



Hurricane Mitigation Protects Plaquemines Parish Home

Full Mitigation Best Practice Story

Plaquemines Parish, Louisiana

Myrtle Grove, LA - Gayle and Warren Lawrence evacuated to their son's home in Texas just before Hurricane Katrina made landfall. Watching the television coverage, they expected their new home in Myrtle Grove, Louisiana, to be destroyed when they returned.



The Lawrence home is in Plaquemines Parish on the Wilkerson Canal. This southernmost Louisiana parish is bounded by the Gulf of Mexico on three sides, and the Mississippi River runs through the middle. Waterways, marine life, and fishing and hunting grounds are plentiful. Mr. Lawrence grew up in the area and has fond memories of spending summers here in the great outdoors. He had always wanted to return to Plaquemines Parish to live.

There are perils associated with the outdoor lifestyle in Plaquemines Parish. High winds and high water are commonplace, and the area is very prone to hurricane activity. The Lawrences knew that to live safely and securely in this high risk area, they would need a well-built home with wind and flood protection. Hurricanes Katrina and Rita tested their home to its limits.

Mr. Lawrence is a retired chief in the Networks Division of the Sewage and Water Board of New Orleans and currently serves as an enforcement officer for the State Licensing Board. The Lawrences took two years to design their home, utilizing Mr. Lawrence's homebuilding experience and knowledge of local building codes. He also consulted with an engineer to ensure his design met local coastal building standards. With confidence in their design and personal supervision over all building matters, construction was completed in one year.

Myrtle Grove Marina Estates, the subdivision where the Lawrences reside, provides the homeowners with bylaws recommending coastal construction principles. By following these recommendations and incorporating a few extra hurricane resistance techniques, Mr. and Mrs. Lawrence afforded themselves added protection. To guard against floodwater and moisture, and in accordance with local requirements, several feet of fill were brought in, thereby raising the ground level. The house was then elevated on concrete walls another 12 feet, putting the home 4 feet above local building requirements. Composite concrete board, a type of wall covering that will not warp or soften when exposed to moisture, was installed in place of the more commonly used drywall.

To provide superior wind and impact resistance, a 7-inch thick concrete wall reinforced with 5/8-inch steel rebar was poured at the ground level. Walls in the living area were upgraded using 6-inch studs, instead of the standard 4-inch, to provide extra strength. A local building code also mandates the attachment of horizontal wood blocks between the studs to reinforce the walls and to prevent the whipping effect that high winds can cause. Storm shutters were also installed to protect the doors and windows throughout most of the home. One of the decorative windows that did not have storm shutters broke during Katrina, which is clear evidence of the protection that storm shutters provide.

The points connecting the walls with the roof and foundation are also prone to failure during high winds. To avoid this, Mr. Lawrence added metal clip anchors to both foundation and roof joints. In this two-story home, the upper story wall framing was firmly connected to the lower framing.

It is important to understand that this homeowner does not assume that his house is hurricane proof. Mr. Lawrence admitted, "If the right hurricane were to come along and hit this area, I doubt anything would be left." Undoubtedly, it is a good idea to carry the proper amount of wind and flood insurance to protect your investment. During the recent storm, the Lawrences did not carry any flood insurance, but they have pursued a policy for the future. They will benefit from reduced flood insurance premiums as a result of their home elevation.

Shortly after Hurricane Katrina, the Lawrences headed home to survey the damage. Gayle Lawrence's first thought as they approached their home was "at least it's still standing." The couple was pleased to discover as they got closer that there was actually very little damage at all.

To watch a video about how the Lawrences' reinforced house withstood Hurricane Katrina, please go to the [LSU AgCenter Website](http://www.lsuagcenter.com/en/communications/news/radio_tv/tv/Hurricane.htm).

Activity/Project Location

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

FEMA Region: **Region VI**

State: **Louisiana**

County: **Plaquemines Parish**

Key Activity/Project Information

Sector: **Private**

Hazard Type: **Hurricane/Tropical Storm**

Activity/Project Type: **Elevation, Structural**

Structure Type: **Concrete, Reinforced**

Activity/Project Start Date: **10/2004**

Activity/Project End Date: **Ongoing**

Funding Source: **Homeowner**

Activity/Project Economic Analysis

Cost: **Amount Not Available**

Activity/Project Disaster Information

Mitigation Resulted From Federal
Disaster? **No**

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://www.fema.gov/about/divisions/mitigation/mitigation.shtm>

Reference URL 2: <http://www.floodsmart.gov>

Main Points

- The Lawrences' home withstood the 2005 hurricane season thanks to several mitigation measures which helped protect the house against wind and water damage.
- The Lawrences will benefit from reduced flood insurance premiums because their home is elevated four feet above the required level.
- Building to coastal construction recommendations and exceeding the minimum local building code requirements cost the Lawrences more money than standard construction methods, but they strongly feel that the investment was worth it.



Post-Katrina Myrtle Grove Marina Estates Home



Installed hurricane shutters on doors and windows



Myrtle Grove Marina Estates home damaged by Hurricane Katrina