Location
Baltimore, Maryland
Green Roof Designer
Katrin Scholz-Barth Consulting
Year Completed
2001
System Type
Extensive
Project Area
30,000 sf (3,000 m²) total

A. Storm Water
The two green roofs at Montgomery Park were designed primarily as storm water mitigation devices. Combined with bioretention areas in the building’s parking lot, they reduce the impermeable footprint of the existing complex. The Maryland Department of the Environment (MDE, 2004) encourages the use of nonstructural storm water management techniques like green roofs to reduce the need for structural controls. While some Maryland jurisdictions allow green roofs to be calculated as grassed areas, MDE advises assessing the hydrologic impact during the review process.

B. Energy
C. Acoustics
D. Structure
E. Compliance
F. Cost

Gravity draws water filtering through the system down the 1:12 roof slope to the gutters at the roof edges. Filter fabric and vertical slots in the edge metal prevent loss of growing medium to the gutters.

Structural modifications beneath the 20,000 sf (2,000 m²) green roof include steel sections welded to the underside of the existing roof purlins.

Location
Baltimore, Maryland

Green Roof Designer
Katrin Scholz-Barth
Consulting

Year Completed
2001

System Type
Extensive

Project Area
30,000 sf (3,000 m²) total

D. Structure
Because the 20,000 sf (2,000 m²) green roof was installed over an existing train shed, weight considerations controlled the design of the green roof and required the existing steel roof framing to be structurally augmented. The green roof system comprises, from top to bottom: plants; 2-3" (50-75 mm) of growing medium made of 75-80% expanded slate and 20-25% organic mushroom compost, two textile root barrier layers, 2" (50 mm) of extruded polystyrene insulation, and a PVC single-ply roof membrane. The combined system has a saturated weight of only 18 psf (88 kg/m²) (MDE, 2004).
Location
Baltimore, Maryland

Green Roof Designer
Katrin Scholz-Barth Consulting

Year Completed
2001

System Type
Extensive

Project Area
30,000 sf (3,000 m²) total

E. Compliance
Winner of the U.S. Environmental Protection Agency’s Phoenix award for excellence in brownfields redevelopment, the adaptive reuse of the historic Montgomery Wards Building incorporates numerous resource-conserving measures. The Code of Maryland Regulations stipulate that all redevelopment projects must reduce existing site imperviousness by 20%, provide water quality control for 20% of the site’s impervious area, or employ combination of these strategies. Green roofs are a key method used to reduce a site’s impervious area (MDE, 2004).

Adaptive re-use of the 1920s structure

MONTGOMERY PARK BUSINESS CENTER

A. Storm Water
B. Energy
C. Acoustics
D. Structure
E. Compliance
F. Cost