



**US Army Corps  
of Engineers®**

# **Lake Pontchartrain & Vicinity Teammate Update April 11, 2011**



## *Mission*

*We are committed to achieving the 100-year level of risk reduction in 2011 for the people of Orleans and St. Bernard parishes by constructing the Hurricane and Storm Damage Risk Reduction System.*

*The program also includes completing the permanent canal closures and pumps, the Grand Isle flood risk management project, Plaquemines Parish risk reduction projects, storm proofing and repair of existing pump stations.*

## *Executive Summary*

We are working around the clock to finish key construction activities so that the system can defend the City of New Orleans against a 100-year storm surge prior to the start of this Hurricane Season. We have been blessed that this is a ship building city, because we needed several hundred welders to work on various parts of the system.

Most of the system we must have in place by this hurricane season is already finished. In May, we plan to wrap up one small floodwall project by the Lakefront Marina, and two floodwall projects along Hayne Boulevard near Seabrook and the Lakefront Airport. In St. Bernard Parish we intend to finish the two sector gates (Bayou Dupre and Caernarvon), and a large section of T-Wall on the South side of the parish. On the surge barrier we will bring in the last gate. We believe everyone will be pleased with the superiority of this new system that crosses political and local government boundaries, and is designed and built to the same guidelines. The biggest strategic improvement of the system is that it prevents a 100-year storm surge from penetrating deep into the heart of the city at the three outfall canal openings, and at the two openings of the Inner Harbor Navigation Canal.

We will need a dry spring to finish up the clay work in Orleans Parish. We still need 20,000 truck loads of clay for the levees in New Orleans East. We will demobilize most of our construction activities along Lakeshore Drive by the end of April, and before the start of Jazz Fest.

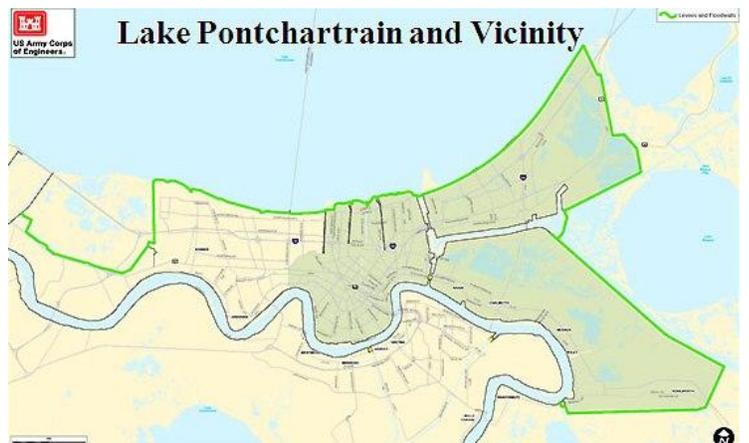
Some work will continue on parts of the perimeter system past June 1, 2011, to complete non-storm surge related features at the canal and waterway crossings, further increase safety factors, overbuild for anticipated future settling and sea level rise, increase resiliency of the system, further enhance the system's armoring, mitigate for environmental damage, as well as wrap up some longer-term operations and maintenance features.

Originally some in the Bush Administration wanted this system ready to defend against a 100-year storm surge in 2010. When the decision was made to have the 100-year system ready in 2011, it gave us six months to double and triple-check project details. Most of the system was authorized and funded by Congress in 2006, so we were generously given about three years to engineer and design the system, and about two years to execute the construction. Someone was looking out for us because we have had minimal weather impacts to construction during the past two years.

We can't say enough about the great Federal, State and Local Government team that is delivering this system for the people of the Greater New Orleans Area. Also, many of the contractors on our team have been beyond exceptional. Considering the fact that virtually all of the system is being built on somebody else's property (not Corps owned), the cooperation to deliver this system has been unprecedented. There is not much conflict or fight, when everyone is trying to do what is right.



60 Minutes Correspondent Byron Pitts, City of New Orleans Mayor Mitch Landrieu and Col. Robert Sinkler, Commander, Hurricane Protection Office visit the Inner Harbor Navigation Canal Surge Barrier.



## *Updates from the New Orleans District - Protection & Restoration Office*

### **1. St. Charles Parish** *\$100 M construction value*

All 14 construction contracts have been awarded, seven are under construction and seven are complete.

