

DISPOSITION FORM

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

REFERENCE OR OFFICE SYMBOL

LMVPD-P

SUBJECT

Lake Pontchartrain, La., and Vicinity
Hurricane Protection Project

TO GEN Read

FROM C/Plng Div

DATE 15 Dec 80 CMT 1
Campbell/ea/5838

1. We are nearing a critical decision point in our studies for hurricane protection for the Lake Pontchartrain area. Current studies now indicate that the comparative cost of the "Barrier Plan" and the "High-Level (Levee) Plan" are about the same.
2. As you know, the "Barrier Plan" was authorized to provide protection to all of the Lake Pontchartrain area. The High-Level Plan which was considered as an alternative in the early studies provides protection mainly to the southern part of the Lake Pontchartrain area. Our earlier studies estimated the cost of the High-Level Plan to be 50 percent more costly than the Barrier Plan.
3. Although the costs of the two plans are now nearly the same, there are some other differences of major significance:
 - a. The High-Level Plan will adversely affect approximately 700⁺ acres less of wetland.
 - b. The overall requirements of local interest will be less for the High-Level Plan.
 - c. Additional authorization may be necessary for the High-Level Plan.
4. Some of the major points that will influence our future direction include:
 - a. The current court action. Should we discuss our current study findings with the court?
 - b. Notification of the local interests and the general public will be necessary in the near future. How can this best be accomplished?
 - c. What additional studies will be required to complete Phase I studies for the High-Level Plan? How long will these studies take?
 - d. If additional Congressional authority is required for the High-Level Plan, how long will this take?
 - e. If the High-Level Plan is considered to be the best solution, should we complete the remaining studies for the Barrier Plan?
4. A brief summary (Incl 1) and Fact Sheet (Incl 2) of the major differences in the two alternatives are attached.

2 Incl
as

FRED H. BAYLEY III

LAKE PONTCHARTRAIN, LA, AND VICINITY

Possible changes to authorized project:

- a. Eliminate Chef Menteur and Rigolets Barrier complexes.
- b. Raise Lakefront levees about 5.5 feet to provide SPH level of protection.
- c. Relocate St. Charles levee to north of Airline Highway alignment.
- d. Use hydraulic clay fill construction for Jefferson Parish levee.
- e. Use I-wall on levee with barge berm for Citrus lakefront levee.

Impacts:

- a. Gains:
 - (1) Reduce project completion cost approximately \$29 million (1979 price levels).
 - (2) Reduce average annual cost (O&M, replacements, I&A) approximately \$1.6 million to \$5.5 million (3-1/8 percent interest).
 - (3) Reduce direct destruction of wetlands approximately 693 acres (plus about 29,000 acres indirect).
 - (4) Reduce loss of habitat approximately 8,458 units annually.
 - (5) Provide opportunity to restore 1,124 acres of wetlands previously impacted by construction of GIWW bypass.
 - (6) Avoid unquantified impacts of barrier complexes on Lake Pontchartrain ecosystem (400,000 acres).
- b. Losses:
 - (1) Increase direct destruction of approximately 306 acres of lake bottoms.

Incl 1

(2) Short term alteration of 3,940 acres of lake bottoms and high turbidity during construction of Jefferson Parish Lakefront levee.

(3) Reduce project flood control benefits approximately \$1 million annually (north shore of Lake Pontchartrain).

Sheet 2

TABLE 12

SUMMARY OF "OPTIMAL" PLANS' ENVIRONMENTAL IMPACTS

Item	Acreage Already Affected		Acreage to be Affected			
	Lake bottoms	Wetlands	Barrier		Hi-Level	
			Lake bottoms	Wetlands	Lake bottoms	Wetlands
Chef Menteur ^{1/}	0	1,124 ^{2/}	39	532	0	0
Rigolets ^{1/}	0	0	180	400	0	0
Seabrook	0	0	0	0.15	0	0.15
St. Charles	0	0	0	510	0	635
Jefferson	0	0	0	0	490 ^{3/}	0
Orleans	0	75	0	0	0	0
Citrus Back Levee	0	340	0	0	0	0
Citrus Lakefront	0	0	0	0	35	0
N.O. East Lakefront	0	0	0	126	0	210
N.O. East Back Levee	0	127	0	475	0	475
N.O. South Point to GIWW	0	0	0	160	0	200
Chalmette	0	1,865	0	0	0	0
Total Acreages Affected ^{4/}	0	3,531	219	2,203	525	1,510

^{1/} Area will experience short term turbidity increase during construction. Also, the barrier structure may adversely affect the entire Lake Pontchartrain ecosystem to an extent which is not yet quantified (surface area = approximately 400,000 acres).

