



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P.O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

September 22, 2008

Planning, Programs, and
Project Management Division
Environmental Planning
and Compliance Branch

Gregory P. Ducote
Interagency Affairs - LADNR
CMD
P.O. Box 44487, Capital Station
Baton Rouge, LA 70804-4487

Dear Mr. Ducote:

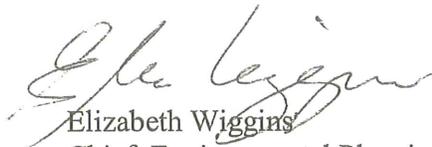
The U.S. Army Corps of Engineers would like to request a modification to the Coastal Zone Consistency Determination C20080112 for Individual Environmental Report 5 titled Permanent Protection System for Outfall Canals, 17th Street Canal, Orleans Avenue Canal and London Avenue Canal, Orleans and Jefferson Parishes, Louisiana. The purpose of the proposed action remains to protect the project area from storm surge-induced flooding through the 17th Street, London Avenue, and Orleans Avenue Canals, while not impeding the ability of the area's internal drainage system to function. The modification for this coastal zone consistency determination resulted from additional analysis for constructability, risk and reliability, cost, schedule, natural environmental impacts, and visual impacts and necessitated a change in the proposed site locations on Orleans Avenue and London Avenue canals.

Enclosed is the revised proposed action project description and figures of the modified site locations for the proposed pump stations on the Orleans and London Avenue Canals as well as additional detail for the breakwaters that may be constructed on the 17th Street and Orleans Avenue Canal. Since a design build process is being employed for completion of this project the descriptions provide conceptual designs of a new pump station that could be built at each of the proposed locations. Layout alternative locations for the new pump stations located at the mouth of the outfall canals are presented as a maximum footprint scenario and measures will be taken to minimize impacts to the environment, residents, and commercial interests so that the final design could actually be smaller and have fewer impacts when completed. Also enclosed are revised responses to a few of the Coastal Zone Guidelines because of the new breakwater proposed to be constructed at the mouth of the Orleans Avenue Canal.

The proposed action would be expected, to the maximum extent practicable, to have limited impacts to the coastal zone and not in any way alter the current function of the proposed area. Based on this evaluation, the U. S. Army Corps of Engineers, New Orleans District, has determined that the proposed is consistent, to the maximum extent practicable, with the State of Louisiana's Coastal Resources Program.

If your staff has any questions or comments regarding this coastal zone consistency determination please have them contact Laura Lee Wilkinson via telephone at (504) 862-1212, or by email at laura.l.wilkinson@usace.army.mil, or by mail at U.S. Army Corps of Engineers; CEMVN-HPO; P.O. Box 60267; New Orleans, Louisiana, 70160-0267.

Sincerely,



Elizabeth Wiggins
Chief, Environmental Planning
and Compliance Branch

Enclosures

Coastal Zone Consistency Determination C20080112

Revised Responses:

Guideline 1.6 Information regarding the following general factors shall be utilized by the permitting authority in evaluating whether the proposed use is in compliance with the guidelines.

- q) extent of impacts on navigation, fishing, public access, and recreational opportunities. **The proposed action could have impacts to navigation, fishing, public access, and recreational opportunities. Due to the construction activities and the closures, the canals would no longer be navigable from Lake Pontchartrain. The canals would be impacted with the construction of the proposed action due to limited access and safety measures associated with the project. The proposed action at the 17th Street Canal could have direct impacts on recreational resources, specifically the Coconut Beach Volleyball Complex. Efforts would be made during the design and construction of the new pump station to minimize or avoid impacts to business and residential properties in the project area. Because a breakwater could be constructed at the mouth of the 17th Street and Orleans Avenue canals, they would be appropriately marked as per Coast Guard guidelines for navigational safety of Lake Pontchartrain. There is opportunity for the breakwater design to incorporate fishing or recreational access on these breakwaters in the future.**

Guideline 1.7 It is the policy of the coastal resources program to avoid the following adverse impacts. To this end, all uses and activities shall be planned, sited, designed, constructed, operated and maintained to avoid to the maximum extent practicable significant:

