



Gulf View Home Survives Katrina's Wrath

Full Mitigation Best Practice Story

Jackson County, Mississippi

Pascagoula, MS – Susan Lee is fortunate to be the owner of the only home in her coastal neighborhood that remained intact and standing after Hurricane Katrina's devastation on August 29, 2005.



"I was shocked when we returned after the storm and saw all the slabs where houses used to be and piles of debris everywhere," Ms. Lee said, recalling the catastrophic damage to her community.

The original home on Ms. Lee's lot had been severely damaged by Hurricane Georges in 1998. During Georges, every home in the neighborhood was flooded with four feet of water. The house was condemned and demolished in 1999. A year later, Ms. Lee purchased the land alongside the Bayou Chico with a view of the Mississippi Sound. She followed the design recommendations of her contractor and builder who constructed the 2,358-square-foot home to withstand threatening weather hazards. "Even the windows have hurricane-proof glass and during Katrina nothing flew through them ...they held up."

Ms. Lee lives in a hurricane-prone region. To minimize property damage and economic losses from storms, the City of Pascagoula requires all new construction adjacent to the coast be built five feet higher than the Base Flood Elevation (BFE), which is 11 feet above sea level. The BFE is the average floodwater depth for a flood event that has an estimated one percent chance of occurring during any given year. Buildings constructed to this standard are expected to sit above the floodwater and avoid damage during all but the most severe inundations. Ms. Lee's house exceeds this requirement; it is elevated 19 feet above sea level.

The supporting walls of Ms. Lee's house were constructed with reinforced concrete block and reinforced concrete bond beams. The bond beams connect to the roof with hurricane straps. The house survived Katrina's 19-foot storm surge and 100 mile-per-hour winds, although portions of the roof and the open wooden patio and stairs on the rear of the home were damaged.

Break-away windows and outflow vents were built into the area beneath the elevated lowest floor of the house, which is used primarily for storage and parking. These mitigation techniques allowed the flood waters to freely enter and exit the foundation area, reducing the pressure of the surge and preventing the supporting walls of the home from collapsing.

"I still think of all the things I've lost that were in the storage area, all my kids' old things that I wanted to save and the Christmas tree," Ms. Lee lamented. Nevertheless, Ms. Lee's home fared well during the hurricane. The only repairs required inside the home were sheetrock to replace water-damaged walls and ceilings and some new shelving. Nearly all of Ms. Lee's furniture, appliances, and personal possessions were spared.

Seven months after Katrina, Ms. Lee moved back into her house while a few remaining repairs were being finalized. She included a new mitigation design in the renovation: doors now open outward to help keep water from blowing into the house during a future storm.

Some homes in her Pascagoula neighborhood have not yet been rebuilt, and many of her neighbors have chosen to permanently relocate elsewhere, but the Lee house is once again a beautiful, modern, Gulf-side home. "Since Katrina, the contractor displays my house as a model for others to see," noted Ms. Lee.

Activity/Project Location

Geographical Area: **Single County in a State**

FEMA Region: **Region IV**

State: **Mississippi**

County: **Jackson County**

City/Community: **Pascagoula**

Key Activity/Project Information

Sector: **Private**

Hazard Type: **Hurricane/Tropical Storm**

Activity/Project Type: **Mitigation Planning/Disaster Resistant Universities**

Structure Type: **Masonry, Reinforced**

Activity/Project Start Date: **03/2000**

Activity/Project End Date: **12/2000**

Funding Source: **Private funds**

Activity/Project Economic Analysis

Cost: **Amount Not Available**

Non FEMA Cost: **0**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Yes**

Federal Disaster #: **1251 , 10/01/1998**

Federal Disaster Year: **1998**

Value Tested By Disaster? **Yes**

Tested By Federal Disaster #: **No Federal Disaster specified**

Year First Tested: **2005**

Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.msema.org>

Reference URL 2: http://www.fema.gov/rebuild/mat/mat_fema499.shtm

Reference URLs

Main Points

- Only home in coastal Pascagoula neighborhood that remained intact and standing after Hurricane Katrina's devastation on August 29, 2005.
- Home is built to withstand threatening weather hazards.
- Home is elevated 19 feet above sea level and exceeds the BFE requirement for the area.
- Mitigation techniques include break-away windows, flood vents, impact-resistant glass windows, and hurricane-straps.



Susan Lee's mitigated house remained intact after Katrina.



Continuous wall foundation.



View of Bayou Chico and Mississippi Sound from Ms. Lee's home.