

LMNED-FS (19 Aug 77)

SUBJECT: Lake Pontchartrain, La. & Vicinity, Orleans Parish Lakefront
Levees, Outfall Canals, GDM No. 2, Supplement No. 5C

TO: C/Design Memo Br

FROM: C/F&M Br

DATE: 16 Sept 77 CMT 2
Mr. Gwyn/mhg/885-7104

1. We have completed a research of available soil and geologic information. This data indicates the presence of a buried beach sand deposit that underlies the outfall canals. This sand deposit approaches the bottom of each outfall canal, creating the potential for excessive and dangerous hydrostatic uplift pressures during high stages in the canals. Additionally, there are reaches in each of the outfall canals that presently do not meet minimum stability requirements even during normal stages. Therefore, no matter which alternative selected for the GDM, if return levees are part of federal hurricane protection, we anticipate some modification of the existing levees. This may be in the form of relief wells, sheet-pile cutoff, seepage and/or stability berms, or any combination of these modifications. The extent of necessary modifications would depend on the water surface requirements as determined by Hydraulics Branch.

2. We plan to accomplish the alternative studies in two phases. First, we will determine embankment requirements for your alternative 1. Concurrently, we plan to study the box culvert, pumping station, and floodgate alternatives (alternatives 4, 5, 6, 7). We need the required levee design grades associated with these alternatives. We also need dimensions, sill elevations, and slab elevations for the floodgates, pumping stations, and box culverts before we can begin studies on these structures. Second, we will study the use of combinations of levees, I-walls, and T-walls (alternatives 2 and 3) subsequent to the determination of the economic impact of the parallel levees. At that time, we will require applicable reaches for I-walls, T-walls, and levees.

3. We have the necessary borings to complete the alternative studies as outlined in your Incl. 1. For the alternative studies, we will require the 29 piezometers that were installed to monitor hydrostatic pressures in the outfall canals be flushed and read by our Testing Section.

4. We have necessary borings to complete the pumping station and/or floodgate designs in GDM scope. Additional borings will have to be taken in the DDM phase of the project if one of these alternatives is selected. If one of the alternatives involving raising or strengthening the existing system (i.e., floodwalls or parallel levees), and the final design is completed in the GDM phase, additional general type borings will have to be taken to better define the sand beach deposit.

5. Our estimate to complete a comprehensive study of all seven alternatives is as follows:

	<u>TIME</u>	<u>COST</u>
E&D	8 man-months	\$28,000
Computer	-	3,000
Testing	-	5,500