basins inside dimensions will be 4 feet square and made of reinforced concrete. A 12 inch diameter corrugated metal drain pipe, sloped 1V on ~~4SH~~ 6OH, will extend from the catch basin, with invert at elevation ~~5.5~~ 2.5, under the railroad embankment into a narrow drain outlet in the wave wash protection. The catch basins and drain pipes will be installed prior to placement of the semicompacted clay fill. The clay around each catch basin will be compacted with power tampers. A 12-inch layer of riprap on 4 inches of shell will surround each catch basin to prevent scour of the clay cover. The recommended method of construction is shown on plate 66 and is discussed in paragraph 14.

b. Modification of existing culvert. The existing 54-inch culvert through the railroad embankment at sta. 33+21 B/L will be modified by installing a sluice gate on the flood side to provide positive closure to flow through the culvert. Clay plugs will be used to control seepage around the culvert, and the culvert will be extended toward the protected side beneath the levee enlargement as shown on plate 72.

c. Pumping stations. There are three existing pumping stations along the levee alinement; St. Charles located at sta. 74+00 B/L, Citrus located at sta. 155+50 B/L which is to be abandoned, and Jahncke located at sta. 236+60 B/L. When St. Charles and Jahncke pumping stations were built, MP-166 sheet piling was driven to a depth of elevation -50 M.S.L. for 60' on each side of the centerline of the discharge conduit in the existing levee and capped with concrete. Therefore, the levee enlargement of semicompacted clay can tie into the existing discharge conduits with no additional protective works required (see plate 72). The discharge canal at the abandoned Citrus station will be filled in as part of the levee enlargement. The canal will be filled with shell, and the shell core covered by semicompacted clay with a clay plug 4 feet thick extending down to elevation -10 feet (see plate 73). In addition a sluice gate and a sheet pile cutoff are to be constructed by others across the canal closure.

12/11/75

LMNED-MP (4 Nov 75)
SUBJECT: Lake Pontchartrain La. & Vicinity--Citrus Lakefront Levee
IHNC to Paris Road

TO C/[redacted] Div FROM Acting C/Plng Div DATE 5 Dec 75 GMT 2
Mr. Montz/cp/291

The environmental analysis information requested by LMNED-MP for the GDM has been completed. The inclosed [redacted] (Inclosure 2) should be included in the Citrus Lakefront levee, IHNC to Paris Road GDM.

ROY

2 Incl
Added 1
2. Environmental Analysis

LMNPL-RE (4 Nov 75)
SUBJECT: Lake Pontchartrain La. & Vicinity--Citrus Lakefront Levee
IHNC to Paris Road

TO C Eng Div | FROM Acting C/Plng Div | DATE 5 Dec 75 CMT 2
Mr. Montz/cp/291

The environmental analysis information requested by LMNED-MP for the GDM has been completed. The inclosed sample (Inclosure 2) should be included in the Citrus Lakefront levee, IHNC to Paris Road GDM.

ROY

2 Incl
Added 1
2. Environmental Analysis

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain La. & Vicinity--Citrus Lakefront Levee IHNC to Paris Road

TO Acting C/Planning Div FROM C/Engineering Div DATE 4 Nov 75 CMT 1

Mr. Dicharry/dma/430

1. We are presently preparing the GDM for the subject project.

2. You are requested to furnish this office with a short write-up concerning the environmental analysis for this reach of the project. A copy of what was used for the South Point to GIWW GDM is inclosed as an example (incl 1).

3. This information is requested by 21 Nov 75. Your work should be charged to BEC21304Z10ACE0 and should not exceed $500.

4. If you have any questions please contact Mr. J. Dicharry, ext. 430.

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LMNPL-RE

TO C/Eng Div FROM Acting C/Plng Div DATE 17 Nov 75 CMT 2

Mr. Knight/cp/291

1. Reference is made to LMNED-MP DF dated 4 Nov 75.

2. Due to illness of employee assigned to the project, we will not be able to provide information requested in subject DF until the week of December 1-5, 1975.

ROY

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In to forwarded by phone

(1) Minimizing water quality degradation during construction.

(2) Minimizing the accidental spillage of petroleum products or other harmful materials and maintenance of sanitary facilities to adequately treat domestic wastes.

(3) Constructing and operating water quality control structures so as to insure that ecological conditions remain unchanged.

b. Project incorporation of recommendations. Provisions relative to water quality degradation during construction, control of accidental spillages, and maintenance of adequate sanitary facilities by construction contractors will be incorporated into the construction plans and specifications. The Seabrook lock will be operated to provide a desirable salinity regimen in Lake Pontchartrain to the end that deleterious alterations in the lake ecology will be avoided. The Regional Director has been advised of the action to be taken in connection with his comments. Copies of correspondence with the Regional Director are included in appendix A.

ENVIRONMENTAL ANALYSIS

67. Environmental quality.

a. General. The engineering treatment required for preserving and maintaining the environmental quality of the project has been considered during preparation of this memorandum. As indicated previously, extensive coordination has been accomplished with the appropriate agencies relative to effects of the project on fish and wildlife resources and water quality control during and subsequent to construction.

b. Enhancement. Construction of the protective works covered herein alters the existing terrain only to the extent of enlarging an existing earthen levee and appurtenances in a predominantly marshland area. All borrow material needed to construct the levee will come from a borrow pit in Lake Pontchartrain. Additional beautification measures beyond those normally associated with levee construction, i.e., grading and seeding, are not warranted. The logic behind this statement is that the adjacent area is privately owned and undeveloped marshland which precludes the commitment of public funds for beautification.

68. Environmental statement. The environmental statement for the entire Lake Pontchartrain, Louisiana and Vicinity, hurricane protection project will be made available to the President, Council

Incl 1

on Environmental Quality in about January or February 1973. This statement, in part, describes effects of the South Point to GIWW levee construction essentially as follows:

a. Most of the area in New Orleans East is partially drained marsh protected from normal flooding on the south, east, and west by levees along the GIWW and across the marsh, and on the north by the Southern Railway embankment. It is partially protected from tidal overflow and consists of low-lying undeveloped marshland with an average elevation of about 1.5 feet.

b. The Southern Railway embankment currently prevents detritus flow into Lake Pontchartrain. The proposed levee should have no effect on this environ. The project will provide drainage equal to that which presently exists. Willow thickets will continue to become abundant on the margins of the marsh and will result in conversion of wetland habitats and associated organisms to terrestrial environment.

c. Enlargement of the levees on the south and east of New Orleans East and construction of a levee along the lakeshore on the north will protect the people moving into this area from flooding by hurricanes. With proper flood protection, this area will be developed for residential, commercial, and industrial areas.

69. Historical and cultural environment. There are no known sites, structures, or objects of historical, architectural, or archeological significance in this project area which would fall within the provisions of Executive Order 11593, "Protection and Enhancement of the Cultural Environment."

clear with WAGUE.

~~ESTIMATE OF COST~~

70. General. Based on projected July 1973 price levels, the estimated first cost of construction of the New Orleans East levee, South Point to GIWW, is $3,241,000. This estimate consists of $161,000 for lands and damages, $1,120,000 for relocations, $1,620,000 for levees, $178,000 for engineering and design, and $162,000 for supervision and administration. The detailed estimate of first cost is shown on table 1.

71. Comparison of estimates. As explained in paragraph 14 of this report, the project document did not specifically describe improvements proposed for the South Point to GIWW levee reach, since at the time of the survey report it was felt that the levee grade was adequate. Accordingly, costs for this work were not reported in either the project document or the latest approved PB-3, and thus eliminates the bases for a comparison of feature costs. The feature costs reported in table 1 will be included in the next PB-3 prepared after approval of this memorandum.

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ENVIRONMENTAL ANALYSIS

Environmental Quality

a. General. The engineering treatment required for preserving and maintaining the environmental quality of the project has been considered during preparation of this memorandum. Extensive coordination has been accomplished with the appropriate agencies relative to efforts of the project on fish and wildlife resources and water quality control during and subsequent to construction.

b. Enhancement. Construction of the project works in the Citrus area will alter the existing terrain only to the extent of development of a floodwall in an area which has previously been altered by man's activities. The Citrus area consists of 14,800 acres bounded by New Orleans East, the IHNC, the MR-GO, and Lake Pontchartrain. This area has been drained for about 40 years and is protected from normal flooding by levees on the west, south, and east, and by a railroad embankment and levee along Lake Pontchartrain on the north. Construction of this feature of the project would result in enhancement for long-term human occupation of this area.

Environmental statement. The final environmental statement for the entire Lake Pontchartrain, Louisiana and Vicinity, Hurricane Protection project has been filed with the President's Council on Environmental Quality on 17 January 1975. This statement, in part, describes effects of the Citrus lakefront levee from IHNC to Paris Road as follows:

a. In the Citrus area, construction features will extend a length of 6.9 miles, just south of the existing railroad embankment. Project features will require the commitment of about 30 acres of developed land.

b. Construction activities will result in the modification of the developed land to project features. This action will enhance long-term human expansion into the Citrus area. These

Incl 2

modifications will involve the long-term change in land use and short-term annoyances such as increases of sound levels in the immediate area due to construction of the project features.

c. The overall action of construction of hurricane protection features in this area will enhance long-term human expansion into the area. The completion of this project feature will tend to accelerate urban development and will likely result in an increase in the rate at which the remaining natural production of the area is lost. The no-action alternative would retard the environmental changes, that would, under the proposed action, convert shrub and wooded areas to urbanization. It should be noted that almost all of the citrus area is considered nonwetland and losses of natural habitat to encroaching development would not be as extreme if the area were a wetland.

d. Should the anticipated increase in development in the protected areas occur, an increase in the quantities of solid and liquid wastes cannot be avoided. Disposal of those wastes will be accompanied by corresponding environmental stresses.

Historical and cultural environment. There are no known historic sites in the project area, but 13 middens are known to occur within the Citrus area. No known intensive studies have been conducted on any of these sites. At least one of these has been largely destroyed by road and house construction. This midden is located about 500 feet south of the Hayne Blvd. and Parish Road junction. Should the anticipated increase in rate of development in the Citrus area continue, an expected stress will certainly be placed on those middens that have not been already deleteriously affected. There are no historic sites in the Citrus area which are included in the Orleans Parish list in the National Register of Historic Places.

[illegible] FORM

For use of this form, see AR 340-15; the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMMED-MP	Lake Pontchartrain and Vicinity--Citrus Lakefront [illegible] IHNC to Paris Road

TO C/Operations Div FROM C/Engineering Div DATE 4 Nov 75 GMT

Mr. Dicharry/[illegible] 2928 2225

1. We are presently preparing a GDM for the subject project.

2. The annual operation and maintenance charges for certain features of the project are needed at this time. The features are as follows:

a. Hurricane protection levee as shown on inclosure 1.

b. Catch basins and drainage culverts as shown on inclosure 1.

c. Wavewash protection as shown on inclosure 2.

d. Overhead roller gates and swing gates shown on inclosures 3 & 4, respectively.

3. This information is requested by 21 Nov 75. You should charge your work to [illegible] and should not exceed $500.

4. If you have any questions please contact Mr. J. Dicharry, ext. 430.

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6 NOV 1975

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE. [illegible] GPO-1970-[illegible]

LMNOD-OS (4 Nov 75)
SUBJECT: Lake Pontchartrain and Vicinity - Citrus Lakefront Levee, IHNC to Paris Road

TO: C/Engineering Division FROM: C/Operations Division DATE: 26 Nov 75 CMT2
Mr. Brehm/tlm/418

1. Reference your DF of 4 Nov 75 requesting annual operations and maintenance charges for certain features of Lake Pontchartrain and vicinity Citrus Lakefront levee, IHNC to Paris Road. Listed below are the respective estimates based on conditions stated in your DF:

a. Hurricane protection levee (5.5 miles)
   (1) Mowing - $2400.00/yr. (6 mowings/yr.)
   (2) Maintain crown; drainage, inspection - $2300.00/yr.

b. Catch basin and culvert
   (1) Clearing catch basin - $100.00/yr.
   (2) Clearing culvert - $100.00/yr.

c. Wave wash protection (24 acres)
   (1) Herbicide treatment - $1600.00/yr.

d. Overhead roller and swing gates
   (1) Inspection, routine maintenance, and painting - $100.00 each/yr.

J. C. NETTLES

4 Incl
nc

Incl 1 - copy of typical levee section Sta 123+00 dated 22Oct75
Incl 2 - copy of revised plate entitled "Wavewash Protection Details and Paris Road Levee Tie-IN"
Incl 3 - copy of plate "Details of Gate No 1"
Incl 4 - " " " " " " No. 2

[redacted] (11 Nov 75)
SUBJECT: Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee; I.H.N.C. to Paris Road DM No. 2, General Design Supplement 5A

TO C/Design Memo Branch FROM C/Design Branch DATE 26 Nov 75 CMT 2
Mr. Steinwinder/kg/314

The data requested in item 3 of comment 1, will be developed by the contractor during construction, as was done on the Paris Road to South Point levee contract.

WILLIAM E. SOMMER
Chief, Design Branch

LMERED-DS (11 Nov 75)
SUBJECT: Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee; I.H.N.C. to Paris Road BM No. 2, General Design Supplement 5A

TO C/Design Memo Branch FROM C/Design Branch DATE 26 Nov 75 CHF 2
Mr. Steinwinder/hg/314

The data requested in item 3 of comment 1, will be developed by the contractor during construction, as was done on the Paris Road to South Point levee contract.

WILLIAM E. SOMMER
Chief, Design Branch

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-FS	Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee; I.H.N.C. to Paris Road DM No. 2, General Design Supplement 5A

TO THRU: Chief, Design Br
✔ TO: Chief, Design Memo Br

FROM Chief, F&M Br

DATE 11 Nov 75

CMT 1

Mr. Cali/jr/885-7104

1. Reference is made to the telephone conversations of 5 and 6 Nov 75 between Mr. Van Steinweinder of Design Branch and Mr. Joe Dicharry of Design Memo Branch; and Mr. Joseph Cali of this Branch.

