

Growing Greener Plus - Watershed Protection Grant Program
Blettner Basin Retrofitting (Bio Swales) Project
Conewago Township, Adams Count, Pennsylvania

PROJECT DESCRIPTION: The original design of the Blettner Avenue Stormwater Basin was solely focused on limiting the rate of runoff from the largest storms to prevent downstream flooding. The original design did not include features to prevent the discharge of sediment, salt, nutrients, oil and grease commonly discharged to streams from the urban landscape during smaller and more common storms. To achieve this water quality function the basin retrofit design incorporated bio swales, forebays and submerged gravel wetlands.

PROJECT GOALS: Improve and protect the Waters of the Commonwealth from non-point source pollution associated with stormwater runoff.

PROJECT RESULTS: Based on the project design and the drainage area to the basin, it is anticipated that the project will reduce sediment discharge to the Plum Creek watershed by 40,243 pounds per year, almost one quarter of the Township's total mandated sediment reduction, per the PA DEP approved Pollutant Reduction Plan (PRP). Further, the basin flows to a tributary to Plum Creek, which is a TMDL listed waterway per the PA Integrated Water Quality Monitoring and Assessment Report.

Before – Overgrown and Mowed Turf Grass After – Submerged Gravel Wetlands Nos. 1 & 2, and Rip Rap Forebay Weirs



PROJECT COSTS: Total project cost: \$253,357.29, Grower Greener Plus Grant: \$116,360.00; Township Funds: \$136,997.29.

LESSONS LEARNED: The meandering bio swales promote water filtration and infiltration along with reducing the erosion, scouring and sediment pollution at the outfall. In addition, retrofitting the open basin with the incorporated forebays and the bio swales protect aquatic habitat by improving water quality flowing from the urbanized area.

PARTNERS: PA Department of Environmental Protection, Conewago Township, Gannett Fleming and Mitchell Knorr Contracting.

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