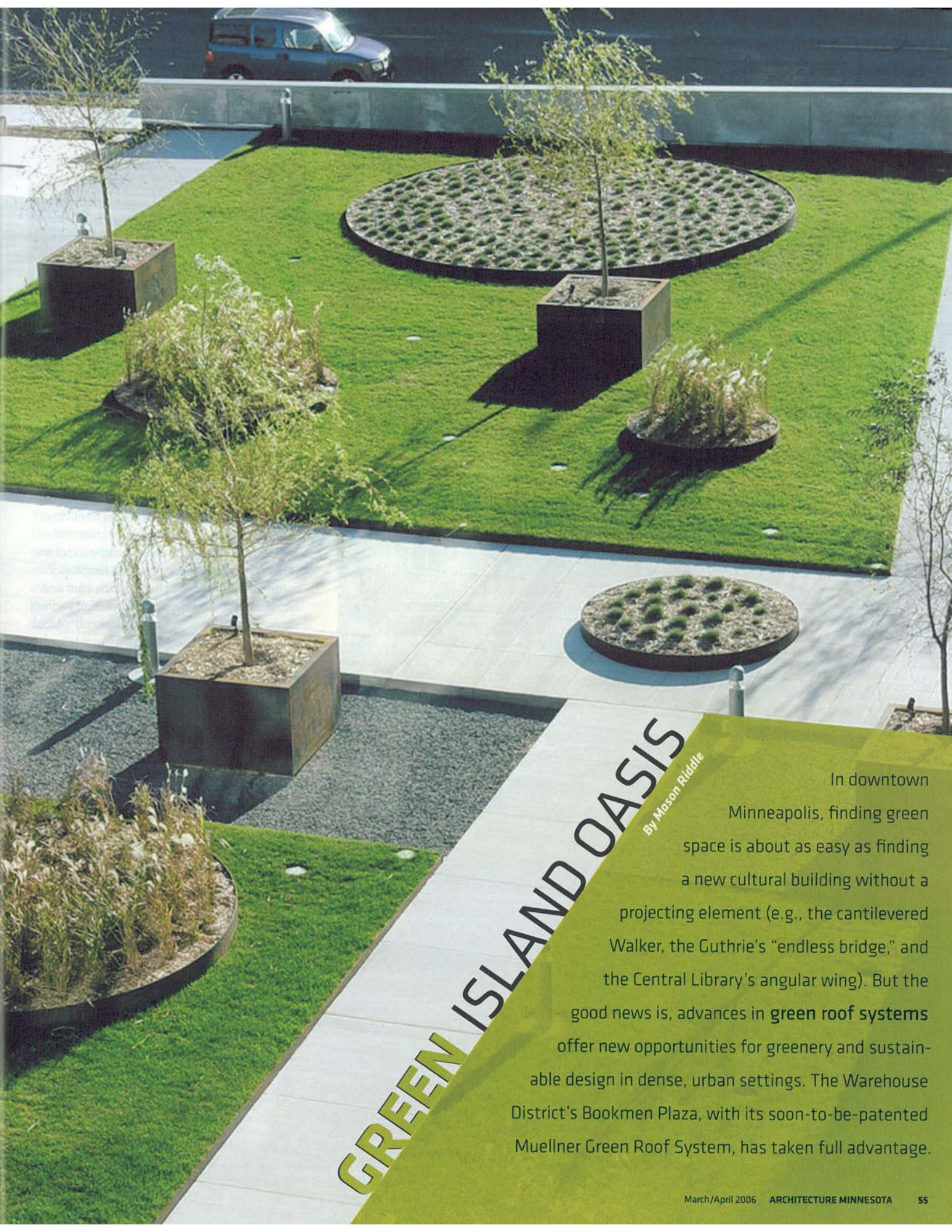


GREEN ISLAND OASIS

By Mason Riddle

In downtown Minneapolis, finding green space is about as easy as finding a new cultural building without a projecting element (e.g., the cantilevered Walker, the Guthrie's "endless bridge," and the Central Library's angular wing). But the good news is, advances in **green roof systems** offer new opportunities for greenery and sustainable design in dense, urban settings. The Warehouse District's Bookmen Plaza, with its soon-to-be-patented Muellner Green Roof System, has taken full advantage.

Left: The spacious decks of historic Bookmen Lofts overlook the green urban plaza, one of the few in Minneapolis' overheated downtown condominium market. Middle: A model of the complex shows the central plaza, the Stacks (top left), the historic Lofts (top right), and the future restaurant (foreground). Right: A model of the plaza with its central allée.