2. The proposal presented to this branch is to degrade the levee by 1 foot with 1V on 2H side slopes down to the existing 1V on 3H side slopes, throughout the entire limits of work. This is required to enlarge the crown width to 22 feet for clay haul, in 2 directions, on the levee crown. The present crown width is 10 feet. Analyses have been completed and the plan is approved based on the following conditions:

a. No more than 1 foot is removed and then, only on a temporary basis. The material is to be replaced and semicompacted immediately after hauling is completed.

b. All earthwork, including levee degrading and the replacement of the semi-compacted material is to be done before any sheet piling is placed in the levee.

c. This work must be completed before hurricane season.

3. Please furnish details on the barge unloading area to F&M Branch for analysis. That is, details on ramps for trucks, railroad crossings, required pilings, if any, and any additional information which could violate the stability of levee slopes.

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CANNON

LMMED-FS

Lake Pontchartrain, La. & Vicinity - Citrus Lakefront Levee; I.H.N.C. to Paris Road BM No. 2, General Design Supplement 5A

/ THRU: Chief, Design Br — Chief, F&M Br — 11 Nov 75
TO: Chief, Design Memo Br — Mr. Call/jr/885-7104

1. Reference is made to the telephone conversations of 5 and 6 Nov 75 between Mr. Van Steinweinder of Design Branch and Mr. Joe Dicharry of Design Memo Branch; and Mr. Joseph Call of this Branch.

2. The proposal presented to this branch is to degrade the levee by 1 foot with 1V on 2H side slopes down to the existing 1V on 3H side slopes, throughout the entire limits of work. This is required to enlarge the crown width to 22 feet for clay haul, in 2 directions, on the levee crown. The present crown width is 10 feet. Analyses have been completed and the plan is approved based on the following conditions:

a. No more than 1 foot is removed and then, only on a temporary basis. The material is to be replaced and semicompacted immediately after hauling is completed.

b. All earthwork, including levee degrading and the replacement of the semi-compacted material is to be done before any sheet piling is placed in the levee.

c. This work must be completed before hurricane season.

3. Please furnish details on the barge unloading area to F&M Branch for analysis. That is, details on ramps for trucks, railroad crossings, required pilings, if any, and any additional information which could violate the stability of levee slopes.

CANNON

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 25 Nov 75

SUBJECT OF CONVERSATION: Right of Way Costs for Leveed reaches of Citrus

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

OUTGOING CALL		
PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
Joe Dicharry	Proj. Eng. Sec.	
PERSON CALLED	**ADDRESS**	**PHONE NUMBER AND EXTENSION**
Mr. De Samburg	Real Estate Div	

SUMMARY OF CONVERSATION

Mr. DeSamburg had previously called me and opined that the right of way costs for the 43 acres of levee and 6 acres of land between Hayne Blvd and the Southern Railway System, which I had requested by DF dated 13 Nov 75, were not creditable. Therefore, they should not be included in the project costs.

I talked to Bob Guizerix and he told me that it is our policy at this time for hurricane protection projects to not give credit to the local assuring agency for lands that they owned before project authorization.

I told DeSamburg to delete the request in para. 3 of the above referenced DF because of this reason. He will refer to this telecon in his reply.

DJD
26 Nov 75

DA FORM 1 APR 66 751 REPLACES EDITION OF 1 FEB 58 WHICH WILL BE USED.

★ GPO: 1968 O — 343-775, 84

LMNED-MP

Lake Pontchartrain, Louisiana, and Vicinity Hurricane Protection, IHNC to Paris Road, Land Costs

C/Real Estate Div

C/Engr Div

13 Nov 75
Mr. Dicharry/gze/430

1. Inclosure 1 is a copy of the Gross Appraisal Report submitted by your Division by DF dated 17 July 1973, subject as above.

2. You are requested to update the report with respect to today's land values. The acreages have changed slightly as shown in red on inclosure 1. Drawings depicting the subject reaches are the same as furnished previously.

3. In addition to the above, you are requested to furnish the land costs for 43 acres of the existing levee along Haynes Blvd. from B/L station 64+00 to 331+50, excluding the reach in front of Lincoln Beach. This reach is shown on inclosures 2, 3, and 4. Also, the land costs for 6 acres of the land between Haynes Blvd. and the existing railroad embankment from B/L station 28+31 to 64+00 is needed. This reach is shown on inclosure 2. These acreages will be required for right-of-way only.

4. All of these costs will be incorporated into the subject GDM. You should charge your work to account number BEC21304Z10ACPA. This information is requested by 28 Nov 75.

5. If you have any questions, please contact Mr. J. Dicharry, Design Memo Branch, extension 430.

4 Incl
as

CHATRY

Incl 2, 3 & 4
are plan profile plates 2, 3 & 4

Identification No.
30717

GROSS APPRAISAL REPORT

LAKE PONTCHARTRAIN AND VICINITY, HURRICANE PROTECTION
INNER HARBOR NAVIGATION CANAL TO PARIS ROAD

1. Location and General Data:

This report presents estimated real estate costs in connection with the acquisition of right-of-way, construction easements, and drainage easements required for a portion of subject project. It is related to the gross appraisal report identified as No. 30615.

The within estimates are based on drawings, bearing no file number, which were furnished with DF dated 3 July 1973 to Chief, Real Estate Division from Chief, Engineering Division, subject as above. The drawings are identified as IHNC to Paris Road Plan and Profile, Plates Nos. 2 thru 10 and Plate 32.

The area involved is located in the City of New Orleans and is in two sections where mainly I-Wall construction will be utilized for hurricane protection. One section begins at the end of an existing I-Wall along Jourdan Road near the Inner Harbor Navigation Canal, and extends in a northerly direction to the New Orleans Lakefront Airport. It then runs eastwardly along the south side of the airport to Station 32+24.76, turns south, and ends at Station 34+95.

The other section is in the Lincoln Beach area near Paris Road, extending from Sta.100 to Sta.115+43.81 where the concrete I-Wall will end.

The project encompasses street and railroad right-of-ways, New Orleans Levee Board and Airport property. The only improvement evaluated herein is the chain link fencing.

2. Relocation of pipelines and utilities are not evaluated in this report. Neither are the transit shelters at Lincoln Beach included.

3. There are no churches, schools, major buildings, nor cemeteries involved.

4. Subsurface rights are not estimated since mineral interests will not be acquired.

5. No severance damage is indicated.

6. Uniform Relocation Assistance and Real Property Acquisition Policies Act. (P.L.91-646) is not applicable.

Encl 1 to 13 Nov 75 DF

7. Market Data:

The following sales were used in evaluation of the land. Sales Nos. 1, 2, 3 and 4 are considered to be the most nearly comparable to the subject property at the New Orleans Lakefront Airport. They are all located in the Lake Forest Industrial Park near the intersection of Jourdan Road and Hayne Blvd., very close to subject property.

Sales Nos. 5, 6, 7 and 8 are homesites near the Lincoln Beach area. These sales were used in estimating the value of subject properties after consideration of the factors which influence real property values.

Sale No. 1

Grantor:	Lake Forest, Inc.
Grantee:	Harry B. Rainold
Date:	August 1972
Recorded:	COB 712/360, Orleans Parish
Consideration:	$18,370.00
Size:	72 x 150 = 10,800 SF
Unit Price:	$1.70 SF or $74,052 acre
Location:	Lot L7C2T, Townsend Place

Sale No. 2

Grantor:	Lake Forest, Inc.
Grantee:	Jack Scariano et al
Date:	July 1972
Recorded:	COB 710/215, Orleans Parish
Consideration:	$45,000.00
Size:	140 x 183 = 25,620 SF
Unit Price:	$1.76 SF or $76,665 acre
Location:	Lot L7C2C, Townsend Place

Sale No. 3

Grantor:	Lake Forest, Inc.
Grantee:	Michael L. Martinolich
Date:	July 1972
Recorded:	COB 712/220, Orleans Parish
Consideration:	$18,513.00
Size:	50 x 217.8 = 10,890 SF
Unit Price:	$1.70 SF or $74,052 acre
Location:	Lot L7C2F, Townsend Place

Sale No. 4

Grantor:	Lake Forest, Inc.
Grantee:	Alvin J. Boos et al
Date:	September 1972
Recorded:	COB 713/373, Orleans Parish
Consideration:	$19,057
Size:	50 x 217.8 = 10,890 SF
Unit Price:	$1.75 SF or $76,230 acre
Location:	Lot L7C2G, Townsend Place

Sale No. 5

Grantor:	Kirfam, Inc.
Grantee:	Leon G. Connelly, Jr.
Date:	June 1973
Recorded:	COB 718/477
Consideration:	$5,000
Size:	40 x 115 = 4,600 SF
Unit Price:	$1.09 or $47,480 acre
Location:	Hayne Blvd., Villa Sites

Sale No. 6

Grantor:	R. C. Schaefer
Grantee:	Otis R. Willis
Date:	February 1973
Recorded:	COB 717/108 Orleans Parish
Consideration:	$5,625
Size:	60' x 100' = 6,000 SF
Unit Price:	.94¢ SF or $40,946 acre
Location:	Weaver Ave., South Shores

Sale No. 7

Grantor:	S. A. Morlier
Grantee:	Ralph J. Kastner, Jr.
Date:	March 1973
Recorded:	COB 716/205 Orleans Parish
Consideration:	$6,000
Size:	75' x 120' = 9,000 SF
Unit Price	.67¢ SF or $29,019 acre
Location:	Mercier St., Edgelake Subdivision

Sale No. 8

Grantor: Oscar Encardes, Jr.
Grantee: Floyd A. Caro
Date: April 1972
Recorded: COB 706/649
Consideration: $4,500
Size: 50 x 110 = 5,500 SF
Unit Price .82¢ SF or $35,719
Location: S. Littlewoods Dr., Little Woods

8. Estimate of Value:

Land:			
R/W Lakefront Airport Area:			
4.21 ~~4.070~~ acres in R/W			
-0.730 acres in Streets - no value			
3.48 ~~3.340~~ acres @ $75,000		$250,500.00	
R/W Lincoln Beach Area:			
1.781 ~~2.059~~ acres in R/W @ $50,000		- 102,950.00	
Estimated Value of R/W			$353,450.00
Construction Easement Airport Area:			
1.933 ~~1.952~~ acres in Easement Area			
- .520 acres in Streets - no value			
1.413 ~~1.432~~ acres @ $11,250 -		$16,110.00	
Construction Easement Lincoln Beach Area			
1.101 ~~0.909~~ acres @ $7,500		6,817.50	
Estimated Value 2-Year Construction Easement		$22,927.50	
Rounded			22,950.00
Drainage Easements - 29 areas			
0.426 ~~0.366~~ acres @ $25,000			
Estimated Value Drainage Easements			9,150.00
Total Land Value			$385,550.00
Severance Damage - None			-
Improvements:			
3,075 L.F. Chain Link Fence @ $2.25			
Total Improvement Value - Rounded			6,900.00

red figures furnished by Larry Weed 12 Nov 75

Lands and Improvements	$392,450.00
Contingencies (approx. 20%)	78,550.00
Resettlements (P.L. 91-646) None	-
Acquisition Costs (4 tracts)	
Real Estate Hired Labor @ $1,000 -$4,000	
Acquisition by Others @ $1,000 - 4,000	8,000.00
Total Estimated Real Estate Costs	$479,000.00

10. Certificate:

I certify that I have inspected subject properties, and that in my opinion the values stated above are reasonable and represent my best judgment as to the estimated value of the rights to be acquired. I have no present or anticipated future interest in subject properties.

H. L. HARGROVE, JR.
Appraiser
17 July 1973

Approved:

ELROY J. SCHULIN
Chief, Appraisal Branch
17 July 1973

DISPOSITION FORM

Chapter Book

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-DD	Lake Pontchartrain, & Vicinity, Hurricane Protection, IHNC to Paris Road, Land Cost

TO C/Real Estate Division FROM C/Engineering Division DATE 3 July 1973 CMT 1

Mr. Weed/jl/450

1. You are requested to furnish an estimate of the cost for the land located within the construction easement as shown on the inclosed drawings. The estimate should show right-of-way cost and construction easement cost. These costs are to be incorporated into the subject general design memorandum.

2. You are also requested to furnish an estimate of the cost for the land located within the drainage easement as shown on the inclosed drawing.

3. For your information, this is a portion of the subject project listed under your identification number 30615, as shown on the inclosure of your DF of 19 June 1973.

4. Charge your cost to account number 05 1272 030 121 041 071.

5. Forward the cost data to the Structural Design Section at the earliest possible date.

1 Incl (dupe)
as

JEROME C. BAEHR
Chief, Engineering Division

LMNRE-E (3 July 1973)

TO Chief, Engineering Div FROM Chief, Real Est Div DATE 17 July 1973 CMT 2

Mr. Hargrove/mtb/885-6806

In reply to request for estimates there is inclosed Gross Appraisal Report, real estate Identification No. 30717.

ANTHONY C. COLE
Chief, Real Estate Division

2 Incl
1. wd
2. Gross Appsl Rpt.

Acreages — for IHNC — Paris Rd. G.D.M.

28+00 — 64+00 ⟶ 6.0 Ac.

64+00 — 290+00
304+00 — 331+50 } ⟶ 43.0 Ac.

TOT. Ac. for "levee only": 49.0 Ac.

Barge Unloading Facility, located on edge of shoreline } 18.0 Ac. Approx.

LMNED-MP

Lake Pontchartrain and Vicinity--Citrus Lakefront Levee, IHNC to Paris Road

C/Operations Div

C/Engineering Div

✓ 4 Nov 75
Mr. Dicharry/dma/430

1. We are presently preparing a GDM for the subject project.

2. The annual operation and maintenance charges for certain features of the project are needed at this time. The features are as follows:

a. Hurricane protection levee as shown on inclosure 1.

b. Catch basins and drainage culverts as shown on inclosure 1.

c. Wavewash protection as shown on inclosure 2.

d. Overhead roller gates and swing gates shown on inclosures 3 & 4, respectively.

3. This information is requested by 21 Nov 75. You should charge your work to BEC21304Z10ACPA and should not exceed $500.

4. If you have any questions please contact Mr. J. Dicharry, ext. 430.

4 Incl
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CHATRY

LMNED-MP

Lake Pontchartrain La. & Vicinity—Citrus Lakefront Levee IHNC to Paris Road

Acting C/Planning Div

C/Engineering Div

4 Nov 75
Mr. Dicharry/dma/430

1. We are presently preparing the GDM for the subject project.

2. You are requested to furnish this office with a short write-up concerning the environmental analysis for this reach of the project. A copy of what was used for the South Point to GIWW GDM is inclosed as an example (incl 1).

