



Green Infrastructure & Stormwater Management CASE STUDY

Wetland Conservation Area

Location: New Albany, OH

Client: Ohio Department of Transportation

Design Firm(s): URS Corporation, Cleveland Ohio

Landscape architect/Project contact: Thomas Evans, ASLA

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ASLA Chapter: Ohio

Project Specifications

Project Description: The Wetland Conservation Area (WCA) represents a unique, high visibility demonstration that constructed stormwater wetlands may be planned as a centerpiece and amenity to surrounding development. The WCA was designed to serve multiple purposes including decrease peak discharges, increase water quality by trapping sediment, filter pollutants, and uptake nutrients, enhance habitat, as well as provide a high visibility open space. The adjacent high school uses the site as a land lab for a vocational education program which serves 16 school districts.

Project Type:

Open space - park

Part of a new development

Design features: A 13-acre stormwater treatment wetland in a 25-acre park serving a 100-acre suburban watershed.

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

State statute, fulfilled wetland mitigation requirement for nearby highway

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 apprehensive about the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Incorporate trail linkages from homes to school. Incorporate educational elements such as a flume for hydraulic research. Must meet state and federal wetland mitigation regulatory requirements.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: State)

Was a green vs. grey cost analysis performed? No. green was the only option.

Cost impact of conserving green/open space to the overall costs of the site design/development project: The wetland park was deliberately sited at a strategic intersection entry point in order to provide an open space amenity at the entrance to a 5,000-acre new community.

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). A grey alternative to stormwater management would have been much more costly.

Number of jobs created: 15

Job hours devoted to project:

Planning and Design: 1,000

Construction: 10,000

Annual Maintenance: 100

Performance Measures

Stormwater reduction performance analysis:

HEC RAS modeling indicates that that the wetland basin reduces peak discharges by 40%. USEPA data indicates that similar size stormwater treatment wetlands reduce urban runoff pollutants by 25-75%.

Community & economic benefits that have resulted from the project: The open space provided a significant entrance amenity to the 5,000-acre new community. Values of properties (about 30) abutting the wetland park increased by \$15k per lot . Developer took out full page Sunday newspaper ads promoting the wetland park as an education asset to the school system to attract young families to the surrounding residential development. The New Albany School system obtained state funding for the first environmental education curriculum using the wetland park for all curriculums such as art, math, history, not just biology. Environmental Education

Vocational curriculum serves 16 school districts and has provided 64 HS students with paying summer jobs in the environmental fields.

Project Recognition

Ohio Chapter Merit Award, 1997

Additional Information

Links to images: Plans, photos, drawings readily available via email from project LA, contact info above.

Project was produced by a multidiscipline team of surveyors, geotech, engineers, biologists, and led by the landscape architect.