



## Chester County Stormwater BMP Tour Guide

*Published by: Chester County Conservation District*

*Spring 2002*

<b>BMP:</b>	<b>Native Grass Meadow</b>
<b>Site Name:</b>	Wyncote Golf Course Community
<b>Location:</b>	Lower Oxford Township, ADC Map Coordinates: 43-F9..G10 <i>Directions: Route 1, Exit onto Route 10 North. Golf Club Development on left side. Site tours can be scheduled by appointment (summer tour when grasses and flowers are in bloom is optimum).</i>
<b>Watershed:</b>	Octoraro Creek (Stream Designation: TSF, MF)
<b>Land Use:</b>	Golf Club and Residential Development

**Description:** Native grass meadow at this site consists of a variety of warm season grasses, including switch grass and little blue stem, and wild flowers (black-eyed susans, poppy's) planted on and around the 50 ft buffer that separates the golf course from the residential lots. The meadow buffer that separates the housing lots from the course is a 50' wide ribbon of undulating and curving land that extends onto the back of the 1-2 acre individual lots. Individual homeowners are required to maintain at least the back one-third of their lot as grassy meadow to extend the meadow buffer and provide continuity in the landscape. The native grasses and wild flowers are generally tall and grow in cluster or clumps, as such, they create privacy for individual lots and slow the flow of stormwater flowing off individual properties. Prior to planting meadow, the landscaper prepared the land by applying herbicide to eliminate undesirable vegetation that could out compete the native grasses, which are slow to get established. The seed mix consisted of warm season grasses, which typically need 3 to 4 seasons to get established with a good root system, and an annual or perennial rye grass, which can establish itself quickly. Once the ground was prepared, the landscaper planted the seed mix using a piece of equipment that slits the ground, drops the seeds into the slits, and covers slits with dirt to control this light weight seed from being dispersed by the wind.

**Function:** Establishing a meadow consisting of native warm-season grasses is a best management practice since the overall environmental benefits outweigh the value of mowed turf grass fields. Native warm season grasses with roots that typically penetrate 6 to 12 inches into the ground create what is described as a sponge absorbing stormwater into the ground and, compared to conventional turf grass, is better suited to tolerate drought conditions. Planted warm season grassy meadows provide natural open space and are especially attractive to wildlife. The warm season grasses bloom later in the growing season, but still provide valuable nesting areas for birds.

There is limited data on pollutant removal efficiencies of various warm season grasses, but can expect that sediment and grit, oil and grease, and nutrients present in stormwater runoff will be filtered prior to stormwater percolating into the ground and reaching the stormwater ponds. Certain grasses (including phragmites, considered by some to be a nuisance species) have a greater potential to uptake metal pollutants present in stormwater runoff compared to turf grass.

**Operation and Maintenance:** The Chester County Conservation District considers planted meadows to be low maintenance BMP. Ideally warm season grasses would be burned every 3 to 4 years to invigorate stem growth, remove thatch and eliminate growth of invasive plants. Burning is not generally an acceptable management option in developed areas, especially areas with close proximity to buildings and residential dwellings. As an alternative, however, warm season grasses can be cut and harvested on 3-4 year cycle. At this site, the meadow is mowed once or twice a year. Warm season grasses have a low nutrient requirement and do not require fertilizing. Invasive plants are hand-pulled or a weed control product is applied to individual invasive plants. To ensure meadows function and flourish, procedures and specifications for meadow maintenance should be documented, maintained on site, and provided to homeowners.

**Cost Factors:** The cost of establishing and maintaining warm season grass meadows is low relative to other stormwater management options. At this site, the warm season meadow offers the site owner cost-savings from avoided mowing costs, which has been estimated at \$350/acre per year. A rough cost of establishing warm season grassy meadow, including land preparation and seeding, is \$800/acre. Meadow grasses can be harvested annually and sold at market value.

### Other Site BMPs

**Grass Swales.** Along the roadways and downslope of the clubhouse parking lot are grass-lined swales. The shallow swales discharge into the stormwater ponds, which are used for irrigation. The development has no curbing to permit stormwater runoff to flow overland from paved surfaces into the grassy swales. To prevent erosion along the side of roadways with no curbing, the earth up the pavement is well stabilized with grass planted up to the pavement's edge (around the parking lot there are areas where small stone on the ground surface helps control erosion). There is limited need for stormwater conveyance piping since surface swales catch the stormwater flowing from the roadways.

### For More Information

Design Assistance: LandStudies Inc., [www.landstudies.com](http://www.landstudies.com), (717) 627-4440 (Kelly Gutshall)

Owner: Wyncote Golf Club, (610) 932-8900 (Jim Pepple)

### References

Center for Watershed Protection. *A Review of Stormwater Treatment Practices* (published presentation).

*Pennsylvania Handbook of Best Management Practices for Developing Areas*. Spring 1998. CH2MHILL.

**Site 14 - Wyncote Golf Course -- Native Plantings and Native Meadow**



Native plantings and grasses are plentiful throughout this site, on golf course, in parking lot islands (top left), behind residential lots on conservation easements (top right) and in expansive meadows and wetland areas.

