US Army Corps of Engineers
Mississippi Valley Division

Corps Hurricane Response

Task Force Hope Status Report Newsletter *March 14, 2011*

Nation's largest sector gates

headed to West Closure Complex

USACE Photo by Jenny Marc

The largest sector gates in the U.S., 225 feet wide, make their way to the West Closure Complex on the Gulf Intracoastal Waterway. The massive gates will be part of the first line of surge defense for the West Bank.

by Susan Spaht

On March 10, the Corps of Engineers installed the second leaf of the nation's largest sector gate at the West Closure Complex on the Gulf Intracoastal Waterway at Belle Chasse. The pair of sector gate leaves were constructed in Texas, floated down the GIWW and installed one at a time, over a 24-hour period each, into the WCC project site.

The Gulf Intracoastal Waterway West Closure Complex (WCC) is a major feature of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) that will provide the first line of defense from storm surge entering the Harvey and Algiers Canals. When complete, the complex will significantly reduce risk to a large area of the West Bank by removing 25 miles of levees, floodwalls, floodgates and pumping stations along the two canals from the direct impacts of hurricane surge.

In addition to having the nation's largest sector gate, the nearly $1 billion WCC project will also have the world's largest drainage pump station, floodwalls that abut a 404c environmentally-sensitive area, sluice gates, foreshore protection and an

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Sector gates en route to West Closure Complex

Sector gates in construction

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earthen levee. The project also includes dredging of the Algiers Canal, beneficial use of the dredged material, and realignment of a portion of Bayou Road in Plaquemines Parish.

Construction of this enormous project began in August 2009 and is already nearly 68% complete.

The pair of sector gates were built by King Fabrication of Houston, Texas, and transported by barge along the GIWW to the WCC site. The first 750-ton gate leaf was installed on March 6. The second steel sector gate leaf was gently lowered into its place four days later after bad weather cleared.

The 225-foot-wide gate will tie into a pumping station and floodwalls to defend against a 100-year storm surge.

WCC Sector Gate Facts:

- **Constructed by King Fabrication of Houston, Texas**
- **Took four days to ship via barge**
- **Measures 125 feet 3 inches from hinge to skin plate and stands 32 feet high**
- **Each sector gate leaf weighs 750 tons**
- **97,000 tons of reinforced concrete was required for the sector gate foundation**
- **Gates will only be closed for a tropical event, and pumps will operate only when the gates are closed**
- **The sector gate will take 30 minutes to close**

WCC East Sector Gate Installation


The Approach


The Lift


The Placement

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The *Status Report Newsletter* supports the information program for Task Force Hope and its stakeholders. It also serves as the primary tool for accurately transmitting the Corps' hurricane risk reduction efforts to stakeholders.

