



## Shenandoah River Property: Elevation Project More Economical Full Mitigation Best Practice Story

### *Shenandoah County, Virginia*

**Shenandoah County, VA** - On many occasions, heavy rains caused the Shenandoah River to overflow its banks into the 100-year floodplain, causing a repetitive problem that has increased in intensity and frequency. The property along side the river has been flooded on three occasions since 1981. During the flood of September 1996, water levels reached 7.5 feet on the main level. Damages to the structure and contents totaled \$153,000.



Since the flood velocities are generally negligible and debris had not been present in any past flooding events, the potential for foundation and outside structure damage was minimal. The cost of acquisition was estimated at \$400,000 but elevation costs were estimated at \$102,225. The alternative to acquisition was particularly attractive to the residents who had lived in the area for over 15 years and wished to remain.

The entire structure was elevated 13.5 feet, approximately one foot above the base flood elevation. Backfill was used to eliminate the existing basement. A brick and steel foundation provides support for the newly elevated structure, and installation of a dirt berm completed the project.

The damages that occurred during the flooding in 1996 exceeded the total cost of the elevation project that was covered by NFIP insurance. Elevating it decreased future insurance payouts by placing it well above the base flood elevation.

Standard Homeowner's insurance policies do not cover flood damage. The National Flood Insurance Program makes Federally backed flood insurance available to homeowners, renters, and business owners in participating communities.

#### Activity/Project Location

Geographical Area: **Single County (County-wide)**

FEMA Region: **Region III**

State: **Virginia**

County: **Shenandoah County**

### Key Activity/Project Information

Sector: **Public**  
Hazard Type: **Flooding**  
Activity/Project Type: **Elevation, Structural**  
Structure Type: **Wood Frame**  
Activity/Project Start Date: **09/1997**  
Activity/Project End Date: **09/1998**  
Funding Source: **Hazard Mitigation Grant Program (HMGP); Local Sources**  
Funding Recipient: **Local Government**  
Funding Recipient Name: **County of Shenandoah Board of Supervisors**

### Activity/Project Economic Analysis

Cost: **\$102,225.00 (Actual)**

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **Yes**  
Federal Disaster #: **1135 , 09/06/1996**  
Value Tested By Disaster? **No**  
Repetitive Loss Property? **Unknown**

### Reference URLs

Reference URL 1: <http://www.fema.gov/business/nfip/>  
Reference URL 2: <http://www.virginia.gov/>

### Main Points

- Elevation project more economical for long-time residents.
- The entire structure was elevated 13.5 feet, approximately one foot above the base flood elevation.
- Elevating it decreased future insurance payouts by placing it well above the base flood elevation.