

# JENNINGS WATER QUALITY IMPROVEMENT COALITION

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## VERTICAL FLOW POND FACT SHEET

Jennings Environmental Education Center, PA DCNR, Bureau of State Parks

Brady Township, Butler County, PA

“A Public-Private Partnership Effort”

### FUNDING SOURCE:

US Environmental Protection Agency Fiscal Year 1996 Section 319 grant through the PA Department of Environmental Protection Bureau of Land and Water Conservation and through the generous contributions by private industry and volunteers.

### PROJECT PARTICIPANTS:

Hedin Environmental  
CDS Associates, Inc.  
Girl Scouts  
Jesteadt Excavating  
Slippery Rock University  
Quality Aggregates Inc.  
Stream Restoration Inc.

Jennings Environmental Education Center  
Grove City College  
Homeschool Students  
PA Bureau of District Mining Operations(Knox)  
Shalston Trucking  
Amerikohl Mining, Inc.  
U. S. Department of Energy

### COMPLETION DATE:

Major construction completed September 1997

Water Monitoring: PA DEP Knox DMO (9/97 thru 4/99), CDS Associates, Inc. (on-going)

### MATERIALS USED FOR TREATMENT:

300 Tons of Spent Mushroom Compost mixed with 380 Tons of AASHTO# 9 Special limestone aggregate (2½-foot layer).

### WATER COLLECTION AND DISTRIBUTION:

Overdrain: 2" PVC header pipe with 3/4" perforated laterals (20' in length) every 6 feet fed by three 2" inlet pipes from flow splitter box. The overdrain is on top of the media below a 1½-foot "water cap". Flow splitter box plumbed into previously constructed anoxic collection system.

Underdrain: Three sections of 2" PVC fed by 3/4" perforated laterals (15' in length) every 6 feet bedded in river gravel (8-inch layer).

Outlet: 4" flexible plastic pipe with clear insert for observation, adjustable to control water level.

### SYSTEM DIMENSIONS (FEET):

	<u>Length</u>	<u>Width</u>	<u>Depth</u>
<u>Vertical Flow System</u>	150	50	6
<u>Channel Wetland</u>	175	8	<½
<u>Wetland</u>	100	20	½
<u>Settling Pond</u>	100	20	3

### WATER QUALITY (representative):

Sample Point	Flow (gpm)	pH	alkalinity (mg/l)	acidity (mg/l)	Fe (mg/l)	Mn (mg/l)	Al (mg/l)
raw	30	2.9	0	260	50	8	20
treated	30	7.0	200	0	1	6	<1