



## Home Retrofitting and Flood Insurance Along the Delaware River Full Mitigation Best Practice Story

### *Bucks County, Pennsylvania*

**Yardley, PA** - In April 2005, both the Delaware River and the Delaware Canal overflowed their banks. They met at Tessie Reading's house. Tessie is no stranger to floods. When she and her husband began construction of their home in 1955, prior to floodplain management ordinances, they experienced their first flood. Construction was delayed until 1956.



It's a lovely home, one block from the Delaware River, and one block from the Delaware Canal. Tessie, 76, has enjoyed her morning walk along the River for years. The view was spectacular. She doesn't enjoy it quite the same way now. "It's a beautiful place to live," she says. "I'm not sure I like it so much anymore."

The next flood was due to hurricane Fran in 1996. Tessie's husband had passed on by then, so she had to deal with recovery on her own. Tessie is no pushover. Having raised six sons she developed great strength and determination. She still works four hours a day packaging cosmetics for a company that hires senior citizens. Bringing her home back to living condition was hard, but she managed. Tessie learned a lesson from the 1996 flood. She could give up her home and move to higher ground or she could take action to reduce future damage to her home and personal property. She chose to stay. Most of the flood water had come in through an outside door in the basement. She sealed the door and turned the outside stairwell into a flower garden. "I never thought it was going to happen again," said Tessie.

Then came Ivan. In Sept. 2004, hurricane Ivan left Tessie with two feet of water on the first floor, the basement having filled with flood water from the Delaware Canal. Her furnace, electrical panel, washer, dryer, water heater, freezer and some personal items were destroyed.

Tessie wasn't going to take this lying down. After consulting with a Federal Emergency Management Agency (FEMA) Hazard Mitigation Advisor in a Disaster Recovery Center (DRC), she converted a 1st floor bedroom into a utility room and relocated the electrical panel, washer, dryer, and freezer to the new utility room. She paid for all of this with a disaster loan from the Small Business Administration (SBA).

Along with all these efforts to remedy the problems, she made another important decision. She purchased flood insurance on the structure of her home with some content coverage, for which she pays \$829 a year. Although the Readings had flood insurance for 30 years (dating from when they first constructed their home), as required by their mortgage, she dropped the flood insurance when the mortgage was paid off. Since she hadn't had a flood in all that time she thought she wouldn't need it.

The April floods of 2005 proved her wisdom. Flood waters entered her basement again, but having sealed the outside doorway, not as much as in '96. Her power stayed on and her appliances stayed high and dry. What damage she did sustain was taken care of by her flood insurance. The water from the April '05 flood came nearly to the top of the basement, but didn't reach the living area of the home. Tessie lost her furnace again, and her water heater. The fuel oil tank shifted, and one of the support legs cracked. Fortunately no spill occurred as it had in '96. Damages came to \$16,000. Her flood insurance paid \$14,000 and FEMA disaster funds covered the other \$2,000.

Since the floods in June of 2006 caused damage to her furnace and water heater again, Ms. Reading would like to have them moved upstairs. She will speak with her heating contractor and plumber to perhaps relocate these items to the first floor. One thing she did do between last years flood and this years flood was to anchor her Fuel Tank. Previously she had a fuel spill. This year her tank was anchored and did not move or spill any fuel. She really is enthusiastic about any Mitigation measures.

### Activity/Project Location

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

FEMA Region: **Region III**

State: **Pennsylvania**

County: **Bucks County**

City/Community: **Yardley**

### Key Activity/Project Information

Sector: **Private**

Hazard Type: **Flooding**

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

Structure Type: **Wood Frame**

Activity/Project Start Date: **09/2004**

Activity/Project End Date: **Ongoing**

Funding Source: **U.S. Small Business Administration (SBA)**

Funding Recipient: **Property Owner - Residential**

### Activity/Project Economic Analysis

Cost: **Amount Not Available**

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **Yes**

Federal Disaster #: **1557 , 09/19/2004**

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.floodsmart.gov/>

Reference URL 2: <http://www.pema.state.pa.us/>

## Main Points

- In Sept. 2004, hurricane Ivan left Tessie with two feet of water on the first floor, the basement having filled with flood water from the Delaware Canal. Her furnace, electrical panel, washer, dryer, water heater, freezer and some personal items were destroyed.
- After consulting with a Federal Emergency Management Agency (FEMA) Hazard Mitigation Advisor in a Disaster Recovery Center (DRC), she converted a 1st floor bedroom into a utility room and relocated the electrical panel, washer, dryer, and freezer to the new utility room. She paid for all of this with a disaster loan from the Small Business Administration (SBA).
- She purchased flood insurance on the structure of her home with some content coverage, for which she pays \$829 a year.
- The April floods of 2005 proved her wisdom. Flood waters entered her basement again, but having sealed the outside doorway, not as much as in '96. Her power stayed on and her appliances stayed high and dry. What damage she did sustain was taken care of by her flood insurance.



Tessie Reading sealed the basement doorway and planted flowers in the stairwell



Tessie Reading's washer and dryer are now high and dry in the new utility room