

NATURAL VIRTUES

AT THE WILLOW SCHOOL, CHILDREN AND STAFF ALIKE EMBRACE THE FIVE R'S: READING, WRITING, 'RITHMETIC – PLUS RECYCLING AND REGENERATION. *NJL H+B Executive Editor Patti Verbanas* VISITS THE SCHOOL TO DISCOVER HOW IT HAS BECOME A NATIONAL MODEL OF EXCELLENCE IN EDUCATION AND SUSTAINABLE DESIGN.

PHOTO BY MATT RAINEX, FACING, FROM LEFT, COURTESY OF THE WILLOW SCHOOL (C) TODD MASON/HAIKIN PHOTOGRAPHY

There's a surprising hush inside the Willow School. Classes have ended for the summer, and workers are bustling around, starting the ambitious task of shuffling classrooms to accommodate the preschool students, who will be moving in-house from an off-site facility next semester. Despite the activity, there's one thing you don't hear: that familiar echoing din of footfalls in a school corridor. "We have cork floors in the hallway," explains Kate Burke Walsh, the school director, who can't help but enlighten me a little: "Cork's a renewable resource with a 10-year growing cycle. It absorbs sound and has a nice quieting effect."

If you step foot in this pre-K through eighth grade independent school in Gladstone, just try *not* to learn something about history or the natural world. "The buildings are also educators," Walsh says, motioning to a plaque denoting that the wood along the windows — a lovely vertical grain Douglas-fir — is recycled from fermentation vats at the former Heinz Pickle Factory in Pennsylvania. Farther down, another sign says that the ceiling tiles were created from recycled newspapers. And those exquisite terrazzo tiles in the bathroom? Recycled glass.

When touring this environmentally sensitive, energy-efficient campus, visitors are understandably impressed to learn that it's been a mere decade since Mark and Gretchen Biedron began conceptualizing a school for their children that embodied the tenets they held most dear. "For one, we wanted our children to go to a school that had a strong emphasis on communication," says Mark, a father of five.

"My wife is a speech pathologist, and it's her belief that as a culture, we're losing our language — grammar, writing, public speaking. Language is the basis of communication, and communication is the basis for relationships, so we wanted a curriculum that went beyond a basic language-arts class." This emphasis on language is exemplified in the school's Morning Gathering: Each day, all students — currently 105 — come together to hear classmates present a concept to the group. "It allows them to know they have a point of view and that they can articulate it," Walsh says. "Communication is a basic key to success."

Mark and Gretchen also dreamed of a school where children could celebrate the wonder of learning within a setting that promoted high academic excellence. "They structured the curriculum to be all about hands-on learning, exploration, and discovery," Walsh says. "Teachers create an environment that instills curiosity." To this end, the



From left: The Willow School's buildings are constructed mainly out of wood, glass, and stone. The classrooms' floor-to-ceiling windows bring nature inside. The treads, landings, and risers in the Art Barn were salvaged from a paper mill in Richmond, Va., and date back to the early 1900s. Facing: A student walks down the Schoolhouse's main hall, which is made out of cork.

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students go outside — a lot — but not on an asphalt play area. Here, as younger children gather sticks to build elaborate forts, older students, supervised by teachers, run pell-mell through the woods. “We go out in all weather, unless it’s lightning or heavy winds,” Walsh says, pointing to a rain-boot rack in the hall. “The children get into incredibly imaginative play. They barter with stones or onion grass. They learn the dynamics of getting a lean-to to stay up using just rocks.”

The third tenet the Biedrons espouse is teaching ethical relationships. “My wife and I looked at how people treated each other and wondered, ‘Where is this ethical approach to being respectful and responsible to humans?’” says Mark, who notes they started with the classical Aristotelian virtues (temperance, prudence, fortitude, and jus-

