



THE FLOOD PROTECTION AUTHORITY

The Permanent Canal Closures and Pumps (PCCP)

The 17th Street, Orleans and London Avenue Outfall Canals serve as drainage conduits for much of the City of New Orleans, with the 17th Street Canal also serving as a drainage conduit for portions of Jefferson Parish. Floodwall topped levees align the three outfall canals.

In the aftermath of Hurricane Katrina, the U.S. Army Corps of Engineers (Corps) constructed Interim Closures with temporary pumps at the mouths of the 17th Street, Orleans Avenue and London Avenue Outfall Canals to prevent storm surge from Lake Pontchartrain from entering the canals during a tropical event, thereby reducing the risk of a failure along the canals. The Corps' intent was to follow this temporary measure with the construction of a permanent, more sustainable solution.



17th Street Canal

As part of the Hurricane and Storm Damage Risk Reduction System (HSDRRS), the Corps completed the Permanent Canal Closures and Pumps (PCCP) to replace the Interim Closure Structures and temporary pumps.



London Avenue Canal



Orleans Avenue Canal

The notice to proceed with construction of the PCCP project was issued on May 6, 2013. Construction was completed in December, 2017, at a total cost of \$724 million. The Corps issued the Notice of Contract Completion on May 1, 2018, to the Coastal Protection and Restoration Authority (CPRA), the Non-federal Sponsor for the HSDRRS. The construction of the PCCP was the final link of the HSDRRS.

The PCCP, located at or near the mouth of each outfall canal, consists of permanent gated storm surge barriers that are closed in advance of a tropical storm event when Lake Pontchartrain stages are elevated, and pump stations to move rainwater out of the canals, past the gates and into Lake Pontchartrain while the barriers are closed. The PCCP pumps cannot drain city streets directly, and only operate when the PCCP bypass gates are closed due to tropical events and the Sewerage and Water Board of New Orleans (SWBNO) pump stations are pumping rainwater into the canals.

The CPRA, Flood Protection Authority and SWBNO entered into a Cooperative Endeavor Agreement (CEA) on February 1, 2018, which designates the Flood Protection Authority as the entity responsible for the operation, maintenance, repair, replacement and rehabilitation (OMRRR) responsibilities for the PCCP. The CEA provides that the SWBNO pay fifty percent of the OMRRR cost. The initial estimate of the annual OMRRR cost was \$4 million.

17th Street Canal:

Capacity – 12,600 CFS
(2) 900 CFS Pumps
(6) 1800 CFS Pumps
(15) 2.6 MW Generators
(11) Gates
Exceeds current SWBNO
capacity by 2,500 CFS

London Avenue Canal:

Capacity – 9,000 CFS
(2) 900 CFS Pumps
(4) 1800 CFS Pumps
(11) 2.6 MW Generators
(7) Gates
Exceeds SWBNO capacity
by 1,000 CFS

Orleans Avenue Canal:

Capacity – 2,700 CFS
(3) 900 CFS Pumps
(4) 2.6 MW Generators
(3) Gates

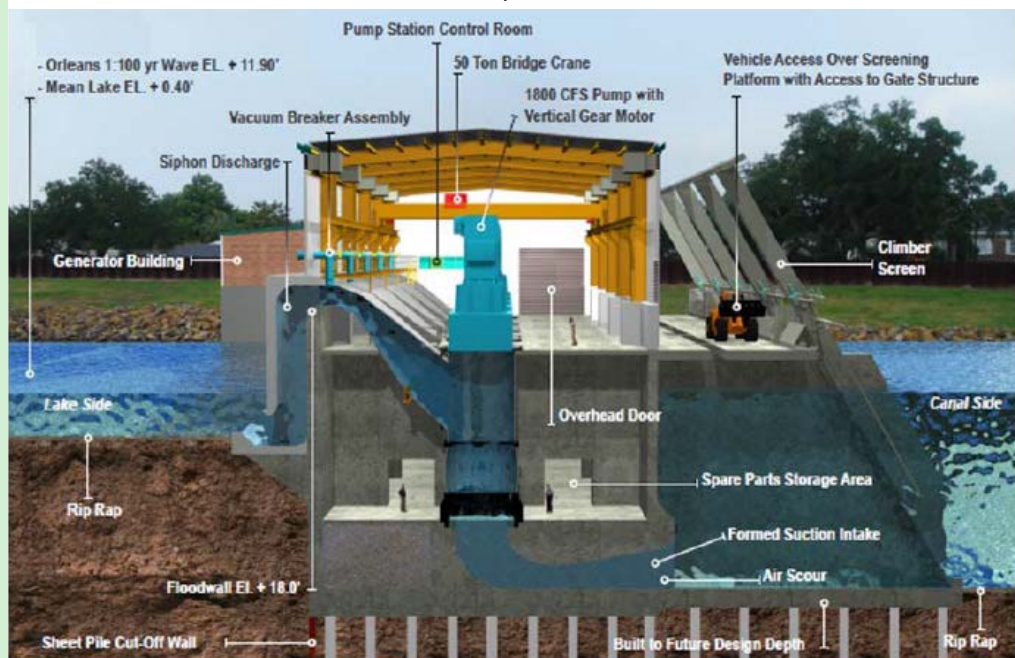
NOTE: Additional
capacity built based
on SWBNO future
expansion plans

During a tropical storm or high water event that requires the activation of the PCCP, constant and effective communication and collaboration is maintained between the Flood Protection Authority and the SWBNO for the operation of the PCCP and the SWBNO's interior pump stations. The SWBNO shares real time monitoring data for the pump stations that pump water into or through the outfall canals so that the Flood Protection Authority can monitor conditions in real time.

The PCCP pump stations have been described as the most complicated pump stations in Louisiana. The Flood Protection Authority established a team of professional, highly skilled individuals dedicated to the operation and maintenance of the PCCP Pump Stations. The current 10-member team consists of three managers who have special skill sets in electrical, mechanical or program controls, three assistant managers, an electrician and three mechanics. During PCCP storm activations, each member of this team is posted and remains at an assigned station for the duration of an event. Additional FPA personnel are cross trained to provide assistance during tropical events or other emergencies.

The PCCP facilities were constructed to withstand 200 mph winds at three second gusts and 155 mph sustained winds. Each site includes a control building with safe housing for support staff and onsite fuel storage capacity to run at full capacity for five days of continuous operation.

PCCP Pump Schematic



Pump Station Generators



Pump Station Pumps



PCCP Gates

When a storm approaches, all components of the Flood Defense System must work!
Southeast Louisiana Flood Protection Authority-East