



Green Infrastructure & Stormwater Management CASE STUDY

Upper 40/Fosters Run Stream Restoration

Location: Mayfield Village, OH

Client: Village of Mayfield, Ohio

Design Firm(s): URS Corporation, Cleveland

Landscape architect/Project contact: Thomas Evans, ASLA

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ASLA Chapter: Ohio



Photo: Leann Andrews, ASLA

Project Specifications

Project Description: The Upper 40 Stream Restoration project restores floodplain areas at two sites on a highly channelized and severely eroded stream channel. These two sites provide about 8 acre-feet of stormwater storage and reduce peak discharges by 35%, thereby relieving

severe downstream erosion. Fosters Run restoration resulted in the daylighting of 1,500 lineal feet of stream and restoration of natural channel design to a severely eroded urban stream.

Project Type:

Open space - park

A retrofit of an existing property

Design features: Stream restoration, natural channel design.

This project was designed to meet the following specific requirements or mandates: To meet funding criteria

Impervious area managed: greater than 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: greater than 5 acres

The regulatory environment and regulator was supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Solving severe downstream erosion avoided litigation between the Village and Cleveland Metroparks. The project also restored a stream side trail linkage that had been closed for 25 years due to severe stream erosion.



Photo: Robert J. Holmok

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: State - obtained a total of \$1.2 million, in two grant applications, to fund the project.)

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site

design/development project: An existing 2-acre recreational park and acquisition of a one-acre residential property were part of the project area. Land acquisition was eligible for grant funding. Grant funding provided about 60% of the total \$2 million project cost.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings). Stream restoration was funded by the Clean Ohio Conservation Fund. Any form of grey infrastructure solution would have been cost prohibitive and not eligible for grant funding.

Number of jobs created: 5

Job hours devoted to project:

Planning and Design: 4,000

Construction: 8,000

Annual Maintenance: 100

Performance Measures

Stormwater reduction performance analysis:

The Upper 40 Stream Restoration project restores floodplain areas at two sites on a highly channelized and severely eroded stream channel. These two sites provide more than 8 acre-feet of stormwater storage and reduce peak discharges by 35%, thereby relieving severe downstream erosion. The project is located at the Village Service Center on busy SOM Center Road and provides a high visibility example of urban stream restoration solving multiple problems.

Community & economic benefits that have resulted from the project: The project healed a severe erosion scar in the 2,000-acre North Chagrin Reservation of Cleveland Metroparks, restoring ecological functions to a highly channelized and severely eroded stream channel. The project is located at the Village Service Center on busy SOM Center Road and provides a high visibility example of urban stream restoration solving stormwater management problems. The site has served as an educational resource for design professionals, agencies, watershed groups, and university students in Northeast Ohio and beyond .

Project Recognition

Ohio Chapter Merit Award, 2007

Additional Information

Links to images: Project profile, images, plans are readily available from the landscape architect.

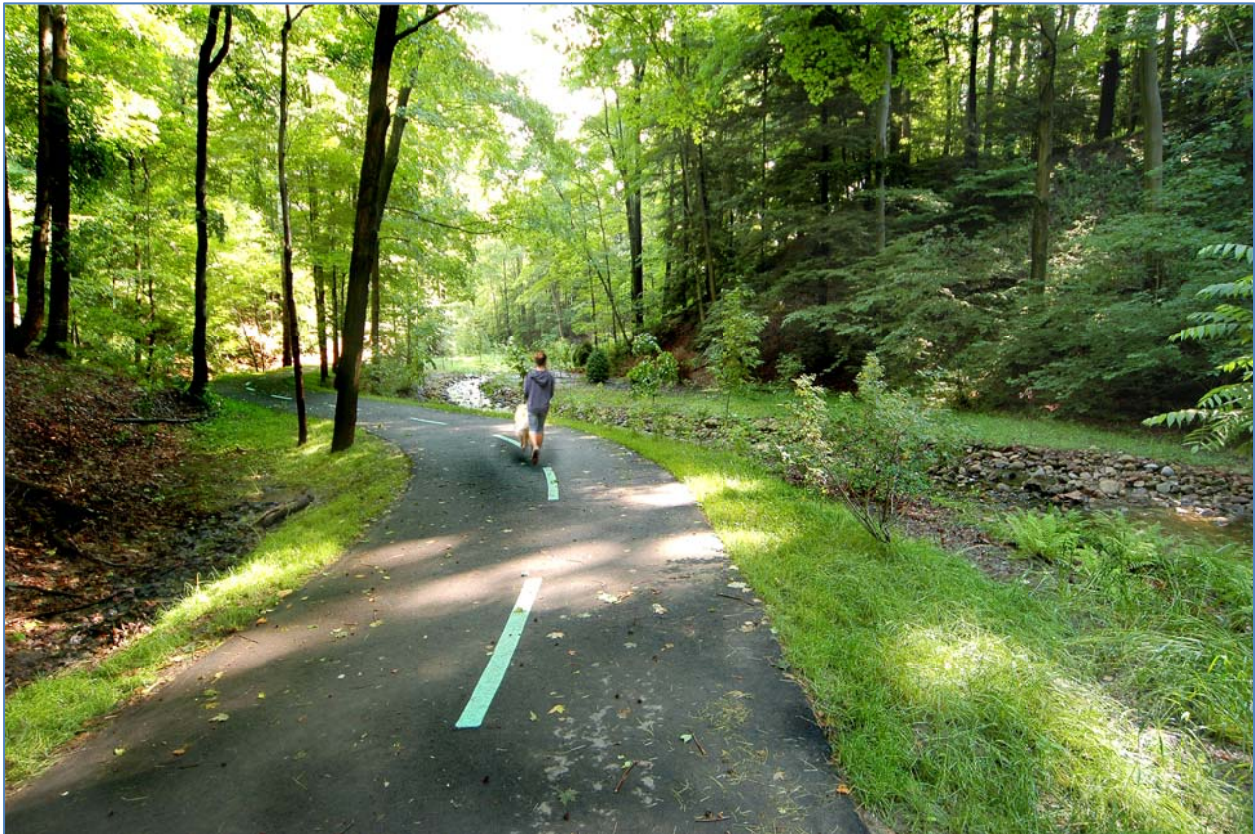


Photo: Robert J. Holmok