

ABSTRACT

TITLE: A Sustainable Design Solution For Stormwater: The Great Northern Mall in North Olmsted, Ohio

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The National Water Quality Inventory of 1998 stated over fifty percent of America's impaired waterways are affected by urban/suburban stormwater runoff (EPA, 2000). Stormwater management is typically treated in conventional ways that may be inefficient over time and contribute to negative issues, such as flooding, pollution, and environmental degradation. Value exists in design that moves from the norm of creating common open and closed drainage systems for managing stormwater, to design that utilizes elements such as bioswales, rain gardens, sustainable ponding, green roof technology, wetlands, and vegetation as a means to improve stormwater management.

The project site is located in the city of North Olmsted, Ohio, where development of impervious surfaces has caused issues associated with stormwater and flooding. The design site is distinguished by North Olmsted's close economic and physical relationship with Cleveland, placement in the Rocky River watershed, and its proximity to and Metropark system. The project design incorporates bioswales, rain gardens, sustainable ponding, green roof technology, wetlands, and vegetation into the existing Great Northern Mall site. These design elements, along with courtyards and parking structures, are integrated to function together as a larger system.

Although negative effects may have taken place in the built environment, it is possible to improve an existing situation of a site and in turn the surrounding region. Stormwater treatment with sustainable Best Management Practices, although functional, can provide a site with a sense of place and promote pride and interest in once negatively associated areas.