

# Stormwater Management: Leadership Through Stewardship

Montgomery County is required to apply for a permit and maintain a stormwater management program under the Pennsylvania Department of Environmental Protection's Municipal Separate Storm Sewer System program (MS4). The permit and program apply to county properties where stormwater runs off the land directly into a stream or lake. The county is a willing participant in the MS4 program because it understands that effective stormwater management protects the county's water resources. The county also understands its responsibility as a landowner to set a good example for others to follow. The activities described in the *Stormwater Management: Leadership Through Stewardship* series are known as stormwater Best Management Practices (BMPs). These BMPs can be easily duplicated by businesses, institutions, and residential property owners. By following the county's example, we can all have a part in improving and protecting water resources in the county.

The Montgomery County Planning Commission staff is available to assist anyone interested in installing stormwater BMPs. Contact us at (610) 278-3722 or visit us on our website: [www.planning.montcopa.org](http://www.planning.montcopa.org).

This series was prepared by  
Montgomery County Planning Commission.





Tree Plantings at Green Lane Park



Rain Barrels at GLP Headquarters



Amphitheater Rain Garden



Warm Season Grass Meadow



Central Perkiomen Valley Park  
Parking Lot Bioswale

# Tree Plantings at Green Lane Park

<b>LOCATION:</b>	South shoreline of Deep Creek Lake.
<b>PROJECT DESCRIPTION:</b>	Native trees and shrubs have been planted in 2012 and 2013 along the shoreline of Deep Creek Lake in the former bathing beach area. Volunteers and county staff planted 70 trees and shrubs in 2012 and 100 in 2013.
<b>GRANT AMOUNTS:</b>	Two Growing Greener grants were received: \$2174.11 in 2012 and \$1606.75 in 2013.
<b>PLANT SPECIES:</b>	Red maple, sugar maple, pin oak, swamp white oak, red oak, white oak, basswood, sweet gum, black gum, eastern redbud, hackberry, Allegheny serviceberry, arrowwood, and winterberry holly.
<b>BENEFITS:</b>	The plantings will help stabilize soil and reduce sheet flow runoff while providing food and shelter for native songbirds and other wildlife.
<b>LESSONS LEARNED:</b>	The project has been well received by most park visitors. Acceptance, however, is not universal. The area has been maintained as open turf or beach since the 1930s, and some park users prefer the open area over a planted one.

# Tree Plantings at Green Lane Park



*Trees are being planted at the former beach area next to Deep Creek Lake to convert the area to a woodland.*

# Rain Barrels at GLP Headquarters

<b>LOCATION:</b>	Green Lane Park Headquarters.
<b>DESCRIPTION:</b>	Two rain barrels were installed to collect roof drainage from the park headquarters. Rainwater will be used to irrigate landscaping near the barrels or drained to the soil between rains.
<b>COST OF BARREL:</b>	Approximately \$100 each for two 50-gallon rain barrels.
<b>INSTALLATION DATE:</b>	Fall of 2011 by county staff at minimal cost.
<b>BENEFITS:</b>	Will collect rainwater to be used on park office landscaping. The visible location of the barrels will help inform the public of their use and benefits.
<b>RECEPTION BY PUBLIC:</b>	There has been a very positive response from park users. A visitor approached one of the barrels thinking it was a recycling bin. When he saw the downspout, he asked park staff about the barrel. The staff had a chance to explain about rain barrels and their benefits. The park user's response was that he wanted to install rain barrels at his house.

# Rain Barrels at GLP Headquarters



*One of two rain barrels at the Green Lane Park headquarters that captures rain from the roof and stores it for irrigation.*

# Amphitheater Rain Garden

<b>LOCATION:</b>	Green Lane Park, north side of the lake.
<b>DESCRIPTION:</b>	A ¼-acre area has been designed as a rain garden with amended soil and approximately 150 water-loving plants. The rain garden receives runoff from the amphitheater downspouts and approximately 1000 square feet of adjacent lawn area. The work was done with county staff between 2010 and 2011.
<b>COST:</b>	\$2,220 (including plant materials). This was provided through county funds and some donations of plants.
<b>PLANT SPECIES:</b>	Hibiscus, Joe Pye weed, cardinal flower, swamp milkweed, sweet flag, and river birch.
<b>BENEFITS:</b>	The rain garden will receive stormwater runoff from the amphitheater roof and adjacent turf area. Stormwater runoff will be reduced by infiltration and evaporation and filtered through the plants and soil before it reaches Knight Lake.
<b>LESSONS LEARNED:</b>	Now that the rain garden is installed, there is a desire to enlarge it so it would wrap around both sides of the amphitheater and collect additional water.

