

**BoRit Asbestos Superfund Site, Ambler, PA**  
**Investigation of Reservoir Flow and Berm Stability**  
**USACE, Philadelphia District's Cost Proposal - 25 May 2012**

**Purpose:** The USACE, Philadelphia District has been tasked with data collection and evaluation to better understand the Reservoir's water inflow and outflow and the stability of the surrounding berm at the Borit Asbestos Superfund Site.

**Background:** The Borit Asbestos Superfund Site is located in Ambler, PA along the northeast bank of the Wissahickon Creek near the confluences of Rose Valley Creek and Tannery Run. The site consists of 3 sections: the Park, the Reservoir, and the Asbestos Pile (Figure 1). The focus of this study is the Reservoir. As part of the Phase 1 Data Evaluation Report of the Remedial Investigation, performed by CDM Federal Programs Corporation (CDM) in 2010, samples were taken in the Reservoir berm, water and sediments.

Because contaminated water and soils exists in the Reservoir berm, water, and sediments, it is important to maintain the integrity of the berm. An understanding of the composition of the berm and the inflow and outflow mechanisms that impact the height of water against the berm is necessary. In the Phase 2 of the Remedial Investigation, performed by CDM in 2011, 6 groundwater monitoring wells throughout the site and staff gauges on the Reservoir, Wissahickon Creek, Rose Valley Creek and Tannery Run were installed and measured during one comprehensive sampling in January 2011 (Figure 2-2, Preliminary Phase 2 Groundwater Report, CDM, 2011). Additional information is necessary to fully understand the interaction of surface water and groundwater at the Reservoir.

**Scope of Work:** The following scope defines the major tasks that are proposed.

**TASK 1: Existing Data Collection and Review**

- Historic maps (e.g. Sanborn maps, historic aerial photography, historic USGS quad maps, etc.)
- Existing data related to the reservoir operations
- Discussion with community officials who may have knowledge of previous/current reservoir operations
- Existing available topographic and spatial data information (Pennsylvania Spatial Data Access, USGS DEM Warehouse, etc.)

**TASK 2: Reservoir Berm Geologic Investigation**

- Geophysical survey to determine location of any pipes/structures crossing the berm
  - If found, determine beginning/ending locations, if pipes are active
  - Multi-Channel Analysis of Surface Waves (MASW) geophysical survey of berm crest to characterize the composition/thickness of the berm and native soils/rock beneath the berm.

- A self-potential (SP) survey to investigate localized areas of seepage through the reservoir berm.
- Borings to 36 feet below existing ground surface or until refusal is reached due to bedrock to determine berm materials
  - Interpretation of geologic data
  - Lab analysis of materials to include soil classification testing, strength testing and permeability

**TASK 3: Water Level Investigation (Collect and analyze water level data at existing monitoring wells)**

- Place pressure transducers in available monitoring wells (MW01A, MW02, MW03, MW05) and in the Reservoir staff gauge for period of approximately 5 months to log continuous water levels
- Collect manual measurements at MW01A, MW02, MW03, MW05 and other staff gauges at several times during same time period
- Data analysis

**TASK 4: Reservoir Berm Slope Stability and Seepage Analysis**

- Input lab data into Slope/W to build a model for slope stability analysis
- Input lab data into Seep/W to build a model for seepage analysis

**TASK 5: Communication of the results of the analysis**

- Meeting and presentation of results
- Technical memo