3. This information is requested by 21 Nov 75. Your work should be charged to BEC21304Z10ACE0 and should not exceed $500.

4. If you have any questions please contact Mr. J. Dicharry, ext. 430.

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CHATRY

(1) Minimizing water quality degradation during construction.

(2) Minimizing the accidental spillage of petroleum products or other harmful materials and maintenance of sanitary facilities to adequately treat domestic wastes.

(3) Constructing and operating water quality control structures so as to insure that ecological conditions remain unchanged.

b. Project incorporation of recommendations. Provisions relative to water quality degradation during construction, control of accidental spillages, and maintenance of adequate sanitary facilities by construction contractors will be incorporated into the construction plans and specifications. The Seabrook lock will be operated to provide a desirable salinity regimen in Lake Pontchartrain to the end that deleterious alterations in the lake ecology will be avoided. The Regional Director has been advised of the action to be taken in connection with his comments. Copies of correspondence with the Regional Director are included in appendix A.

ENVIRONMENTAL ANALYSIS

67. Environmental quality.

a. General. The engineering treatment required for preserving and maintaining the environmental quality of the project has been considered during preparation of this memorandum. As indicated previously, extensive coordination has been accomplished with the appropriate agencies relative to effects of the project on fish and wildlife resources and water quality control during and subsequent to construction.

b. Enhancement. Construction of the protective works covered herein alters the existing terrain only to the extent of enlarging an existing earthen levee and appurtenances in a predominantly marshland area. All borrow material needed to construct the levee will come from a borrow pit in Lake Pontchartrain. Additional beautification measures beyond those normally associated with levee construction, i.e., grading and seeding, are not warranted. The logic behind this statement is that the adjacent area is privately owned and undeveloped marshland which precludes the commitment of public funds for beautification.

68. Environmental statement. The environmental statement for the entire Lake Pontchartrain, Louisiana and Vicinity, hurricane protection project will be made available to the President, Council

Incl 1

on Environmental Quality in about January or February 1973. This statement, in part, describes effects of the South Point to GIWW levee construction essentially as follows:

a. Most of the area in New Orleans East is partially drained marsh protected from normal flooding on the south, east, and west by levees along the GIWW and across the marsh, and on the north by the Southern Railway embankment. It is partially protected from tidal overflow and consists of low-lying undeveloped marshland with an average elevation of about 1.5 feet.

b. The Southern Railway embankment currently prevents detritus flow into Lake Pontchartrain. The proposed levee should have no effect on this environ. The project will provide drainage equal to that which presently exists. Willow thickets will continue to become abundant on the margins of the marsh and will result in conversion of wetland habitats and associated organisms to terrestrial environment.

c. Enlargement of the levees on the south and east of New Orleans East and construction of a levee along the lakeshore on the north will protect the people moving into this area from flooding by hurricanes. With proper flood protection, this area will be developed for residential, commercial, and industrial areas.

69. Historical and cultural environment. There are no known sites, structures, or objects of historical, architectural, or archeological significance in this project area which would fall within the provisions of Executive Order 11593, "Protection and Enhancement of the Cultural Environment."

ESTIMATE OF COST

70. General. Based on projected July 1973 price levels, the estimated first cost of construction of the New Orleans East levee, South Point to GIWW, is $3,241,000. This estimate consists of $161,000 for lands and damages, $1,120,000 for relocations, $1,620,000 for levees, $178,000 for engineering and design, and $162,000 for supervision and administration. The detailed estimate of first cost is shown on table 1.

71. Comparison of estimates. As explained in paragraph 14 of this report, the project document did not specifically describe improvements proposed for the South Point to GIWW levee reach, since at the time of the survey report it was felt that the levee grade was adequate. Accordingly, costs for this work were not reported in either the project document or the latest approved PB-3, and thus eliminates the bases for a comparison of feature costs. The feature costs reported in table 1 will be included in the next PB-3 prepared after approval of this memorandum.

NWRS
10/30/75

LMNED-HD
SUBJECT: Lake Pont. La., & Vic. -- Citrus Lakefront Levee: IHNC to Paris Road
DM No. 2, Supp. 5A

TO C/Design Memo Br FROM C/Hyd & Hydro Br DATE 29 Oct 75 CMT 2
Mr. Broussard/esk/328

1. The hydrology and hydraulics appendix to the subject DM has been reviewed by this branch. The revised edition is contained in inclosure 9. This edition is a reworking and rearranging of the draft (inclosure 1) you furnished this branch. The needed revisions reflect current requirements and design criteria.

2. The adequacy of the drainage ditch to convey the runoff between the railroad embankment and the new levee for the reach from Station 28+31 to Station 64+00 has been reviewed and found adequate. Accordingly, a catch basin and culvert to be jacked through the railroad embankment at Station 63+00 to handle these flows was designed. The dimensions and design criteria of this catch basin and culvert can be found in inclosure 9.

3. Also reviewed was the design of the ditch between the railroad embankment and the enlarged levee for the reach from Station 64+00 to Station 331+50, together with the design of catch basins and culverts at 900-ft spacings. These were found adequate.

4. Charges in the amount of $1,107 have been made to the account number BEC21304Z10ACH0.

5. For any additional information or assistance, please contact Mr. Falgoust or Mr. Broussard, on ext 328.

for Moss

BECNEL

9 Incl
Added 1 incl
9. Revised edition

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pont. La., & Vic. -- Citrus Lakefront Levee: IHNC to Paris Road, DM No. 2, Supp. 5A

TO C/Hyd & Hydro Br FROM C/Design Memo Br DATE 29 Jul 75 CMT 1

Mr. Joachim/pbs/430

1. The subject DM is currently being prepared. Accordingly, it is requested that hydraulic and hydrologic information pertinent to the subject DM be provided for inclusion in the report. Inclosure 1 is a copy of the previous Hydrology and Hydraulics write-up for the subject DM. Please review this for ~~its~~ adequacy.

2. Adequacy of the drainage ditch to convey the runoff between the railroad embankment and new levee for the reach from Sta. 28+31 to Sta. 64+00 is requested. The design of a catch basin and culvert to be jacked thru the railroad embankment at Sta. 64+00 to handle these flows is also requested. See inclosures 2, 5 and 6 for plan and typical sections, respectively.

3. Also requested is a review of the design for the ditch between the railroad embankment and the enlarged levee for the reach from Sta. 64+00 to Sta. 331+50, together with the design of catch basins and culverts at 900-foot spacings. See inclosures 2 thru 4 for plan view and inclosures 7 and 8 for revised typical sections.

4. Please furnish this information by COB 1 Nov 75.

5. Work should be charged to account number BEC21304Z10ACH0. This amount should not exceed $2,000.

6. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on Ext. 430.

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DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-HC	Freeboard for Levees - Hurricane Protection Projects

TO C/Design Memo Br FROM C/Hyd & Hydro Br DATE 21 Aug 75 CMT 1

Mr. Gautreau/jmh/421

1. Inclosed for your information and convenience are copies of correspondence which contain information concerning the subject matter.

2. Pertinent information has been marked in red pencil, arranged in chronological order, and is related to hurricane protection projects as follows: South Point to GIWW, incl 1; Larose-Golden Meadow, incl 2; and Franklin and Vicinity, incl 3.

BECNEL

3 Incl
as

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆GPO—1975—666-422/1083

the hurricanes are identical. One hurricane, on a track designated Track A, approaches from a southerly direction and is used mainly to determine the elevation of protective structures from South Point to U. S. Highway 90. The other, on a track designated Track F, approaches from a southeasterly direction and is used primarily to develop the grade elevation for the protective structures from the GIWW to U. S. Highway 90. SPH isovel patterns and critical path for Track A are shown on plate 4 of DM No. 1, Part III - Lakeshore. The SPH isovel patterns and critical path for Track F are shown on plate 6 of DM No. 1, Part II - Barrier.

b. Design windtide levels and levee heights. During the time maximum windtide levels are against the protective levee, the winds are parallel to or leeward of the levee and no wave runup will occur. Prior and subsequent to that time, the winds will be generally perpendicular to the protective embankment, but the height of the wave runup at such time will not exceed the levee design grade. Consequently, wave runup is not the controlling factor in determining the design elevation of the levee. The design elevation was determined by providing 1 foot of freeboard above the maximum windtide level. Table C-1 summarizes the elevations of design windtide levels and the design elevation of the protective levees.

TABLE C-1

DESIGN HURRICANE
WINDTIDE LEVELS AND
DESIGN ELEVATIONS OF PROTECTIVE STRUCTURES

Location	Windtide level ft. m.s.l.	Elev. of protective levees ft. m.s.l.	Critical track
South Point to Hwy. 90 (Sta. 666+00 to Sta. 939+29)	8.5-11.5	12.5	A & F
Hwy. 90 to GIWW (Sta. 939+29 to Sta. 1102+98)	11.5-12.8	12.5-14.0	F

c. Frequency estimates. The procedure for determining frequency estimates is described in paragraph 9a of DM No. 1, Part I - Chalmette. The Des H has a recurrent frequency of once in about 300 years over Lake Pontchartrain and about once in 200 years over Lake Borgne.

3. Description of drainage area. The New Orleans East unpumped drainage area is composed of partially submerged marsh at an average elevation of 0.0. This area consists of about 22 square

Incl 1

g. Plate 64. The flare of the training walls for the inlet and outlet structures should be no greater than 1 on 4 in order to limit flow separation and attendant eddy action as much as practicable. Also, consideration should be given to providing riprap protection in the bend on the south bank of the outlet ditch. The jet issuing from the culvert barrels will still be concentrated and could produce considerable attack on the south bank. This applies to both structures.

h. Plate 68. See para 8 above relative to the flaring of training walls for the inlet and outlet structures.

i. Plate 71. Section F-F shows the existing sheet piling to el -4.0 while Plate 77 shows the sheet piling to el -5.5. This discrepancy should be rectified.

j. Appendix C. (1) Para 2b, Page C-2. The 1 foot of freeboard above the maximum wind-tide level is concurred in. Hurricane protection levees are usually designed to be overtopped by waves greater than the significant wave; therefore, in terms of freeboard, there is usually none. Also, the duration of surge against the levee is a matter of only a few hours. To provide for higher freeboard requirements would greatly increase the cost of the project and require greater right-of-way limits. Experience in the NOD has been that considerable overtopping can take place before the levee section is severely eroded. Considering the above, the 1 foot of freeboard is adequate.

(2) Para 2a(2), Page C-2. A copy of the Plates showing SPH isovel patterns and critical path for Tracks A and F should be included.

(3) Plates showing wind direction and speed at the critical hour for the two parts of the protective structure (South Point to U.S. Highway 90 and GIWW to U.S. Highway 90) should also be included. Data similar to Plate 3 of information furnished in response to ENGCW-EZ 2d Ind, dated 25 Feb 69, subject: Lake Pontchartrain, Louisiana & Vicinity, Design Memorandum No. 1, Hydrology and Hydraulic Analysis, Part III - Lakeshore, would be sufficient.

(4) Para 7, Page C-4, and Plates C-1, C-2, and C-3. EM 1110-2-1602, Paras 6c and 6d, indicate loss coefficients of 0.5 and 0.01, respectively, for square-edged entrance and gate slot wells. Para 6a of above EM indicates that loss coefficients are applicable to the velocity head in

LMVED-TD (NOD 19 Jan 73) 3d Ind
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 9, New Orleans East Levee, South Point to GIWW

DA, Lower Mississippi Valley Division, Corps of Engineers, Vicksburg, Miss. 39180 24 May 73

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

1. Referred to note approval and for necessary action to resolve comments in previous indorsements.

2. In regard to para 3a 2d Ind, it is our view that you have always given careful consideration to all pertinent factors in establishing levee grades and we expect you to continue that policy in the future.

3. We interpret para 4 as a question of the adequacy of the assurances that were prepared for signature and not to question the intent of the Governor.

4. Para 6, 2d Ind. We do not consider it advisable to provide soil cover for riprap. If the riprap is necessary, it should be left exposed as is our normal practice.

FOR THE DIVISION ENGINEER:

Robert J Kaufman
for HOMER B. WILLIS
Chief, Engineering Division

1 Incl
wd 1 cy incl 2

CF:
DAEN-CWE-B

DAEN-CWE-B (LMNED-MP, 19 Jan 73) 2nd Ind
SUBJECT: Lake Pontchartrain, Louisiana and Vicinity, Lake Pontchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 9, New Orleans East Levee, South Point to GIWW

DA, Office of the Chief of Engineers, Washington, D.C. 20314 1 May 1973

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

1. Reference 4th indorsement DAEN-CWE-B, 14 March 1973 on letter LMNED-PP, 20 June 1972, subject: "Lake Pontchartrain, Louisiana and Vicinity, Lake Ponchartrain Barrier Plan, General Design Memorandum No. 2, Supplement No. 5B, New Orleans East Lakefront Levee, Paris Road to South Point".

2. Approved, subject to the comments of the Division Engineer and to the comments furnished in the following paragraphs. As indicated in the 4th indorsement referenced above, submission of the overall economic analysis for the Lake Pontchartrain Barrier Plan and the incremental economic analysis for the New Orleans East area are not required prior to initiating construction on the subject project feature; however, preparation of these analyses as well as a fully coordinated environmental impact statement should be expeditiously pursued.

3. 1st Indorsement.

a. Paragraph j(1); main text, paragraphs 14, 15 and 38; and Appendix C, paragraph 2. Levee grades are acceptable since they are consistent with past approvals. However, the hydrologic engineering criteria used to establish the height of the net levee grade above the design hurricane surge height should not be considered as establishing a precident. The hydrologic engineering design of hurricane protection net levee grades involves numerous considerations with various degrees of uncertainty and simple solutions (criteria) are usually inadequate. Therefore, in the future, the net levee grade should be established for each project only after a careful consideration of all pertinent factors.

b. Paragraph j(4); and Appendix C, paragraph 7. The suggested loss coefficients are not adequate. Attached as Inclosure No. 2 is a set of check computations with a suggested procedure and referenced loss coefficients. The orifice equation may be used if transposed to solve for H instead of Q in order not to mask the magnitude of losses that vary with discharge.

