

Acid Mine Drainage Remediation Project

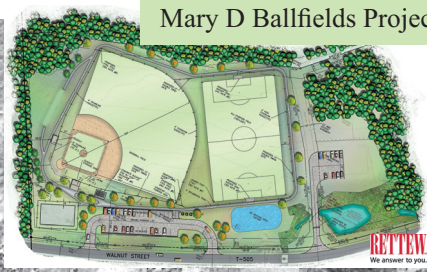
Mary D The Schuylkill River Wins!

“Water Quality Improvement Easement Partnership Groundbreaking” November 29, 2006

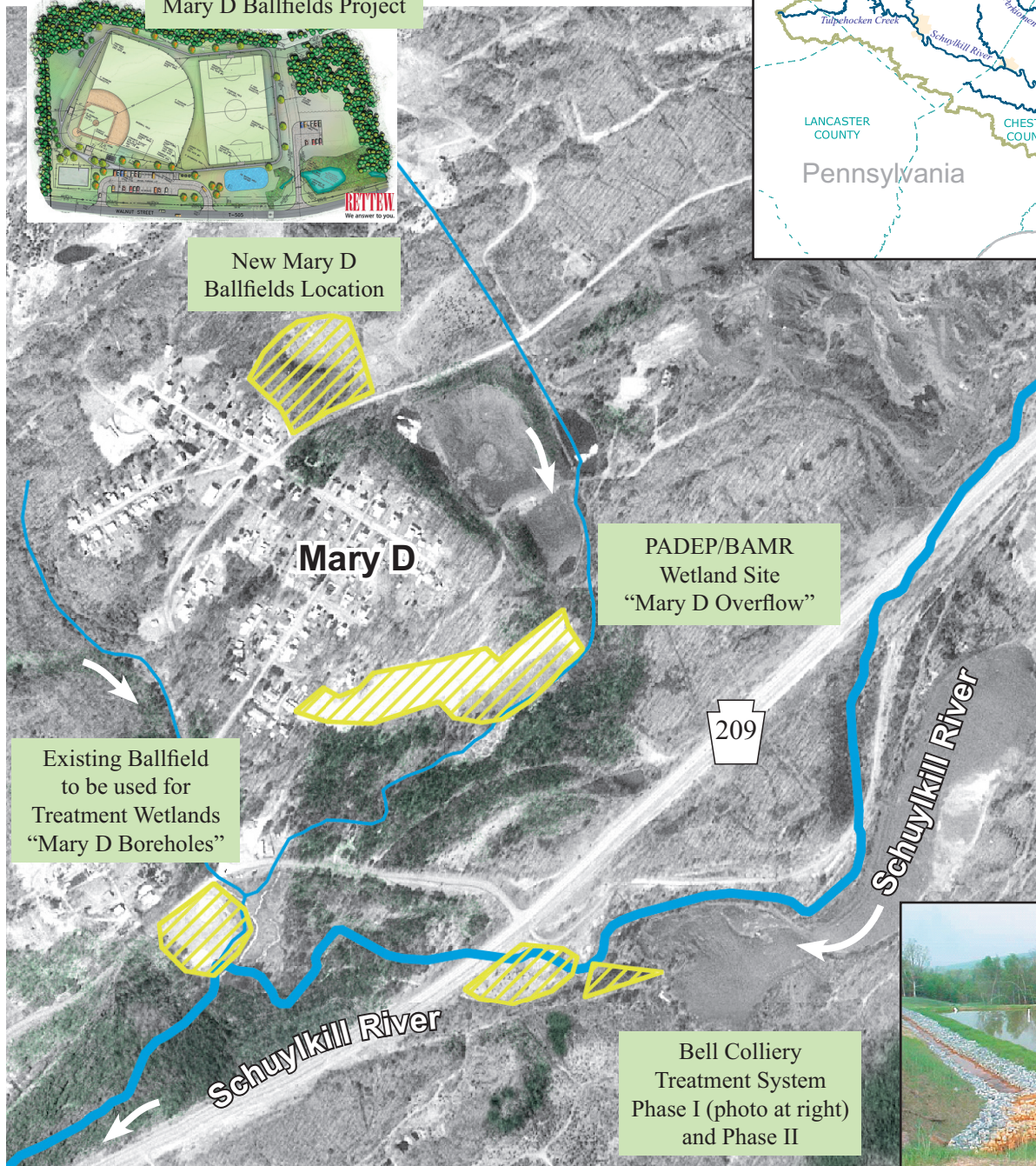
This effort was coordinated by a partnership of organizations aimed at developing new incentives for the construction of AMD treatment facilities. The partnership has been active for over one year, the creation of which was spearheaded by Stell Environmental Enterprises, Inc. Partner organizations include DEP, DCNR, DRBC, SHA, EPCAMR, PALTA, Exelon, Philadelphia Water Department, Schuylkill Conservation District, and Stell Environmental.