Approximately 70 percent of the 9.5 miles of St. Charles Parish's perimeter levees have been raised to the 100-year level of risk reduction, and all of the remaining contracts are under construction.

New T-walls at the Almedia and Walker Drainage Structures, as well as the Goodhope Floodwall, are complete. The bridge at Cross Bayou Drainage Structure is complete and the Gulf South Floodwall, constructed as part of an ongoing levee contract, is substantially complete.

At the Bayou Trepagnier Complex and Levee Reach 2A, work is substantially complete. Work continues at Shell Pipeline Floodwall, Cross Bayou Drainage Structure, Levee Reach 1A, St. Rose Drainage structure, I-310 Floodwall, Levee Reach 1B and the Illinois Central Railroad Gate. At structures and floodwalls where the existing protection is being degraded for construction purposes, Temporary Flood Protection will be in place to prevent flooding from high tides and winter storms.

Currently, St. Charles Parish levee work is scheduled for completion by June 2011.

### **2. Jefferson Parish** *\$450 M construction value*

All 16 contracts have been awarded, 12 are under construction and four are complete.

Ninety-nine percent of the 9.1 miles of Jefferson Lakefront levees have been raised to the 100-year level of risk reduction. All of the embankment work is complete and remaining work consists of turf establishment.



**Bonnabel Breakwater - Jefferson Parish**

The breakwaters at Bonnabel Pump Station and Duncan Pump Station are complete. In addition, the floodgates and floodwalls at Bonnabel and Williams Boulevard are substantially complete.

Fronting protection at the four East Jefferson lakefront pump stations began last April and is progressing well.

There are two contracts to provide wave attenuation and foreshore protection for a large portion of the levee system on Lake Pontchartrain; both contracts have been awarded and construction is under way.

Jefferson Parish levee work was completed in January 2011. Structures and floodwalls will defend against the 100-year storm surge by June 2011.

The contract for Causeway modifications was awarded in August 2010; however, work was delayed until October due to a protest. Currently, the project is 7 percent complete and is on schedule to be able to defend against 100-year storm by June 1, 2011.



**Cross Bayou Drainage Structure - St. Charles Parish**



**Causeway Construction - Jefferson Parish**

### 3. Orleans Metro (Main Supporting District - St. Louis) \$90 M - \$100 M construction value

More than 95 percent of the levee and floodwall work is complete in Orleans Metro. The 100-year level of risk reduction has been reached at the following locations:

- Lakefront Roadway Ramps
- Pontchartrain Beach Floodwall
- Levee near Leroy Johnson Drive Ramp
- Levee between Topaz Street & Orleans Avenue Canal
- Bayou St. John Floodwalls & Sector Gate
- Floodgate at Marconi Drive
- Orleans Avenue Canal Floodwall Tie-in
- London Avenue Canal Floodwall Tie-in

Between 17th Street and Topaz (LPV 101.02), the contractor has driven 84 percent of the H-pile and 82 percent of the sheet pile for the project. Seventy-eight percent of the wall monoliths have been completed.

Between Orleans and London Avenues (LPV 103.01A2), all of the pile driving operations are finished. The monoliths at Rail Street and Lake Terrace have been completed and the gates are scheduled for installation this month.

Between London Avenue and the Inner Harbor Navigation Canal (LPV 104.02), the contractor is doing the final grade work for the ramp at the University of New Orleans. Concrete work for the roadway, sidewalk and scour protection at the Seabrook Boat Launch continues.

We continue to work with our partners at the City of New Orleans and Orleans Levee District to ensure public safety throughout construction. If you have questions and / or concerns, please call our **Construction Impacts Hotline: 877-427-0345**.

### 4. New Orleans East (Main Supporting District - Memphis) \$800 M - \$1 B construction value

Roughly 75 percent of the New Orleans East lakefront perimeter work between the Inner Harbor Navigation Canal and South Point is complete. The 100-year level of risk reduction has been reached at the following locations in New Orleans East:

- I-10 Crossing at South Point to CSX Railroad Levee
- Lake Pontchartrain Levee between Paris Road & South Point and Collins Pipeline Floodwall
- Lake Pontchartrain Levee - Citrus
- Lincoln Beach Floodwall / Gate
- Levee between Michoud Canal and Michoud Slip

West of the Lakefront Airport (LPV 105.01), 86 percent of the H-pile and 93 percent of the sheet pile has been driven. Four of 33 total monoliths have been completed; 8 footers have been poured with rebar formed for T-wall stems.

