

## Wissahickon Creek Stream Restoration

Montgomery County, Pennsylvania



*from top: Initial conditions with severely eroded banks and over-widened channel; Identifying existing site constraints including utilities and trees*

The 64-square mile Wissahickon Creek watershed, which includes portions of Philadelphia, drains to Wissahickon Creek, a tributary to the Schuylkill River. Over many decades, development in the watershed has resulted in the degradation of the creek.

When the Wissahickon Valley Watershed Association (WVWA) wanted to restore an entrenched, over-widened, and eroding section of the creek which flowed along a utility corridor and some residential and conservation easement

*The restoration of an impaired headwater stream through a utility corridor significantly improves its function and riparian habitat.*

properties, they turned to Biohabitats. In addition to reducing sedimentation and restoring stability and floodplain connectivity and function, project goals included enhancing native vegetation and wildlife habitat.

Biohabitats' approach included the development of significant floodplain benching and depression storage, as well as moderate raises in channel invert to reconnect the stream with its adjacent floodplain. This raise was accomplished by the creation of riffle grade control structures and filling of the existing channel. No rise in 100-year flood elevations (from existing to proposed condition) will be accomplished by having a net excavation of material in the project channel and floodplain. Moderate variations in channel alignment protect utility infrastructure, enhance floodplain storage, and reduce extreme bend angles. Native

tree, shrub, and herbaceous plantings were designed for all graded areas, with the exception of areas adjacent to or under the utility transmission lines.

Biohabitats provided stream, wetland, and vegetation assessment services, developed restoration plans, and obtained permits to implement the project. Biohabitats also provided construction cost estimates for the client to seek grant funding.

Project constraints associated with existing utilities were numerous, but through cooperative efforts led by WVWA and Biohabitats, a design which achieved project goals and met the utility's standards was achieved.

### SERVICES

Inventory & Assessments  
Design  
Permitting

*conservation planning  
ecological restoration  
regenerative design*



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