Mary D Ballfields Project



New Mary D Ballfields Location



Mary D

PADEP/BAMR Wetland Site
“Mary D Overflow”

Existing Ballfield
to be used for
Treatment Wetlands
“Mary D Boreholes”

Schuylkill River

Schuylkill River

Bell Colliery
Treatment System
Phase I (photo at right)
and Phase II



OVERALL PROJECT COORDINATION: STELL ENVIRONMENTAL ENTERPRISES

Bell Colliery Phase I

- Project Lead: Schuylkill County Conservation District (SCCD) and Schuylkill Headwaters Association (SHA)
- Funding: \$270,000 (PADEP's 319 Program)
- Limestone Based Acid Mine Drainage Treatment Cell
- Constructed: September 2003 – Spring 2004

	pH	Acidity (mg/l)	Alkalinity (mg/l)	Al (mg/l)	Mn (mg/l)	Iron (mg/l)
Pre	3.7 – 4.0	36-160	0	1.5	1.3 – 2.0	2.5 -12
Post	6.0	0	7	0.2		50% red.

Bell Colliery Phase II

- Project Lead: SCCD/SHA
- Funding: \$72,000 (DRBC/Exelon)
- Construction: Fall 2006 / Winter 2007
- Creation of ~1 acre wetland to aid in settling of flushed metals from Phase I

Mary D Borehole (existing ballfield site - “West”)

- Project Lead: PADEP and BAMR, SHA
- Funding: \$240,000 (PADEP, OSM, Exelon/DRBC, William Penn)
- Construction: Summer 2008
- Creation of ~2.5 acre limestone drain and wetland
- Flow : 3,100 gpm ~ 139 lbs/day of Metals

	pH	Acidity (mg/l)	Alkalinity (mg/l)	Al (mg/l)	Mn (mg/l)	Iron (mg/l)
Pre	6.2	-3.8	17.1	1.9	1.7	8.1

Mary D Overflow (“East”)

- Project Lead: PADEP and BAMR, SHA
- Funding: \$ 200,000 (PADEP, OSM, Exelon/DRBC)
- Construction: Summer 2007
- Creation of a 5 acre aerobic wetland
- Flow : 2,297 gpm ~ 83 lbs / day of Metals

	pH	Acidity (mg/l)	Alkalinity (mg/l)	Al (mg/l)	Mn (mg/l)	Iron (mg/l)
Pre	6.5	-2.5	37.3	1.12	1.6	7.7

Mary D Recreation Complex

- Project Lead: SHA
- Funding: \$484,000 (PA-DCNR, William Penn)
- Construction: Site preparation has started Fall 2006
- Creation of New Baseball and Soccer Fields, Bleachers, Parking lot, Ice-skating pond

Mackeysburg

- Project Lead: SHA/SCCD
- Funding: \$160,000 (William Penn,)
- Prevent runoff from draining into an existing mine pool by diversions
- Goal is to reduce the volume of the Pine Knot Discharge

The water quality improvement easement projects could not have been completed without the assistance of all the project partners that were involved with the project. A special “thanks” to all of those project partners.