4. Paragraph 8. The authority of the Governor of the State of Louisiana to execute formal assurances on behalf of the St. Tammany Parish Police Jury should be more fully discussed with reference to specific statutory language and case law, if any. The "additional legal action" required

DISPOSITION FORM

For use of this form, see AR 340-15, the proponent agency is TAGCEN.

10/2/75

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMVED-FD	Preliminary Levee Sections IHNC to Paris Road

TO C/Design Memo Branch FROM C/F&M Br DATE [illegible] 75 CMT 1

Attn: Mr. Stelluck/jr/885-7104

BJ

As requested by Mr. Dicharry an advance copy of the subject design sections are forwarded herewith. The inclosed design sections differ from those which were furnished by Design Memo Branch in the following respects. The slope on the protected side of the levee was made a 1V on 3H throughout and the slope on the floodside of the levee was allowed to vary as shown. As a result the distance from the levee baseline to centerline varies by 4.5 feet.

Cannon
CANNON

4 Incl
as

Approved by Coastal Engineering (Cecil Soileau) 6Oct75 fld

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, WHICH IS OBSOLETE.

☆GPO [illegible]

LMNED-FD

Preliminary Levee Sections IHNC to Paris Road

C/Design Memo Branch

C/F&M Br

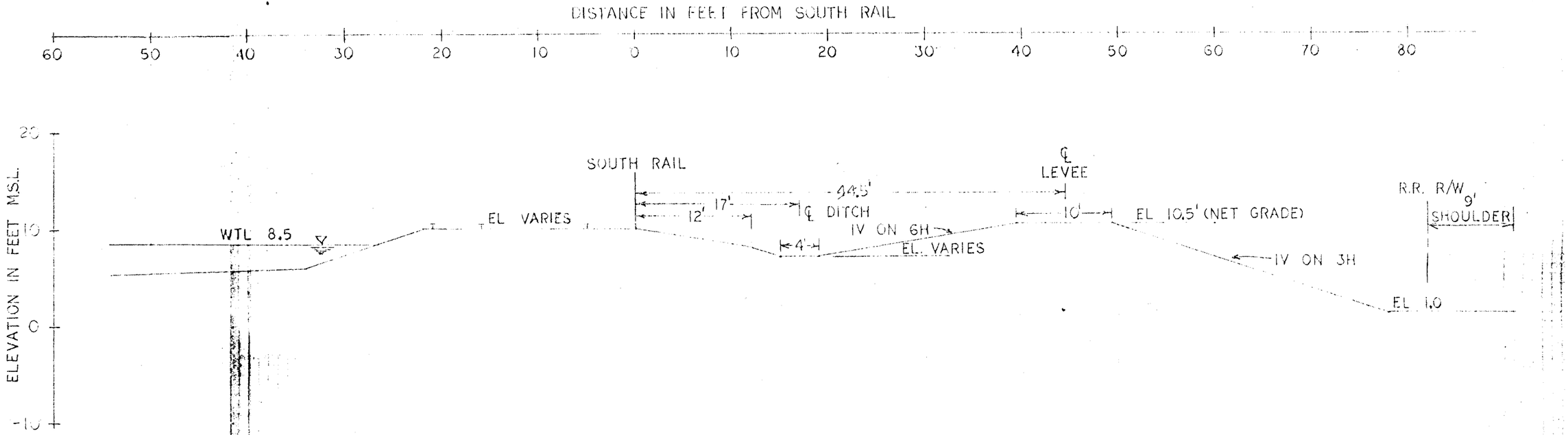
30 Sep 75
Mr. Steinbeck/jr/885-7104

As requested by Mr. Dicharry an advance copy of the subject design sections are forwarded herewith. The inclosed design sections differ from those which were furnished by Design Memo Branch in the following respects. The slope on the protected side of the levee was made a 1V on 3H throughout and the slope on the floodside of the levee was allowed to vary as shown. As a result the distance from the levee baseline to centerline varies by 4.5 feet.

4 Incl
as

CANNON

STA 28+00 TO STA 64+00 B/L



NOTE: ELEVATION OF DITCH VARIES LINEARLY FROM:

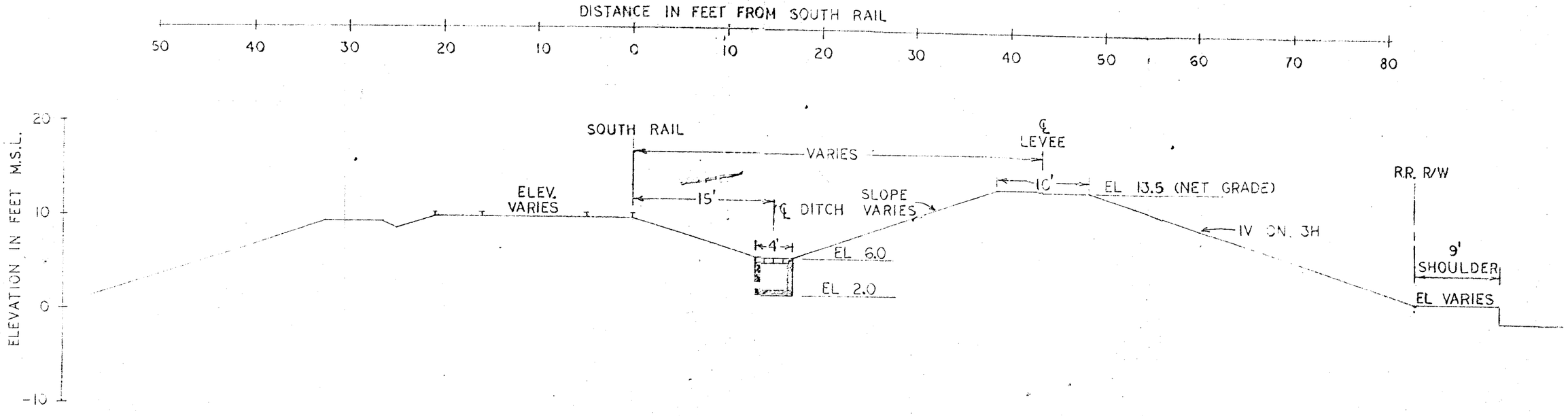
7.3 AT STA 28+31 TO 6.9 AT STA 38+50

6.9 AT STA 38+50 TO 6.0 AT STA 64+00

ELEVATION OF R.R. TRACKS VARIES FROM 12.9 TO 9.5

INCL 1

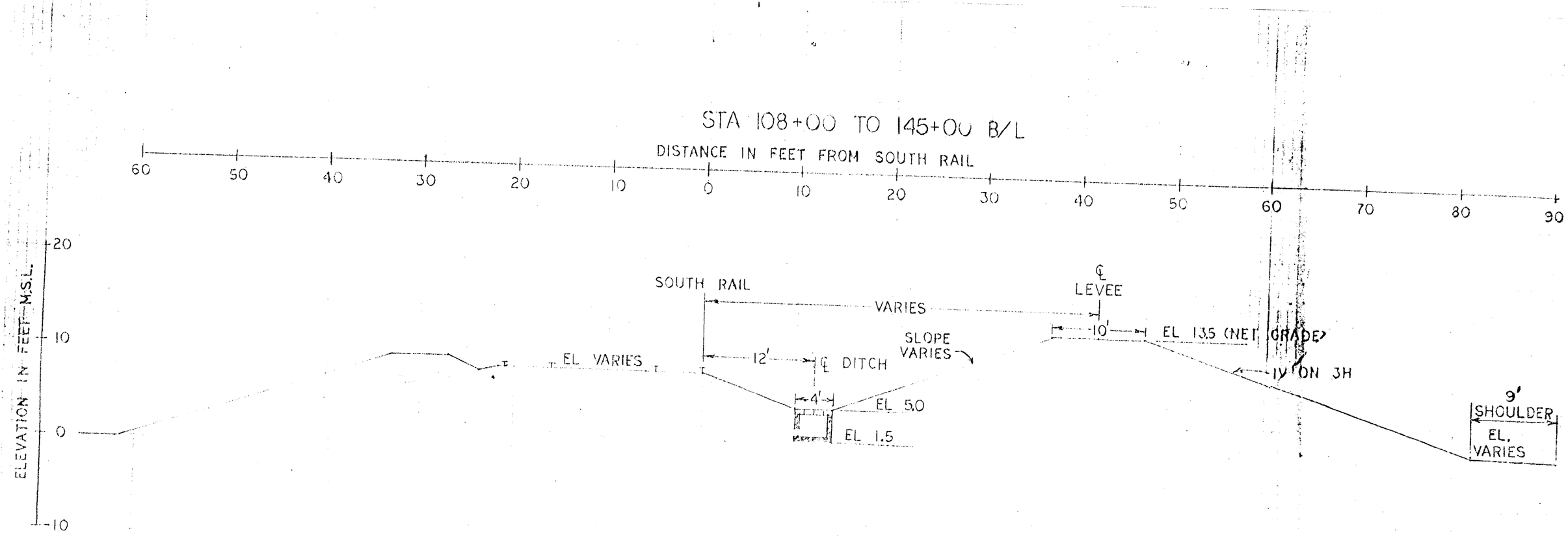
STA 64+00 TO 108+00
145+00 TO 289+68.59
304+21.4 TO 331+50 B/L



RANGE	SOUTH RAIL TO LEVEE ℄	FLOODSIDE SLOPE	SHOULDER ELEV.	R.R. EMBANKMENT ELEV
64+00 TO 73+70	40	IV ON 2.4H	1.0	10.0
74+30 TO 108+00	43.5	IV ON 2.9H	2.0	10.0
74+00 & 234+50	43	IV ON 2.6H	2.0	9.3
145+00 TO 154+00	41	IV ON 2.5H	2.0	8.8
57+00 TO 235+00	41	IV ON 2.5H	2.0	9.0
235+00 - 289+68.59 304+21.4 - 331+50	42	IV ON 2.7H	2.0	9.5

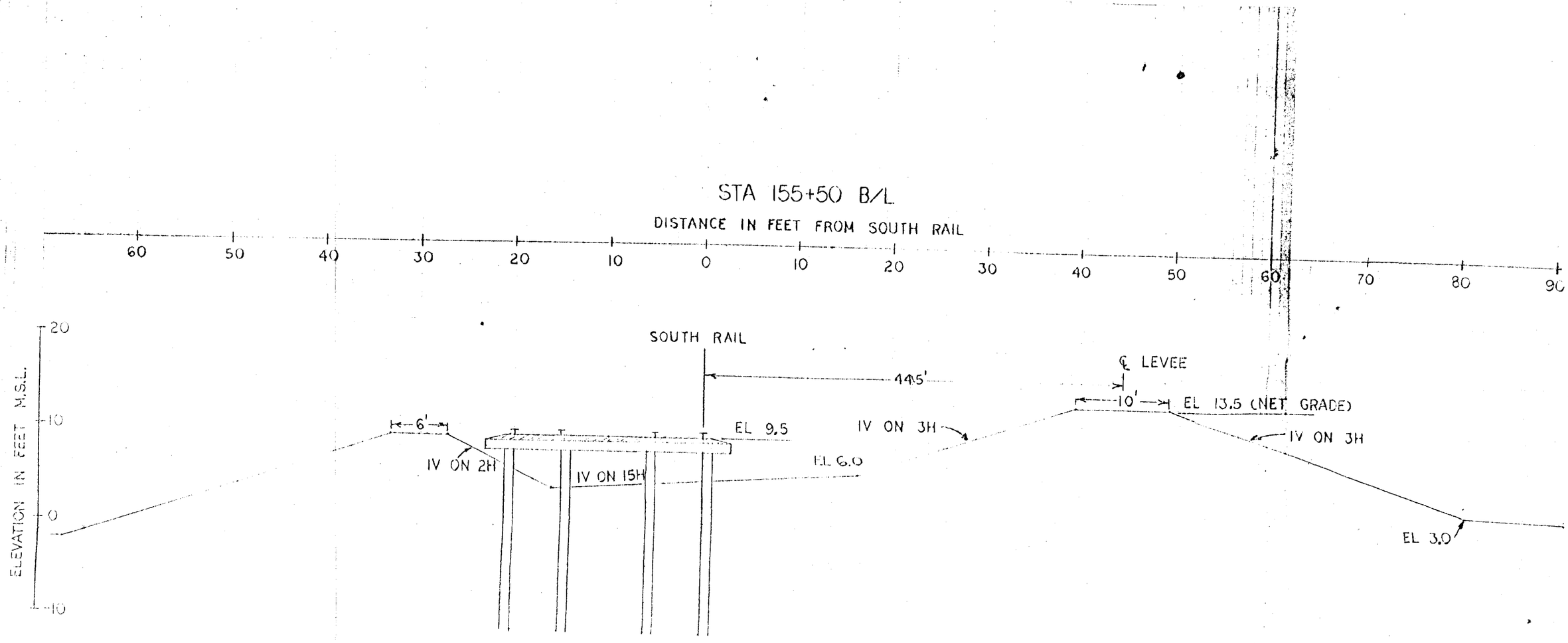
INCL 2

STA 108+00 TO 145+00 B/L



RANGE	SOUTH RAIL TO LEVEE ℄	FLOODSIDE SLOPE	SHOULDER ELEV.	R.R. EMBANKMENT ELEV.
108+00 TO 120+00	42	1V ON 2.7H	1.7	8.5
120+00 TO 145+00	41	1V ON 2.5H	2.0	9.0

INCL 3


STA 155+50 B/L
DISTANCE IN FEET FROM SOUTH RAIL
60
50
40
30
20
10
0
10
20
30
40
50
60
70
80
90
ELEVATION IN FEET M.S.L.
20
10
0
-10
SOUTH RAIL
445'
6'
EL 9.5
IV ON 2H
IV ON 15H
EL 6.0
IV ON 3H
℄ LEVEE
10'
EL 13.5 (NET GRADE)
IV ON 3H
EL 3.0

INCL 4

LMNED-FS (4 Aug 75)
SUBJECT: Lake Pontchartrain, La., & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road DM No. 2, General Design Supplement 5A

TO: Chief, Design Memo Br FROM: Chief, F&M Br DATE: 11 Aug 75 CMT 2
Mr. Steinbeck/mhg/885-7104

The additional work necessitated by the change in freeboard and levee configuration will require two months. We estimate a completion date of 15 October 1975 for our portion of the work. The additional work will require $7,000. for design time and $1,000. for computer time. Further, there will be approximately 10 plates for drafting to revise.