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This issue and past issues can be found at:
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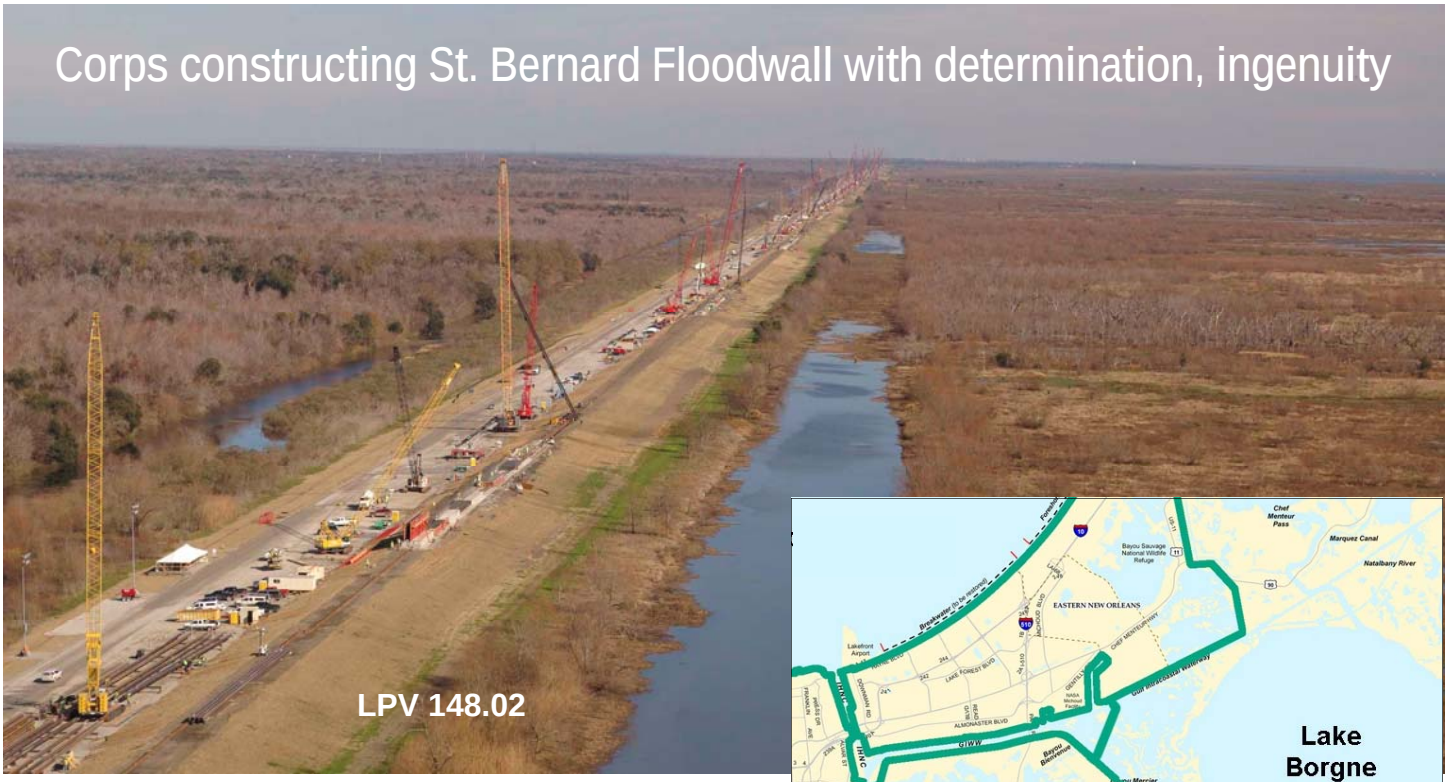
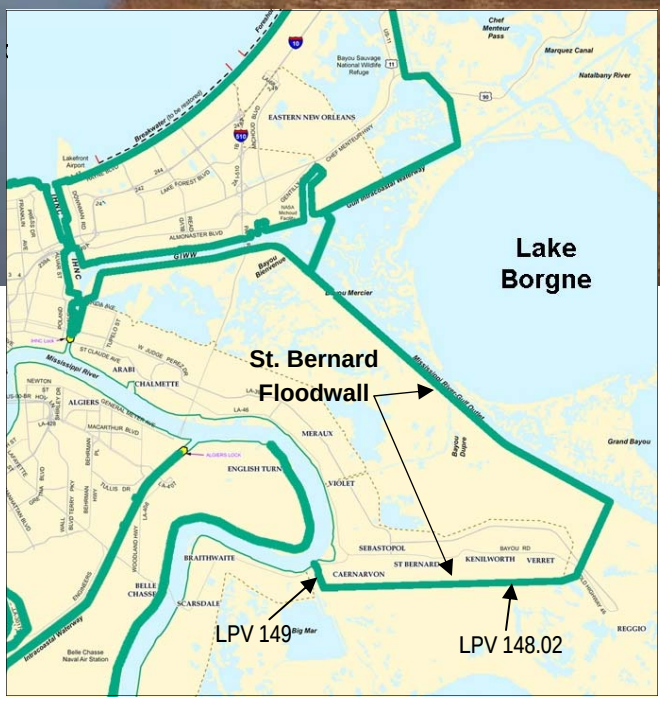
Corps constructing St. Bernard Floodwall with determination, ingenuity





By Susan Spaht

The Corps of Engineers is driving hard to put into place a 100-year level perimeter hurricane defense system by June 1, 2011. To accomplish this ambitious goal, which includes some of the largest surge protection structures in the world, the Corps has faced many challenges. One of these is the St. Bernard Floodwall, a 23-mile long T-wall being constructed atop the existing Chalmette Loop Levee and rising 26 to 32 feet high. The wall runs from the IHNC Surge Barrier to the Mississippi River at Caernarvon. It includes sector gates structures at Bayou Dupre and the Caernarvon Canal, and will include five additional floodgates that are being constructed to allow access through the T-wall.

