

Site 11: PA Department of Environmental Protection

BMPs:
Green Roof
Rainwater Cistern

Address: 2 East Main Street, Norristown, PA 19401
Property owner: Vision Properties
Website: www.dep.state.pa.us
Watershed: Schuylkill River

The Southeast Regional Office (SERO) of the Pennsylvania Department of Environmental Protection (DEP) is considered a green building. A green building is one that has been sited, designed, constructed and operated to provide a healthy environment for its occupants and to minimize its environmental impact.

DEP SERO was certified as “Gold” by the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

In addition to the implementation of Stormwater BMPs, the following helped the SERO building reach it’s LEED Gold Certification:

- Designed to reduce energy costs from \$1.12 per square foot to \$0.72 per square foot, the result of highly efficient heating and cooling systems, lighting designs, insulation and windows.
- More than 50 % of building materials were manufactured locally.
- The site is situated on a former brownfield site, and adjacent to a regional rail and bus transportation center.
- More than 20 % of building materials (by cost) contained recycled content.



Planning your visit: All visitors must:

- Be escorted by a DEP employee for the entire tour
- Scheduling a tour in advance is required
- Tour groups must consist of five or more people

Contact Info:
Heather Cowley
(484)250-5816
hcowley@state.pa.us

Hours:
Weekdays
8AM– 4PM

Parking: is available in the DEP parking garage for a fee.



Recycled Content: The fabric on the cubicle partitions are made of recycled plastic soda bottles, and floor tiles are made from either used tires or recycled glass. Specially blended cement was also used in the concrete that significantly reduced carbon dioxide emissions. Other environmentally-friendly products used during construction include low volatile organic compound and solvent-free paints, adhesives, sealants and coatings.



The green roof at the PA DEP Norristown office consists of a system of trays that hold six different species of sedum plants, arranged randomly to look like patchwork. The roof garden was designed and installed by Weston Solutions, Inc. Unlike some other green roofs, the trays can be moved. The sedums were planted in the trays one year prior to installation on the DEP building. The modular trays absorb rainwater, and the vegetation decreases stormwater runoff through evapo-transpiration.

This green roof reduces stormwater runoff and serves as a demonstration site for employees and visitors to the DEP. The 688 square feet of green roof is visible from the second floor hallway, and an outdoor walkway. The roof garden, complete with a bench and walkway is accessible to employees.

The DEP decided it was not cost-effective to cover the entire roof with vegetation since the runoff is stored in the cistern and used for other purposes.

Gray Water is Collected in a 5,000 gallon Cistern

The most obvious green aspect of the building is a 5,000 gallon wooden cistern connected to roof drains that collects rainwater. The water is then filtered and used as gray water to flush toilets and to water plants in the atrium.

“This system, combined with waterless urinals and other low-flow plumbing fixtures, is expected to enable the building to use 58% less potable water than a similarly sized non-green building.”
- Heather Cowley, PA DEP



In prolonged dry periods, the cistern can be filled with make-up water from the public water supply. Conversely, during an unusually heavy rainfall, roof runoff can be diverted to the regular storm drain system.

The highly visible rainwater cistern provides a focal point on the first floor of the building's four-story atrium, which also includes hardscaping, plantings, and benches.



Photo credits: Pennsylvania Department of Environmental Protection