Green Infrastructure & Stormwater Management CASE STUDY

Stormwater Improvements at Columbia and Ferndell Picnic Areas

Location: Saratoga Spa State Park, Saratoga Springs, NY
Client: New York State Office of Parks, Recreation, and Historic Preservation
Design Firm(s): NYS OPRHP
Landscape architect/Project contact: Christopher More
Email: christopher.more@oprhp.state.ny.us
ASLA Chapter: None

Project Specifications

Project Description: An existing asphalt parking lot at the Ferdell picnic area, which drained to the Geyser Creek, a designated NYS DEC trout stream, had become degraded over the years. The existing asphalt and subgrade was removed and replaced with a pervious pavement called Flexipave. Flexipave is a porous surfacing material made from aggregate and recycled automobile tires and then mixed with a proprietary binding agent. ADA accessible curbs and sidewalks were installed to allow for access and a portion of the old parking lot was converted to lawn to better accommodate a cross county running trail.

Project Type:
Open space - park
A retrofit of an existing property

Design features: Porous pavers.

This project was designed to meet the following specific requirements or mandates:
State statute, to meet funding criteria

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: less than 5,000 sq/ft. An existing asphalt parking lot was converted to porous pavement and a part of the old parking lot (3,700 sq/ft) was converted to lawn so no additional stormwater management was required.

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? No.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $500,000-$1,000,000 (Public funding: Federal, state)

Was a green vs. grey cost analysis performed? Yes. The Flexipave, at approximately $10 sq/ft installed, was considerably more expensive that a traditional removal and repaving. If this were a new installation, some costs for infrastructure would have been offset by the pervious pavement as well as the prese

Cost impact of conserving green/open space to the overall costs of the site design/development project: It didn't really affect the cost. We knew we were constrained to the existing site footprint.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Did not influence costs.

Number of jobs created: approximately 15

Job hours devoted to project:

Planning and Design: In-house, unknown
Construction: 882
Annual Maintenance: 5 hours

Performance Measures

Stormwater reduction performance analysis:

The porous pavement system was designed to store more rain than the 90% storm for the area, which in this case was 1". The system has a storage capacity for 1.5" of rain water.

Community & economic benefits that have resulted from the project: The major enhancement will be to the ecological value of the stream which provides trout habitat and therefore supports the local fishing community. Our park naturalist uses this parking lot as an educational tool while leading tours of the park.