Silver Creek Discharge
Silver Creek Treatment System
Neumeister Discharge

Submitted grant app 2006
  - Requested $776,560

July 2007
  - Section 319 Nonpoint Source Management Grant
    - $690,060

Started design/ permitting Oct 2007
Neumeister Discharge
WATER QUALITY IMPROVEMENT EASEMENT

THIS WATER QUALITY IMPROVEMENT EASEMENT (this “Easement”) dated as of ______________ (the “Easement Date”) is by and between ___________________ (the “undersigned Owners”) and __________________ (the “Holder”).

Background

Property
The undersigned Owners are the sole owners in fee simple of the Property described in Exhibit "A" (the “Property”). The Property is also described as:

Project
The undersigned Owners desire Holder to undertake a project (the “Project”) to remediate effects of abandoned mine drainage to improve the quality of water passing through or discharging from the Property. The Project is more fully described in Exhibit "B". The facilities to be installed by Holder in connection with the Project are also described in Exhibit "B" (the “Facilities”).

Plan
Attached as Exhibit "C" is a survey or other graphic depiction of the Property (the “Plan”) showing the location of an area (the “Treatment Area”) within which Holder intends to undertake the Project. The Plan may also show one or more of the following areas: an area (the “Temporary Construction Area”) to be used as a staging area during construction of Facilities; an area (the “Access Corridor”) to provide ingress and egress to and from the Treatment Area and the public right of way; and an area (the “Utility Corridor”) to provide power or other utility services to service Facilities.

Grant of Easements

I. Grant of Easement: Treatment Area
The undersigned Owners grant to Holder an easement over the Treatment Area for the purpose
Schuylkill Headwaters Association, Inc.
Silver Creek Mine Tunnel Acid Mine Drainage Restoration Project
Upper Schuylkill Watershed
Blythe Township, Schuylkill County, Pennsylvania

EXECUTIVE SUMMARY

Abandoned mine drainage (AMD) from the Silver Creek Mine tunnel shaft contributes aluminum, iron, manganese, and acidity to main branch of the Schuylkill River in Schuylkill County. Hence, River in Schuylkill County is designated "impaired because of metals" on the 303(d) list. The proposed project will implement and evaluate a passive treatment system consisting of a flushable, anoxic limestone drain (ALD) followed by an aerobic wetland basin to neutralize acidity and reduce metals loadings from the discharge. Underdrain networks and outflow pipes within the ALD will enable flushing of accumulated metals from the limestone bed to the wetland where final oxidation, precipitation, and settling of metallic-rich particles will occur. Because of the large flow rate and corresponding large size of the proposed treatment system, "cubitainer" testing was conducted last year to evaluate the rate of limestone dissolution and any effects of the metal precipitate on limestone dissolution rates. Furthermore, intensive monitoring and evaluation of treatment efficiency will be conducted during the project. Hence, this project will reduce AMD loadings from the Silver Creek discharge to the Schuylkill River, and it will demonstrate the effectiveness of using an ALD for treatment of a large volume, near-neutral-pH, iron-contaminated discharge.

STATEMENT OF NEED AND JUSTIFICATION OF FUNDING

AMD from the Silver Creek Mine Tunnel (lat 40°44′30″ N., long 76°07′24″ W.), located in Blythe Township, Schuylkill County, degrades the Schuylkill River near its headwaters in the Southern Anthracite Coalfields. Consequently, the Schuylkill River is designated "impaired because of metals" on the 303(d) list. A recently completed assessment focusing on AMD nonpoint source problems in the Upper Schuylkill River basin ranked the Silver Creek Mine Tunnel discharge as one of the most severe in the watershed (L. Robert Kimball & Associates,
Silver Creek Discharge
Section 319
Grants Guidance Document For Project Sponsors

“So You Have A Grant”

Project: Silver Creek Mine Tunnel Acid Mine Drainage Restoration
Project Sponsor: Schuylkill Headwaters Association, Inc.
Grant Amount: $853,402.00 Document #: 4100046209
Start Date: June 1, 2008 End Date: September 30, 2010
Project Advisors: Donna Carnahan and Dan Koury

Produced by: Nonpoint Source Management Section DEP, Bureau of Watershed Management

OCTOBER 2003 (Revised 1/2007)
REMEDIAL EASEMENT

ARTICLE I. BACKGROUND

The Owners are the sole owners at the time of the Property described in Exhibit B. The Property is described as

Civic Center Township
Township

1.01 Property

1.02 Project

Owners agree to execute an agreement with the Project (the "Project") to remediate the Property. The Project is located in Exhibit B and is described in Exhibit B.

ARTICLE II. GRANT OF EASEMENT

2.01 Grant of Easement - Treatment Area

Grant of Easement - Treatment Area

(a) The Owners grant to the Holder an easement for the purpose of constructing, occupying, maintaining, and operating the Project. The easement shall be for the purpose of constructing, occupying, maintaining, and operating the Project

(b) The easement shall be for a term of ten years from the date of this Agreement or such shorter term as may be agreed to by the Owners and Holder.

2.02 Term

The term of the easement granted in this Article is 10 years, renewable at the option of the Holder for an additional 10 years, subject to the terms and conditions of this Agreement.

ARTICLE III. REMEDIAL EASEMENT

This Agreement is between the Owner and Holder and is subject to the terms and conditions set forth herein.

R2365563770

Document Number
Permitting
Design phase
Pine Forest Discharge
Elevations and final as built measurements confirmed
Fig. 8-10. Gallionella, habit sketch to show structure of a stalked colony. After Ouladery.
Re-visit concept plan
Construction begins!!!
Well, not quite finished