US Army Corps of Engineers
Mississippi Valley Division

Corps Hurricane Response

Task Force Hope Status Report *May 29, 2009*

Commander signs IER 10 Decision Record

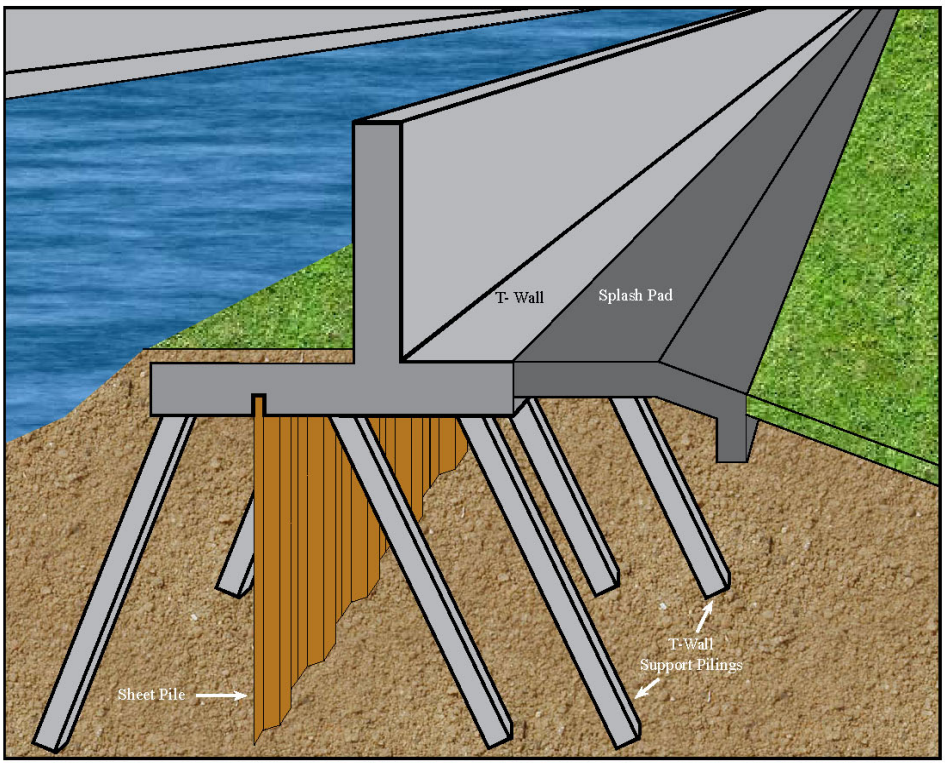
St. Bernard Parish getting Floodwalls

IER 10 signing clears path to construct 22.3 miles of T-walls

By Susan Spaht

On May 26, Col. Al Lee, Commander of the New Orleans District, signed the Decision Record for Individual Environmental Report (IER) 10, "Chalmette Loop, in St. Bernard Parish". This document officially advances the plan to construct 22.3 miles of floodwalls in St. Bernard Parish - in the eastern portion of the Hurricane and Storm Damage Risk Reduction System (HSDRRS) being built by the U.S. Army Corps of Engineers.

The new floodwalls will start just south of Bayou Bienvenue, generally follow the Mississippi River Gulf Outlet, turn southwest to Verret, then go directly west to just past Caernarvon (see map, page 2).



After considering four possible alternatives to provide 100-year level risk reduction for St. Bernard Parish, the Corps of Engineers decided to construct floodwalls for this portion of the Hurricane and Storm Damage Risk Reduction System. The type of floodwall to be used is called a T-wall (see illustration above) because it resembles an inverted "T". Construction of the more traditional earthen levees was ruled out because of issues involving schedule, real estate, amount of levee material needed and its cost. (USACE Illustration)

Background

Immediately following Hurricane Katrina, Task Force Guardian restored the levees along the Mississippi River Gulf Outlet to the previously-authorized elevation. This included Lake Pontchartrain & Vicinity (LPV) 145 and 146 (see map). This week the Corps finished construction to raise the levees from Verret to

