



Green Infrastructure & Stormwater Management CASE STUDY

Evergreen Brick Works

Location: Toronto, Ontario, Canada

Client: Evergreen

Design Firm(s): du Toit Allsopp Hillier and du Toit Architects Limited (architecture and landscape architecture) (project lead) , Claude Cormier Architectes Paysagistes Incorporated (landscape architecture) , Diamond and Schmitt Architects Incorporated (architecture)

Landscape architect/Project contact: Bryce Miranda, du Toit Allsopp Hillier

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ASLA Chapter: None



Image: DTAH

Project Specifications

Project Description: Located within the floodplain of the Don Valley Ravine, the Brick Works is a transformation from a post-industrial brick manufacturing site into an environmental education center that incorporates themes of nature, culture and community. The landscape at Brick Works responds to the floodplain ecosystem through the reintroduction of native planting. A

stormwater management system channels surface runoff through a series of lush greenways and drainage troughs to an eventual stormwater management pond. Roof water is collected into thirteen 5000-gallon cisterns and used for irrigation throughout the site.

Project Type:

Adaptive re-use of industrial area to Centre for Green Cities - client non-profit
Part of a redevelopment project

Design features: Bioretention facility, rain garden, bioswale, green roof, cistern, rain barrels, curb cuts, stormwater management pond, permeable concrete, and greenways (5m wide green space between buildings which accepts water).

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

County ordinance, local ordinance, developer/client preference, Ravine Management Bylaw

Impervious area managed: greater than 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 1 acre to 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? Yes. This project is targeted as a LEED platinum project with many sustainable features in both design and construction. As an education center, revealing the stormwater management and rehabilitated landscape is key to educating users on sustainable site design.

Cost & Jobs Analysis

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

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: Preserving and conserving the open green space has affected the overall cost. Archeologically the site needed to be preserved and being a brownfield site, a risk assessment plan required contaminated soils to be capped preventing further migration. The existing sixteen buildings have been adapted for re-use with no additional footprints added.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly increased.

Number of jobs created: Not available

Job hours devoted to project:

Planning and Design: 5,174 for Architecture -2,947 for Landscape/Sitework -does not include consultants (ie only DTAH)

Construction: 6,486 for Architecture -3,524 for Landscape/Sitework -does not include consultants (ie only DTAH)

Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

Approximately 50% of a 2-year storm event would remain within the cisterns while the other 50% would be channelled to the stormwater management pond eventually spilling into the Don River system.

Community & economic benefits that have resulted from the project: Evergreen Brick Works is a community environmental center that inspires and equips visitors to live, work and play more sustainably. Evergreen, a national charity, has transformed the former Don Valley Brick Works from a collection of deteriorating heritage buildings into an international showcase for urban sustainability and green design that is open year-round. Evergreen Brick Works is a center for education programs that foster the relationship between nature, culture and community through experiential learning, collaboration and fun. School groups, families and individuals will be able to learn and then integrate these experiences into their daily lives to build a culture of caring for nature and our communities and building the relationship between each.

Project Recognition

Holcim Award for Sustainable Construction 2008

Additional Information

Links to images: Photo credited to DTAH website:

<http://www.dtah.com/projects/landscape/corporate-institutional/brick-works/>

<http://ebw.evergreen.ca/about/>

<http://ebw.evergreen.ca/files/EBW-Master-Plan-Update.pdf>