

(A0004733)

LMNED-MP

Lake Pontchartrain, La., and Vicinity, Lake Pontchartrain
Barrier Plan, General Design Memo No. 2, Supplement No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

C/Design Br

C/Design Memo Br

8 Mar 77

Mr. Dicharry/pbs/430

- 1. Inclosed is a copy of OCE letter dated 25 Aug 76 and the five indorsements thereto, subject as above.
- 2. You are requested to comply with the comments contained in the five indorsements during preparation of the plans and specifications for the subject project feature.
- 3. Any questions should be directed to J. Dicharry, ext. 430.

1 Incl
as

HARRINGTON

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

- 1-16 ~~OCE-MRC~~ SEE BELOW
17 File copy (Proj. Engr. Sec.)
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- 52 ~~File Copy (Proj. Engr. Sec.)~~
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54 Missing Appendix A (Joe Joachim)

1,2,7,9,10,14,15 OCE - LMVD
3,4,5,6,8,11,12,13 Extra copies returned from OCE, now in storage file
16 Marked copy from LMVD, received with 1st Indorsement



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

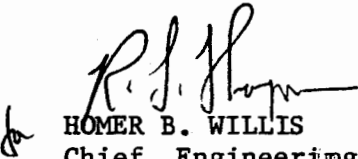
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake
Pontchartrain Barrier Plan, General Design Memorandum
No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC
to Paris Road

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:


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

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 J Kaufman
R. H. RESTA
Chief, Engineering Division

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

ED-1

25

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:

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

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



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

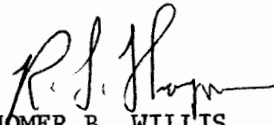
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake
Pontchartrain Barrier Plan, General Design Memorandum
No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC
to Paris Road

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:


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

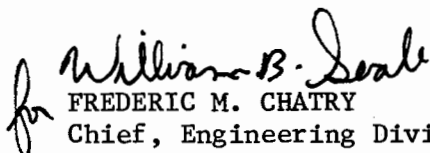
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain
Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A,
Citrus Lakefront Levee, IHNC to Paris Road

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:


FREDERIC M. CHATRY
Chief, Engineering Division

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 J Kaufman
R. H. RESTA
Chief, Engineering Division

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

ED-T

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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

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the ongoing construction of the New Orleans East Lakefront levee, Paris
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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:

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

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

LMVED-TD (NOD 26 May 76) [REDACTED]

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.

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.

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

(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.

(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.

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.

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.

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. If

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

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.

(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.

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

(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.

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.

(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

(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.

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.

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

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.

(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.

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.

FOR THE DIVISION ENGINEER:

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Mkd cy Incl 1

R. H. RESTA
Chief, Engineering Division

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

LMVED-MP (NOD 26 May 1976)

SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake Pontchartrain
Barrier Plan, General Design Memorandum No. 2, Supplement No. 5A,
Citrus Lakefront Levee, IHHC 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-ID

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 interest 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 (MOD 26 May 1976) 2d Ind 4 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

LMNED-MP (MOD 26 May 1976) 2d Ind # 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

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 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.

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 (MOD 26 May 1976) 2d Ind 8 Oct 76

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

6

LMNED-MP (MOD 26 May 1976) 2d Ind X 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

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.

BARTON
LMNED-MP
HARRINGTON
LMNED-M

bb. Para 2j (2). Concur

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

BECNEL
LMNED-H

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.

BRUPBACHER
LMNED-D
PICCIOLA
LMNED-F

FOR THE DISTRICT ENGINEER:

COLE
LMNRE

ROY
LMNPD

2 Incl
wd Incl 1
Add 2 Incl
as

FREDERIC M. CHATRY
Chief, Engineering Division

CHATRY
LMNED

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

LMVED-TD (NOD 26 May 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

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

TO: District Engineer, New Orleans, ATTN: LMVED-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 D₁₅ 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)

LMNED-MP (26 May 76) [redacted]

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:

1 Incl
Added incl 4
4. as

FREDERIC M. CHATRY
Chief, Engineering Division

EEB
BARTON
LMNED-MP
HARRINGTON
LMNED-M
BECN
LMNED-H
CHATRY
LMNED
ROY
LMNPD

LMVED-TD (NOD 26 May 76) [REDACTED]

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



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

59-6

IN REPLY REFER TO
LMNED-MP

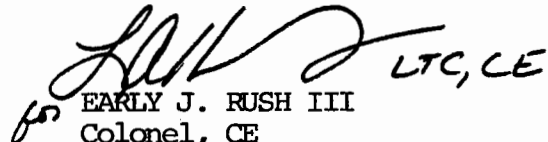
26 May 1976

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.

