



# Green Infrastructure & Stormwater Management CASE STUDY

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## Ehlers & Associates, Inc. Site Expansion

**Location:** Roseville, MN

**Client:** Ehlers & Associates, Inc.

**Design Firm(s):** Solution Blue, Inc.

**Landscape architect/Project contact:** Mitchell Cookas, Associate ASLA

**Email:** [mcookas@solutionblue.com](mailto:mcookas@solutionblue.com)

**ASLA Chapter:** Minnesota



Photo: Solution Blue, Inc.

### Project Specifications

**Project Description:** A building expansion was proposed, however, the property was part of a larger planned unit development (PUD), which had already reached its stormwater capacity. In addition, no enough parking was available and the property contained a regional detention basin encumbered by drainage and utility easements. A creative solution was developed to increase parking as well as to ensure the reduced detention volume would not hinder the PUD, or City/Watershed District stormwater system.

**Project Type:**

Commercial

A retrofit of an existing property

**Design features:** Bioretention facility, rain garden, bioswale, porous pavers.

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

State statute, county ordinance, local ordinance, to meet funding criteria, developer/client preference

**Impervious area managed:** 1 acre to 5 acres

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 5,000 sq/ft to 1 acre

**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?** Rain harvesting and green roof analysis

## Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$100,000-\$500,000 (Public funding: Local)

**Related Information:** Labor 25% Material 50% Equipment 15% Design 10%

**Was a green vs. grey cost analysis performed?** Yes, because of site PUD constraints the green system was the only option available and most cost effective.

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

**design/development project:** A significant cost savings was realized by the property owner, as redeveloping this property ment new land would not need to be aquired and buildings/parking lots/ infrastructure would not need to be built.

**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). Redevelopment expansion onsite vrs. new land purchaase and new buidling construction

**Number of jobs created:** 25

**Job hours devoted to project:**

Planning and Design: 200

Construction: 1,600

Annual Maintenance: 20

Other: 5

## Performance Measures

### Stormwater reduction performance analysis:

Due to nature of insitu soils and the ability to infiltrate stromwater, a reduction in volume was not feasible. However, a reduction in runoff rates of discharge for the 2-year storm event resulted in a decrease of over 54 percent.

**Community & economic benefits that have resulted from the project:** New ecomonic development, ehancacne asthetics of business park, increases property vales significantly and outdoor eating amenity.

## Additional Information

Links to images: [www.solutionblue.com/heading30page29.html](http://www.solutionblue.com/heading30page29.html)