



Mitigation Prevents Bridge Damage In West Virginia

Full Mitigation Best Practice Story

Multiple Counties, West Virginia

Charleston, WV – Many West Virginia homeowners and businesses took steps after floods to make their property more secure from flood damage. Some of those efforts were tested in the latest floods and landslides that began Memorial Day weekend 2004. It isn't only individuals and businesses that can make property more resistant to floods. Local and State governments also can take mitigation action.



Public assistance or "infrastructure" mitigation takes many forms, but one of the most successful has been upgrading flood-damaged bridges when they are being replaced because of flood damage.

In Cabell County, a bridge on Route 9 over Trace Fork had to be replaced after a flood heavily damaged it in June 2003. The new bridge, constructed at a cost of \$92,450, is made of concrete and steel. Flood debris, including tree trunks, is still clinging to the sides of the bridge from the Memorial Day floods, but the bridge itself was undamaged.

After a flood in November 2003, FEMA and West Virginia officials began a \$30,000 project to improve a bridge on Route 5 over Manila Creek in Putnam County.

Thick concrete wings were added to the bridge abutments protecting the approaches from floodwaters, which in the past had washed away the approach road. The storms and floods that began Memorial Day weekend in West Virginia did not damage the Manila Creek Bridge.

There have been more than 60 bridge improvement projects in 32 West Virginia counties since the floods of 2001. In the majority of those projects, damaged or destroyed wooden bridges were replaced with concrete and steel structures. The total cost for those improvements was \$8.6 million. FEMA provided 75 percent and the State 25 percent of the cost of the projects. Officials said all the improved bridges survived the recent floods with little or no damage.

Activity/Project Location

Geographical Area: **Multiple Counties in a State**

FEMA Region: **Region III**

State: **West Virginia**

County: **Cabell County; Kanawha County; Putnam County**

Key Activity/Project Information

Sector: **Public**
Hazard Type: **Flooding**
Activity/Project Type: **Flood Control; Mitigation Planning/Disaster Resistant Universities**
Activity/Project Start Date: **11/2003**
Activity/Project End Date: **11/2004**
Funding Source: **Other FEMA funds/ US Department of Homeland Security**
Funding Recipient: **Local Government**

Activity/Project Economic Analysis

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

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster? **Yes**
Federal Disaster #: **1378 , 06/03/2001**
Value Tested By Disaster? **Yes**
Tested By Federal Disaster #: **No Federal Disaster specified**
Year First Tested: **2004**
Repetitive Loss Property? **Yes**

Reference URLs

Reference URL 1: <http://www.wvdot.com/>
Reference URL 2: <http://www.floodsmart.gov>

Main Points

- Thick concrete wings added to the bridge abutments protect the approaches from floodwaters, which in the past had washed away the approach road.
- There have been more than 60 bridge improvement projects in 32 West Virginia counties since the floods of 2001. In the majority of those projects, damaged or destroyed wooden bridges were replaced with concrete and steel structures.
- FEMA provided 75 percent and the State 25 percent of the cost of the projects. Officials said all the improved bridges survived the recent floods with little or no damage.