THE WILLOW SCHOOL

The Willow School: Campus Water Infrastructure

Gladstone, New Jersey

from top, clockwise: Constructed wetland for wastewater treatment; Rainwater treatment system made visible for education; 10,000 gallon cistern for harvested rainwater

Wastewater treatment and reuse, stormwater management, and rain harvesting, put in place as part of a school's new water infrastructure, coincide with efforts to teach students the importance of sharing, respecting, and conserving nature's resources.

The Willow School, located on 34-acres of the New Jersey countryside, upholds a strong commitment to fostering academic excellence, a passion for learning, and an ethical approach to all relationships. The school views sustainability as a key element in students' relationships with the natural world and with each other. Children learn to share intellectual resources with peers to sustain a community. They also learn to share, respect, and conserve nature's resources. Its buildings, landscape, curriculum, and programmatic advancements are helping to create a new generation of ecologically literate citizens.

Biohabitats helped the Willow School design sustainable water infrastructure that is in line with the school's founding philosophies. Water infrastructure for the campus includes onsite wastewater treatment and reuse, stormwater management, and rain harvesting and reuse. Current campus buildings include a LEED certified Gold Classroom Building (2004) and a LEED certified Platinum Art Barn (2005). Willow has built a Health, Wellness, and Nutrition Center that is seeking Living Building Challenge certification. Biohabitats has designed a rain water harvesting system and will reuse the water in the landscape and for toilet flushing.

STORMWATER

Instead of merely reducing the impact of stormwater runoff, Biohabitats designed a system of vegetated swales to replace expensive concrete pipes and catch basins. This, in combination with reduced paving and increased natural ground covers, helped recreate the original sponge-like character of the site. A detention pond with wetland plantings saved money and improved the environmental performance of the site significantly beyond that required by a town ordinance.

WASTEWATER

In addition, all human waste generated onsite is treated with an integrated system of constructed wetlands, trickle filter, and a sand filter. The treatment cycle is so effective that treated effluent can be reused on site for irrigation and protective groundwater recharge.

RAIN HARVESTING

Rain is harvested from the Art Barn Roof and the Health, Wellness, and Nutrition Center. Rain is treated in the buildings and reused as a non-potable supply for toilet flushing. Biohabitats currently has a maintenance contract to support routine and preventative maintenance on the treatment and reuse system.

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800.220.0919
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