

Multifunctional Riparian Corridor for Stormwater Quality Management

Pennswood Village

Middletown Township, Bucks County, PA

Pennswood Village is a retirement community located in Middletown Township, Bucks County, PA. As part of the facility's planned expansion, Pennswood Village entered into a private-public agreement with the Township, which required the improvement of the existing stormwater management system. Although the Township's request could have been satisfied with a conventional dry basin, the residents of Pennswood Village preferred a design that would be highly functional, attractive and natural in appearance, and allow for interactive opportunity of its residents by including walking paths in the design.

To meet these objectives, the resulting stormwater management facility was designed to mimic the functional properties and appearance of a riparian corridor floodplain. The Pennswood Village design integrated a number of different best management practices (BMPs) including a sedimentation basin, created treatment wetland, small wet pond, vegetated swales, and infiltration areas. These BMPs were designed to work in series to attenuate peak flows, promote groundwater recharge and passively remove pollutants through a combination of filtering, settling and biological treatment mechanisms. To facilitate the development of several distinct natural plant communities, the plan included planting a variety of riparian and wetland plant species. This innovative project exceeds the Township's stormwater management requirements, provides an attractive recreation area for Pennswood Village, and serves as a model for engineering and landscape architecture and design students from local colleges and universities including Rutgers University, the University of Pennsylvania, and Delaware Valley College.

The project supports a highly diverse native plant community that in turn attracts an abundance of birds and butterflies. This project has received three awards for its innovative stormwater management design and natural aesthetic outcome.

This project also is listed in the Bucks County Planning Commission's document entitled "Bucks County Innovative Stormwater Management BMPs".

