



US Army Corps
of Engineers
Mississippi Valley Division



Corps Hurricane Response

Task Force Hope Status Report Newsletter

November 6, 2012

Armoring Pilot Project now underway

5 HPTRM manufacturers qualify to participate in test



LPV 05.2B Armoring Pilot Site
St. Charles Parish, Good Hope to Cross Bayou

by Susan Spaht

On October 25, the Army Corps of Engineers issued a Notice To Proceed to Phylway Construction to begin work on an Armoring Pilot Project to test an array of High Performance Turf Reinforcement Mats (HPTRM) on earthen levees. The two-phase pilot project will involve field testing of HPTRMs on two 5,000-foot levee alignments in the Hurricane and Storm Damage

Risk Reduction System (HSDRRS), and overtopping testing at Colorado State University (CSU). The field testing is being performed by Phylway Construction under its contract with the Corps of Engineers. The testing at CSU will be the responsibility of the manufacturers who are interested in having their products considered for system armoring.

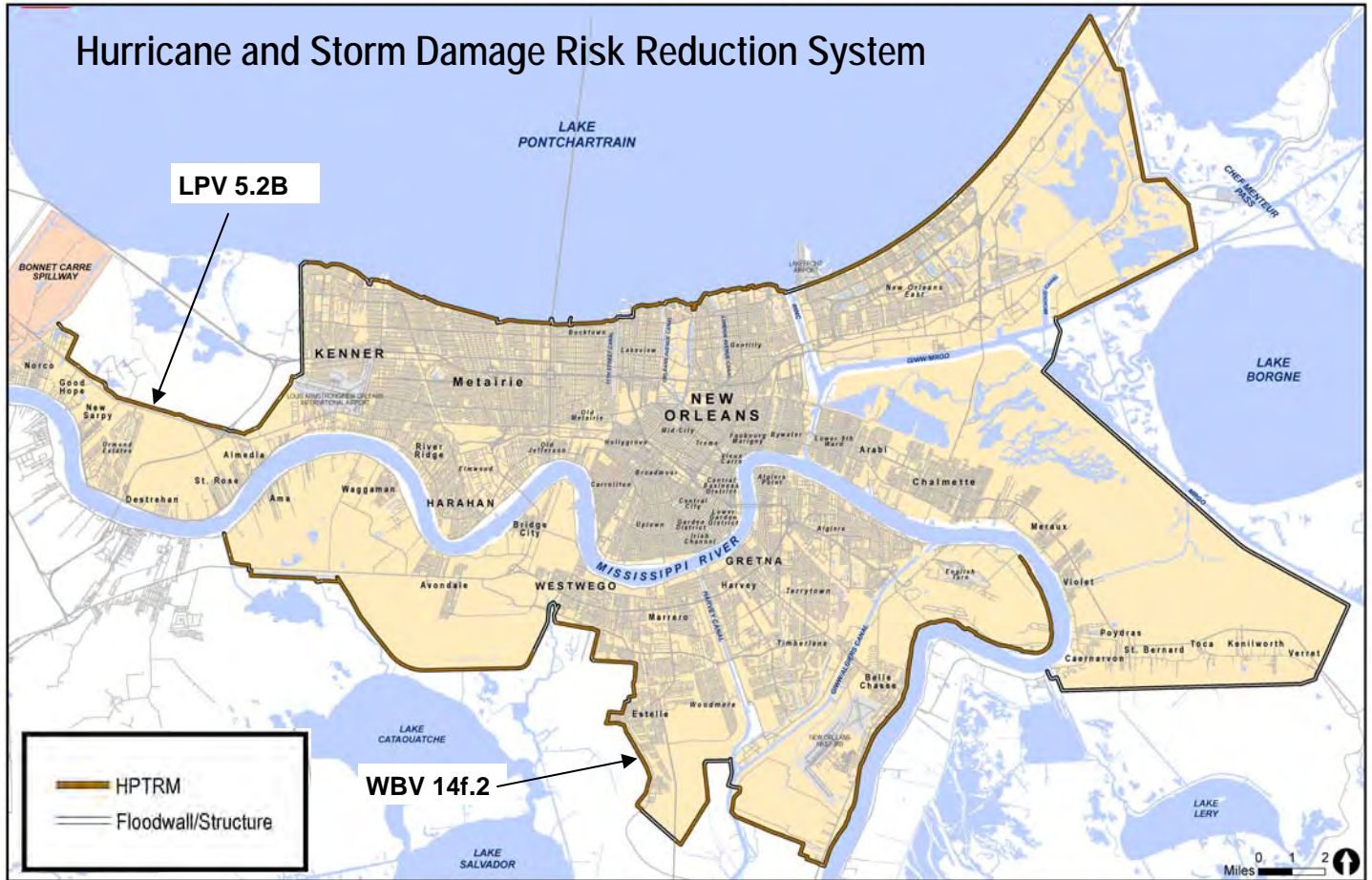
The two HSDRRS levee sections involved in the pilot project are: Lake Pontchartrain & Vicinity (LPV 5.2B)