- e) destruction or adverse alterations of streams, wetland, tidal passes, inshore waters and water bottoms, beaches, dunes, barrier islands, and other natural biologically valuable areas or protective coastal features. **The 17th Street, Orleans Avenue, and London Avenue Canals would be closed at the mouth or near the mouth of the canals. This closure would not be expected to have any impacts to streams, wetlands, tidal passes, beaches, dunes, or barrier islands. A breakwater structure could be constructed at the 17th Street Canal and Orleans Avenue Canal to protect the new pump station. This breakwater would result in the loss of water bottom habitat, but could provide substrate for sessile organisms that are food sources for other fisheries. No other impacts to any natural areas would be expected under the proposed action.**
- p) adverse alteration or destruction of unique or valuable habitats, critical habitat for endangered species, important wildlife or fishery breeding or nursery areas, designated wildlife management or sanctuary areas, or forestlands. **The proposed breakwaters would alter valuable or critical wildlife habitat associated with the Threatened listed species, Gulf sturgeon. Two breakwaters are proposed at the mouths of the 17th Street and Orleans Avenue Canals that would impact Gulf sturgeon habitat. These impacts are being coordinated with National Marine Fisheries Service and efforts will be made during design phase to minimize impacts to Gulf Sturgeon critical habitat.**

GUIDELINES FOR SHORELINE MODIFICATION

Guideline 5.2 Shoreline modification structures shall be designed and built using best practical techniques to minimize adverse environmental impacts. **This guideline is acknowledged. The breakwater structures that could be constructed at the 17th Street and Orleans Avenue Canals to protect the new pump station would result in a loss of open water/mud bottom habitat, but could provide substrate for sessile organisms that are a food source for other fisheries.**

Guideline 5.4 Shoreline modification structures shall be built using best practical materials and techniques to avoid the introduction of pollutants and toxic substances into coastal waters. **This guideline is acknowledged. The breakwater structures that could be constructed at the 17th Street and Orleans Avenue Canals would be constructed using natural rock materials.**

Guideline 5.8 Shoreline stabilization structures shall not be built for the purpose of creating fill areas for development unless part of an approved surface alteration use. **This guideline is acknowledged. The breakwater structures that could be constructed at the 17th Street and Orleans Avenue Canals would be constructed for the sole purpose of protecting the new pump stations and development behind the structure would not be authorized.**

Guideline 5.9 Jetties, groins, breakwaters and similar structures shall be planned, designed and constructed so as to avoid to the maximum extent practicable downstream land loss and erosion. **This guideline is acknowledged. The breakwater structures that could be constructed at the 17th Street and Orleans Avenue Canals would be constructed to minimize impacts to the littoral flow along the southern shoreline of Lake Pontchartrain.**

CONSISTENCY DETERMINATION

The proposed action is to protect the project area from storm surge-induced flooding through the 17th Street, London Avenue, and Orleans Avenue Canals, while not impeding the ability of the area's internal drainage system to function. The proposed action would be expected, to the maximum extent practicable, to have limited impacts to the coastal zone and not in any way alter the current function of the proposed area. Based on this evaluation, the U. S. Army Corps of Engineers, New Orleans District, has determined that the proposed is consistent, to the maximum extent practicable, with the State of Louisiana's Coastal Resources Program.

2.3 PROPOSED ACTION

Because of the paramount importance of providing improved hurricane protection to the community as well as the need to capitalize upon innovative solutions to solve this complex engineering and design problem, CEMVN is proposing to use a design build delivery approach for this project. The proposed action consists of a new permanent pump station and gates at or near the mouth of each of the outfall canals operating in series with the existing Sewerage and Water Board of New Orleans (SWBNO) pump stations (PS). Under normal conditions, the gates would remain open and bypass flow through the new pump station. During those events where the combination of storm surge from Lake Pontchartrain and flow from the existing SWBNO pump stations could create a condition where the safe water elevation in the canals could be exceeded, the gates could be closed and the new pump stations operated. The existing SWBNO PS #3, #4, #6, and #7 would remain in service and operate concurrently or in series with the new pump stations and the outfall canals would continue to convey stormwater from the SWBNO pump stations to the new pump stations. The proposed action leaves in place the floodwalls that flank the outfall canals, and these floodwalls would remain an integral part of the city's internal flood protection system. The floodwalls on the protected side of the new pump stations would be maintained in their current condition and would not be reconstructed.