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

for  LTC, CE
EARLY J. RUSH III
Colonel, CE
District Engineer

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.

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
SUBJECT: Lake Pontchartrain, Louisiana, and Vicinity, Lake
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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.

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

(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.

(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.

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.

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.

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.

LMVED-TD (NOD 26 May 76) 1st Ind 12 Jul 76
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No. 2, Supplement No. 5A, Citrus Lakefront Levee, IHNC
to Paris Road

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.

(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.

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

(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.

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.

(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.

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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.

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.

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

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.

(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.

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.

FOR THE DIVISION ENGINEER:

1 Incl
Mkd cy Incl 1

CF:
DAEN-CWE-B (¹³~~14~~ cy)
w/Mkd cy Incl 1

for Robert J Kaufman
R. H. RESTA
Chief, Engineering Division

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.

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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

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 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.

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.

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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

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.

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- 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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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

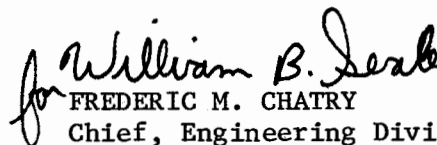
cc. Para 2k (1) & (2). Concur. The contract plans will be appropriately noted.

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.

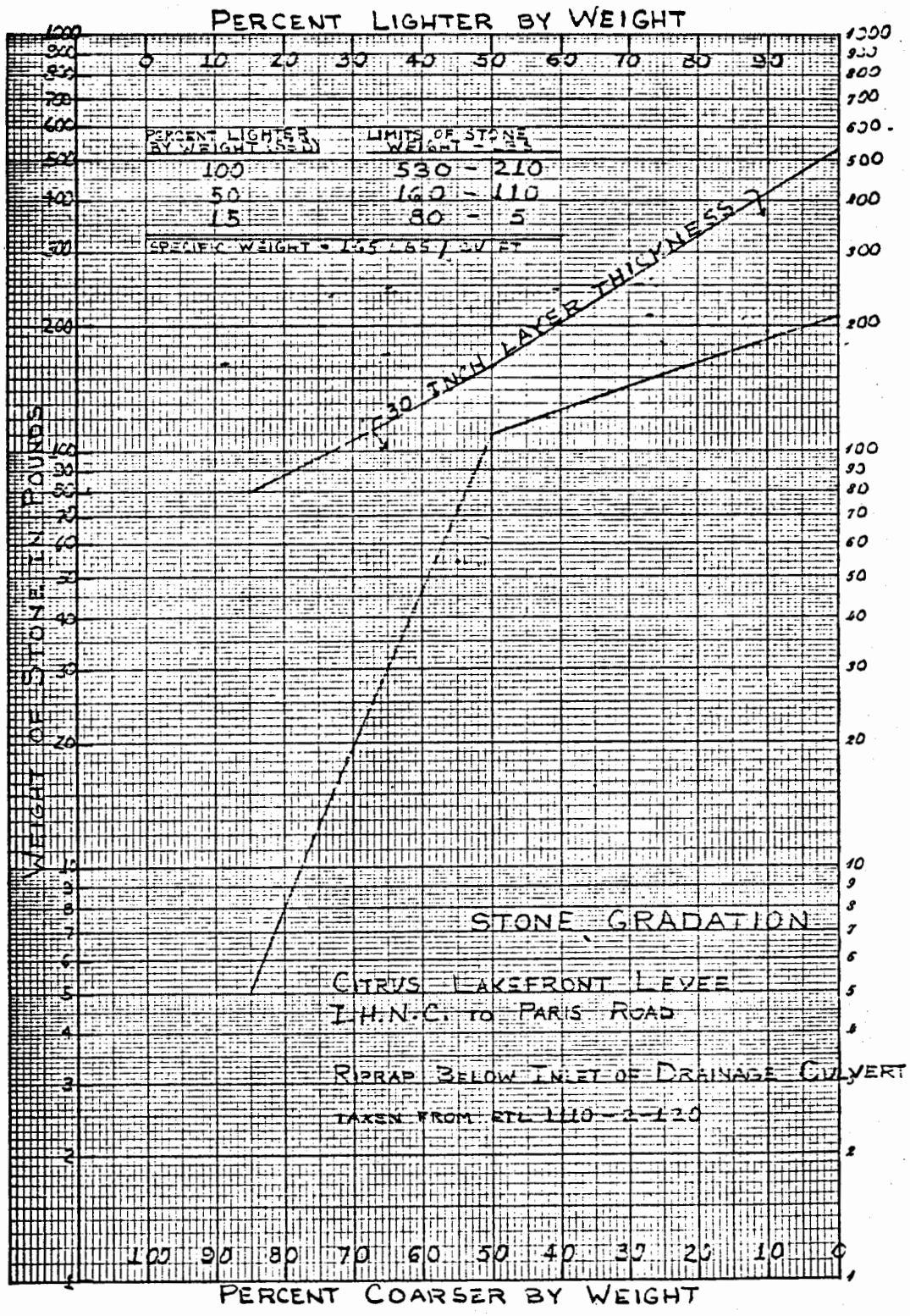
FOR THE DISTRICT ENGINEER:

2 Incl
wd Incl 1
Added 2 incl
as

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


FREDERIC M. CHATRY
Chief, Engineering Division

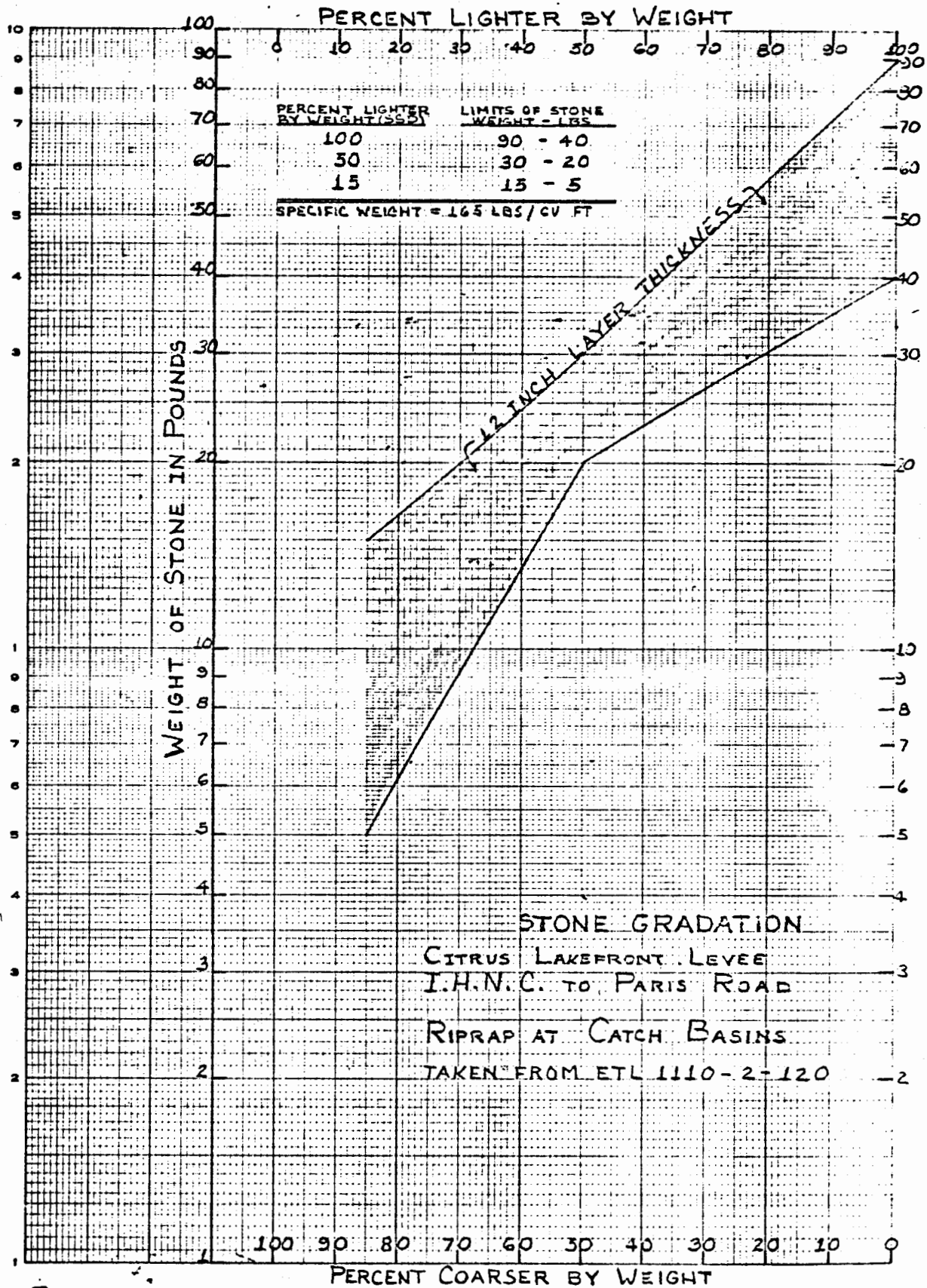
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Incl 3

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 D₁₅ 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)

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.