"To make our goal of constructing 23 miles of floodwalls before the start of hurricane season, we determined that we needed to construct two miles of floodwalls a month," said Col. Robert Sinkler, Commander of the Hurricane Protection Office "*Two miles of floodwalls a month!* I don't think this has ever been attempted before, but we knew the team could do it. And thanks to the determination of our contractors, the dedication of our Corps employees, and the partnership with our non-federal sponsor, we are on schedule to deliver this project to the people of St. Bernard and the Lower 9th Ward."

Two of the largest and most costly projects in the Corps' Hurricane and Storm Damage Risk Reduction System (HSDRRS) are the IHNC Surge Barrier wall and gates at $1 billion, and the West Closure Complex at nearly $1 billion. The St. Bernard Floodwall project is estimated to cost **$1.5 billion.**

Determination, Ingenuity

The St. Bernard Floodwall project is currently 81% complete and on schedule to provide 100-year level defense by June 1. As can be expected of a construction project of this size, proportion and schedule, there have been numerous hurdles and unique situations along the way. Take for example, two particular portions of the 23-mile floodwall: LPV 148.02 and LPV 149 (see map).

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Lake Pontchartrain & Vicinity 148.02: *Construct a T-wall on top of the existing levee from Verret to Caernarvon to the 100-year elevation, and install an overhead trolley gate across Bayou Road.*

The original contract award for LPV 148.02 was held up because of two separate contract protests. This meant a serious delay to the start of construction since each protest must follow strict federal laws and regulations before a resolution can be determined. "Once the LPV 148.02 contract was settled and awarded, the only way we could make up the lost time was for the contractor to work a very aggressive construction schedule," said Senior Project Manager Chris Gilmore. "Cajun Constructors is doing a fantastic job; they are making up the lost time and getting that job back on schedule."


Chris Gilmore

LPV 148.02 requires that more than 10,000 sheet piles and 17,401 H-piles be driven into the existing levee to build the foundation for the floodwall. Of the 17,401 H-piles, approximately 7,500 were spliced piles. To accomplish this feat, Cajun Constructors rounded up 115 cranes (see photo) and about 1,000 employees to work the site. "This is surely a record number of cranes for a construction site of this size," noted Gilmore. "I'm certain that we have never had this many cranes working one site before – and it's getting the job done for us."

Lake Pontchartrain & Vicinity 149: *Construct a T-wall on a new alignment and a sector gate across the Caernarvon Canal, and replace railroad tracks and the Highway 39 floodgate. All to the new 100-year elevation.*

LPV 149 presented Conti Federal Services, Inc. and the Corps of Engineers with a special situation: construction of a floodwall across railroad tracks that are in daily use by trains. "The solution we came up with for LPV 149," said Col. Sinkler, "was to build temporary railroad tracks around the construction site so the railroad's schedule was not impacted, and our construction work could continue without delays.

The Corps worked with Norfolk Southern, owners of the railroad tracks, who participated in the design and advised on the construction of the temporary tracks.

"When we complete the floodwall and gate across the railroad tracks," said Gilmore, "we'll take out the temporary tracks and re-build the railroad tracks to their original alignment. All it took was a bit of ingenuity to get through this special situation. "

"The safety of people in St. Bernard and the Lower 9th Ward is our highest priority," said Col. Sinkler.

Col. Sinkler

"We are determined to deliver a perimeter system that meets our 100-year level criteria. Thanks to the hard work and drive of our contractors and Corps employees, the St. Bernard Floodwall project should be ready!"

For more information on the St. Bernard floodwalls, go to this site: http://www.mvn.usace.army.mil/hps2/pdf/May_29_09.pdf