



Green Infrastructure & Stormwater Management CASE STUDY

Lawrence Hospital Center and Operating Room Relocation

Location: Bronxville, NY

Client: Lawrence Hospital

Design Firm(s): Mark K. Morrison Landscape Architecture, PC and Chazen Engineering, Surveying and Landscape Architecture, PC

Landscape architect/Project contact: Mark K. Morrison, RLA, FASLA and George Cronk, PE

Email: mkm@markkmorrison.com, gcronk@chazencompanies.com

ASLA Chapter: New York City and Upstate



Project Specifications

Project Description: As part of a planned expansion of the Lawrence Hospital Center in Bronxville, NY, a mixed extensive and intensive green roof was designed to treat and attenuate storm water rates of the new cancer treatment center. The green roof design eliminated an underground infiltration system that would have otherwise dominated valuable open space, while providing a functional outdoor garden area to be used by staff and patients.

Project Type:

Institutional/Education
Part of a new development

Design features: Green roof

This project was designed to meet the following specific requirements or mandates:
State statute and local ordinance.

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? The client placed a high importance on preserving and creating usable green space. The client recognized the value in creating a green roof that would provide usable space, stormwater treatment and site enhancement.

Cost & Jobs Analysis

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

Was a green vs. grey cost analysis performed? Yes

Cost impact of conserving green/open space to the overall costs of the site design/development project: The cost of the green roof versus ground water infiltration did not lower the upfront overall cost of the project.

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: 2 design, 4 construction

Job hours devoted to project:

Planning and Design: 120 Hours
Construction: 640
Annual Maintenance: 12

Performance Measures

Stormwater reduction performance analysis:

The green roof is able to retain 354 cubic feet (2,700 gallons) of stormwater. This quantity meets the Water Quality Volume (or 90% storm event).

Community & economic benefits that have resulted from the project: Valuable green space will be preserved where the underground stormwater infiltration system was initially planned to be installed, leaving valuable land available for future development. The green roof provides open space and environmental benefits to the patients, visitors, and staff of the hospital as well as the neighboring residential buildings.

Additional Information

Links to images: <http://www.markkmorrison.com/portfolio/port-lawrence.htm>

Green roof planting was also coordinated with ground level landscape improvements.