Cannon
CANNON

wd all incl

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pontchartrain, La., & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road DM No. 2, General Design Supplement 5A

TO C/Fdns & Matls Br FROM C/Design Memo Br DATE 4 Aug 75 CMT 1

Mr. Joachim/mm/430

1. The subject DM is currently being prepared. Accordingly, it is requested that foundations investigation and design input pertinent to the subject DM be provided for inclusion into the report. Inclosure 1 is a copy of the previous foundations investigation and design writeup for the subject DM for your reference. Also use the DM entitled "New Orleans East Lakefront Levee; Paris Road to South Point" as a guide. Inclosures 2 thru 4 are the plan views of the project area.

2. Typical sections of the levee in this reach have been revised; and hence, new stability analyses should be performed. This revision was necessary due to right-of-way and railroad drainage requirements. Inclosures 5 thru 8 show the revised typical sections of levee for the project.

3. Also, a floodwall elevation revision was necessitated by a change in the freeboard requirements specified by H&H Branch. The new minimum freeboard is 2 feet. Therefore, the top of the floodwall from station 10+58.20 W/L to station 30+77.39 W/L should be raised 1 foot from gross elevation 10.0 ft. m.s.l. to gross elevation 11.0 ft. m.s.l. The design elevation, or net grade, will be raised from 9.5 ft. m.s.l. to 10.5 ft. m.s.l. This revision will require a check of the design of the floodwall by Design Br and subsequently, a check of the design of the foundation by your branch. Upon receipt of the revised floodwall sections from Design Br, they will be furnished to you.

4. ~~Inclosed~~ Inclosure 9 are the previous originals of plates supplied by your branch. Please return to this branch all original plates after revisions have been made.

5. Design work should be charged to account no. BE C21304 Z10A CFO. Computer charges should be made to account no. BE C21304 Z10A CFB. Please furnish this branch with an estimate of charges to perform this work and a date by which we can expect completed input.

6. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on ext. 430.

SEALE

9 Incl
as

Incl 9 (fwd. separately)

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 4 Aug 75

SUBJECT OF CONVERSATION: CITRUS LAKEFRONT LEVEES

INCOMING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION

PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION

OUTGOING CALL

PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
JOE DICHARRY	PROJ. ENG. SEC.	430

PERSON CALLED	ADDRESS	PHONE NUMBER AND EXTENSION
LARRY BODET	ORLEANS LEVEE DIST.	523-5042

SUMMARY OF CONVERSATION

I asked him for a status report on our 2 July 75 letter to OLD asking for information on the drainage near the airport and Lincoln Beach, and comments on the Lake Forest Marina plans. He said he would look into it and call me back.

AJD

DA FORM 1 APR 66 751 REPLACES EDITION OF 1 FEB 56 WHICH WILL BE USED.

★ GPO: 1968 O — 343-778, 84

LMSED-MP

Lake Pontchartrain, La. & Vicinity -- Citrus Lakefront Levee; IHNC to Paris Road

C/Design Br

C/Design Memo Br

4 Aug 75
Mr. Joachim/mm/430

1. The subject DM is currently being prepared. Accordingly, it is requested that input from Design Br be furnished for inclusion in the report. Inclosure 1 is a copy of the previously furnished writeup from Design Br for the subject DM. Please review this for adequacy. The DM entitled "New Orleans East Lakefront Levee; Paris Road to South Point" should be used as a reference. Inclosures 2 thru 4 are the plan views of the project area.

2. The requested input should include quantity estimates for the levee and costs for the proposed work. See inclosures 5 thru 8 for typical sections.

3. A floodwall elevation revision was necessitated by a change in the freeboard requirements specified by H&H Br. The new minimum freeboard is 2 feet. Therefore, the top of the floodwall from station 10+58.20 W/L to station 30+77.39 W/L should be raised 1 feet from gross elevation 10.0 ft. m.s.l. to gross elevation 11.0 ft. m.s.l. The design elevation, or net grade, will be raised from 9.5 ft. m.s.l. to 10.5 m.s.l. This revision will require a review of the design of the floodwall by your branch. Also, the T-wall section at gate no. 4 will have to be raised 1 foot from 9.5 ft. m.s.l. to 10.5 ft. m.s.l. Please furnish the revised floodwall sections before the remaining input is furnished so F&H Br can check the foundation design.

4. The current design for Lincoln Beach remains unchanged, using only one access gate thru the floodwall. When the plans are finalized for the Lake Forest Marina, they will be incorporated into the DM.

5. A plate showing the general features of the Citrus Pumping Station closure that is being done by private contractor should be included in your report.

6. Please furnish this branch with finished originals of all necessary design plates. All required input for inclusion in the subject DM should be furnished to this branch by COB 3 Nov 75.

7. Work should be charged to account no. BE C21304 Z10A CKO. This amount should not exceed $12,000.

8. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on ext. 430.

8 Incl
as

SEALE

Lake Pontchartrain, La., & Vicinity — Citrus Lakefront Levee; IHNC to Paris Road DM No. 2, General Design Supplement 5A

LMNED-MP

C/Fdns & Matls Br C/Design Memo Br 4 Aug 75

Mr. Joachim/mm/430

1. The subject DM is currently being prepared. Accordingly, it is requested that foundations investigation and design input pertinent to the subject DM be provided for inclusion into the report. Inclosure 1 is a copy of the previous foundations investigation and design writeup for the subject DM for your reference. Also use the DM entitled "New Orleans East Lakefront Levee; Paris Road to South Point" as a guide. Inclosures 2 thru 4 are the plan views of the project area.

2. Typical sections of the levee in this reach have been revised; and hence, new stability analyses should be performed. This revision was necessary due to right-of-way and railroad drainage requirements. Inclosures 5 thru 8 show the revised typical sections of levee for the project.

3. Also, a floodwall elevation revision was necessitated by a change in the freeboard requirements specified by HEC Branch. The new minimum freeboard is 2 feet. Therefore, the top of the floodwall from station 10+58.20 W/L to station 30+77.39 W/L should be raised 1 foot from gross elevation 10.0 ft. m.s.l. to gross elevation 11.0 ft. m.s.l. The design elevation, or net grade, will be raised from 9.5 ft. m.s.l. to 10.5 ft. m.s.l. This revision will require a check of the design of the floodwall by Design Br and subsequently, a check of the design of the foundation by your branch. Upon receipt of the revised floodwall sections from Design Br, they will be furnished to you.

4. Inclosed are the previous originals of plates supplied by your branch. Please return to this branch all original plates after revisions have been made.

5. Design work should be charged to account no. BE C21304 Z10A CFO. Computer charges should be made to account no. BE C21304 Z10A CFB. Please furnish this branch with an estimate of charges to perform this work and a date by which we can expect completed input.

6. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on ext. 430.

9 Incl
as

SEALE

LMMED-MP

Lake Pont. La., & Vic. -- Citrus Lakefront Levee: IHNC to Paris Road

C/Hyd & Hydro Br

C/Design Memo Br

29 Jul 75
Mr. Joachim/pbs/430

1. The subject DM is currently being prepared. Accordingly, it is requested that hydraulic and hydrologic information pertinent to the subject DM be provided for inclusion in the report. Inclosure 1 is a copy of the previous Hydrology and Hydraulics write-up for the subject DM. Please review this for its adequacy.

2. Adequacy of the drainage ditch to convey the runoff between the railroad embankment and new levee for the reach from Sta. 28+31 to Sta. 64+00 is requested. The design of a catch basin and culvert to be jacked thru the railroad embankment at Sta. 64+00 to handle these flows is also requested. See inclosures 2, 5 and 6 for plan and typical sections, respectively.

3. Also requested is a review of the design for the ditch between the railroad embankment and the enlarged levee for the reach from Sta. 64+00 to Sta. 331+50, together with the design of catch basins and culverts at 900-feet spacings. See inclosures 2 thru 4 for plan view and inclosures 7 and 8 for revised typical sections.

4. Please furnish this information by COB 1 Nov 75.

5. Work should be charged to account number EEC21304X10ACH0. This amount should not exceed $2,000.

6. If we can provide you with any additional information or assistance, please contact Mr. Joe Dicharry or Mr. Joe Joachim, both on Ext. 430.

8 Incl
as

SEALE

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 15 July 1975

SUBJECT OF CONVERSATION: Request for "as-built" drawings on Hayne Blvd.

INCOMING CALL

PERSON CALLING	ADDRESS	PHONE NUMBER AND EXTENSION

PERSON CALLED	OFFICE	PHONE NUMBER AND EXTENSION

OUTGOING CALL

PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
Joe Dicharry	Proj. Eng. Section	430

PERSON CALLED	ADDRESS	PHONE NUMBER AND EXTENSION
Mr. Earl George	La. Hwy Dept Baton Rouge, La.	389-6742

SUMMARY OF CONVERSATION

I requested Mr. George to add to my request of 30 June 75 the "as-built" sections for the completed part and their cross sections of the uncompleted part of Hayne Blvd. He consented.

DA FORM 1 APR 66 751 REPLACES EDITION OF 1 FEB 58 WHICH WILL BE USED.

★ GPO: 1968 O — 343-778, 84

JEFFERSON LAFOURCHE ORLEANS PLAQUEMINES JAMES ST. BERNARD
ST. JOHN ST. CHARLES TERREBONNE

STATE OF LOUISIANA
DEPARTMENT OF HIGHWAYS
DISTRICT 02
P.O. BOX 9179 - BRIDGE CITY, LOUISIANA 70094

July 8th, 1975

IN REPLY PLEASE REFER TO FILE NO.

DISTRICT NO. 02

STATE ROUTE LA 47, C-S 148-03
ORLEANS PARISH

Mr. Harvey D. Shaffer
Road Design Engineer
Department of Highways
P. O. Box 44245, Capitol Station
Baton Rouge, Louisiana, 70804

Dear Mr. Shaffer:

Attached hereto is copy of letter from the Corps. of Engineers, New Orleans District, requesting a copy of "as built" plans on State Project No. 148-03-09 and a copy of plans of State Project No. 148-03-08 which is now under contract.

This office would appreciate your furnishing these plans together with any additional information concerning drainage along this route.

Very truly yours,

J. C. McGREW
DISTRICT ENGINEER

BY: N. M. Childs

N. M. CHILDS, JR.
ASS'T. DIST. ENGR.

NMC/rmr
cc: Mr. Jerome C. Baehr
Mr. Robert G. Graves
General Files
Enc.

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

REFERRED TO
Mr. Jerome C. Baehr
Chief Engineer
30 June 1975

IN REPLY REFER TO
LMNED-MP

Mr. James C. McGrew, Chief Engineer
Louisiana State Highway Department
District 02 Headquarters
1440 US Highway 90
Bridge City, Louisiana 70094

___ RETURNED FOR ACTION
___ ANSWER FOR MY SIGNATURE
___ FOR FILE
X FOR YOUR INFORMATION
___ RETURN TO ME
___ PLEASE SEE ME
___ PLEASE TELEPHONE ME
___ FOR APPROVAL
___ PLEASE ARRANGE
BY Louis H. Russell DATE 7/15/75
BY _____ DATE _____
BY _____ DATE _____
BY Louis H. Russell DATE _____
Ass't. Interstate Engineer
La. State Dept. of Highways

Attached Following Sets of Plans:
As Built Plans
S.P. 148-03-09
Construction Plans
S.P. 148-03-08
S.P. 148-03-07

Dear Mr. McGrew:

We are presently finalizing the levee alinement for the Citrus Lakefront Levee portion of the Lake Pontchartrain, Louisiana, and Vicinity hurricane protection project. This reach of the project extends from the Inner Harbor Navigation Canal to Paris Road.

Within this reach, a levee will be constructed from just east of Downman Road to Paris Road, paralleling Hayne Boulevard. A floodwall will be constructed in lieu of a levee at Lincoln Beach. It would be advantageous to this office if we had a copy of your "as built" drawings for the completed portion of the Hayne Boulevard widening project, as well as the construction drawings for the uncompleted part. These will assist us in alining the levee between the railroad and Hayne Boulevard. Please indicate your plans for the shoulder on the lakeside of Hayne Boulevard.

Furthermore, indicate whether or not you incorporated the drainage culverts under the existing levee into the new storm drainage system within the completed portion. If so, will you do the same for the remainder of this reach?

Your prompt reply with this information will be greatly appreciated.

Sincerely yours,

Jerome C Baehr

JEROME C. BAEHR
Chief, Engineering Division

IN REPLY REFER TO
LMNED-MP

2 July 1975

Mr. John P. McNamara, Chief Engineer
Board of Levee Commissioners of the
Orleans Levee District
200 Wild Life and Fisheries Building
418 Royal Street
New Orleans, LA 70130

Dear Mr. McNamara:

We are presently finalizing the revised designs for the Citrus Lakefront levee, IHNC to Paris Road, portion of the Lake Pontchartrain, Louisiana and Vicinity hurricane protection project.

As you are aware of, the levee in this portion will tie into a floodwall just east of Downman Road on the landside of the railroad. The drainage of the rainfall runoff that will collect between the hurricane protection levee and the railroad embankment, extending from the floodwall to the eastern end of the airport, will be a problem. The plan of installing 12-inch culverts under the railroad embankment discharging into the lake, the plan used for the remaining part of this portion, cannot be used here because of the location of the airport on the lakeside of the railroad. A possible solution is to install the 12-inch culverts under the railroad and tie into the existing drainage system on the lakeside of the railroad.

Therefore, we would appreciate your furnishing us the details of the existing drainage system in this area. These details should include location, elevation, size and point of discharge. A copy of the "as-built" drawings would be sufficient. Your comments as to the feasibility of this plan or any other scheme will be appreciated.

Reference is made to my letter of 22 May 1974 requesting your and local interests' comments on the proposed two-gate floodwall plan in front of the Lake Forest Marina, presently Lincoln Beach. It would be appreciated if you would furnish your comments on this proposed plan in the near

Mr. Dicharry/pbs/430

LMNED-MP 2 July 1975
Mr. John P. McNamara

future. Otherwise, we will include the original plan of providing only one gate at the existing underpass into our design memorandum. Keep in mind that to provide the second gate, local interests must bear full responsibility for the estimated construction costs over and above that of our original plan and the costs of any additional engineering and design required to implement the two-gate plan.

