



## Levee Protection for the Town of Greybull

### Full Mitigation Best Practice Story

#### *Big Horn County, Wyoming*

**Greybull, WY** - In August 1998, the Wyoming National Guard, 133rd Engineering Company, completed a streambank stabilization project adjacent to the Town of Greybull, Wyoming, on the Big Horn River.



The streambank in front of a levee protecting the town was eroding away. The erosion occurred during spring high water. The Big Horn River is regulated by the Boysen Reservoir 85 miles south of Greybull.

During periods of excessive spring runoff, the river level has come within 10 inches of overtopping the levee. The streambank is composed of mostly sand, with the remainder comprised of a silt/clay mix. In preceding years, the river flow had created a gravel bar which was channeling the flow toward the bank in front of the levee. The bank was eroding at the rate of approximately 8 to 10 feet per year.

The U.S. Army Corps of Engineers Omaha District Hydrologic Engineering Division recommended construction of a jetty system to move the river back from the levee. Because the water often reaches or exceeds the bank top elevation, the sides and top of the jetties and still push the current far enough into the main channel to attack the gravel bar. A 20-foot shift in channel flow would match the amount of bank loss documented over recent years.

In addition increasing the overall stability of the bank, the channel movement might reduce the effect of high water along the bank seeping into a gravel vein which runs under the levee. The water seepage does not pose a structural problem for the levee, but the water floods basements in the area.

#### Activity/Project Location

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

FEMA Region: **Region VIII**

State: **Wyoming**

County: **Big Horn County**

City/Community: **Greybull**

#### Key Activity/Project Information

Sector: **Private**

Hazard Type: **Dam/Levee Break**

Activity/Project Type: **Flood-proofing**

Activity/Project Start Date: **09/1995**

Activity/Project End Date: **08/1998**

Funding Source: **Local Sources**

### Activity/Project Economic Analysis

Cost: **\$300,000.00 (Estimated)**

### Activity/Project Disaster Information

Mitigation Resulted From Federal  
Disaster? **No**

Value Tested By Disaster? **Unknown**

Repetitive Loss Property? **Unknown**

### Reference URLs

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

Reference URL 2: <http://www.greybull.com>

### Main Points

- The streambank in front of a levee protecting the town was eroding away. The erosion occurred during spring high water.
- During periods of excessive spring runoff, the river level has come within 10 inches of overtopping the levee.
- The U.S. Army Corps of Engineers Omaha District Hydrologic Engineering Division recommended construction of a jetty system to move the river back from the levee.