East of the Lakefront Airport (LPV 105.02), the contractor has driven 86 percent of sheet pile and 70 percent of H-pile. Fifty-nine percent of the new T-walls and 92 percent of the I-walls have been completed for the project. Installation of the Temporary Restraining Structure for the sluice gate is under way. The contractor is continuing pile driving and concrete work.



On the Citrus Lakefront Levee (LPV 106), the contractor has completed all of the monoliths for the T-wall transition to LPV 108. Seventy-nine percent of the concrete caps, 31 percent of the slope pavement and 27 percent of the scour protection has been completed.

*Hayne Boulevard has been reduced to two lanes of traffic to accommodate construction of LPV 105.02 and LPV 106.*

At Lincoln Beach (LPV 107), the contractor has completed all of the wall monoliths and the floodgate was installed on March 26. Work continues on demolition and removal of the existing protection, as well as on some other incidental work. From Paris Road to South Point (LPV 108), work is 99 percent complete on this project. Once the seeding operation is complete, a final inspection will take place.



LPV 107 - Lincoln Beach Floodgate Construction



LPV 109.02C - HWY 11 Floodgate Fabrication

Between South Point and the CSX Railroad crossing (LPV 109.02A), the contractor has placed approximately 3.5 million tons of clay on all reaches; work is 77 percent complete. On the I-10 highway crossing (LPV 109.02B), paving is complete on the east and west bound lanes. The contractor is currently removing the temporary median and bridge detour, constructing the base for the median shoulders and installing a fence; work is 91 percent complete. Construction

on the Highway 11 and 90 crossings (LPV 109.02C) is under way and progressing well.



LPV 109.02C - HWY 90 Floodgate Fabrication

*HWY 11 and part of HWY 90 are closed to accommodate construction of LPV 109.02C.*



LPV 110 - Railroad Floodgate Fabrication

At the CSX Railroad Crossing (LPV 110), the contractor is continuing H-pile driving operations; work is 45 percent complete on this project.

Between the CSX Railroad Crossing and Inner Harbor Navigation Canal Surge Barrier (LPV 111), work is progressing on all project features. Deep Soil Mixing (DSM) operations are complete; at the west tie-in, the T-wall is complete. At Pump Station 15, 100 percent of the H-pile, sheet pile and pipe pile has been driven; 63 percent of the T-wall monoliths are complete.

*Times-Picayune: [On-ramp from Hayne Boulevard to close for months](#) | WGNO-TV: [Neighbors tired of Corps work](#)  
Engineering News-Record: [\\$300 Million Deep Soil Mixing Racing to Completion](#)*

## 5. St. Bernard Parish (Main Supporting District - St. Paul) \$1 B - \$1.5 B construction value

Construction is moving forward all around St. Bernard Parish; 16.5 miles of new T-wall has been constructed. The 100-year level of risk reduction has been reached at the following location in St. Bernard Parish:

- *Mississippi River Gulf Outlet Floodwall between Bayou Bienvenue and Bayou Dupre*
- *Highway 46 Floodgate*

At the Bayou Dupre (LPV 144), the sector gate leafs were installed last week. The contractor is wrapping up pile driving operations on the east and west sides.

Construction is finishing up between Bayou Bienvenue and Bayou Dupre (LPV 145). The final wall was poured on March 17 and set the last gate on March 18. The contractor is 20 percent complete with seeding and grading operations.



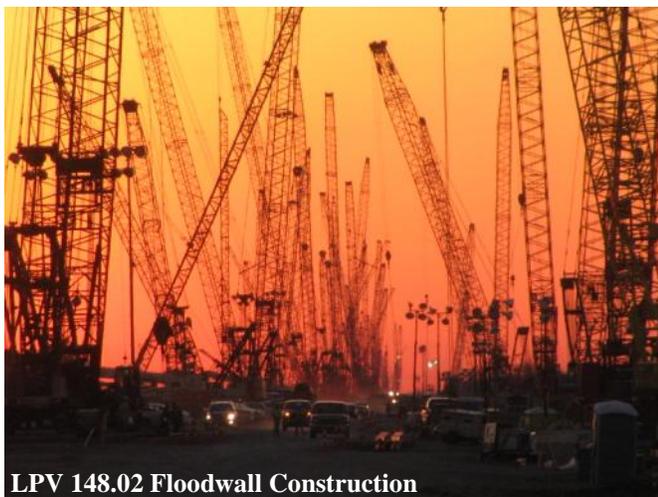
LPV 144 Steel Sector Gate In Transit

Work also continues between Bayou Dupre and Highway 46 (LPV 146). The contractor has completed all of the sheet pile and H-pile driving for this project; 790 of 800 total walls are complete. Three of four pipelines have been relocated, and three gates have been installed. Seeding operations will begin this month.

