



A Dream Comes True: Mitigated Haven in Mississippi

Full Mitigation Best Practice Story

Jackson County, Mississippi

Ocean Springs, MS – When a new beachfront housing development opened in 1995 at Belle Fontaine in Ocean Springs, Charlotte Lamar walked the five waterfront lots until she decided on one for her dream house. Ms. Lamar's home suffered little damage during Hurricane Katrina in August 2005, thanks to mitigation measures she employed during its construction.



"I always dreamed of having a beach house. I grew up around water," Ms. Lamar said. A native of Holland, she moved to New Orleans at the age of 12. "My father was a sailor. We always went sailing. I know my background with water. That has a lot to do with why and how I built this house," she explained. Ms. Lamar also wanted an octagonal-shaped house, which she believed offered improved wind-resistance.

Ms. Lamar learned that her new home would have to be elevated to protect it from flooding. She gathered information from Jackson County on residential elevations and damages incurred during previous hurricanes in her community. She also gave credit to her son, an engineer, for additional suggestions that prompted her to include an additional five feet of elevation (freeboard) into the construction of her home. The result of Ms. Lamar's efforts is that her two-story 3,600 square-foot beachfront home is a testament to hurricane mitigation and preparedness.

Eight pressure-treated wood pilings were positioned at the corners of the octagonal structure, embedded 15 feet in the ground, and connected to the roof. The design of the roof aids in its wind resistance; its pitch equalizes downward pressure from high winds. The entire house is tied together with metal brackets and hurricane straps that help distribute wind loads by providing a continuous load path from the roof to the foundation. The home, built of cedar, stands approximately 22 feet above sea level and is located in Zone C where there is no regulation to elevate above the Base Flood Elevation. Therefore, Ms. Lamar elevated her house by choice, basing her decision on historical events, such as Hurricane Camille. Following fourteen months of construction, she gazed toward the Gulf from the second floor deck of her new home.

Ten years later, Hurricane Katrina threatened Ms. Lamar's house with a tidal surge estimated at 19 feet above sea level at Belle Fontaine. Thanks to hurricane mitigation planning, her home is one of the few houses in her community that did not surrender to the catastrophic storm.

The tidal surge rose two feet on Ms. Lamar's property, but missed her house by three feet because of the additional elevation incorporated into her home's construction. The force of the tidal surge destroyed the air conditioning and heating ductwork beneath the house; saltwater invaded the floor vents and left mud on the floors of the house; and the 102 mile-per-hour winds and rain damaged a window, allowing water into the house. However, compared to other beachfront homes, Ms. Lamar's house sustained minimal damage.

Ms. Lamar's house had successfully weathered several previous storms. "I was overwhelmed by Katrina," she said. "I didn't [expect it to be] as bad as it was...[but] this house did exactly what it was supposed to do." For builders and prospective homeowners, Ms. Lamar offered proven advice: "Build round and be sure to check the flood elevation in the area."

Activity/Project Location

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

FEMA Region: **Region IV**

State: **Mississippi**

County: **Jackson County**

City/Community: **Ocean Springs**

Key Activity/Project Information

Sector: **Private**

Hazard Type: **Hurricane/Tropical Storm**

Activity/Project Type: **Building Codes; Elevation, Structural; Retrofitting, Structural**

Structure Type: **Wood Frame**

Activity/Project Start Date: **03/1995**

Activity/Project End Date: **01/1996**

Funding Source: **Property Owner, Residential**

Activity/Project Economic Analysis

Cost: **Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **Unknown**

Value Tested By Disaster? **Yes**

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

Year First Tested: **2005**

Repetitive Loss Property? **No**

Reference URLs

Reference URL 1: <http://msema.org/flood/nfip/index.html>

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

Main Points

- Mississippi homeowner incorporated several hurricane mitigation measures into the construction of her beachfront home.
- The house is elevated above the BFE and has an additional 5 feet of freeboard.
- The design of the roof and the octagonal shape of the house aid in wind resistance.
- The entire house is tied together with metal brackets and hurricane straps that help distribute wind loads by providing a continuous load path from the roof to the foundation.
- Thanks to hurricane mitigation planning, the house is one of the few in the community that did not surrender to the catastrophic Hurricane Katrina in 2005.



Beachside view of Charlotte Lamar's House in Ocean Springs, MS.



Beachside view of Charlotte Lamar's House in Ocean Springs, MS.



Hurricane Katrina damaged the contemporary house nextdoor to Charlotte Lamar's house.