



## THE WILLOW SCHOOL ART BARN GLADSTONE, NEW JERSEY

**70%** less energy use

**59%** less water use

**84%** of construction waste diverted from the landfill

### LEED® Facts

The Willow School Art Barn  
Gladstone, New Jersey

LEED for New Construction v2.0  
Certification awarded November 13, 2007

**Platinum** **58\***

Sustainable Sites 9/14

Water Efficiency 5/5

Energy & Atmosphere 16/17

Materials & Resources 10/13

Indoor Environmental Quality 13/15

Innovation & Design 5/5

*\*Out of a possible 69 points*



## THE WILLOW SCHOOL ART BARN NEW CONSTRUCTION

## Integrating the Built and Natural Environments

## The Willow School Earns Platinum Certification

## PROJECT BACKGROUND

With the construction of its latest building, The Willow School looks to go beyond just using less energy to heat and cool the buildings, less potable water to flush human waste, less materials that contain toxins – the school looks for opportunities to improve the health of the natural and human systems engaged in its place. Although this regenerative model of building differs from conventional practice, once understood, it is actually easier to leverage the proposed human activities on the site in ways where they become catalysts for rehabilitating the damaged natural systems. Once functioning in a healthy manner, these systems, including the people engaged in them, begin to support the health of the place with much reduced input of time, money, and damaging “maintenance” activities. The impact of a sustainable campus environment on children is that they do not merely learn about sustainability, they integrate it into their life habits.

## STRATEGIES AND RESULTS

The LEED Green Building Rating System, produced by the U.S. Green Building Council, was used as a framework to set goals for environmental performance for the school and the design team. This framework sets environmental performance in the general categories of healthy plant/animal habitat, water quality and conservation, material resources efficiencies, and indoor environmental quality.

In addition to using the LEED framework, the health and history of the site was evaluated. The school used the work of Lewis Mumford and John Dewey as a model and performed a “regional survey of our place,” which involved a detailed study of the local environment by specialists, members of the community, and students. The recurring themes from this survey were used as a basis of design for our master plan and as a framework for curriculum. It was determined that many of the site design features and some of the building systems could be integrated into an expression of our place. This is the essential context for all human activity and a profound educational opportunity for students and community.

Looking beyond the site issues, a whole systems approach was used to evaluate building systems rather than assuming that efficient individual technical approaches are sufficient. The design team evaluated all building elements, materials, and systems as an integral part of the entire building rather than looking at each item solely on the basis of its own individual merit and cost. One outcome of this approach was the development of the following Willow School Goals and Aspirations:

1. Harvest all water and energy needs on site.
2. Be adapted specifically to site and climate and build primarily with local materials.
3. Operate pollution free and generate no waste that is not used for some other process.
4. Promote the health and well being of all inhabitants consistent with being an ecosystem.
5. Be comprised of integrated systems that maximize efficient comfort.
6. Be beautiful and inspire us to dream.

## ABOUT THE WILLOW SCHOOL

In 2001, when Mark and Gretchen Biedron, founders of The Willow School, set out to start a school, they approached the endeavor with three core objectives. They wanted to start a school that emphasized mastery of the English language, a school that combined academic excellence with the joy and wonder of learning, and a school that was rooted in a strong virtues program, grounded in the ancient Aristotelian cardinal virtues. Seven years later, the school has grown into a complex initiative, one, that with its novel approach, has become a model for educational reform on a national level. Although not originally intending to go green, the school soon recognized the inextricable link between human virtue and ecology. From the virtues program, which was designed to mentor the ethical relationships between humans, grew the commitment to mentoring that same ethical relationship between humans and our natural world and for developing a sense of personal stewardship and love for the earth.

“Going to school in our new barn really makes learning come alive.” Delaney Jones, eighth grader

“The study of the water cycle is standard fare for elementary classrooms across North America. The study of The Willow Water Cycle is not. This place, with its unique buildings resting alongside plant, animal, stream and pond is a rich, dynamic environment that instructs student, teacher and parent. For this teacher, Willow is also an ideal site to create and to refine a curriculum that embraces the ideas of sustainability and regensis.”

Paul Parker, second grade teacher



**Architect:** Hone & Associates  
**Civil Engineer:** Apgar Engineers  
**Commissioning Agent:** Engineered Energy Systems  
**General Contractor:** The Willow School  
**Landscape Architect:** Back to nature  
**LEED Consultant:** Sustainable Growth Technologies  
**Lighting Designer:** Hone & Associates  
**MEP Engineer:** Loring Engineers  
**Owner:** The Willow School  
**Structural Engineer:** Harrison Hamlett  
**Energy Modeling:** Marcus Sheffer  
**Wastewater/Stormwater Consultant:** Natural Systems International  
**Site Analysis:** Regensis  
**Regenerative Design Consultant:** Integrated Design Collaborative  
**Project Size:** 13,000 square feet  
**Total Project Cost (cost per square foot in parentheses):** 3.8 million (295/sq ft)

## ABOUT USGBC NJ

The mission of the NJ Chapter is to be New Jersey’s foremost coalition in the public and private sectors promoting the planning, design, construction, and operation/maintenance of buildings that are environmentally responsible, cost effective, productive, and healthy places to live, learn, and work.



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