The proposed action also includes the selection of a site location for each outfall canal. The descriptions below provide a conceptual design of a pump station and gates that could be constructed at each of the outfall canals' proposed locations.

2.3.1 17th Street Canal

The new permanent pump station at the 17th Street Canal as proposed would be approximately 450 feet long by 200 feet wide and include inlet and outlet works, trash screens, and a pump station building housing pumps, motors, and the gate structure. The new gate structure would consist of gates, gate guides, hoisting equipment, and an enclosure to protect the hoisting equipment. Under the proposed action, the pump station would be approximately 500 to 1,000 feet north of the Hammond Highway Bridge to avoid the need for any modifications to that flood-proofed bridge (Figure 1). Figure 1 illustrates the maximum boundaries of construction within the pump station and auxiliary equipment proposed to be built.

The new pump station could impinge on both banks of the canal, which would require permanent right-of-way (ROW) acquisition of up to 32 acres, affecting residential and commercial property on the east bank and commercial property on the west bank (shown in green on Figure 1). In addition, a temporary construction easement of approximately 4 acres could be required (shown in yellow on Figure 1). Demolition and removal of the existing interim control structure (ICS), and existing levees could be required. During design and construction of the new pump station, efforts will be made to minimize the impacts to residential and commercial business in the project area, so that the final site design could actually be smaller and have fewer impacts on these areas when completed.

Constructed in support of the new pump station would be a generator building and fuel storage tank farm complex. This complex would also include parking, general staging and storage space, and local storm drainage features. Utilities would include potable water service, sanitary sewer and natural gas, all connected to the new pump station from existing utilities available in the area. Finish grade for the pump station complex would be constructed above the 100-year flood level elevation.

Channel transitions would be required north and south of the new pump station on both sides of the canal banks. The channel transition north of the pump station could be constructed as reinforced concrete retaining walls. South of the pump station, only the east bank of the canal would require a retaining wall transition. Earthwork activities under the proposed action would be exclusively excavation, which would result in soil removal from the site.

Because of the lakeshore location of the new pump station, erosion protection armoring would be required, which could consist of a strip of riprap protection in the canal floor north and south of the new pump station. A breakwater in Lake Pontchartrain, not to exceed 104 feet wide by 600 feet long in size, could be constructed to an elevation of +15.5 ft NAVD 88 to protect the new pump station. A typical cross-section and plan view of the breakwater proposed for the 17th Street Canal is detailed in figures 2 and 3. In this area the lake bottom elevation is -8.5 ft and the water elevation is 1.0 ft. The 17th Street Canal breakwater would require approximately 30000 cubic yards of stone. To construct the breakwater, no dredging of Lake Pontchartrain is required. The estimated construction time frame for the proposed action at the 17th Street Canal is 36 months.



Figure 1. 17th Street Canal Proposed Action, Layout Alternative A

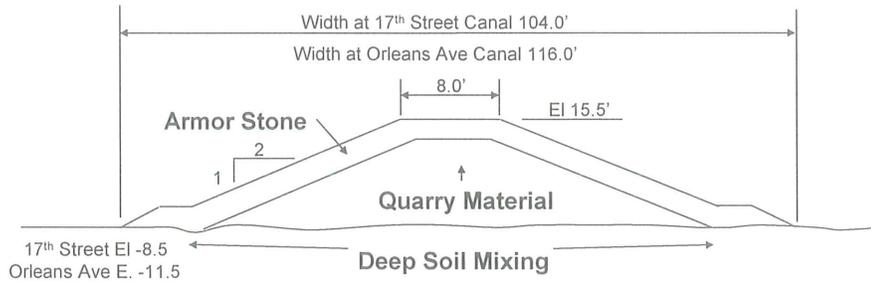


Figure 2. Typical cross section of the 17th Street and Orleans Avenue Canal breakwaters.

