FAQs: Butler College Green Roof Installation

**Date of installation:** June, 2009

**Square footage:** The Butler College green roof comprises 58 percent, or 65,540 square feet, of a 113,000 sq. ft. roof.

**Green roof profile:** The following layers comprise the simple extensive green roof, incorporating a synthetic water capture layer:

- Membrane: Approximately 2 mm.
- Protection fabric: Negligible
- Sheet drain (to provide efficient dewatering of insulation, since the roof is flat): 1 in.
- Insulation: 4 in.
- Reservoir sheet: 1 in.
- Separation fabric: Negligible
- Growth media: 4 in.
- Wind blanket: Negligible

**Roofing membrane type underneath:** The membrane consists of a “Sarnafil” thermoplastic waterproof roofing membrane system.

**Cost:** Approximately $8 per square foot is considered viable in the northeast for simple extensive (i.e. up to 6 in. of growth medium) systems established from cuttings and seed, and with 10,000 sq. ft. or more of area. When adding plants (e.g. from plugs or pre-grown mats), the cost increases about 50%, or $12 per sq. ft., and up. ¹

**Structural reinforcements necessary:** Steel reinforcing bars in the concrete slab were increased to accommodate the additional load of the green roof growth medium.

**Maintenance needs to date:** During the establishment period (18 to 24 months), the area was fertilized with an organic fertilizer during the spring. Weeding was also required three times per year—once per season during the spring, summer and fall. Supplemental irrigation has not been required to date, in part due to an ample amount of rain following installation.

**Plant species:** Planted on the roof are more than a dozen varieties of sedum, drought-resistant succulent plants that require no irrigation.

**Observed wildlife and insects:** Killdeer, honeybees and various other insects have been observed.

**Contact information:**
Shana Weber, Manager
Princeton University
Office of Sustainability
106 Alexander Street
Princeton, NJ 08540
Tel: (609) 258-1518
Fax: (609) 258-1508
E-mail: sustain@princeton.edu

¹ Estimate provided by Roofmeadow