

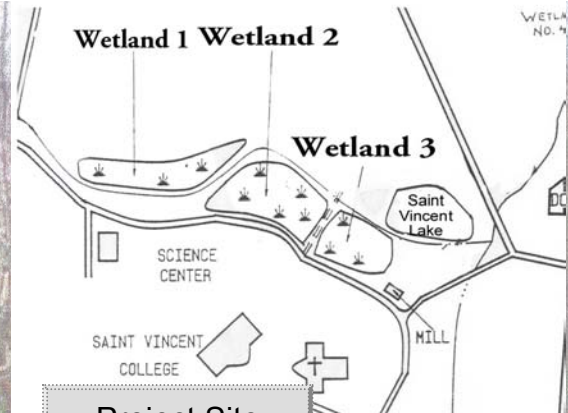
Monastery Run Improvement Project Wetland #1

Saint Vincent College Environmental Education Center Loyalhanna Creek Mine Drainage Coalition

Wetland #1, located along the north side of Fourmile Run is an 8.5 acre wetland treatment system, designed by the PA Department of Environmental Protection in cooperation with the landowner, Wimmer Corporation. Wetland #1 construction involved excavating an existing wetland area created by ten mine drainage discharges. Wetland #1 consists of four cells with internal dikes that cause the water to flow in a serpentine pattern. Construction was completed November 1998. Flow rates have reached nearly 5 times the amount the wetland was designed to handle during high flow conditions, and almost stops flowing during low flow conditions. In order to provide for better treatment performance, Wetland #1 and Wetland #2 were connected together via an inverted siphon that carries the effluent from Wetland #1 under Fourmile Run and discharges it into Wetland #2 in July 1999. The water flows from one cell to the next via a concrete flow control structure. This structure contains removable stop logs to control flow and the top stop log is equipped with a rectangular weir, which allows for the necessary aeration.



Aerial Photograph of Wetland #1



Project Site

Water Quality Data (as of 10-28-98)

Parameter	Average Influent	Average Effluent	PA Water Quality Standard
pH	6.1	6.72	6.0 - 9.0
Acidity (mg/L)	-52	-71	0
Total Iron (mg/L)	95.7	2.3	< 7.0
Manganese (mg/L)	3.38	2.32	< 4.0
Aluminum (mg/L)	0.33	0.30	<4.0

Contractor:	Casselman Enterprises, Inc., Somerset, PA
Contract Administration:	PA Department of Environmental Protection
Construction Cost:	494,423.49
Dedicated:	October 1998
Operation/Maintenance:	PA Department of Environmental Protection