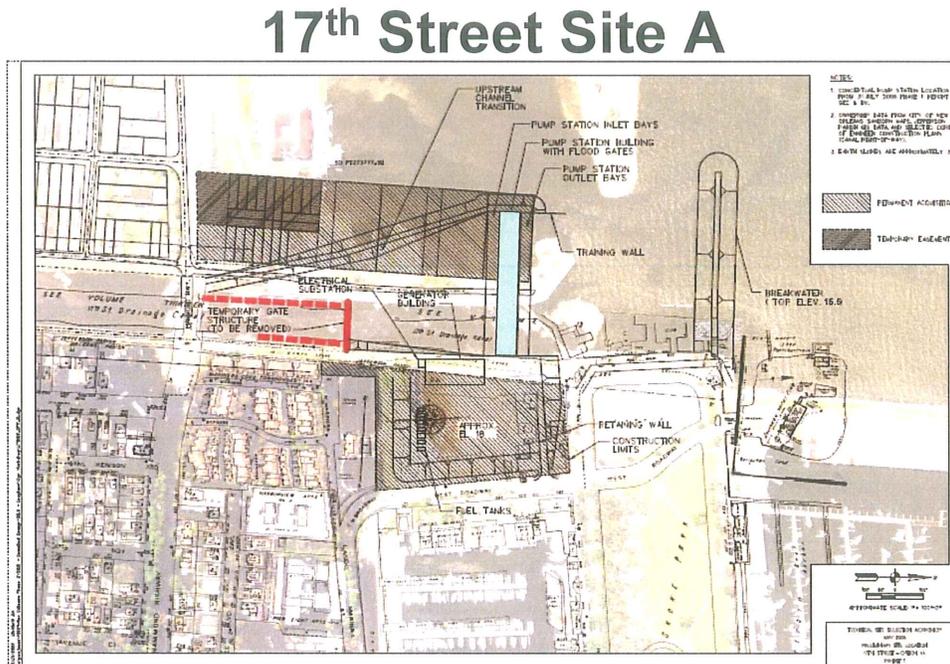


Figure 3. Conceptual plan view of the 17th Street Canal Station and breakwater.

2.3.2 Orleans Avenue Canal

The new permanent pump station at the Orleans Avenue Canal as proposed would be approximately 150 feet long by 150 feet wide and include inlet and outlet works, trash screens, and a pump station building housing pumps, motors, and the gate structure. The new gate structure would consist of gates, gate guides, hoisting equipment, and an enclosure to protect the hoisting equipment. The new pump station would be in the existing canal, as near the Lakeshore Drive Bridge as possible without creating the need for modifications to that bridge. Thus, the new pump station would be approximately 300 feet south of Lakeshore Drive. This location provides for convenient connection of existing lakefront levees to the new pump station features (Figure 4). Figure 4 illustrates the maximum boundaries of construction within the pump station and auxiliary equipment proposed to be built.

Constructed in support of the new pump station would be a generator building and fuel storage tank farm complex. This complex would also include parking, general staging and storage space, and local storm drainage features. Utilities would include potable water service, sanitary sewer and natural gas, all connected to the new pump station from existing utilities available in the area. Finish grade for the pump station complex would be constructed above the 100-year flood level elevation.

Permanent ROW acquisition of up to 21 acres of property would occur almost exclusively on the west bank of this proposed layout and could include areas that are primarily publicly owned greenspace, rather than privately owned homes (shown in green on Figure 4). A temporary construction easement of approximately 4 acres would be expected (shown in yellow on Figure 4). The ICS south of this site would be removed after the pump station construction is complete.

Because of the lakeshore location of this pump station, a substantial volume of erosion protection armoring would be required; also, a strip of riprap protection would be placed in the new canal floor, both immediately north and south of the new pump station. A breakwater in Lake Pontchartrain, approximately 116 feet wide by 700 feet long could be constructed to an elevation of +15.5 NAVD 88. A typical cross-section and plan view of the breakwater proposed for the Orleans Avenue Canal is detailed in figure 2 and 5. In this area the lake bottom elevation is -11.5 ft and the water elevation is 1.0 ft. The Orleans breakwater requires approximately 43400 cubic yards of stone. To construct the breakwater all access would be from the land and no dredging of Lake Pontchartrain is required. The estimated construction time frame for this layout alternative is 36 months.