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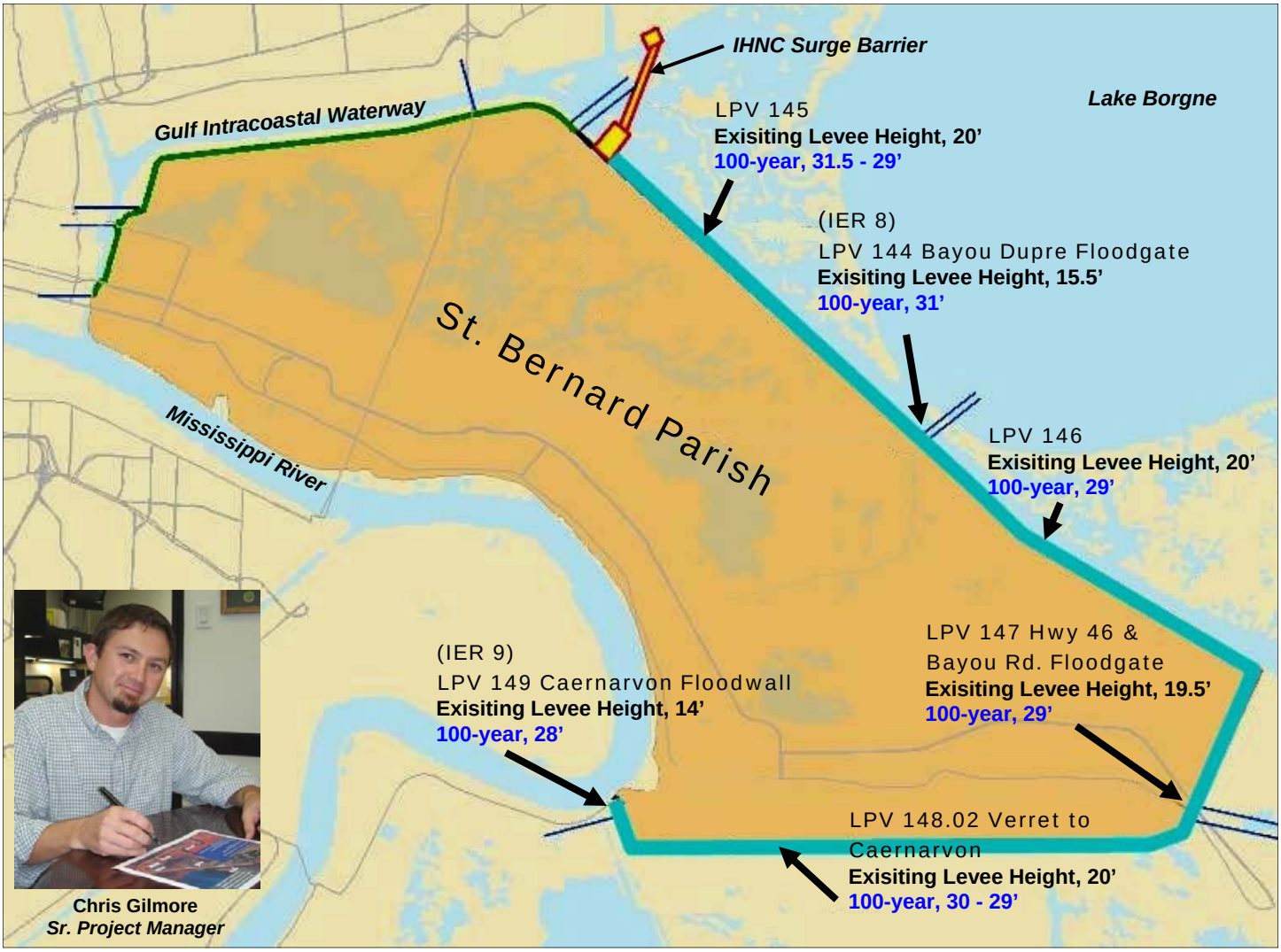

Chris Gilmore
Sr. Project Manager

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Caernarvon (LPV 148.01) to the previously-authorized elevation.

Signing of IER 10 Decision Record cleared the way for the Corps of Engineers to proceed with design and construction of a T-wall (floodwall) on top of all the existing levees, bringing them to an elevation of 28 – 31.5 feet. The project is expected to cost between $1-1.5 billion.

100-Year Level

To bring this portion of the HSDRRS up to the100-year level of protection, the Corps looked at numerous alternatives, then narrowed those down to four: floodwalls (T-walls), deep soil mixing, staged construction (with wick drains), and the traditional levee raise. Any of the four alternatives would have provided the necessary 100-year level of protection, but the Corps had to consider other qualifications as well, such as environmental impacts, cost, schedule, constructability, real estate requirements, and more.

As part of the National Environmental Policy Act, the Corps must consider opinions and comments of local residents and stakeholders as part of the decision process. Over the past two years the Corps presented the four possible alternatives at several public meetings in the parish to obtain public comment. The Corps accepted written comments from the public over that period as well.

Cost and Schedule Issues

"After we did the cost analysis," said Senior Project Manager Chris Gilmore, "I was very surprised to learn that T-walls were the least costly option for this project." Due to current market conditions, the price of borrow (levee material), and the huge amount of material needed, drove up the cost to build earthen levee raises.