Regarding this same reach, we have a similar drainage problem in this area as in front of the airport. We know that two drains and a pump house exist there presently. But, we do not know the direction of the drainage. Does it drain toward Hayne Boulevard or the lake?

Therefore, the details of the existing drainage system in the area of Lincoln Beach are also requested. Again, any comments on how to handle this problem will be appreciated.

A prompt reply with this information will be greatly appreciated as we are attempting to expedite the completion of the design memorandum for this portion of the project.

Sincerely yours,

JEROME C. BAEHR
Chief, Engineering Division

BARTON
LMNED-MP

SEALE
LMNED-M

BAEHR
LMNED

Mr. Dicharry/jz/430

IN REPLY REFER TO
LMNED-MP

30 June 1975

Mr. James C. McGrew, Chief Engineer
Louisiana State Highway Department
District 02 Headquarters
1440 US Highway 90
Bridge City, Louisiana 70094

Dear Mr. McGrew:

We are presently finalizing the levee alinement for the Citrus Lakefront Levee portion of the Lake Pontchartrain, Louisiana, and Vicinity hurricane protection project. This reach of the project extends from the Inner Harbor Navigation Canal to Paris Road.

Within this reach, a levee will be constructed from just east of Downman Road to Paris Road, paralleling Hayne Boulevard. A floodwall will be constructed in lieu of a levee at Lincoln Beach. It would be advantageous to this office if we had a copy of your "as built" drawings for the completed portion of the Hayne Boulevard widening project, as well as the construction drawings for the uncompleted part. These will assist us in alining the levee between the railroad and Hayne Boulevard. Please indicate your plans for the shoulder on the lakeside of Hayne Boulevard.

Furthermore, indicate whether or not you incorporated the drainage culverts under the existing levee into the new storm drainage system within the completed portion. If so, will you do the same for the remainder of this reach?

Your prompt reply with this information will be greatly appreciated.

Sincerely yours,

JEROME C. BAEHR
Chief, Engineering Division

BARTON
LMNED-MP

SEALE
LMNED-M

BAEHR
LMNED

TELEPHONE OR VERBAL CONVERSATION RECORD

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

DATE: 26 June 75

SUBJECT OF CONVERSATION: IHNC to PARIS ROAD LAKEFRONT LEVEE – HAYNES BLVD. CONST.

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

OUTGOING CALL		
PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
Joe Dicharry	Projects Eng. Sec.	430
PERSON CALLED	**ADDRESS**	**PHONE NUMBER AND EXTENSION**
Bob Roth	La Hwy Dept - Field Ofc 7216 W. Judge Perez Dr.	271-5714

SUMMARY OF CONVERSATION

I asked Bob if the as-built drawings for the completed portion of the Haynes Blvd project between Downman Rd and Citrus Canal are available. ~~Also~~ He said they were about ready to finish them. Upon completion they would have to send the dwgs. to the Baton Rouge office for certification. It would probably be 3 to 4 weeks before I could get a copy of the dwgs. But I could come by his office and look at the dwgs if I chose to. He suggested that I write to Mr. McCrew ~~Crue~~ at the District 02 Headquarters for these drawings.

He informed me that the plans to pave the shoulder on the north side of Haynes Blvd have been abandoned.

I asked him what was the average lowering of the roadway from the old road grade. He said about 2 feet.

He also told ~~me~~ me, after my inquiry, that the existing drainage pipes from the railroad side of the existing levee were tied in to the new storm drainage system.

JJD

DA FORM 1 APR 66 751 REPLACES EDITION OF 1 FEB 58 WHICH WILL BE USED.

★ GPO: 1968 O — 343-778, 84

PROJECT	Page — of —	COMPUTED BY	DATE
SUBJECT		CHECKED BY	DATE

MFR Projects Engr Sec. Shelton 11 Sep 74
IHNC - Paris Rd.

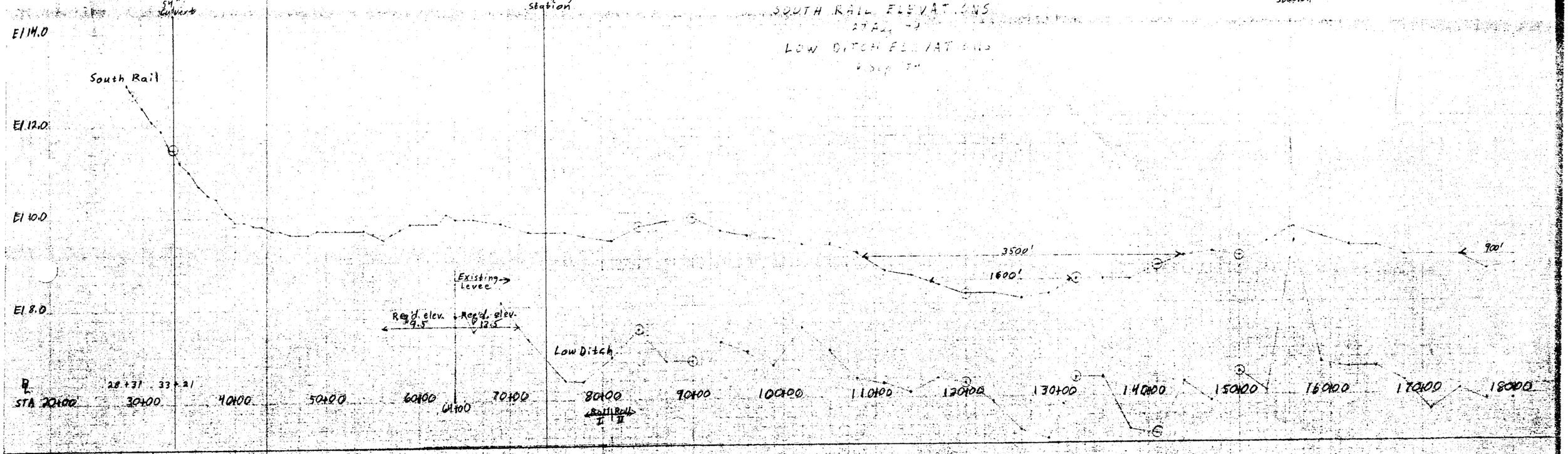
Today in an informal meeting with Messrs. Lee, Guizerix and Richter, the former agreed to undertake the design of new levee sections and embankment drainage structures, utilizing the railroad criteria of ditch elevation 3' below south rail elevation, ditch centerline 17.5' from centerline south track and cover of 5'-6" for the drain pipes under the tracks (base of rail to top of pipe.) On this day I gave my levee section sketches and rail profiles along with copies of ~~prelim~~ correspondence from the railroad which outlined the railroad criteria to Mr. Lee.

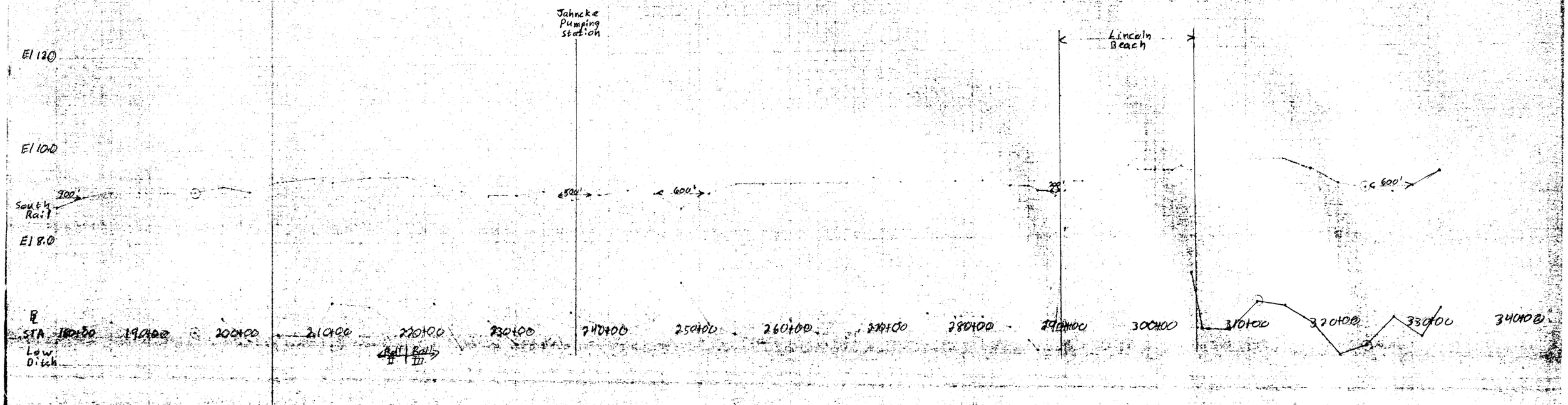
Stanley C. Stelly

Mr. Guizerix agreed to try to obtain a reply ~~to prelim~~ from OLD to ~~be~~ the 7Nov73 request for utility info and to obtain info on the drainage on the lakeside of the RR along the lakefront Airport for use in the drainage of the embankments in that area.

Stanley C. Stelly

CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD
SOUTH RAIL ELEVATIONS
AND
LOW DITCH ELEVATIONS





PROJECT

SUBJECT

Page ___ of ___

APPROVED BY DATE

CHECKED BY DATE

IH NC – Paris Road

STA 29+00

	N Slope RR			N Track		S Track		S Slope RR		N Slope	Crown	South Slope
℄ Distance	-33	-19	-13	-7	-2	7	12	14	45	50.5	61	73	95.5
elevation	5.5	10.5	11	13	13	12.5	12.5	12	1.5	0	9.5	9.5	1.5

STA 33+00

R	R	R	R	R	R				
-38	-32	-7	-2	7	12	12H	91		
3.5	4	11.5	11.5	11.5	11.5	9	0.5		

STA 40+00

				R	R	R	R		
-41	-37	-33	-22	-10	-5	5.5	10.5	19	33
6.5	5.5	5	6.5	10	10	10	10	7.5	0

STA 56+00

				R	R	R	R			
-40	-30	-22	-15	-8	-3	7	12	20	29	45
7.5	8	7.5	8	9.5	9.5	9.5	9.5	7.5	7	-0.5

STA 84+00

R	R	R	R					
-7	-2	8	13	23	33	52	59	93
10	10	9.5	9.5	7.5	7.5	12.5	12.5	1.5

STA 90+00

R	R	R	R					
-9.5	-9.5	6	11	21	28	46	58	96
10	10	10	10	7	7.5	12.5	11.5	1

STA 120+00

R	R	R	R					
-10.5	-5.5	5.5	10.5	9	18	45	56	88
9	9	8	8	6.5	6.5	11	11	0.5

STA 132+00

R	R	R	R					
-9	-4	6	11	23	29	49	59	90
9	9	8.5	8.5	6.5	6.5	11	11	2

STA 141+00

R	R	R	R					
-6.5	-1.5	8	13	24	32	50	61	95
9	9	8.5	8.5	5	5.5	10.5	10	1

PROJECT

SUBJECT

Page ___ of ___

COMPUTED BY DATE

CHECKED BY DATE

STA 150+00

R	R	R	R					
-8.5	-3.5	6	11	19	29	46	60	91
9.5	9.5	9	9	6.5	7	11.5	11	1

STA 195+00

R	R	R	R					
-9.5	-4.5	5	10	23	28	47	58	92
9.5	9.5	9	9	6	6.5	12	11.5	0.5

STA 311+00

R	R	R	R					
-8.5	-3.5	6	11	21	25	48	60	96
9.5	9.5	9.5	9.5	7	6.5	12	11.5	1

STA 323+00

R	R	R	R					
-9.5	-3.5	6	11	21	26	44	57	90
9	9	9	9	5.5	5.5	11.5	11	1

Mr. Richter/lg/430

LMNED-MP 7 November 1973
Mr. John P. McNamara, Chief Engineer

f. What is the size of the water main under gate 5?

g. A 21-inch drain line passes through the proposed alinement at approximate station 33+45 wall line. Will a valve be required on this line to prevent backflows during hurricane flood stages?

Thank you in advance for your cooperation in this matter. If you require any additional information relating to the above, do not hesitate to call.

Sincerely yours,

EER
BARTON
LMNED-A
WBS
SEALE
LMNED-M
SOMMERS
LMNED-D
WBM
BAEHR
LMNED

1 Incl (dupe)
draft GDM prints

JEROME C. BAEHR
Chief, Engineering Division

IN REPLY REFER TO
LMNED-MP

7 November 1973

Mr. John P. McNamara, Chief Engineer
Board of Levee Commissioners of the
Orleans Levee District
200 Wild Life & Fisheries Bldg.
418 Royal Street
New Orleans, Louisiana 70130

Dear Mr. McNamara:

We are currently finalizing our general design for the Citrus lakefront levee, Inner Harbor Navigation Canal (IHNC) to Paris Road feature of the Lake Pontchartrain hurricane protection project.

As you know, many utilities conflict with our proposed alinement and will necessarily require relocation prior to or during construction. In order that we may accurately reflect the costs and methods of these relocations in the pertinent general design memorandum, it is requested that you provide us with answers to the following questions in relation to the inclosed set of prints.

a. Are the locations of utilities shown in the plan and profile drawings correct and are there any additional crossings which should be included on the drawings?

b. Are the sizes and elevations of the utility lines correct?

c. Is the drain line shown in red on plate 4 still in use or has it been abandoned?

d. Where does the 8-inch drain line under gate 3 discharge? If it discharges into the IHNC, will it require a gate or valve?

e. What is the size of the 2400/4160 V underground powerline shown on plates 3 and 4? What must be done to the line in order to drive steel sheet piling under the line?

LMNED-DL (6 July 1973)

TO Acting C/Real Estate Div FROM C/Engineering Div DATE 16 July 1973 CMT 2
√Mr. Steinwinder/ddb/314

Inclosed are requested plan and profile drawings of IHNC to Paris Road Levee, file number H-2-26533, which shows the location of station 28+21 and 64+00, as well as all baseline stationing and limits of work for the subject levee.

1 Incl (quad)
as

JEROME C. BAEHR
Chief, Engineering Division

DISPOSITION FORM

For use of this form, see AR 340-1. The proponent agency is The Adjutant General's Office.