At the Highway 46 floodgate (LPV 147), the pre-final inspection will take place early this month. The contractor is working on the following items: permanent striping, asphalt repair work, lightening protection, signage, guardrail installation and turf establishment.



LPV 147 Floodgate Construction



LPV 148.02 Floodwall Construction

Between Verret and Caernarvon (LPV 148.02), the contractor has driven 15,760 linear feet of the H-pile (90 percent). A total of 22 H-pile crews have been mobilized and are driving piles. The contractor has placed 43,000 linear feet of sheet pile and that operation is 99 percent complete. Currently, there are 18 work areas with crews placing stabilization slabs; a total of 30,796 linear feet (71 percent) has been placed to date. There are 18 work areas with crews placing base slabs; a total of 27,527 linear feet (64 percent) has been placed to date. There are 18 work areas with crews placing walls; a total of 22,653 linear feet (53 percent) has been placed to date. The contractor will be completing nearly three miles of floodwall a month in order to reach the 100-year level of risk reduction by June 1, 2011.

Major construction is going forward at Caernarvon (LPV 149). The H-pile installation is 95 percent complete. The contractor is working 24 hours per day and seven days per week until all of the concrete for the sector gate is placed. The sector gate, which is being fabricated in Morgan City, LA, is 98 percent complete. Only nine base slabs and 16 stem walls remain. The railroad has been moved back to its original location and the Highway 39 detour will be shifted back this month.



LPV 149 Sector Gate Construction

We developed an animation to illustrate the sequence of floodwall and floodgate construction in St. Bernard Parish. [View Animation here](#)

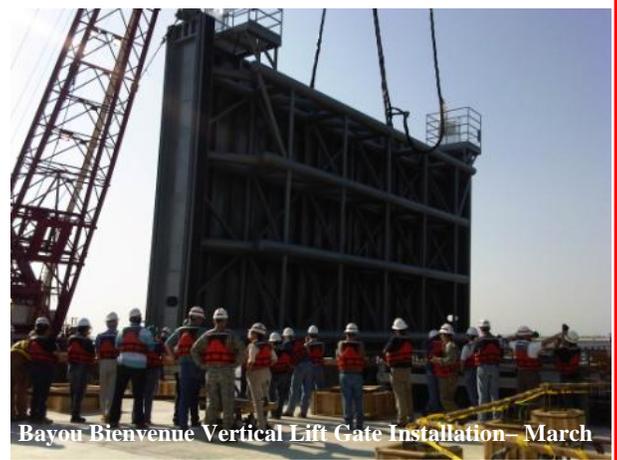
## 6. Inner Harbor Navigation Canal (Corps-wide Support)

### a. Surge Barrier \$1.1 B construction value

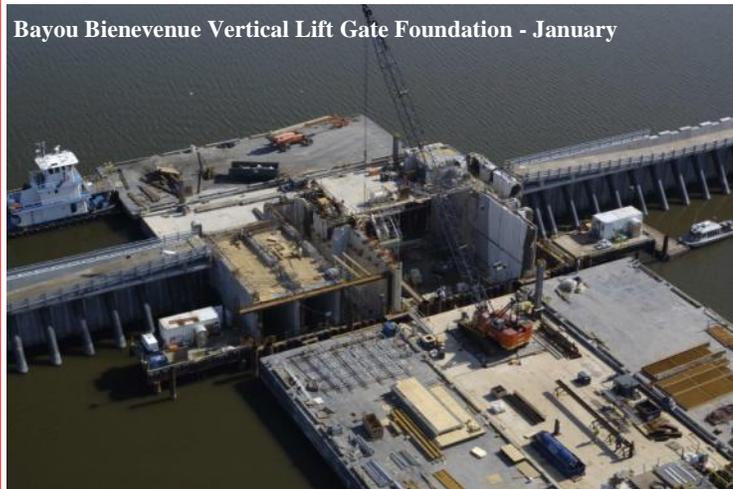
The overall design of the entire structure is 98% complete. At the Gulf Intracoastal Waterway (GIWW) Sector Gate, the concrete sill is complete and 11 of 20 (55 percent) of the critical monolith placements to reach the 100-year level of risk reduction are complete. We continue to tie rebar and set forms at all the GIWW abutments. Fabrication and assembly of the steel sector gates by Shaw Global is approximately 87 percent complete.

