Cuyahoga Soil & Water Conservation District

Greenbriar Valley Stream and Wetland Restoration

North Royalton, Ohio

Log jam installation.

A collaborative design-build effort restores stability, habitat, and function to 1,000 LF of stream and three acres of forested wetlands in a flashy, urbanized watershed.

SERVICES

Design-build
Ecological Restoration
Nature Based Solutions

Development and changes in land use practices in the Greenbriar at River Valley neighborhood impacted the hydrology and water quality of a crucial headwater stream to the East Branch Rocky River. The urbanized watershed experienced erosion, habitat loss, decreased capacity for storm events, and a disconnected floodplain vulnerable to colonization by invasive species. The neighborhood's homeowner's association collaborated with the Cuyahoga Valley Soil and Water Conservation District to address these issues. With funding from the Northeast Ohio Regional Sewer District and an Ohio EPA grant, project partners chose Biohabitats to lead a design-build restoration.

Working with project partners, Biohabitats created and permitted a design for the forested floodplain system that would restore a Stage 0 stream and wetland complex to replicate historic hydrology and allow stormwater to access floodplain wetlands. This involved relocating ~700 LF of stream, creating new wetland pools, stabilizing the relocated streambank using native vegetation and riparian plantings, installing grade control structures in the abandoned channel, and removing invasive species.

Large wood structures and riffles helped raise the incised stream channels to improve connectivity, habitat, and flow diversity, and log jams in the anabranching stream network reconnected and reactivated the wetlands and floodplain. The design restored a self-sustaining stream system that can flourish with minimal intervention.