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNRE-AP	Designed Sections and Proposed Right-of-Way for Lake Pontchartrain & Vicinity Hurricane Protection Project, IHNC-Paris Road Levee Enlargement

TO Chief, Engineering Div
ATTN: LMNED-DL

FROM Acting Chief, Real Est Div

DATE 6 July 1973

CMT 1

Mr. Tom Cole/yt/885-6803

1. Attached is a copy of the Orleans Levee District letter of 3 Jul 73 requesting data as to subject project.

2. Kindly furnish information to be used as a basis for reply.

Edward A Crabtree

EDWARD A. CRABTREE
Acting Chief, Real Estate Division

1 Incl
as stated

CF:
C/Engr Div (LMNED-MR)
C/P&C Br

DA FORM 1 FEB 62 2496

REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

The Board of Levee Commissioners

OF THE

Orleans Levee District

200 WILDLIFE AND FISHERIES BUILDING
416 ROYAL STREET

New Orleans, La.
70130

GUY F. LEMIEUX, PRESIDENT
CLAUDE W. DUKE, PRES. PRO-TEM
DANIEL P. KELLY, JR.
JOHN D. LAMBERT, JR.
MOON LANDRIEU
BERNEL R. SANDERS
JAMES C. SCALISE

PROTECTING YOU AND YOUR FAMILY

RICHARD J. McGINITY, GENERAL COUNSEL
JOHN P. McNAMARA, CHIEF ENGINEER
GEORGE J. LABRECHE, EXECUTIVE ADMINISTRATOR

July 3, 1973

Mr. Anthony C. Cole
Chief, Real Estate Division
Department of the Army
New Orleans District, Corps of Engineers
P. O. Box 60267
New Orleans, Louisiana 70160

Dear Mr. Cole:

I acknowledge receipt of your letter of 29 June 1973 transmitting a drawing dated 19 June 1973 of the designed sections and the proposed right of way for the IHNC-Paris Road Levee Enlargement.

Your letter requests our comments. Before we can comment, we must have more information as to where are Stations 28+21 and 64+00? From previous information furnished us, the levee is supposed to cross from the north side of the track to the south side of the track at approximate Station 38+00 and Station 64+00 is somewhere between Downman Road and the east end of the Airport.

As soon as we receive the additional information, we can furnish plans to the Railroad for their comments.

Yours truly,

JOHN P. McNAMARA
CHIEF ENGINEER

JPMCN:sm

cc: Hon. Guy F. LeMieux, Pres.

Lake Pontchartrain, La. and Vicinity, Citrus Lakefront Levee, IHNC to Paris Road, Right-of-way requirements for Levee Enlargement

LMNED-DL

C/Real Estate Div

C/Engineering Div

21 June 1973
Mr. Steinwinder/lh/314

1. We are in the process of preparing the GDM for the subject levee. You are requested to forward our proposed design sections and R/W requirements to OLD, requesting their concurrence and/or comments on our proposed R/W.

2. This request is the result of the changes on our R/W drawings for the Parish Road to South Point Levee which were required by OLD and the Southern Railroad.

1 Incl (4 copies)
Proposed design section

JEROME C. BAEHR
Chief, Engineering Division

LMNRE-AP

29 June 1973

The Board of Levee Commissioners
Orleans Levee District
Wildlife and Fisheries Building, Room 290
418 Royal Street
New Orleans, Louisiana 70130

Gentlemen:

We are in the process of preparing our General Design Memorandum for the Lake Pontchartrain, Louisiana, and Vicinity, Citrus Lakefront Levee, I. H. N. C. to Paris Road, Orleans Parish, Louisiana.

Inclosed for your review is a drawing dated 19 June 1973 of the designed sections and the proposed right-of-way for the Inner Harbor-Paris Road Levee Enlargement.

Kindly furnish this office with your comments and/or your concurrence with our proposed right-of-way.

Your cooperation is appreciated.

Sincerely yours,

ANTHONY C. COLE
Chief, Real Estate Division

1 Incl (dupe)
Dwg of the design sections
of the proposed right-of-way
for the Inner Harbor-Paris Road
Levee Enlargement

Copy furnished:
C/Engr Div (LMNED-DL)
C/P&C Br

Lake Pont. La. & Vic.--Citrus Lakefront Levee IHNC to Paris Road

LMNED-HC/HD

Acting C/Design Memo Br C/Hyd & Hydro Br 30 Mar 73

Messrs.Gautreau/421-Dicharry/422/esk

1. Reference is made to your multiple DF, subject as above, dtd 8 Mar 73.

2. In compliance with your request, hydraulic and hydrology information pertinent to the subject named report is inclosed for inclusion in the main body portion of the DM.

Incl
as

P. A. BECNEL, JR.
Chief, Hydraulics & Hydrologic Branch

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-MP	Lake Pont. La. & Vic.--Citrus Lakefront Levee IHNC to Paris Road

TO C/Hydra & Hydro Br.
C/Design Branch

FROM Actg C/Design Memo Br. DATE 8 Mar 73 CMT 1
Mr. Richter/jz/430

1. We are currently involved in preparing the subject GDM draft. It is requested that you furnish this office your applicable portions of the draft report.

2. You should furnish the above information by 2 April 1973. If you cannot provide the above information as scheduled, please advise us by 14 March 1973.

3. Costs for your work should be charged as follows:

Hydra & Hydro Br.	05 1272 030 121 041 060
Design Br.	05 1272 030 121 041 030

William B. Seale
WILLIAM B. SEALE
Acting Chief, Design Memo Branch

LAKE PONTCHARTRAIN LOUISIANA AND VICINITY
CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD

HYDROLOGY AND HYDRAULICS

General. The Hydrology and Hydraulic Analysis design memorandum for the Lake Pontchartrain and Vicinity Barrier-Low Level plan was presented in a series of three separate reports entitled Design Memorandum No. 1 and subtitled Part I-Chalmette, Part II-Barrier, and Part III-Lakeshore. The reports were approved on 27 October 1966, 18 October 1967 and 6 March 1969, respectively. These memoranda presented detailed descriptions of the climatology and hydrologic regimen of the area and detailed descriptions and analyses of the hydraulic methods and procedures used in design of the features for the plan. Also included in the memoranda are essential data, assumptions and criteria used, and results of studies which provide the bases for determining surges, routings, wind tides, wave runup and overtopping, and frequencies. All basic hydraulic information required for design of the Citrus lakefront protective structures from the Inner Harbor Navigation Canal to Paris Road is included in Part III-Lakeshore.

Design elevations. The design hurricane for the Citrus lakefront is the SPH (Standard Project Hurricane) which has a frequency occurrence of once in about 300 years. The design hurricane would have a central pressure index of 27.4 inches of mercury; a maximum 5-minute average wind velocity offshore of 100 m.p.h. 30 ft. above the surface at a radius of 30 nautical miles; a forward speed of 6 knots; and the hurricane

progresses along a track critical to the area of interest. Plate X-1 shows the hurricane track, isovels and wind direction at the critical hour for the Citrus area. Detailed information on the design hurricane is presented in Design Memorandum No. 1, Hydrology and Hydraulic Analysis, Part I-Chalmette. The design hurricane would produce a maximum wind tide level of 8.5 feet above mean sea level along the Citrus lakefront. Design elevations for the protective structures and pertinent information relative thereto are as follows:

Structure	Depth	Significant Wave Height (H_S)	Wave Period (T)	Deepwater Wave (H_O')	Runup	Design Elevation of Protective Structures
	ft.	ft.	sec.	ft.	ft.	ft. m.s.l.
Levee	21.4	7.5	6.8	8.0	5.0	13.5
Floodwalls	21.4	7.5	6.8	8.0	1.0-5.0	9.5-13.5

Description of drainage area. The Citrus area is comprised mainly of developed land and land for which developments are planned. The area is relatively flat ranging in elevation from -8.0 ft. mean sea level (m.s.l.) to 0.0 ft., m.s.l. It is presently drained by five pumping stations, three of which are located near the new levee alinement and discharge into Lake Pontchartrain. They are located on the landside of Hayne Boulevard at the St. Charles, Citrus and Jahncke Canals and have capacities of 1,000, 460 and 1,000 cubic feet per second (c.f.s.), respectively. The other two are located on the Dwyer Canal discharging into the IHNC (120 c.f.s.) and Elaine Street discharging into the MR-GO (90 c.f.s.). The new hurricane protection levee will not interfere with the operation of these pumping stations. The entire area is subject to periodic inundation from hurricane surges.

Proposed drainage improvements. The only runoff that will be intercepted by this new levee is that which will flow between the new levee and the existing railroad embankment. The runoff from the levee and railroad embankment will be collected in the ditch and discharge into the lake through drainage culverts that will be jacked through the railroad embankment. Catch basins will be installed to collect the flow for each culvert. The spacing between the culverts will be 900 ft.

Hydraulic computations.

a. Embankment runoff. Runoff from the lakeside levee slope was computed using the rational method because the area is small. The formula used was Q = CIA in which Q is the runoff in c.f.s.; C is the coefficient of imperviousness; I is the rainfall intensity in inches per hour; and A is the drainage area in acres. The values of "C" were estimated from a table of typical values shown in a publication by the U. S. Army Engineer School, Fort Belvoir, Virginia, titled "Student Reference Drainage," dated January 1964. All the surfaces were considered to be impervious with vegetal cover. Values of "C" used were 0.43 for the levee crown and 0.58 for the levee slope. The values of "I" were obtained from the U. S. Weather Bureau Technical Paper No. 25, "Rainfall Intensity - Duration - Frequency Curves" dated December 1955. The curves used are shown on plate___.

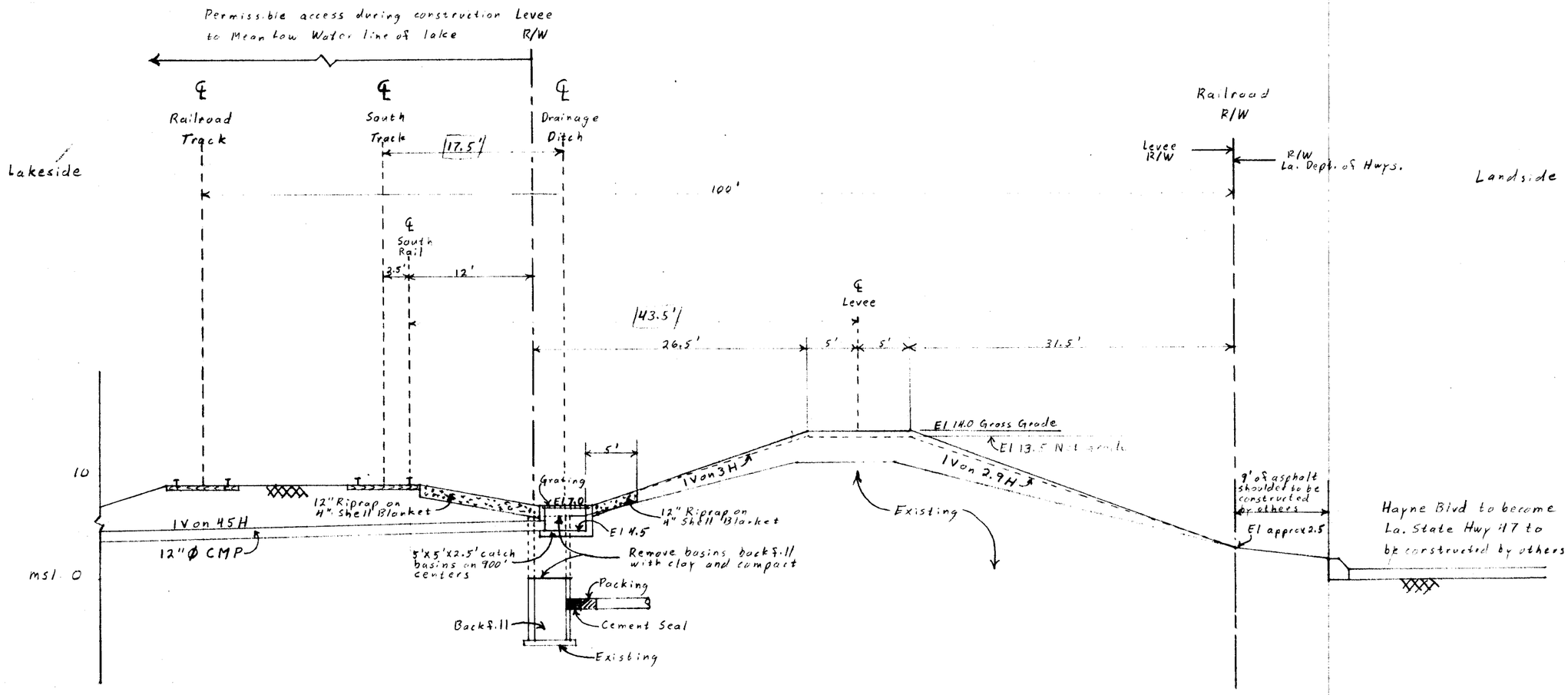
b. Drainage culvert rating curve. A rating curve for the embankment drainage culverts was computed using the orifice flow equation, $Q=CA(2gh)^{0.50}$, where Q is the discharge in c.f.s., C is the discharge coefficient, A is the

cross-sectional area in square feet and h is the differential head, in feet, on the culvert. Using submerged outlet conditions, an entrance loss of 20 percent of the velocity head in the culvert and a Manning's "n" value of 0.023 the friction losses were evaluated and a "c" value was computed to be 0.43. The rating curve is shown on plate ___.

c. Collector ditch and drainage culvert spacing. The Manning Formula with a roughness coefficient of 0.070 was used to determine friction losses in the collector ditch between the levee and the railroad embankment. This formula and coefficient was also used to verify the velocity which had been assumed to determine the time of concentration needed to determine the value of "I" in the use of the rational method. The coefficient of imperviousness, C, was assumed to be 0.53 for the collector ditch. The spacing between the levee drainage culverts (900 feet center to center) was determined on the assumption that water in the collector ditch should not be allowed to overtop the railroad embankment.

Embankment drainage structures. These structures will consist of a 12-inch diameter CMP (Corrugated Metal Pipe) with a catch basin 4 ft. by 4 ft. by 2 ft. collecting the flow for each structure. A grating on the catch basin will be provided to trap debris. The slope of the pipe is approximately 1 vertical on 40 horizontal sloping from a landside invert elevation of 6.0 ft., m.s.l. to a lakeside invert elevation of 5.0 ft., m.s.l. These structures were designed to convey the flows from a 25-year frequency flood without overtopping the railroad embankment.

