FAIRMOUNT PARK COMMISSION, NATURAL LANDS RESTORATION & ENVIRONMENTAL EDUCATION PROGRAM

## Fairmount Park Wissahickon Watershed, Gully Restoration Design-Build

Philadelphia, Pennsylvania



from left: Initial conditions with gully; Gully after restoration

hrough a design-build contract with the City of Philadelphia, Biohabitats restored seven areas along Wissahickon Creek, a degraded, highly urbanized stream system running through the city's Wissahickon Park. Stormwater discharge from impervious areas outside of the park and well-used trails that were acting as conduits for runoff had caused gully erosion on steep slopes of the creek. Upland trails were converting into eroded gullies, and delivering high-

energy water, sediment, and associated pollutants to the Wissahickon and its tributaries. The stormwater-dominated flow also caused further erosion and degradation within the same tributaries.

Biohabitats first addressed stormwater in the watershed through source controls (e.g., rain gardens and infiltration practices), then restored the eroded gullies and tributaries using natural, recycled materials available from Fairmount Parks (e.g., surplus soil and Biohabitats restored seven reaches of eroded stream in one of Philadelphia's most popular parks and golf courses.

rock from other projects, woody debris, shredded hardwood, etc.). A final step was to redesign and construct trails in a fashion that would reduce their role in degradation while enhancing the park experience for visitors.

Two of the restoration sites were located within the Park's Walnut Lane Golf Course. At one site, gully erosion from golf course runoff had become a safety hazard and was threatening a fairway. Biohabitats restored the gully and headwater stream using a regenerative stream channel technique which uses a carbon-rich sand bed in combination with pools and riffle grade controls to filter and provide safe, nonerosive stormwater runoff from the golf course. In another part of the golf couse, Biohabitats daylighted a piped

section of stream and restored additional stream reaches above and below the piped section using natural channel design techniques. This improved stream ecology, water quality, and course aesthetics and integrity. Biohabitats also removed 600 feet of poor condition cart path, re-routed traffic, installed a new section of asphalt cart path, and constructed a pedestrian bridge for golfers and a ford for mowing machines to cross the restored stream.

## SERVICES

Inventory & Assessments Design Permitting Construction Procurement Construction Management Management Public Outreach Design-Build

conservation planning ecological restoration regenerative design



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