

Grant project restores Mill Creek floodplain wetland

West Chester Township and OKI Regional Council of Governments have converted two traditional storm water basins into bio-retention ponds along the upper Mill Creek in Butler County.

The project demonstrates how detention basins are not just for storm water storage any more. An innovative mix of natural and structural practices have been installed to restore wetland conditions and reconnect the stream to its floodplain. The result is a series of bio-retention ponds that reduce downstream flooding, improve water quality, replenish groundwater, and provide wildlife habitat. As native vegetation takes hold, the site will give people a place to go for nature walks.

Construction began in August 2008 and finished in May 2009 behind the West Chester Service Center at Beckett and West Chester roads. The project shows what other streamside land owners can do with the many retention and detention ponds next to the heavily urbanized, 28-mile-long Mill Creek.

Known as the Mill Creek Headwaters Project, this effort began in 2004 when Mill Creek stakeholders collaborated on a successful grant application to the Ohio EPA. Under Section 319 of the Clean Water Act, the grant provided \$330,000 in federal funds for project designs, permits, construction and materials. Another \$160,000 was budgeted for education, monitoring, lab analysis, evaluation and administration. Project partners provided more than \$450,000 worth of local in-kind services, including 48 acres of conservation easements.

West Chester Township subcontracted companies to:

- Breach a farm dike in four places to open the project site to more Mill Creek high flows.
- Connect the bio-retention ponds to increase their holding time and travel distance.
- Contour the pond banks to have gentler slopes, undulating patterns and more shoreline.
- Dig deepwater areas and create islands to diversify habitat for native plants and animals.
- Install three agri-drains to control pond levels.

- Seed and plant the site with native grasses, sedges, wildflowers, shrubs and trees.

The West Chester Service Center site has about 19 acres of floodplain and 1,900 feet of stream corridor. Education and outreach are key project goals. The Butler Soil & Water Conservation District and Mill Creek Watershed Council of Communities are informing various audiences about best management practices (BMPs), which is technical lingo for good stream stewardship.

Other project partners include:

- Greenacres Foundation and University of Cincinnati, the project's water quality monitors
- Butler County Engineer's Office, which has helped with site selection and review
- Butler County Water and Sewer Department, which helped subcontractors work their way around a county water main on site
- Schumacher Dugan Construction, Inc., which donated the project site to West Chester Township
- MACTEC Engineering and Consulting, which was contracted by the township for project design, permitting and computer modeling
- SK Construction Co., the project's earth moving and drainage system contractor
- Water Quality Systems, Inc., the project's landscaping contractor

Ohio EPA administers the project's funding and provides technical guidance when needed.



June 28, 2009: A series of bio-retention ponds have replaced traditional stormwater basins behind West Chester Service Center. The 19-acre site now functions more naturally as a floodplain wetland that has been re-connected to the Mill Creek. (OKI photo)