Losses through the grating were considered minimal provided it is kept free of debris. Riprap protection will be provided around the catch basin to protect against localized scouring. Details are shown on plate ___ of the main report.

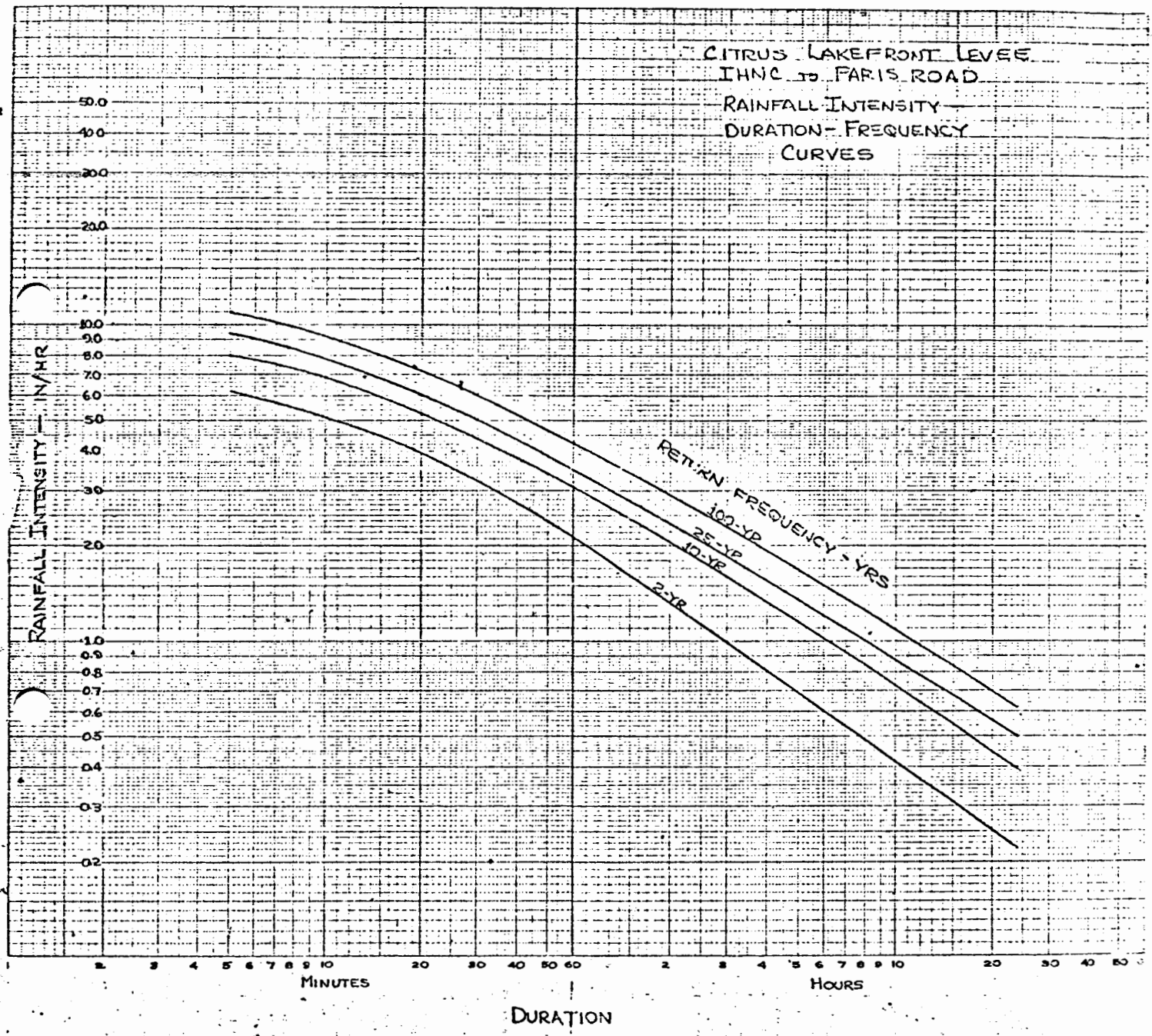


STA. 64+00 TO STA. 331+00

CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD
2DAUGUST 197H NOD
Shelton

CROWN WIDTH 10'

approved by Mr. Bachr


CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD
RAINFALL INTENSITY
DURATION-FREQUENCY
CURVES
RAINFALL INTENSITY — IN/HR
50.0
40.0
30.0
20.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
RETURN FREQUENCY - YRS
100-YR
25-YR
10-YR
2-YR
1
2
3
4
5
6
7
8
9
10
20
30
40
50
60
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9
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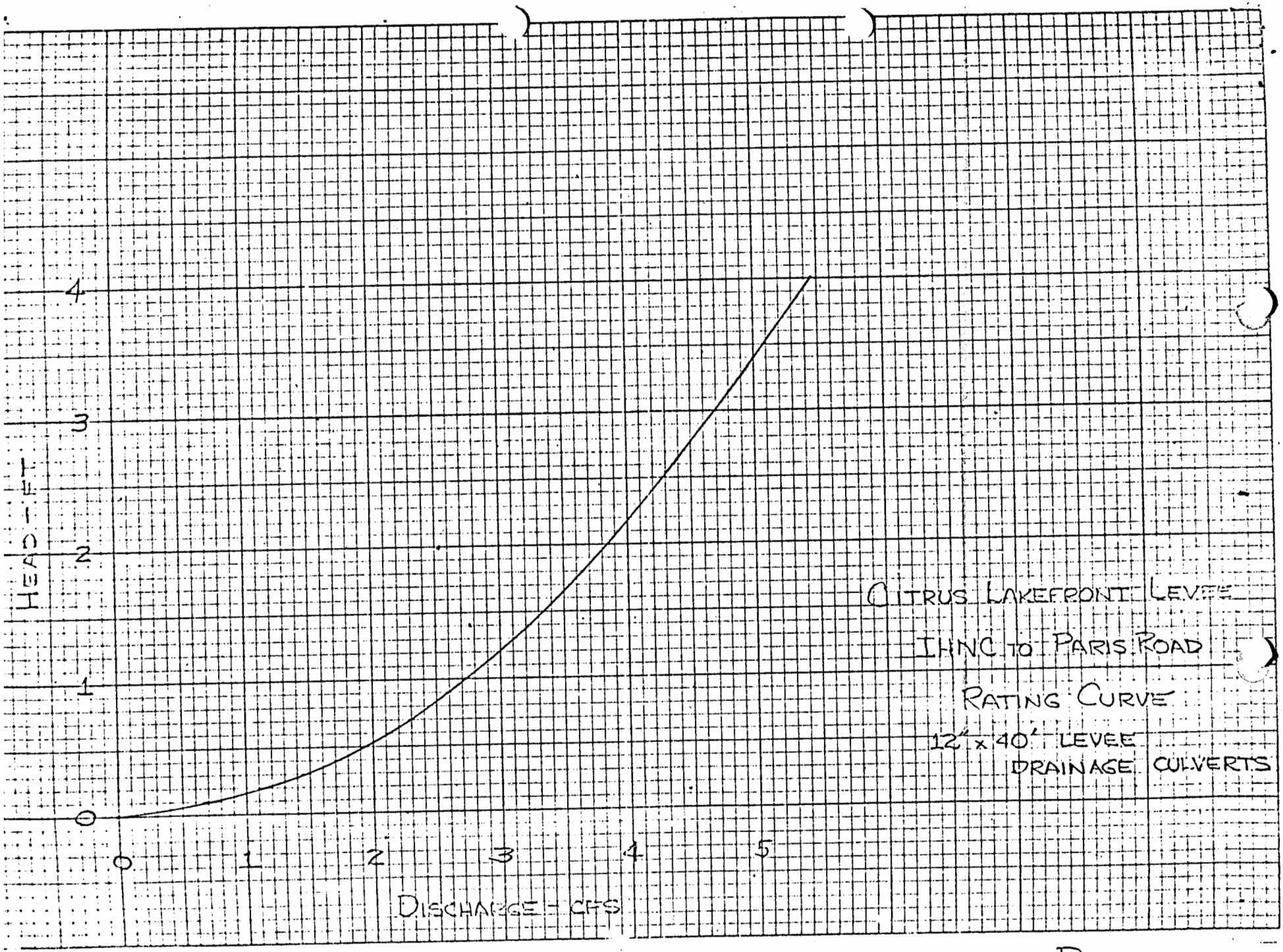
20
30
40
50
MINUTES
HOURS
DURATION

PLATE


HEAD - FT
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1
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5
DISCHARGE - CFS
CITRUS LAKEFRONT LEVEE
IHNC TO PARIS ROAD
RATING CURVE
12" x 40' LEVEE
DRAINAGE CULVERTS

PLATE

DISPOSITION FORM

3/22/73

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

REFERENCE OR OFFICE SYMBOL	SUBJECT
LMNED-DD Acting	Lake Pontchartrain, La. & Vicinity, Citrus Lakefront Levee, IHNC to Paris Road

TO C/Design Memo Branch FROM C/Design Branch DATE 20 Mar 73 CMT 1

Mr. Judlin/jl/233

1. Please refer to your multiple DF above subject dated 8 Mar 73.

2. Final design data were received from F&M Branch on 8 Mar 73. We require 2 months from that date to furnish your branch our part of the draft GDM.

3. We will furnish you our part of the GDM by COB 8 May 1973.

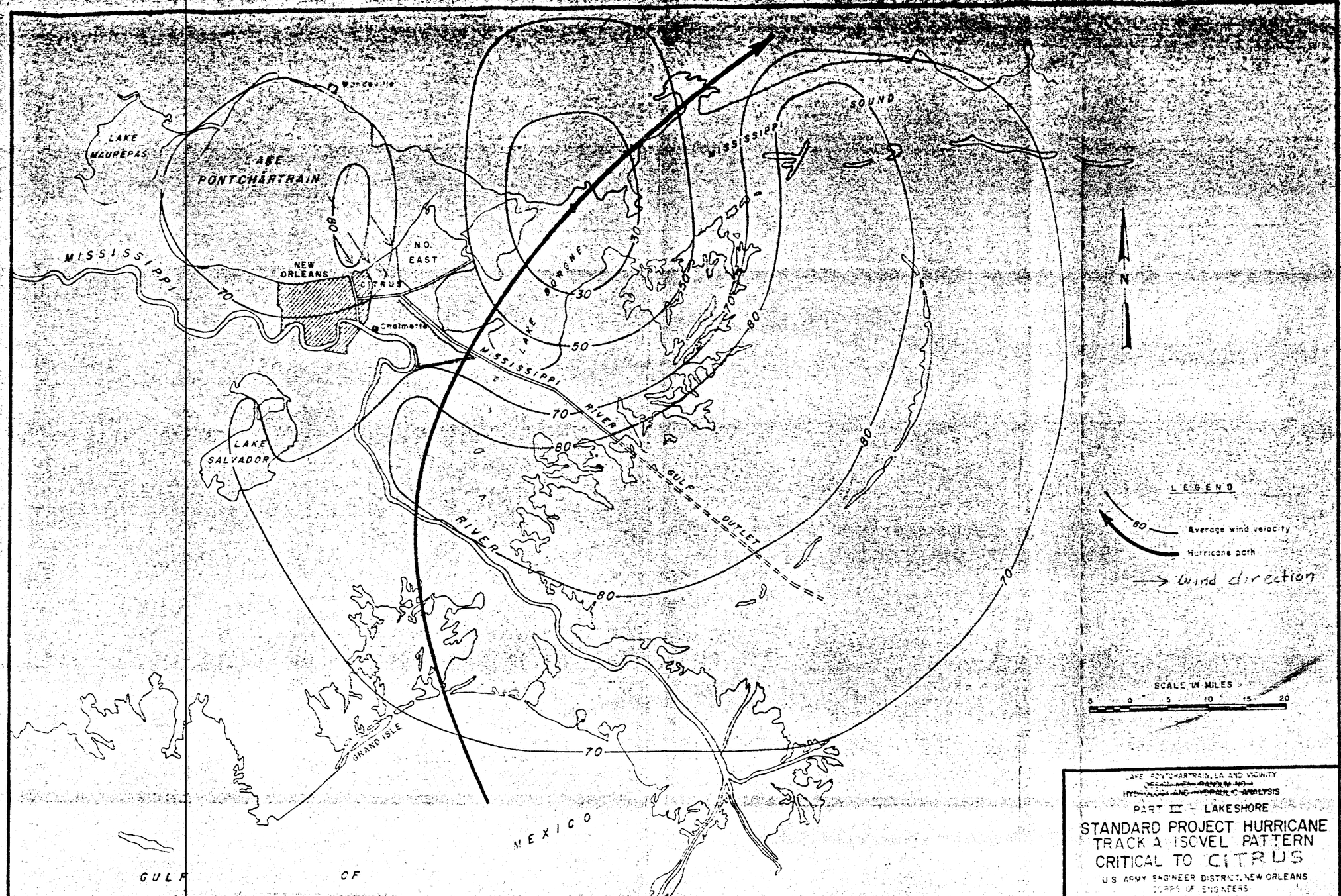
William E. Sommer

WILLIAM E. SOMMER
Chief, Design Branch

CF:
C/Levees Section

DA FORM 1 FEB 62 2496 REPLACES DD FORM 96, EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 FEB 63 UNLESS SOONER EXHAUSTED.

☆ GPO: 1972 789-[illegible] 1008


LAKE MAUREPAS
LAKE PONTCHARTRAIN
MISSISSIPPI
NEW ORLEANS
NO. EAST
CITRUS
Chalmette
MISSISSIPPI RIVER
LAKE SALVADOR
GULF OUTLET
MISSISSIPPI RIVER
SOUND
GRAND ISLE
GULF OF MEXICO
60
70
80
N
LEGEND
Average wind velocity
Hurricane path
wind direction
SCALE IN MILES
5 0 5 10 15 20
LAKE PONTCHARTRAIN, LA AND VICINITY
HYDROLOGY AND HYDRAULIC ANALYSIS
PART II - LAKESHORE
STANDARD PROJECT HURRICANE
TRACK A ISOVEL PATTERN
CRITICAL TO CITRUS
U.S. ARMY ENGINEER DISTRICT, NEW ORLEANS
CORPS OF ENGINEERS