

Bear Creek Stream Restoration Design-Build

Warrensville Heights, Ohio



from top: After restoration with inset of initial conditions; Native plants thriving

The Cuyahoga County District Board of Health called upon Biohabitats to help restore approximately 2,000 linear feet of Bear Creek. The stream had been channelized, incised and disconnected from

its floodplain. Severe bank erosion was occurring along several areas of the stream.

The goals of this design-build project were to: improve water quality and aquatic and

This urban stream restoration not only regenerated a heavily degraded urban stream; it also provided high school students with opportunities to engage in environmental science in a restored riparian and wetland system.

riparian habitat; dissipate stream energy; minimize erosion and sedimentation; protect existing infrastructure; provide stormwater management with vegetative filtering; increase the capacity of the channel; and create a living, educational feature for a nearby high school.

Biohabitats' design met these goals in a way that maximized ecological benefits, minimized disturbance, inspired and facilitated ongoing stewardship and education, and not only met the objectives of the project, but also the needs and desires of the community. The site was divided into two reaches: the Upper Reach and the Wetland Complex Reach. The approach for the Upper Reach was to protect

infrastructure, dissipate stream energy, increase channel capacity, stabilize eroding banks, improve aquatic habitat, and increase the quality of the riparian buffer. In the Wetland Complex Reach, the design created a new floodplain and wetlands, realigned the channel planform with meanders, and provided a unique educational opportunity by creating a diverse, natural, and fluvial system.

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