To build the traditional earthen levee raise to the necessary heights, 28 – 31.5 feet, in St. Bernard would require a 900-foot-wide levee footprint

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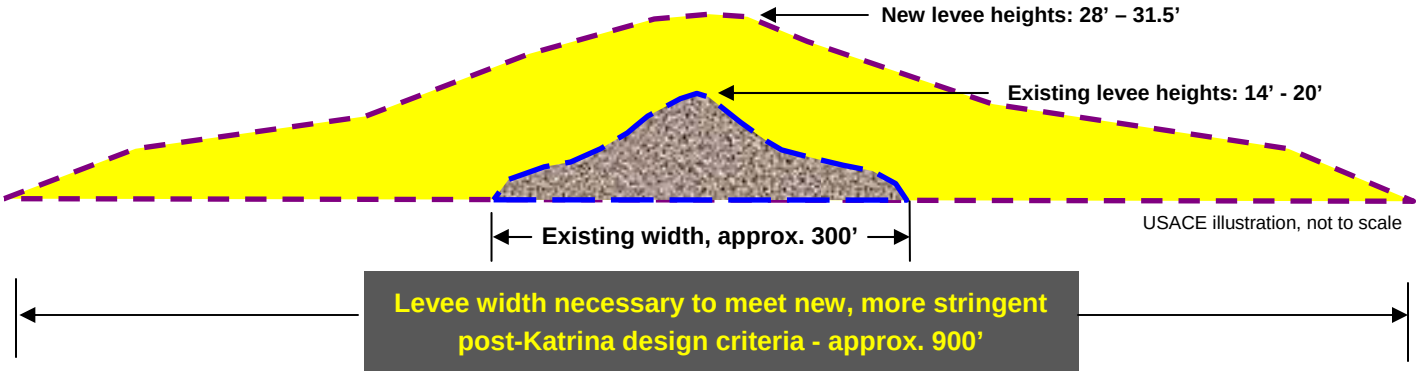
Earthen levees considered, ruled out for St. Bernard



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(see page 3). The extreme width of the footprint is the result of applying the more stringent post-Katrina design criteria to meet stability requirements. By building floodwalls, instead of tall and wide earthen levees, the Corps is reducing the amount of borrow material needed by approximately **25 million cubic yards**.

Another benefit of building floodwalls instead of earthen levees in St. Bernard, according to Gilmore, is "we'll be able to build within the existing right-of-way." Real estate is the responsibility of the State of Louisiana, the co-sponsor of the project. Building floodwalls means that the State will not have to acquire and pay for any additional real estate for the project since the Corps will be able to build within the existing levee footprint.

Eliminating the need to acquire additional real estate has another advantage, Gilmore explained, "The project can move forward without having to take time to negotiate for additional real estate with multiple land owners which could hold up the project's construction schedule.

"Real estate needs, scheduling issues, cost savings – all these things showed us that floodwalls are far and away the best method to reduce risk for St. Bernard."

Environmental Issues

If the Corps were to build 22.3 miles of earthen levees with a 900-foot wide base, it would require **impacting more than 1,450 acres of land.** This will not be necessary with a floodwall. The only environmental concern with a floodwall is the *wall.* While a floodwall is an excellent method to stop storm surge; it will also prevent animals and humans from traversing. To remedy this, the Corps will construct "access points" (floodgates or earthen sections) along the floodwall that will allow animals and humans to freely cross from one side to the other. These will also allow for routine inspections and maintenance by the Levee District.

"We will build a minimum of two access points in each 'reach' of the levee," explained Gilmore, "probably more." There are four 'reaches' (sections) in the 22.3-mile floodwall project. *Note:* If there are floodgates built as access points along the floodwall, these floodgates would be closed during storm events.

More Good News

In addition to building the St. Bernard Parish floodwalls to the 100-year level of protection, the Corps will build for a 50-year design life. This means that the Corps will take into consideration 50 years of natural settlement and build that into the floodwall height. These floodwalls will not need to be raised for 50 years. An earthen levee would require additional lifts during that same period.

Path Forward

The design phase for the St. Bernard floodwalls is in progress and expected to be finalized by the end of summer. The Corps is using Early Contractor Involvement (ECI) for this project, a method that involves bringing in the contractor at the early stages of design to help expedite the whole design/construction process.

"By using the ECI method," said Gilmore, "we are able to move this project faster. We hope to have all contracts finalized before the end of the year, with construction starting by year's end."

Verret to Caernarvon, *St. Bernard Parish*

New T-walls (floodwalls) will be constructed on top of recently-completed earthen levee work in St. Bernard Parish.

When completed, the new floodwalls, with floodgates and access points, will provide 100-year level protection as part of the Hurricane and Storm Damage Risk Reduction System.
USACE Photos

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