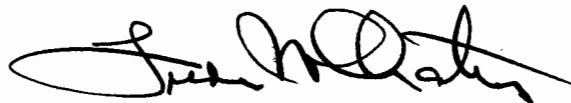
b. Para b. Comment is noted and the files will be documented as requested.

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.

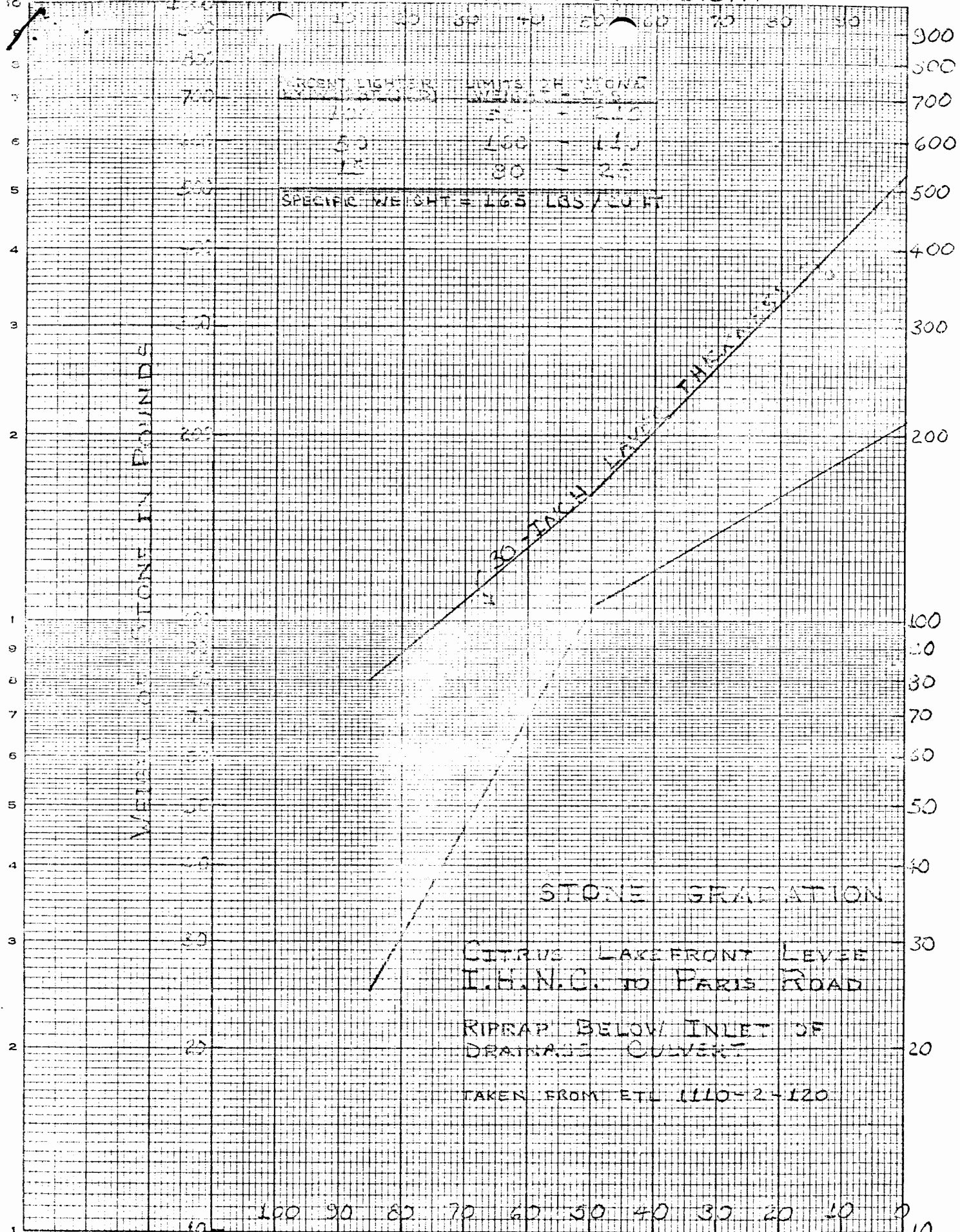
FOR THE DISTRICT ENGINEER:



FREDERIC M. CHATRY
Chief, Engineering Division

1 Incl
Added incl 4
4. as

PERCENT LIGHTER BY WEIGHT



STONE GRADATION

CITRUS LAKE FRONT LEVEE
I.H.N.C. TO PARIS ROAD

RIPPRAP BELOW INLET OF
DRAINAGE CULVERT

TAKEN FROM ETL 1110-2-120

PERCENT COARSER BY WEIGHT

Table 1

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