in St. Charles Parish, and West Bank & Vicinity (WBV 14f.2) in the Westwego/Harvey area. Work on the LPV section is underway while the Corps is finalizing specifications for the WBV section. Five HPTRM manufacturers qualified to participate in the Armoring Pilot Project, the results of

Continued on page 2

Also in this issue:

NOV/NFL contracts awarded.....Pages 4-5



Continued from page 1

which will determine whose products qualify for system armoring.

“Armoring the levees is the last step in completing the Hurricane and Storm Damage Risk Reduction System (HSDRRS),” said Mike Park, Chief of Task Force Hope. “Armoring will provide the new system with added resilience to withstand an extreme storm and related overtopping in excess of its original 100-year storm surge intent. Armoring the system, a \$300 million effort, will be accomplished with 100% Federal funding.”

Background

Last year the Corps completed extensive research and full scale testing on an array of armoring materials and applications to assess erosion

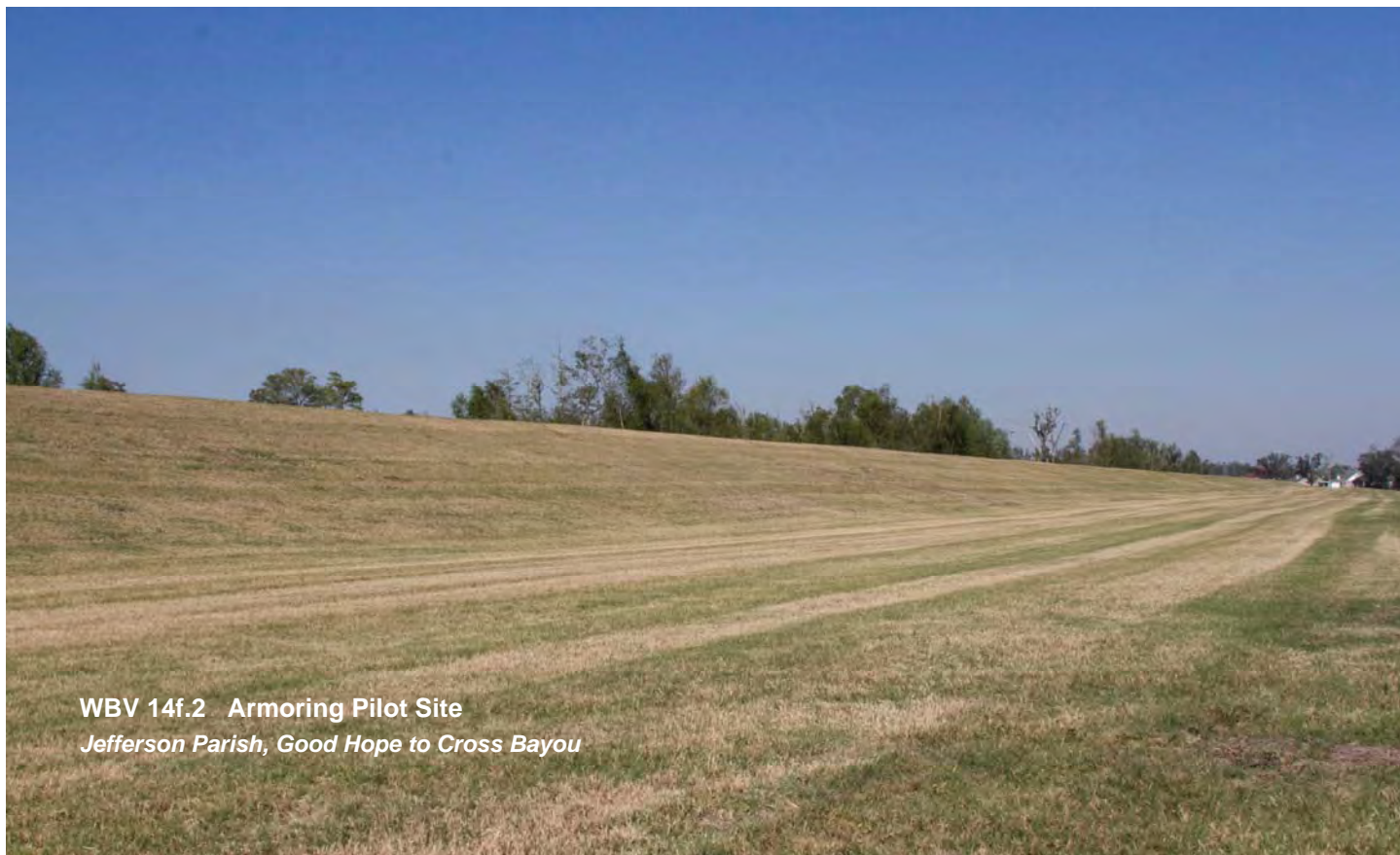
**“Armoring the HSDRRS,
a \$300 million effort, will be accomplished
with 100% Federal funding.”**

- Mike Park, Chief, Task Force Hope

resistance in order to armor the system. The testing included research on wave overtopping on a specially-constructed simulator at Colorado State University, *(see page 3) as well as additional scaled transition testing at Texas A&M University, flood-side wave erosion at the Corps’ Engineer Research and Development Center, and grass studies by Louisiana State University . This testing determined that HPTRM with a defined grass quality could withstand drastic wave overtopping.

