



Homemade Floodgates Succeed

Full Mitigation Best Practice Story

Guayama Municipio, Puerto Rico

Guayama, PR - Born and raised in Barrio Puerto Jobos in Guayama, Miguel Flores and his wife Evangelia Diaz have seen floodwaters rise into their home so many times they barely can number them. This octogenarian and his wife have had two to four feet of water rush into their house in a matter of minutes.



“Our community gets flooded very easily. We live in an area lower than the sea level. Behind our house, runs the river canal; and the street gutter in front is higher than our property. Too many times, we woke up in the middle of the night surrounded by floodwater; it happened very quickly,” said Flores. However, two years ago he came up with an idea that keeps the water out.

“I thought of two metal slots, one on each side of the door, to slide a wood panel through them. Then, foam sealant is sprayed all the way around the panel, between the metal slot and the floor,” explained Flores. A friend of his, who is a blacksmith, created and attached custom-made metal slots to every outside doorway. The wood panels are three and a half feet tall, and the couple tries to keep them at hand. “We are two aging persons . . . we need the floodgates to be comfortably low: high enough to remain safe, but low enough to step over them. And it’s easier to move if they are lighter instead of heavier,” Flores explained.

Recurrent flood damages are part of life for residents of Barrio Puerto Jobos. These families suffer heavy losses from repeated flooding events, not only during major storm events but during isolated heavy rainfall throughout the year as well. However, since Flores started using his floodgates, his home hasn’t suffered significant damage. He clarifies that his system only works if, at an early stage, he notices that flooding is imminent and he has time to install and seal the floodgates.

Last year, one of his neighbors started using a similar method to avoid flood damages and so far it has been successful also. The need for mitigation measures in this area is evident and the community has already taken the initiative. Since Flores started using his floodgates, two severe flooding events have affected Puerto Rico, the November 2003 floods and Tropical Storm Jeanne (2004), but his property did not suffer any damages.

Activity/Project Location

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

FEMA Region: **Region II**

State: **Puerto Rico**

County: **Guayama Municipio**

City/Community: **Guayama**

Key Activity/Project Information

Sector: **Private**
Hazard Type: **Flooding**
Activity/Project Type: **Flood-proofing**
Activity/Project Start Date: **01/2002**
Activity/Project End Date: **01/2004**
Funding Source: **Homeowner**
Funding Recipient: **Property Owner - Residential**
Funding Recipient Name: **homeowner**

Activity/Project Economic Analysis

Cost: **Amount Not Available**
Non FEMA Cost: **0**

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: **2004**
Repetitive Loss Property? **Unknown**

Reference URLs

Reference URL 1: <http://www.fema.gov/about/contact/statedr.shtm>
Reference URL 2: <http://www.floodsmart.gov/>

Main Points

- Recurrent flood damages are part of life for residents of Barrio Puerto Jobos. "I thought of two metal slots, one on each side of the door, to slide a wood panel through them. Then, foam sealant is sprayed all the way around the panel, between the metal slot and the floor," explained Flores.
- Since Flores started using his floodgates, his home hasn't suffered significant damages. He clarifies that his system works, if, at an early stage, he notices that flooding is imminent and he still has time to install and seal the floodgates.
- The need for mitigation measures in this area is evident and the community has already taken the initiative.



Flores and Diaz show their homemade floodgate.



Flores in front of back porch floodgate.