Figure 4. Orleans Avenue Canal Proposed Action, Layout Alternative B

Orleans Ave. Site B

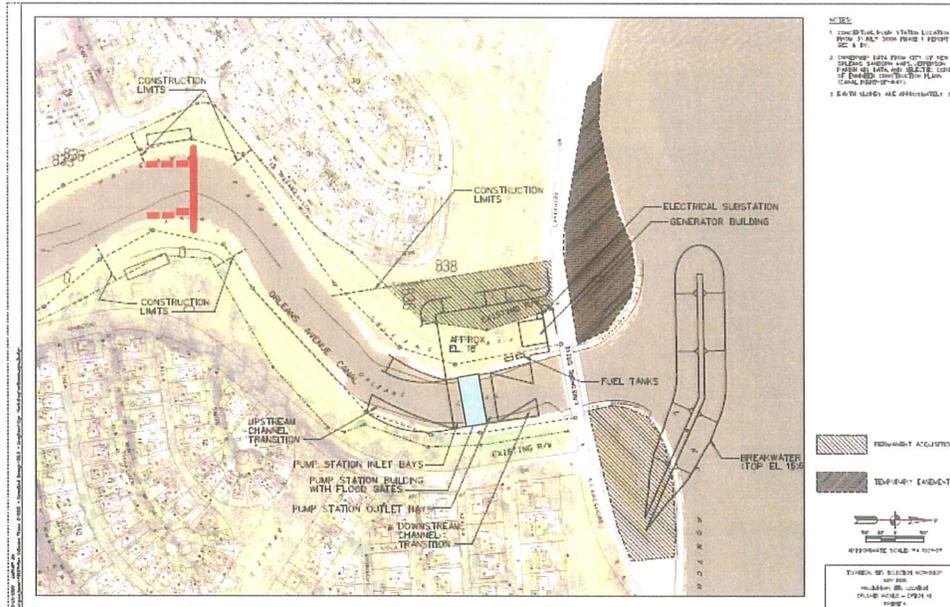


Figure 5. Conceptual plan view of the Orleans Avenue Canal Pump Station and breakwater.

2.3.3 London Avenue Canal

The new permanent pump station at the London Avenue Canal as proposed would be approximately 350 feet long by 160 feet wide and include inlet and outlet works, trash screens, and a pump station building housing pumps, motors, and the gate structure. The new gate structure would consist of gates, gate guides, hoisting equipment, and an enclosure to protect the hoisting equipment. The pump station would likely be primarily situated on the east canal bank, immediately adjacent to the ICS. Figure 6 illustrates the maximum boundaries of construction within the pump station and auxiliary equipment proposed to be built. This alternative provides for convenient connection of existing levees to the new pump station structure. The outfall canal levees and floodwalls north of the new pump station would be raised to the 100-year level of protection height and connect and be continuous with the existing Lake Pontchartrain levee system.

Permanent ROW acquisition of up to 21 acres would occur on the east and west banks of the canal, and could include areas that are primarily publicly-owned greenspace, rather than privately-owned homes (shown in green on Figure 6). ROW acquisition of some University of New Orleans (UNO) property could be required. A temporary construction easement of approximately 6 acres is assumed to be necessary in the vicinity of the west side of the ICS (shown in yellow on Figure 6). The ICS would be removed after the new pump station construction is complete.

Constructed in support of the new pump station would be a generator building and fuel storage tank farm complex. This complex would also include parking, general staging and storage space, and local storm drainage features. Utilities would include potable water service, sanitary sewer and natural gas, all connected to the new pump station from existing utilities available in the area. Finish grade for the pump station complex would be constructed above the 100-year flood level elevation.

A relatively small volume of erosion protection armoring would be required in and around the pump station. Specifically, a strip of riprap protection would be placed in the new canal floor, both immediately north and south of the pump station. Given the inland location of this pump station, a breakwater in Lake Pontchartrain would not be necessary to protect the pump discharge from lake surge effects. The estimated construction time frame for this layout alternative is 36 months.



Figure 6. London Avenue Canal Proposed Action, Layout Alternative C