Site 3:
Perkiomen Valley High School

BMPs:
Vegetated swales
Wet-pond

Address: 509 Gravel Pike (Rt. 29) Collegeville, PA 19426
Property owner: Perkiomen Valley School District
Website: www.pvsd.org
Watershed: Perkiomen Creek

Planning your visit:
Please contact Scott Clemmer to schedule an appointment prior to visit.

Contact Info:
Scott Clemmer,
Director of Operations
(610) 489-8516
sclemmer@pvsd.org

Hours:
7:30 AM– 4:00 PM

Directions: The High School is approximately two miles north of Collegeville on Rt. 29

Parking:
Parking is available in the Visitors Parking Lot in front of the high school office.

During a recent expansion project, The Perkiomen School District demonstrated their value for water quality, outdoor education, and more pleasing aesthetics by building a wet-pond to manage the increased stormwater runoff. Teachers and students use the wet-pond as an outdoor classroom and laboratory to study the human impact on the aquatic ecosystem.

This vegetated swale collects and transports stormwater runoff from 28 acres of athletic field and impervious surfaces to the wetpond, allowing it to be absorbed naturally by a mix of meadow grasses.

Published by the Montgomery County Conservation District in 2006 through funding provided by the Pennsylvania Association of Conservation Districts, Inc. through its education grant with the PA Department of Environmental Protection and the US Environmental Protection Agency Section 319 Program.

Above: An aerator promotes water quality by adding dissolved oxygen to sustain plant and animal life. Aerators are necessary in any wetpond that does not have lowing water input.

The wet-pond was designed by Gilmore and Associates to reduce peak flows of stormwater runoff and improve water quality. Any pollutants that are transported by stormwater can settle out in the deep pond before the water evaporates into the air.

The planting plan was developed by KCBA landscape architects. The plants filter pollutants by absorbing nutrients and metals into their tissue. The wet-pond BMP was selected because the soils were not conducive to infiltration. At Perkiomen Valley High School the pond provides endless educational opportunities.

At PVHS, the ninth grade Earth Science and tenth grade Biology classes regularly use the wet-pond to monitor the chemical and physical properties of the water. They test the dissolved oxygen, carbon dioxide, pH, and temperature from both the surface and from the bottom of the pond. In addition to water quality monitoring, the students also identify and record the animal specie diversity from the pond bottom, the water column, and the adjacent meadow.

During the expansion project, the meadow was planted with species which serve as hosts to various wildlife including the monarch butterflies shown in the picture on the previous page. In September, Mrs. Sandra Sweeney's classes collected caterpillars from milkweed plants, allowed them to pupate in the classroom, and released the adult butterflies in time to participate in the Fall migration to Mexico. Part of their study was to monitor the incidence of parisitism on the monarchs and forward their data to Monarch Watch at University of Kansas.

PVHS continues to plan ways to use the wet-pond to enhance science curriculum. The Envirothon Club will place bird houses around the meadow to attract tree swallows and blue birds as part of another project conducted with Cornell University.

Above: Arrowhead was doing well in August 2005 along the aquatic bench. A Maintenance plan was developed to outline the watering, weeding, pruning, fertilizing, mulching, and pest control needed for the trees, shrubs, perennials, and meadow areas.

Below: A natural spring area was carefully planted to avoid the invasion of cattails.

WETLAND SEED MIX

Botanical Name	Common Name	Seeding Rate
Carex crinita	Fringe Sedge	0.5 lb./acre
Carex typhina	Cattail Sedge	0.5 lb./acre
Cinna arundinacea	Wood Reed	0.5 lb./acre
Elymus virginicus	Virginia Wild Rye	1.0 lb./acre
Eupatorium perfoliatum	Boneset	0.5 lb./acre
Juncus effusus	Soft Rush	0.5 lb./acre
Leerzia orysoides	Rice Cut-Grass	2.0 lb./acre
Poa Palustris	Fowl Meadow Grass	1.0 lb./acre
Scirpus cyperinus	Wool Grass	0.5 lb./acre
	Annual Rye Grass	10.0 lb./acre

PERENNIALS/ GRASSES/ WET MEADOW

Botanical Name	Common Name	Quantity
Alclepias incarnata	Swamp Milkweed	70
Aster Novea-Angliae 'Purple Dome'	New England Aster	139
Deschampsia cespitosa	Tufted Hair Grass	410
Eupatorium fistulosum 'Gateway'	Joe-Pye-Weed	44
Iris versicolor	Blue Flag Iris	195
Juncus effusus	Soft Rush	134
Onoclea sensibilis	Sensitive Fern	61
Panicum virgatum 'Heavy Metal'	Heavy Metal Switch Grass	95
Rudbeckia nitida (laciniata) 'Herbstonne'	Cut-leaved Coneflower	152
Tiarella cordifolia	Foamflower	290