We had a media availability to view the installation of the Bayou Bienvenue Vertical Lift Gate. Vic Zillmer, resident manager of the IHNC-Lake Borgne Surge Barrier; Angela DeSoto-Duncan, design lead for the IHNC-Lake Borgne Surge Barrier; and various contractors on site that played a part in the design or fabrication of the vertical lift gate attended and were interviewed.

*Times-Picayune:* [Corps of Engineers installs Bayou Bienvenue Gate](#)  
*Engineering News Record:* Closing the Door - [Lift Gate Dropped in 6 weeks early](#)



Bayou Bienvenue Vertical Lift Gate Installation - March



Bayou Bienvenue Vertical Lift Gate Foundation - January



IHNC Surge Barrier Sector Gate - March

*Photo Courtesy of Patrick Quigley*

#### **b. Floodwall Remediation \$25 - \$50 M construction value**

We are working to ensure that the levees and floodwalls in the Inner Harbor Navigation Canal (IHNC) corridor meet the more stringent Post-Katrina design criteria.

We awarded a \$3.4 million contract to New Orleans-based Garner Services, L.L.C., a service-disabled veteran-owned small business, to build a buttress slab on the east side of the IHNC just south of Lake Pontchartrain. Construction of the buttress slab includes driving concrete piles to greater depths than the sheet pile beneath the existing floodwall and replacing the existing horizontal stone protection on the protected side with a wider and slightly taller concrete slab. This work will improve the ability of the existing floodwall to resist high water levels in the IHNC and prevent erosion caused by wave overtopping.

We also awarded a \$2.2 million contract to Blackhawk Ventures, L.L.C., a service-disabled veteran-owned small business, to construct 50 relief wells along the protected side of the IHNC's west side floodwall just south of Lake Pontchartrain and also to construct 12 wells along the Michoud Canal in New Orleans East. Relief wells will address seepage by intercepting excess sub-surface water and diverting it into the storm drainage system in a controlled manner to increase the stability of the existing floodwall.



Site 2 - Jordan Road

Additional work includes construction of stability berms and concrete slabs. A stability berm will be placed north of the GIWW near the Paris Road Bridge and on the east side of the IHNC just south of the buttress slab. Concrete boxes and slabs will be placed at the IHNC Lock to prevent deflection of the existing I-wall. This additional work will be managed and constructed by personnel from the Corps' Memphis, TN, District.

Work is under way at all three sites and will be complete in June 2011.

### **c. Seabrook Floodgate Complex** *\$155 M construction value*

The 100-year level of risk reduction was achieved with the completion of the North Wall Seabrook Interim Closure Structure, the cofferdam inside which the floodgates will be built. We have also reached the 100-year level of risk reduction on the west side of the structure, and will reach the 100-year level on the east side this week. The south wall cofferdam will be complete this month, and dewatering will take place in May.

*Times-Picayune:* [Army Corps nears its goal for flood protection](#)



North Cofferdam - Seabrook



East Side Tie-in - Seabrook

### **7. Existing Pump Station Repairs (Main Supporting District - Chicago)** *\$80 M construction value*

There are 78 pump stations in Orleans, Jefferson, St. Bernard and Plaquemines parishes. We have been involved in repairs to 61 of those pump stations. The existing pump station repair program is now complete.

### **8. Storm Proofing (Main Supporting District - Chicago)** *\$225 M construction value*

We recently awarded the final two planned storm proofing contracts for pump stations in Orleans and Jefferson parishes.

A \$3.2 million contract was awarded to Garner Services, L.L.C., a New Orleans-based service disabled veteran-owned small business, to storm proof Estelle No.1 Pump Station, located on the West Bank of Jefferson Parish just west of the confluence of the Harvey and Algiers canals.

The approximately eight-month contract calls for installing rake screen systems; strengthening roofs and walls; installing fencing and gates; automating the trash transfer system; and miscellaneous civil, structural, mechanical and electrical work, as well as some demolition work.