Later in the year, the Corps conducted an initial field test on a High Performance Turf Reinforcement Mat and grass on a levee in St. Charles Parish. **(see page 3) This test was conducted to determine the ability of the grass to grow through and anchor the HPTRM to the levee, as well as the HPTRM/grass combo’s ability to withstand the necessary operations and maintenance process, e.g. wheel loads from grass mowing. This field test confirmed

Continued on page 3



WBV 14f.2 Armoring Pilot Site
Jefferson Parish, Good Hope to Cross Bayou

Continued on page 2

that HPTRM and Bermuda grass are a viable and acceptable combination for armoring the HSDRRS levees.

The final step to armoring the system is finding the right HPTRM product, thus the purpose of this Armoring Pilot Project.

Armoring Pilot Project

“We had five HPTRM manufacturers qualify their products for this pilot,” said Soheila Holley, the Senior Project Manager for the Corps’ Armoring Pilot Project Team. “Their products will be placed in side-by-side sections along the designated levee plots so that all are competing equally, under the same environmental and levee field conditions.” Each HPTRM product will be laid down in 1,000-foot sections: one half of the section will be overlaid with

grass sod, and the other half with grass from fertilized grass seed and mulch. “The products’ relative performance will be evaluated on the



Soheila Holley

ability of each HPTRM material and grass combination to withstand normal operations and maintenance, and the ability of the grass to grow through the HPTRM fabric and anchor to the underlying soil,” explained Holley.