^{2/} Under the Hi-Level Plan, the potential to restore some habitat lost due to prior construction exists.

^{3/} Does not include 3,940 acres temporarily affected. Also, area would experience short term turbidity during construction of first two lifts.

^{4/} Summary. Barrier Plan would result in permanent loss of 5,734 acres of wetlands and 219 acres of open water. Hi-Level Plan would result in permanent loss of 5,051 acres of wetlands and 525 acres of open water.

RESTUDY AND REVISION OF EIS FOR
LAKE PO. CHARTRAIN, LOUISIANA AND VICINITY REPORT

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TABLE 11

SUMMARY COMPARISON OF DIFFERENCES IN "OPTIMAL" PLANS

EVALUATION CRITERIA	HI-LEVEL	ALTERNATIVES BARRIER
A. PLAN DESCRIPTION		
1. Common Features ¹	Mandeville Seawall, Seabrook Complex, Chalmette Area Plan, New Orleans East Back Levee, Citrus Back Levee, East Bank of IHNC (MR-GO to Lake Pontchar-train), West Bank of IHNC	Same as Hi-Level Plan.
2. Features That Differ	<p>St. Charles Parish Levee--North of Airline Highway</p> <p>Jefferson Parish Lakefront Levee--hydraulic clay fill without ponding areas</p> <p>New Orleans Lakefront Levee--hailed clay fill</p> <p>Citrus Lakefront Levee- I-wall with barge berm</p> <p>New Orleans East Lakefront Levee--Hauled Clay Fill</p> <p>South Point to GIWW Levee--hailed clay fill</p>	<p>St. Charles Parish Levee--North of Airline Highway</p> <p>Jefferson Parish Lakefront Levee--hailed clay fill</p> <p>New Orleans Lakefront Levee--hailed clay fill</p> <p>Citrus Lakefront Levee--hailed clay fill</p> <p>New Orleans East Lakefront Levee--hailed clay fill</p> <p>South Point to GIWW Levee--hailed clay fill</p> <p>Chef Menteur and Rigolets Complexes²</p>
B. RELATIONSHIP TO FOUR NATIONAL ACCOUNTS		
1. NED		
(a) Average Annual Benefits	Not quantified at this time--It is assumed that they exceed average annual costs.	Same as Hi-Level except that North Shore will receive some subsidiary benefits estimated at \$1,000,000/year (based on updating information contained in the 1962 Interim Survey Report to October 1979 price levels using a 3 1/8% interest rate).

TABLE 11 (Continued)

(b) Incremental		@ 3 1/8% Interest	@ 7 1/8% Interest	@ 3 1/8% Interest	@ 7 1/8% Interest
Average Annual		I&A \$13,626,000	\$29,665,000	(Range of Costs)	
Costs to		O&M 567,000	554,000	I&A \$14,581,000-\$18,099,000	\$31,743,000-\$39,402,000
Complete		Totals \$14,193,000	\$30,219,000	O&M 1,175,000- 1,581,000	1,128,000- 1,510,000
				Totals \$15,756,000-\$19,680,000	\$32,871,000-\$40,912,000

- (c) Incremental B/C ratio Individual Plans' overall B/C ratios have not been quantified at this time; however, the incremental B/C ratio, i.e., the differences in incremental benefits and costs between the Hi-Level and Barrier Plans can be estimated as follows:

Incremental Benefits: The Barrier Plan would generate about \$1,000,000/year (@ 3 1/8% Interest, Oct 79 price levels) more than the Hi-Level Plan.

