



Simple Actions Yield Significant Results

Full Mitigation Best Practice Story

Yabucoa Municipio, Puerto Rico

Yabucoa, PR - In Puerto Rico, almost any significant rain event can pose a threat to homes in floodprone areas. Hurricanes and tropical storms are even more dangerous due to the heavy rainfall they bring. The Jaime C. Rodriguez neighborhood in Yabucoa is susceptible to flooding from a small creek that runs next to the district. Rain events have caused water levels to reach up to three or four feet inside some homes. On numerous occasions, the residents experienced the loss of personal property, and the houses suffered structural damages.



Jesus Rosado Vazquez has been a resident of the neighborhood for many years and repeatedly confronted that situation. Each time the Rosado residence flooded, the damages ranged from \$8,000 to \$10,000, with a total loss of contents when Hurricane Hugo struck the island in 1989. In the past, FEMA granted funds to the family to make repairs and “get back on its feet.” However, Rosado decided to take action and implement measures that would prevent future damages. Those measures were simple, yet effective mechanisms that have protected his home since 1996.

First, Rosado constructed a floodgate for each doorway. The floodgates consist of a wooden board cut to cover the bottom half of all doorways, thereby blocking water from coming into the home. Once in place, a sealant is applied around the borders to prevent water from seeping through. The boards are mounted with screws, allowing for their removal once the floodwaters have receded. Rosado also decided to reduce the size of his windows, making sure that all openings were well above flood levels.

Furthermore, Rosado mitigated the home’s electrical system. “Every time our house flooded, all the electrical wiring had to be replaced because water would get into the outlets,” said Rosado. “I eliminated the risk by elevating all the wiring and outlets high above the ground so that the water would not damage them.”

Rosado's actions are a good example of how individuals and families can take steps to mitigate their homes against flood damages. Since 1996, the Rosado residence has not sustained any damage due to rain events, while other homes in the same neighborhood continue to be impacted. During Tropical Storm Jeanne (2004) many of his neighbors sustained flood damages while his home remained safe and dry.

Activity/Project Location	
Geographical Area:	Single County in a State
FEMA Region:	Region II
State:	Puerto Rico
County:	Yabucoa Municipio
City/Community:	Yabucoa

Key Activity/Project Information

Sector: **Private**
Hazard Type: **Flooding**
Activity/Project Type: **Flood Control; Retrofitting, Non-structural**
Activity/Project Start Date: **01/1995**
Activity/Project End Date: **01/1996**
Funding Source: **Homeowner**
Funding Recipient: **Property Owner - Residential**
Funding Recipient Name: **Homeowner**

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: **1996**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.fema.gov/areyouready/flood.shtm>
Reference URL 2: <http://www.floodsmart.gov/>

Main Points

- Homeowner constructed floodgates consisting of a wooden board cut to cover the bottom half of all doorways, thereby blocking water from coming into the home. Once in place, a sealant is applied around the borders to prevent water from seeping through. The boards are mounted with screws, allowing for their removal once the floodwaters have receded.
- Furthermore, Rosado mitigated the home's electrical system.
- Since 1996, the Rosado residence has not sustained any damages due to rain events, while other homes in the same neighborhood continue to be impacted.



Jesus Rosado points to the height of floodwaters.



Rosado in front of one of the floodgates he installed.