

## CASE STUDY

# 100-MILE EARTHEN LEVEE SYSTEM

Levee Armoring  
GREATER NEW ORLEANS, LA,

## PROJECT SUMMARY

The U.S. Army Corps of Engineers (USACE), embarked on one of the largest and most comprehensive public works projects in American history following the catastrophic damage caused by Hurricane Katrina in 2005. The Hurricane and Storm Damage Risk Reduction System (HSDRRS) program was established to provide the greater New Orleans Area a 100-year level of risk reduction. One of the most critical measures of the HSDRRS was protection of refurbished earthen levees against the erosion-causing hydraulic forces of storm surge overtopping. Without protection, overtopping can lead to significant landside erosion and potentially a breach of the levee. During Hurricane Katrina, most levee failure was due to water overtopping.

The USACE needed a proven solution, so they partnered with Colorado State University (CSU) to build a full scale wave overtopping simulator. The simulator tested erosion resistance of the ARMORMAX® system for 500-year resiliency HSDRRS overtopping conditions. Testing showed that ARMORMAX, consisting of High Performance Turf Reinforcement Mat (HPTRM) and Engineered Earth Anchors (EEA), provided increased levee resiliency and durability. Additionally testing showed that ARMORMAX reinforced vegetation on the earthen levees, which reduces the risk of breaching caused by overtopping waves.



## PROBLEM

The USACE needed a proven system to repair and armor earthen levees



## SOLUTION

ARMORMAX® was installed on levee to armor and provide levee resiliency

**ARMORMAX®**  
Engineered Earth Armoring System

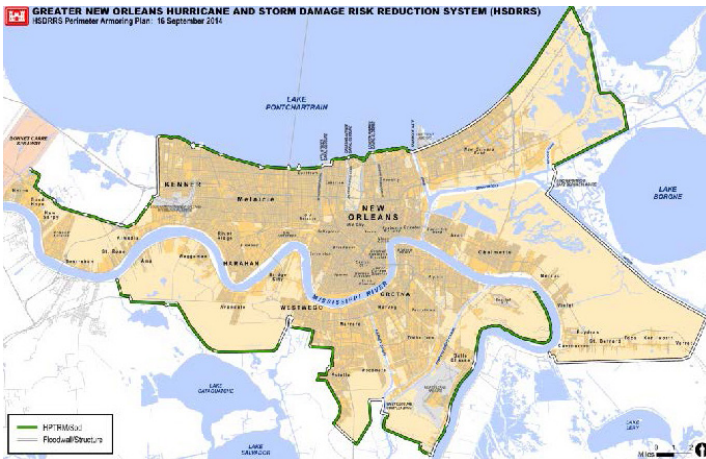
[PropexGlobal.com/Armormax](http://PropexGlobal.com/Armormax)

Full scale installation of the EEAS began in 2015 and has since been installed on over 100 miles of earthen levees in the New Orleans area. Since installation, multiple levees have experienced overtopping from major hurricanes, but have not breached.



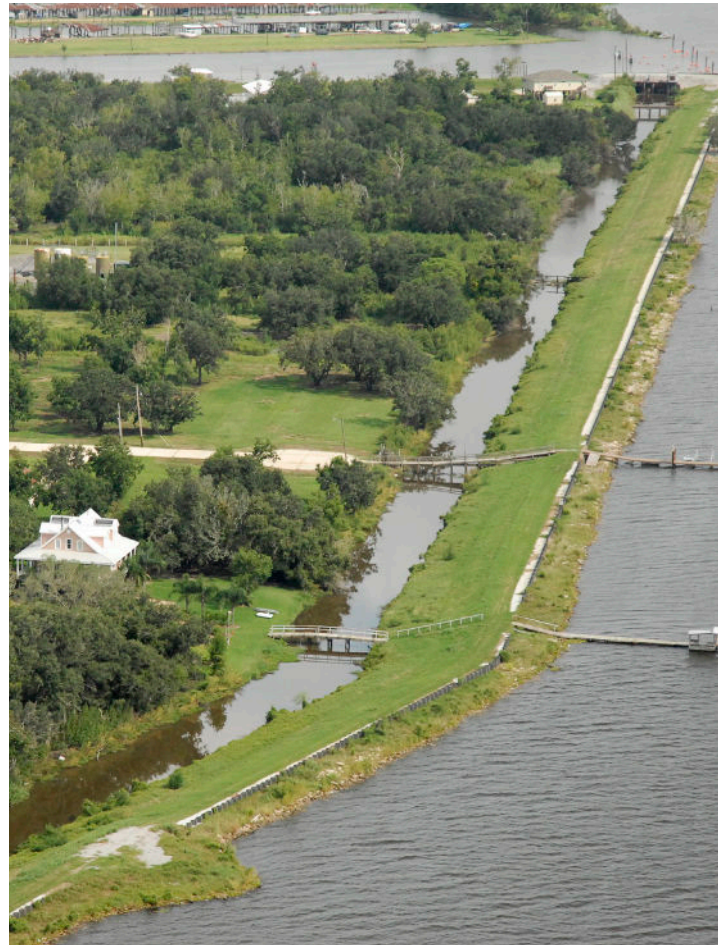
## TESTING WITH CSU

Testing showed ARMORMAX increased levee resilience and durability



## LONG-TERM

The USACE has installed ARMORMAX on more than 100 miles of levees throughout the New Orleans Area



## PERFORMANCE

Penn Levee successfully withstood overtopping from Hurricanes Ike and Isaac

## FEATURES & BENEFITS

- Provides permanent erosion protection for up to 75 years
- Withstands both hydraulic and non-hydraulic stresses
- Ease of installation reduces time and labor costs
- Reinforces vegetation and promotes a living shoreline
- Outlasts other slope reinforcement methods yielding significant cost savings
- Promotes infiltration of surface water
- Available in green or tan to fit specific project needs
- Lightweight and easily transported into areas with access challenges

## INNOVATION TO BUILD ON™



Visit our website for more information, Product Samples, or other inquiries, or call Customer Service at 800 624 1273

PO Box 19269  
4019 Industry Drive  
Chattanooga, TN 34716

p: 800 621 1273  
f: 423 899 5005  
PropexGlobal.com

PGS-1210E-004 (05/2020)