

# MONTGOMERY AWARDS

## Environmental Stewardship

2018 Award Winner



## Andorra Creek Floodplain Restoration Whitemarsh Township

The Andorra Creek Floodplain Restoration Project, located in Whitemarsh Township, received a 2018 Environmental Stewardship Award for a successful floodplain restoration and wetland creation project along the Andorra Creek to control streambank erosion and sedimentation, reconnect the channel to the surrounding land, and mitigate flooding.

### Background

Andorra Creek is located entirely within Whitemarsh Township—a 14.5-square-mile municipality situated in southeastern Montgomery County. The primary land use within the watershed basin is medium-density single-family residential land use followed by parkland. The watershed





is approximately 1.75 miles long by 0.75 miles wide and has a watershed drainage area of 632 acres. According to the Pennsylvania Integrated Water Quality Monitoring and Assessment Report, the entire 1.2 miles of Andorra Creek are impaired. Pennsylvania Department of Environmental Protection biological surveys indicate impairment to aquatic life due mainly to excessive amounts of siltation and water/flow variability resulting from small residential runoff and roadway runoff. Whitmarsh Township was awarded a \$300,000 grant from the Watershed Restoration and Protection Program for the restoration project.

### Project Description

At the headwaters of the Andorra Creek, two existing stormwater outfalls were removed and replaced with appropriately sized and stabilized outfalls. At the new outfall, approximately 31,500 square feet of wide, flat floodplain was created, incorporating shallow marsh systems planted with emergent vegetation, that are designed to treat stormwater runoff. Seed mixes and plant material suitable for multiple vegetative growth zones with varying water depths were planted. A clay liner was installed to help maintain the permanent water surface. An existing clay sanitary sewer main, previously located within the flow channel, was replaced with Ductile Iron Pipe and sited away from the floodplain area. All work was done in accordance with the *Pennsylvania Stormwater Best Management Practices (BMP) Manual* and the Keystone Stream Team's *Guidelines for Natural Stream Channel Design for Pennsylvania's Waterways*.



## Environmental Benefits

The improvements constructed as part of this project were designed to mitigate impacts to Andorra Creek resulting from high water volume and velocity, excessive scour, head cutting, streambank erosion, and generation of high sediment loads. Using treatment efficiencies noted in the PADEP stormwater BMP manual, the project provides a benefit to volume reduction, groundwater recharge, and peak rate control (addressing flow variability cause of impairment), as well as water quality improvement benefits including up to an 85 percent reduction in TSS (sediment/siltation impairment), up to an 85 percent reduction in TP, and up to a 50 percent reduction in NO<sub>3</sub>. Other potential benefits include:

- Increased flood storage
- Flow attenuation
- Improved infiltration
- Increased travel time
- Reduced streambank erosion and sediment load
- Nutrient filtering and biological uptake



## Location

Whitemarsh Township  
Montgomery County

## Grant Applicant/Sponsor

Whitemarsh Township  
616 Germantown Pike  
Lafayette Hill, PA 19444

## Site Owner

The Reserve at Lafayette Hill Homeowners Association  
120 N. Bethlehem Pike  
Fort Washington, PA 19034

## Engineer

T&M Associates  
448 Lincoln Highway, Suite 202  
Fairless Hills, PA 19030

## Site Contractor

Scott Building Corporation  
2939 Felton Road  
Norristown, PA 19401



The Environmental Stewardship Award is presented by the  
Montgomery County Conservation District under the Montgomery Awards Program.

### Montgomery County Conservation District Board of Directors

Sara Erlbaum, *Chair*  
Monica Burcik, *Vice Chair*  
Eliza Walbridge, *Secretary*  
Christopher Canavan, *Treasurer*  
Valerie A. Arkoosh, MD, MPH, *Commissioner Director*  
Timothy Woodrow, P.E., *Public Director*  
Diane Diffenderfer, *Farmer Director*  
Andrew Frankenfield, *Farmer Director*  
Jim Myers, *Farmer Director*

The annual Montgomery Awards recognize the best in planning, design, and advocacy in Montgomery County, Pennsylvania.  
The program acknowledges the high-quality work and commitment of communities, organizations, and professionals.  
[www.montcopa.org/MontgomeryAwards](http://www.montcopa.org/MontgomeryAwards)



### Montgomery County Board of Commissioners

Valerie A. Arkoosh, MD, MPH, *Chair* • Kenneth E. Lawrence, Jr., *Vice Chair* • Joseph C. Gale, *Commissioner*



Montgomery County Planning Commission, P.O. Box 311, Norristown, PA 19404-0311 • [www.montcopa.org/planning](http://www.montcopa.org/planning)