Additionally, for the second phase of the Armoring Pilot Project, each of the five selected manufacturers in the pilot project agreed to have full scale wave overtopping testing performed at Colorado State University at each manufacturer’s expense. Each must submit the test results to the Corps by the end of 2012. Each HPTRM product tested at CSU must sustain the maximum wave overtopping flows that could be generated by a 500-year storm surge.

The Armoring Pilot Project is expected to be completed in April 2013.

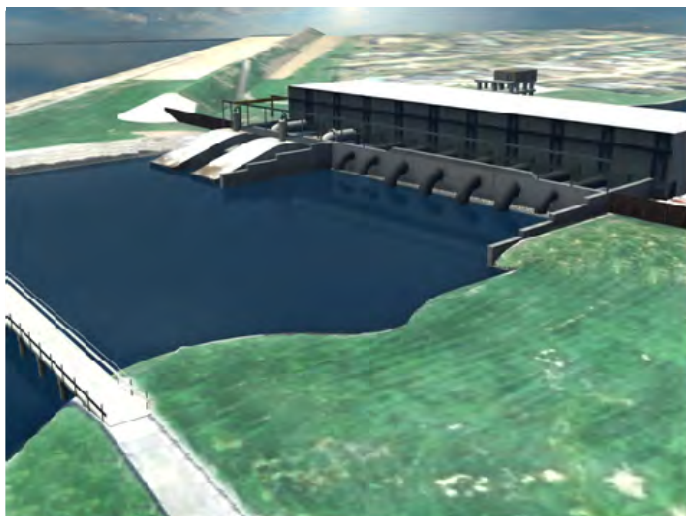


Click the links below to learn more about Armoring from archived Task Force Hope Newsletters:

* http://www.mvn.usace.army.mil/hps2/pdf/July_7_2011.pdf

** http://www.mvn.usace.army.mil/hps2/pdf/October_5_2011.pdf

Corps Awards 2 of 19 NOV-NFL Contracts for Plaquemines Parish Fronting Protection



Typical Pump Station



Pump Station with Fronting Protection

By Susan Spaht

The Corps of Engineers has awarded two of 19 New Orleans to Venice (NOV)/ Non-Federal Levee (NFL) contracts that will reduce risk in Plaquemines Parish in an area south of the Hurricane and Storm Damage Risk Reduction System.

The first contract, awarded to Aquaterra-CAYO in September, is an \$11.4 million contract to construct fronting protection at Ollie Pump Station, located between Oakville and La Reussite (see map). Notice to proceed on the work was issued on October 18, 2012.

The second contract, also awarded to Aquaterra-CAYO, is an \$8.1 million contract to construct fronting protection at Diamond Pump Station,

“Fronting protection consists of measures that reduce the effects of storm surge on the pump station, and prevent water from reaching the pump station and minimizing its function during a tropical event.”

- Nicole Harris, Senior Project Manager



Nicole Harris

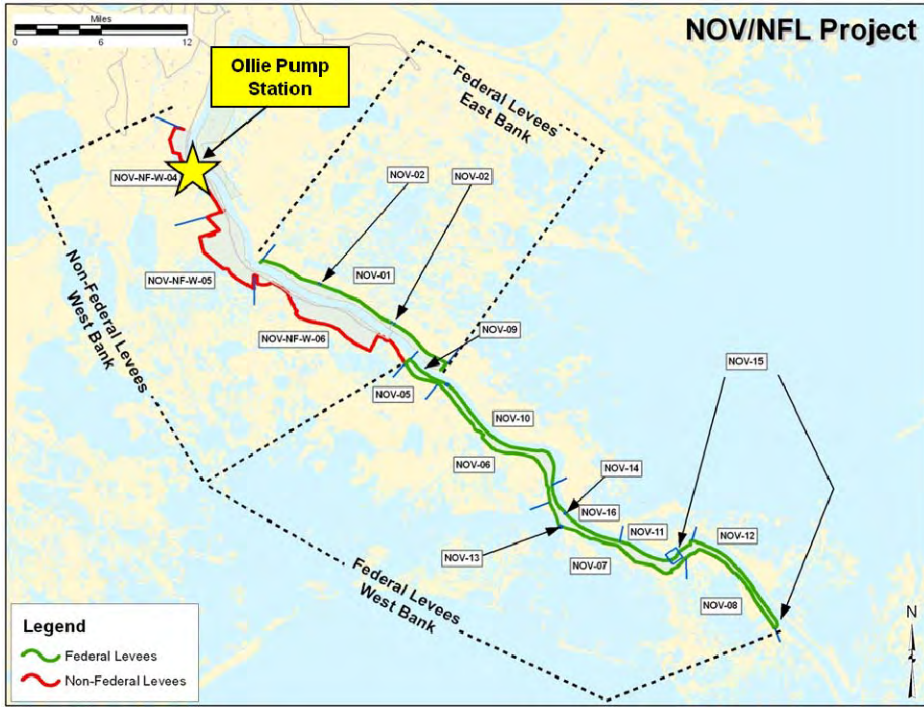
located between St. Jude and City Price (see maps, page 5).