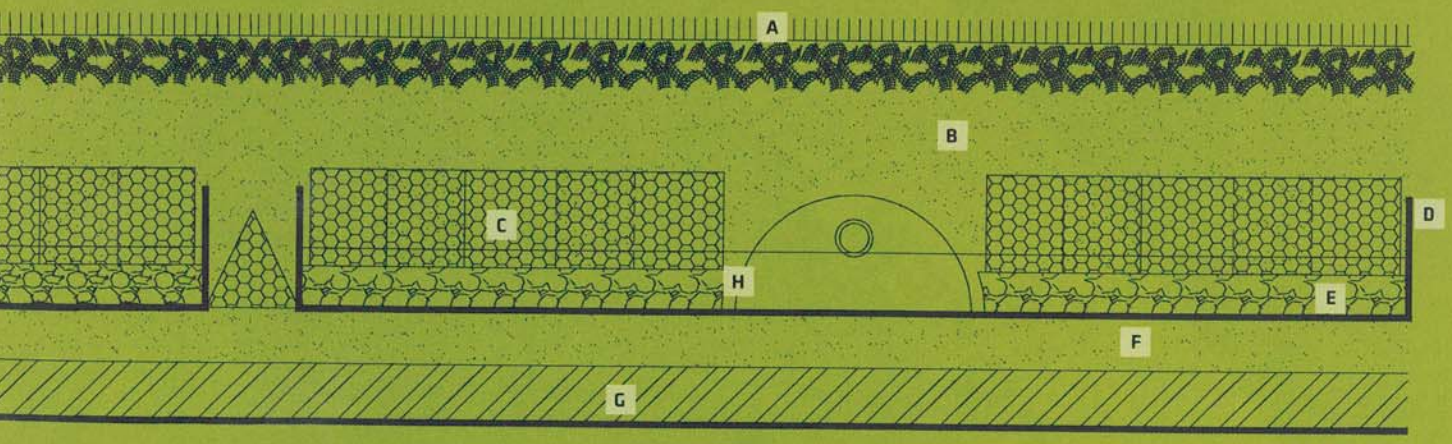
Remarkably, the space feels both intimate and expansive, a near-perfect blend of private park and urban plaza.

The 9,000-square-foot plaza, designed by the landscape architecture firm oslund.and.assoc.(**www.oaala.com**), is one element in a comprehensive city-block development that also includes the five-story historic Bookmen Lofts and the new eight-story Bookmen Stacks condominium tower, both designed by James Dayton Design. A unique amenity for Bookmen residents, and soon for diners at an adjacent Dayton-designed restaurant scheduled to open in fall 2006, is that the crisply conceived urban space doubles as the green roof of a private, below-grade parking garage.

Drawing from the industrial feel of its environment and spare in both design and materials—Tom Oslund's aesthetic calling card—the plaza is bisected by an allée connecting the Stacks' main entryway with the future restaurant and further carved into five sodded lawns of varying dimensions. The lawns feature randomly placed and variously sized circular islands contained by Corten-steel frames, each planted with wild plant material including ornamental grasses. Willow trees anchored in square Corten planters form two rows of three running parallel to the allée. Remarkably, the space feels both intimate and expansive, a near-perfect blend of private park and urban plaza.

MUELLNER GREEN ROOF SYSTEM

A: Netlon Advanced Turf Sod System
B: Sand
C: Muellner Geofoam
D: Evaporation Control System Liner
E: Pea Stone
F: Leveling Sand
G: Draining Insulated Roof System
H: Evaporation Control System Chamber



Images supplied by oslund.and.assoc.

Above and right: Hedgerows of ornamental grasses provide a green boundary between the plaza and the hard-edged, zinc-and-glass Stacks. The Muellner Green Roof System makes the rooftop plaza sustainable year-round.

The 1914–15 brick-and-concrete Lofts and the glistening Stacks, with its palette of exposed precast concrete, zinc, and bluish glass curtain wall, necessitated an atypical park idea, one that would physically and aesthetically link the two buildings while providing a sustainable roof for the parking garage. "I took the cue from the hard-edged architecture," says Oslund. "The design also creates an interesting visual pattern when viewed from the residences above."

Executing the plaza posed a few considerable challenges—namely, gaining city approval for a relatively unconventional concept and justifying the costs of constructing a sustainably designed green space that would otherwise be a traditional circular drive. Bookmen developer Steven Frenz was swayed to assume the financial risk, wanting to differentiate his from other downtown developments and understanding that the

>> continued on page 66

"The design also creates an interesting visual pattern when viewed from the residences above."

–TOM OSLUND, LANDSCAPE ARCHITECT

Green Island Oasis

<< continued from page 57

green roof would offer future economic and environmental advantages. "I immediately had an affinity for Steve because he was interested in doing something meaningful with the project," says James Dayton, AIA.

To ensure the plaza's sustainability, Frenz worked with Mike Kelly of Rehbein Companies in Blaine to implement the aforementioned Muellner System. According to Kelly, who has partnered with Tom Oslund on numerous projects, the grass in rooftop lawns needs a 12-inch profile to achieve the proper air-to-water ratio, one that allows the roots to grow aggressively. Root growth, in turn, is greatly aided by proper growing matter and an environmentally sound and low-maintenance irrigation and drainage system.

The multi-layered Muellner System begins, at bottom, with an EPDM liner that essentially creates "a big bathtub out of the whole area," Kelly explains. Next is laid the Evaporative Control System (ECS) liner, a system of chambers that supplies adequate moisture to the root system, negating the need for sprinklers. In the self-irrigating Muellner System, rainwater stored in subsurface reservoirs soaks *upward*. The remaining layers are two inches of crushed rock, 12 inches of sand integrated with a reticulated foam product, and sod.

The key to the Muellner System, however, is Netlon Turfguard, a tough, flexible, extruded mesh manufactured from polyethylene. Thousands of these small interlocking mesh elements create a dense, bird's-nest-like structure in the sand base. The grass' roots penetrate down through the mesh to form a deep anchored root system. Netlon also allows for enhanced water drainage and infiltration properties and makes the grass more durable against the protrusion of lawn furniture or general wear and tear.

Bookmen Plaza presents a strategic model for urban design that is green in both senses of the word. It's also a classic example of how, when a receptive and forward-thinking developer works closely with architects and landscape architects from the onset of a project, good things happen in both the short and the long term. ***AMN***

The Bookmen Stacks and Lofts by James Dayton Design will be featured in the May/June Housing issue.