Mill River Bank Stabilization Project

Full Mitigation Best Practice Story

Franklin County, Massachusetts

Whatley, MA - Modern bio-engineering methods protect the drinking water for half of the quiet rural community of Whately, Massachusetts. This scenic town within the Connecticut River watershed is widely known for its agricultural setting and historic Main Street.

The Mill River meanders around two municipal wells which serve the eastern side of town consisting of 240 private homes, retail stores, and two manufacturing plants. The wells were threatened by bank erosion that could change the course of the channel and damage or destroy the wellhead and water supply infrastructure.

In 2000, the town and the Massachusetts Department of Environmental Protection (DEP) funded the stabilization of 215 linear feet of riverbank along the Mill River in Franklin County. The waterway had become destabilized during construction of Interstate 91.

The project had two phases. The first placed a rock toe and a log revetment at the base of the riverbank slope, followed by brush layers, fascines (bundles of plant cuttings), brush mattress, geotextile material encapsulated fill, and live stakes on the upper slope. This established a self-repairing armor of living vegetation along the stream bank. Finally, sheet piles were added to the embankments closest to the wells.

DEP funded $67,869 of the cost from a Section 319 Nonpoint Source (NPS) Competitive Grant with the Franklin Regional Council of Governments administering the grant. The Town of Whately matched 40% of those dollars, plus additional expenses. Together the local community and state spent $171,144. Technical assistance was provided by the U.S. Department of Agriculture under the Natural Resources Conservation Service (NRCS).

Today the bioengineered slopes are covered with lush plant growth. The Whately Water Commissioner, Paul Fleuriel, is happy to see tree seedlings moving onto the site. He recently noted river water temperatures are being kept cool by the shading of the bank vegetation, which is excellent for local fish and wildlife. In fact, the Mill River is listed by MassWildlife as a “Cold Water Fishery Resource” alive with reproducing native brook trout.

Both residents and wildlife are reaping the benefits of hazard mitigation along the Mill River in Whately, Massachusetts.

Activity/Project Location	
Geographical Area:	**Single County in a State**
FEMA Region:	**Region I**
State:	**Massachusetts**
County:	**Franklin County**

Key Activity/Project Information

Sector:	**Public**
Hazard Type:	**Severe Storm; Flooding; Chemical/Biological**
Activity/Project Type:	**Flood-proofing; Wetland Restoration; Utility Protective Measures**
Activity/Project Start Date:	**03/1999**
Activity/Project End Date:	**12/2000**
Funding Source:	**Local Sources; State sources; Other Federal Agencies (OFA)**
Funding Recipient:	**Local Government**
Funding Recipient Name:	**Town of Whately, MA**

Activity/Project Economic Analysis

Cost:	**$171,144.00 (Actual)**

Activity/Project Disaster Information

Mitigation Resulted From Federal Disaster?	**Unknown**
Value Tested By Disaster?	**Unknown**
Repetitive Loss Property?	**Yes**

Reference URLs

Reference URL 1:	**http://www.whately.org**
Reference URL 2:	**http://www.mass.gov/dep/water/resources/nonpoint.htm**

Main Points

- In 2000, the town and the Massachusetts Department of Environmental Protection (DEP) funded the stabilization of 215 linear feet of riverbank along the Mill River in Franklin County.
- DEP funded $67,869 of the cost from a Section 319 Nonpoint Source (NPS) Competitive Grant with the Franklin Regional Council of Governments administering the grant.
- Today the bioengineered slopes are covered with lush plant growth.

The bioengineered slope along the Mill River shortly after placement in the fall of 2000.

Thick vegetation completely covers the river embankment during the summer of 2006.

Paul Fleuriel, Whately Water Commissioner at town well