“Fronting protection consists of measures that reduce the effects of storm surge on the pump station,” said Nicole Harris, Senior Project Manager, “and prevent water from reaching the pump station and mini-

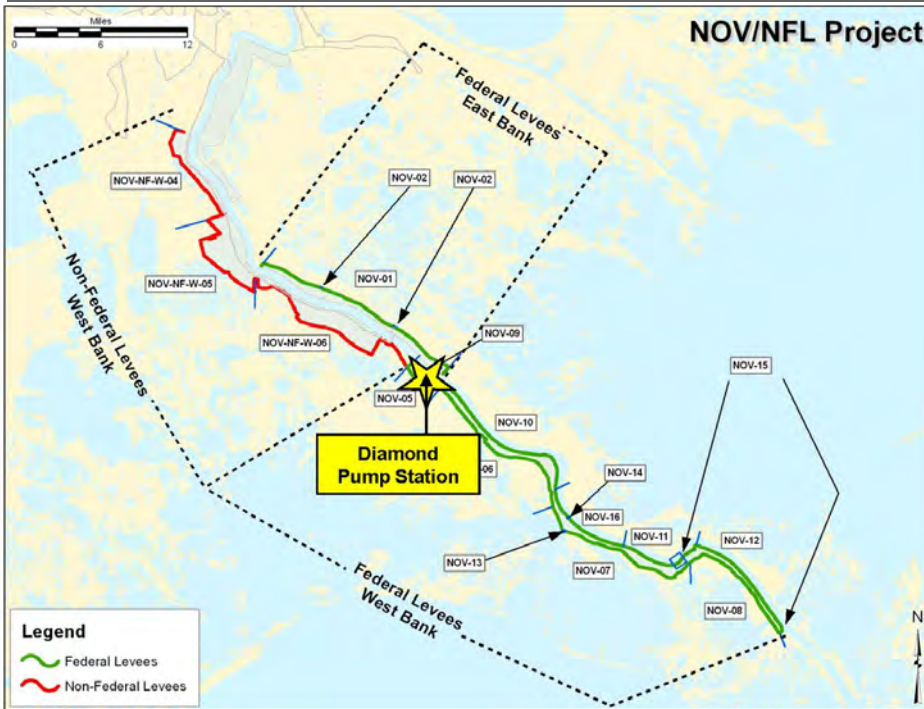
mizing its function during a tropical event.”

Each contract includes construction of a concrete T-wall in front of the pump station and an extension of the pump discharge pipes through the

Continued on page 5



Fronting Protection Construction underway in Plaquemines



Continued from page 4

floodwall. Valves or gates will also be incorporated into the discharge pipes to prevent backflow. In addition, tie-ins into existing levees on both sides of the pump stations are scheduled for upgrades.

Fronting protection features will bring both pump stations into compliance with new standards and ensure residents near the pump station have a continuous line of risk reduction. Construction should be complete on both contracts in late 2015.



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<http://www.mvn.usace.army.mil/hps>

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