Green Infrastructure & Stormwater Management CASE STUDY

Beachouse

Location: Charlevoix, MI
Client: Beachouse Development, Inc.
Design Firm(s): Site Planning Development, Inc.
Landscape architect/Project contact: John W. Campbell, ASLA
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ASLA Chapter: Michigan

Project Specifications

Project Description: Small steep site, 46,500 sq/ft, <150' deep with an elevation change of 43 feet. All sand soils and ancient shoreline horizons 12" - 18" thick of stone 1/4" to 1" in diameter. Twenty four-underground car parking garage with a green roof (turf) and twenty four-car parking on a uniquely designed system. The multi-family structure without a garage covers approximtely 14,000 sq/ft. All stormwater is collected and remains on site filtering through the sand prior to entering groundwater. This project was constructed in 1987 adjacient to Lake Michigan.

Project Type:
Multifamily residential
Part of a new development

Design features: Green roof, collection of stormwater and its distribution under ground.

This project was designed to meet the following specific requirements or mandates:
Developer/client preference

Impervious area managed: 5,000 sq/ft to 1 acre

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? Do it right.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $100,000-$500,000 (Public funding: None)

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: Clean beaches and clean water.

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: 5

Job hours devoted to project:

Planning and Design: estimated 100
Construction: 200
Annual Maintenance: 2

Performance Measures

Stormwater reduction performance analysis:
All stormwater remains on site.

Community & economic benefits that have resulted from the project: Preservation of the water quality of Lake Michigan.

Additional Information

Links to images:

A project that we are proud of today and we utilize the same techniques today.

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