SHRUBS AND TREES

Botanical Name	Common Name	Quantity
Chionanthus virginicus	Fringe Tree	7
Hamamelis virginiana	Common Witchhazel	7
Ilex glabra Compacta	Compact Inkberry	12
Ilex verticillia 'Harvest Red'	Winterberry	11
Itea virginica 'Henry's Garnet'	Virginia Sweetspire	20
Magnolia virginiana	Sweetbay Magnolia	11
Rhus aromatic	Fragrant sumac	15
Aesculus flava	Yellow Buckeye	3
Halesia diptera var. magniflora	Two-wing Silverbell	1
Nyssa sylvatica	Black Gum	3
Quercus bicolor	Swamp White Oak	4

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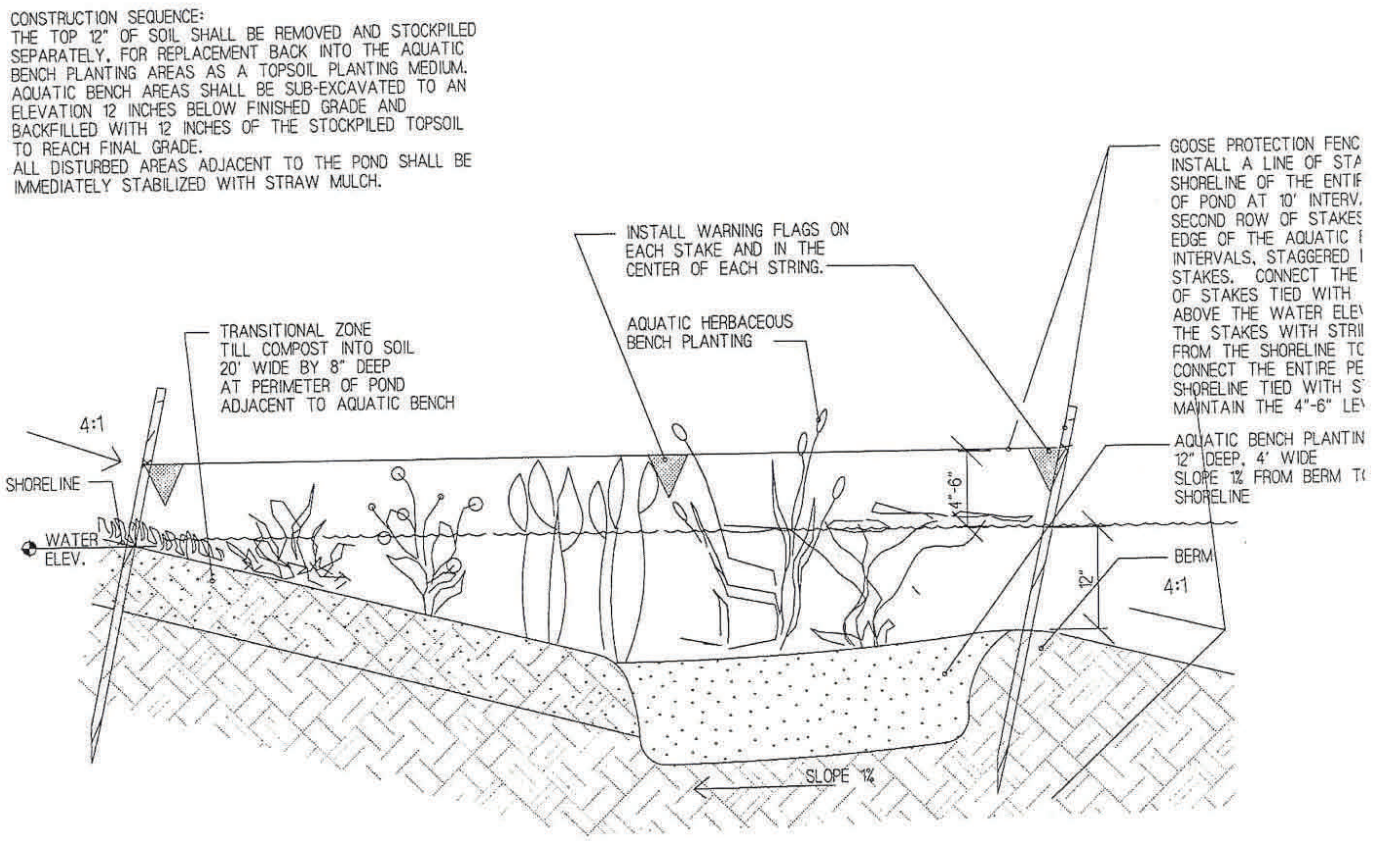
Planting List for the wetpond

AQUATIC HERBACEOUS

Botanical Name	**Common Name**	**Quantity**	**Root**
Acorus calmus variegata	Varigated Sweet Flag	54	Rootstock/Plug
Iris versicolor	Blue Flag Iris	136	Rootstock/Plug
Nymphaea odorata	Water Lily	10	Rootstock/Plug
Pntedaria cordata	Pickerelweed	62	Rootstock/Plug
Sagittaria	Arrowhead	52	Rootstock/Plug
Scirpus validus	Softstem Bulrush	42	Rootstock/Plug
Sparghenium americanum	Burreed	56	Rootstock/Plug



9 AQUATIC BENCH DETAIL
N.T.S.