Wissahickon Valley Watershed Association

Wissahickon Creek Headwaters Restoration

Montgomery County, Pennsylvania

Wissahickon Creek Headwaters project, one year after construction.

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

TIME FRAME
2019–2020

SERVICES
Inventory & Assessments
Design
Permitting
Design & Build

The 64-square mile Wissahickon Creek watershed, which includes portions of Philadelphia, drains to Wissahickon Creek, a tributary to the Schuylkill River. Decades of development in the watershed resulted in the creek's degradation. 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 residential and conservation easements. In addition to reducing sedimentation and restoring stability and floodplain connectivity, goals included enhancing native vegetation and wildlife habitat.

Biohabitats' approach included significant floodplain benching and depression storage. Moderate raises in channel invert to reconnect the stream with its adjacent floodplain was accomplished by creating riffle grade control structures and filling the existing channel. No rise in 100-year flood elevations was accomplished through a net excavation of material. 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.

Biohabitats provided stream, wetland, and vegetation assessment services, developed restoration plans, obtained permits, and provided construction cost estimates for the client to seek grant funding. The existing utilities provided numerous constraints, but cooperative efforts led by WVWA and Biohabitats, achieved a design meeting project goals and the utility's standards. The project was constructed in the fall of 2020.