Incremental Costs: The Barrier Plan would have annual costs exceeding those associated with the Hi-Level Plan of between \$1,563,000/year to \$5,487,000/year (Mar 79 price levels @ 3 1/8% Interest)

Therefore the incremental B/C ratio is computed as falling between

$$\frac{1,000,000}{1,563,000} \text{ and } \frac{1,000,000}{5,487,000} \text{ or } 0.64 \text{ to } 0.18$$

2. EQ

Project construction of those features not common to both plans would result in the destruction of 1,510 acres of wetlands, the destruction of 525 acres of lake bottoms, and the short term alteration of 3,940 acres of lake bottoms and high turbidity during the construction of the first two lifts of the Jefferson Parish Lakefront Levee. According to a modified HES type of analysis, the average annual habitat units lost over the project life would amount to 33,505.

It should be noted that this plan offers the opportunity to restore, to some extent, approximately 1,124 acres of wetlands which have already been impacted by the construction of the GIWW bypass.

Project construction of those features not common to both plans would result in the destruction of 2,203 acres of wetlands and 219 acres of open water. High turbidity would occur in the vicinity of the tidal passes during construction of the closure structures. Also, project implementation could potentially alter to some unquantified extent, the entire ecosystem of Lake Pontchartrain (surface area = approximately 400,000 acres). According to a modified HES type of analysis, the average annual habitat units lost over the project life would amount to 41,963. (Disregarding potential barrier structures' impacts).

TABLE 11 (Continued)

3. SWB

(a) Beneficial	Project will provide protection to human life from the Standard Project Hurricane for the Greater New Orleans Metropolitan Area.	Same as Hi-Level Plan.
(b) Adverse	Loss of environmental values will cause a corresponding loss of recreational opportunities and esthetic values. The extensive raising of the net grade of the New Orleans Lakefront Levee, which obscures the view of the lake, has a net grade 5.5 feet higher than the Barrier Plan.	Loss of environmental values and corresponding loss in recreational and esthetic values will be greater than Hi-Level Plan. It should be noted that if the Barrier's effect upon biological transport is significant then correspondingly related social impacts will be severe. Levees associated with this plan would also obscure the view of the lake.

4. RD

Would allow continued growth of the Greater New Orleans Metropolitan Area.	Same as Hi-Level.
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C. PLAN RESPONSE TO
EVALUATION CRITERIA

1. Acceptability	Local interests better able to meet their cost sharing responsibilities than under Barrier Plan. Limited environmental opposition.	Local interests less able to meet their responsibilities than under Hi-Level Plan. Plan perceived as unacceptable by environmental "community." Objectionable to navigation interests.
2. B/C	Not quantified-Assumed greater than unity.	Less than Hi-Level Plan.
3. Reliability	Concerns about potential breaching of I-walls by barge impact are not valid for this plan.	There are potential operational difficulties associated with the barrier structures.

TABLE 11 (Continued)

D. IMPLEMENTATION
RESPONSIBILITIES

1. Federal	Incremental average annual Federal costs to complete will consist of 70% of the interest and amortization on \$415,940,000 in first costs as follows: \$9,538,000 @ 3 1/8% Interest \$20,766,000 @ 7 1/8% Interest		Incremental average annual Federal costs to complete will consist of 70% of the interest and amortization on \$445,089,000 to \$552,465,000 in first costs as follows: \$10,207,000-\$12,669,000 @ 3 1/8% Interest \$22,220,000-\$27,581,000 @ 7 1/8% Interest	
2. Non-Federal	Incremental average annual non-Federal costs to complete will consist of 30% of the interest and amortization on \$415,940,000 in first costs and all project O&M costs (including replacements) as follows:		Incremental average annual non-Federal costs to complete will consist of 30% of the interest and amortization on \$445,089,000 to \$552,465,000 in first costs and all project O&M costs (including replacements) as follows:	
	@ 3 1/8% Interest	@ 7 1/8% Interest	@ 3 1/8% Interest	@ 7 1/8% Interest
	I&A \$4,088,000	\$8,899,000	I&A \$4,374,000-\$5,430,000	\$9,523,000-\$11,821,000
	O&M \$ 567,000	\$ 554,000	O&M \$1,175,000-\$1,581,000	\$1,128,000-\$1,510,000
	Totals \$4,655,000	\$9,453,000	Totals \$5,549,000-\$7,011,000	\$10,651,000-\$13,331,000

^{1/} The costs and impacts of these features are not displayed herein, because they are the same under either plan.

^{2/} The size of the flow control structures at these locations has not been decided upon.

LAKE PONTCHARTRAIN, LA. AND VICINITY HURRICANE PROTECTION