We also awarded a \$24.8 million contract to Cycle Construction Company, L.L.C., a Louisiana-based HUBZONE small business, to install two vertical drainage pumps at Pump Station No. 5, located on Florida Avenue just east of the Industrial Canal in the Lower Ninth Ward.

The new pumps each will be capable of pumping 300 cubic feet of water per second once complete. Additional work includes installation of a backup generator and auxiliary equipment and site work.

The overall Storm Proofing Program is approximately 46 percent complete. Our goal is to have all scheduled storm proofing work complete in 2012.

*Times Picayune:* [Corps awards final contracts for storm proofing pump stations](#)

**9. Permanent Canal Closures & Pumps (Main Supporting District - Portland) \$695 M construction value**

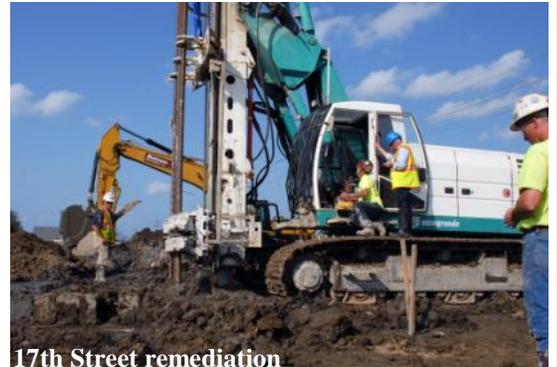
Revised Phase II proposals were submitted last month; evaluations are now complete. We remain on schedule to award the design-build contract this month.

**10. Outfall Canals \$25 - \$50 M construction value**

The construction of the Interim Closure Structures and temporary pump stations effectively removed the outfall canal walls as part of the primary hurricane storm surge system. Since construction of the walls along the three canals in the mid-1990s, they have performed well in removing rainwater from the city, including the record rainfall events in May 1995 and December 2009. Since 2005, \$35.6 million in repairs and improvements were made to the London Avenue Canal and \$25.7 million in repairs and improvements were made to the 17th Street Canal.

**a. 17th Street Outfall Canal**

Remediation of the 17th Street Canal outfall canal is progressing well. Work consists of using deep soil mixing to strengthen the canal levees and added embankment at the crown of the levee to reduce floodwall stick-up.



17th Street remediation

**b. Orleans Avenue Outfall Canal**

The Corps awarded the second contract for remediation of the Orleans Avenue



Orleans Avenue remediation

Outfall Canal to New Orleans-based Integrated Pro Services, LLC, a service-disabled veteran-owned small business. The approximately four-month \$5 million contract calls for strengthening the existing levees on the east side of the canal with the construction of stability berms and the use of deep soil mixing. Additional work includes driving sheet piles on the west side of the canal to mitigate subsurface seepage.

Construction is under way and will wrap up in June 2011.

**c. London Avenue Outfall Canal**

Remediation of the London Avenue outfall canal is also progressing well. Work consists driving sheetpile to prevent seepage, as well as adding embankment at the crown of the levee to reduce floodwall stick-up.



London Avenue remediation

*Times-Picayune:* [Corps wants to use 14 empty lots to stage equipment for London Avenue Canal wall repairs](#)



Planning is under way to create marsh and re-establish cypress forests in the Lake Pontchartrain Coastal Zone (Basin) to mitigate for construction of the HSDRRS.

[Mississippi River-Gulf Outlet wetlands restoration plan faulted](#)

EDITORIAL: [Corps of Engineers needs to foot the bill to fix MR-GO's](#)

Robert A. Sinkler  
Colonel, U.S. Army Corps of Engineers  
Commander, Hurricane Protection Office  
Mississippi Valley Division

# Assistant Secretary of the Army for Civil Works visits East Bank Construction Sites

On March 21 - 22, Assistant Secretary of the Army for Civil Works The Honorable JoEllen Darcy visited HSDRRS projects in New Orleans. Darcy was accompanied by the Chief of Engineers, LTG Robert Van Antwerp; Deputy Commanding General MG William Grisoli; and Mississippi Valley Division Commander MG Michael Walsh. This is the Chief's final visit to New Orleans before he relinquishes command and retires. After a tour of the New Orleans Metro projects, several Corps' stakeholders joined the group for a visit to the IHNC Surge Barrier and other projects in St. Bernard Parish.