# Amphitheater Rain Garden



*Rain gardens create habitat that supports wildlife such as songbirds and butterflies.*

# Warm Season Grass Meadow

<b>LOCATION:</b>	Church Road near Molasses Creek.
<b>PROJECT DESCRIPTION:</b>	A pilot program with 9 acres of land was completed. The 9 acres were drill seeded with warm season grass seed to establish a meadow.
<b>COST/SAVINGS:</b>	The cost of the planting was \$1,850. These 9 acres needed to be removed from the program before they could be planted, due to Conservation Reserve Program regulations, and so it represents a cost commitment. The benefits, such as reduced mowing, outweigh the cost.
<b>BENEFITS:</b>	The banks are more stable due to the extensive root system of the grass, and stormwater running directly into the reservoir is reduced. The tall grasses also discourage geese, adding to the water quality benefit.
<b>RECEPTION BY PUBLIC:</b>	Some members of the public believe that parks should be maintained as lawn; others see the beauty and benefit of the meadow.

# Warm Season Grass Meadow

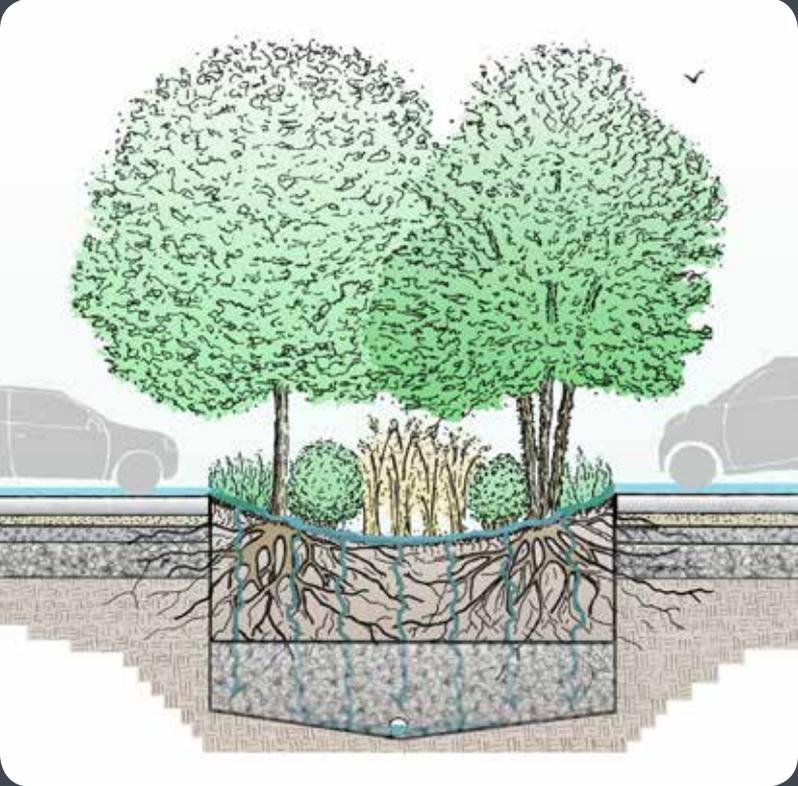


*Warm season grasses have deep roots that reduce erosion and encourage rainwater to soak into the ground.*

# Central Perkiomen Valley Park Parking Lot Bioswale

<b>LOCATION:</b>	Old Mill House parking lot of Central Perkiomen Valley Park (CPVP).
<b>DESCRIPTION:</b>	A bioswale is a depressed area designed to capture rainwater. Bioswales are planted with water-loving plants. Their roots absorb runoff, and their stems and leaves can help filter pollutants. The bioswale at CPVP measures 75' x 12' (900 s.f.) and was installed in March 2012.
<b>COST:</b>	Since the excavation and soil work was performed by county staff, the only budgetary cost was \$300 for plant material.
<b>PLANT SPECIES:</b>	River birch, winterberry holly, cardinal flower, swamp milkweed, hibiscus, sweet flag.
<b>BENEFITS:</b>	The swale holds the water for 48 to 72 hours for infiltration and evaporation.
<b>RECEPTION BY PUBLIC:</b>	Visitors to the Old Mill House at CPVP have provided many positive comments about the plantings.
<b>LESSONS LEARNED:</b>	The bioswale has proven to work very well. The staff would like the bioswale to be larger and to contain more plants.

# Central Perkiomen Valley Park Parking Lot Bioswale



*Bioswales are designed to capture rainwater from parking areas. Plants in the bioswale absorb the water, reducing runoff and improving water quality.*