The Honorable Jo Ellen Darcy at the IHNC Surge Barrier



Orleans Parish Officer in Charge CPT Brock Schmidt, LTG Van Antwerp and MG Walsh at LPV 101.02 in Orleans Parish



MG Walsh and Task Force Hope Chief Mike Park in St. Bernard Parish



Southeast Louisiana Flood Protection Authority-East Regional Director Bob Turner, St. Bernard Parish President Craig Taffaro and Office of the Governor Coastal Activities Director Garret Graves in St. Bernard Parish



Southeast Louisiana Flood Protection Authority-East President Tim Doody and MG Grisoli in St. Bernard Parish



Corps senior leaders and stakeholders at the IHNC Surge Barrier in St. Bernard Parish

## Recent Visitors to East Bank Construction Sites



**Inland Waterway Users Board visit to the IHNC Surge Barrier and T-wall in St. Bernard Parish**



**WWII Veterans from the 291st Engineer Combat Battalion visit the IHNC Surge Barrier in St. Bernard Parish**



**Seabrook Neighborhood Association members visit the Seabrook Floodgate Complex**



**St. Bernard Middle School students visit LPV 145 and the IHNC Surge Barrier in St. Bernard Parish**

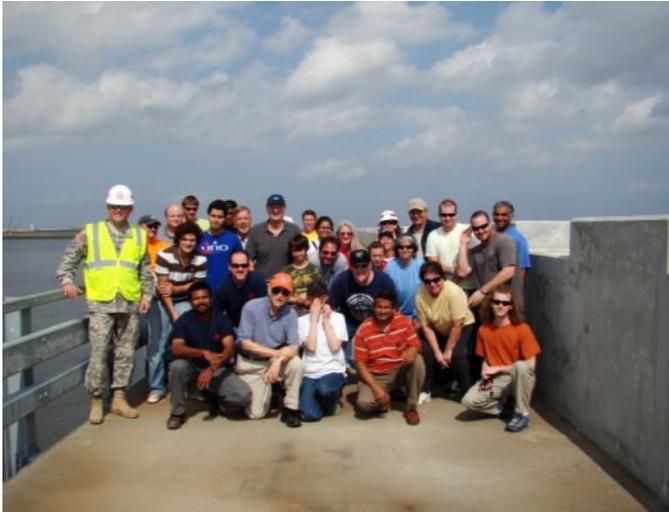


**National Levee Safety Committee visit LPV 145 in St. Bernard Parish**



**University of Wisconsin students visit the IHNC Surge Barrier in St. Bernard Parish**

## Recent Visitors to East Bank Construction Sites



American Society of Civil Engineers (ASCE) members visit the IHNC Surge Barrier in St. Bernard Parish



307th Engineer Battalion, Fort Bragg visit to LPV 145 and the IHNC Surge Barrier in St. Bernard Parish



Kurt Conti, CEO, Conti Corporation, and the Board of Advisors visit LPV 149 in St. Bernard Parish



T. Bradley Keith and staffers from Senator Landrieu's office visit LPV 145 in St. Bernard Parish



Tony Russell, Regional Administrator, Federal Emergency Management Agency VI, visits the IHNC Surge Barrier in St. Bernard Parish



Andrew Jackson Middle School students visit the IHNC Surge Barrier in St. Bernard Parish

## Recent Visitors to East Bank Construction Sites



**The French Minister of Ecology, Sustainable Development, Transports and Housing, Mrs. Nathalie Koscuisko-Morizet, visits the IHNC Surge Barrier in St. Bernard Parish**



**U.S. Army Corps of Engineers Public Affairs Conference participants visit LPV 145 and the IHNC Surge Barrier in St. Bernard Parish (Bus 1)**



**U.S. Army Corps of Engineers Public Affairs Conference participants visit LPV 145 and the IHNC Surge Barrier in St. Bernard Parish (Bus 2)**



**U.S. Army Corps of Engineers Public Affairs Conference participants visit LPV 145 and the IHNC Surge Barrier in St. Bernard Parish (Bus 3)**



**Boy Scout members (Troop 172) visit the IHNC Surge Barrier and T-wall in St. Bernard Parish**



**U.S. Army Corps of Engineers Risk Management Center visit the IHNC Surge Barrier in St. Bernard Parish**