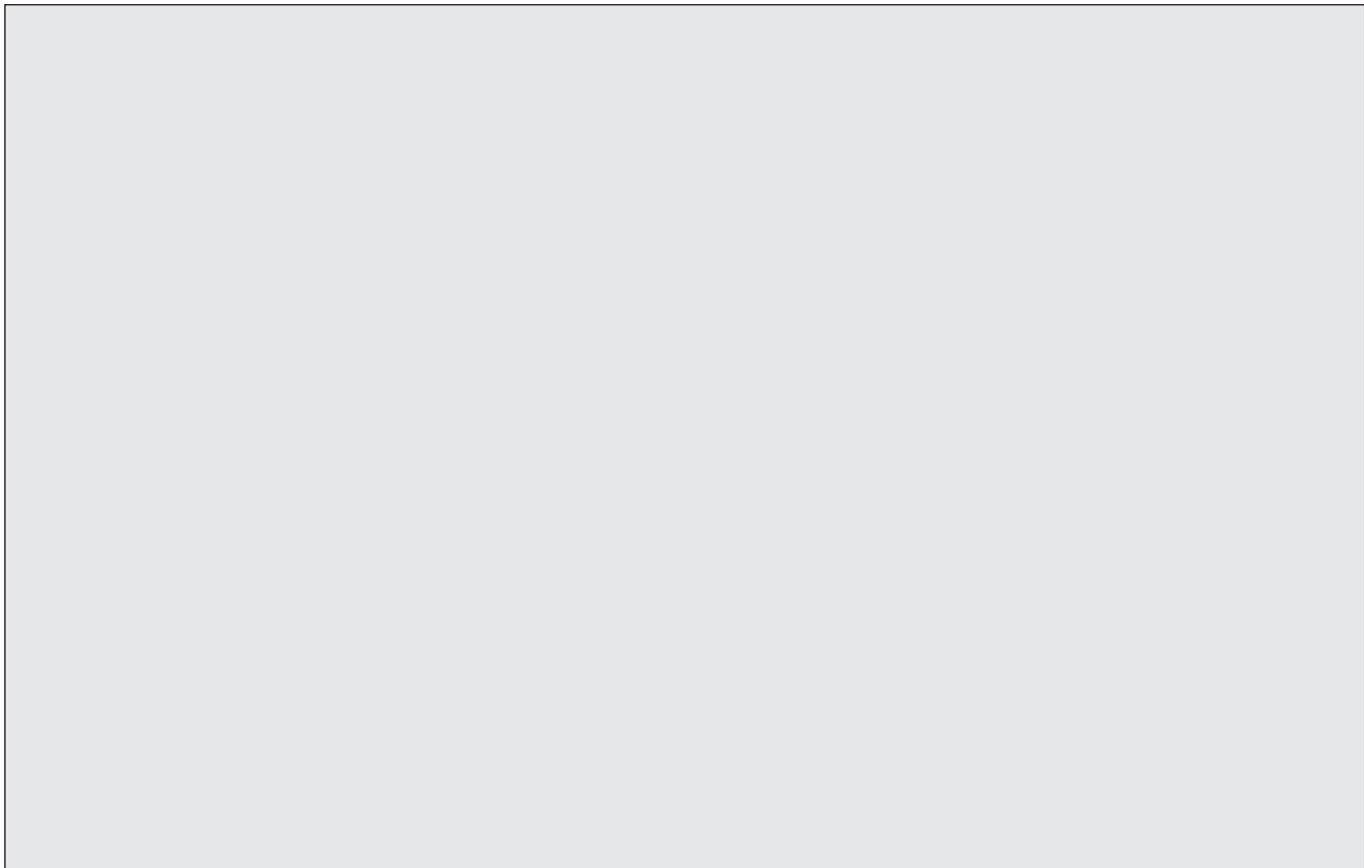
tice) and branched out from there to include others like responsibility, respect, integrity, humility, honesty, and wisdom. “These are things that we all want for our children,” he says. “Quite frankly, they are things we want for our *own* lives.” Each month, the school selects one virtue and weaves it into every lesson plan. “This allows the kids to really come to know what courage, honesty, loyalty, and respect mean,” says Walsh. (It’s no surprise that lockers here bear no locks.)

As Mark and Gretchen researched this “core virtues” curriculum, they had an epiphany: “We realized that man is nature, and if we are trying to instill ethical relationships between humans, we need to have that same relationship with our natural world,” Mark says. From this revelation was born the school’s fourth tenet: sustainability.

And here is where the Willow School

has made its mark. The campus serves as a national model for sustainable architecture. The Schoolhouse, built in 2003, is a LEED Gold certified building; it’s the third LEED-rated school in the country. The Art Barn (which currently houses grades 6 to 8, as well as the fine arts) was built in 2007 and is the state’s first LEED Platinum certified building. “Mark and Gretchen’s vision was to tailor the building to its particular landscape and have features such as good use of natural light and recycled materials,” says Michael Farewell of Ford Farewell Mills Gatsch Architects in Princeton, the firm that designed the main building.

The architecture marries the building with the landscape. Just as the children are brought outside into nature, nature is likewise brought in: The classrooms are banked on the north side, and the floor-to-ceiling windows and skylights capture the north daylight — the best light in which to read. “The kids feel the presence of



the outside very intimately, which works with the curriculum,” says Keith Hone of Hone+Associates Architects in Lambertville, project architect for the main building and the architect for the Art Barn. “The teachers and students can sit next to these windows and discuss what is going on right outside.”

When constructing the school, besides reusing materials — slate pavers from Boston’s Big Dig for walkways, recycled denim for insulation — the Biedrons, architects, and sustainability consultant Bill Reed focused on intelligent cohabitation with the environment. Both buildings are situated on an East–West axis: The south-facing side has solar panels; the north side has skylights and glass to diffuse light. Light shelves reflect the light deep into the classrooms. (“Our photovoltaic arrays allow the school to produce 40 percent of its electrical needs from the sun,” Walsh says.) To conserve electricity, sensors automatically turn lights on when it gets darker, and a little green light flashes on in

the classrooms when the outdoor temperature is between 65 degrees and 80 degrees — a signal that alerts students that the air conditioning or heating has been turned off and that it is time to open the windows and let in the fresh air. Rainwater is harvested from the roof, put through several filtration systems, and then used on-site for everything

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but drinking. The list, of course, continues.

Now, the pioneering Biedrons are ready to raise the bar yet again. Their next endeavor, a health-wellness-nutrition center, will tackle the concept of regenerative design. “We’re asking ourselves: ‘How do you make a building act like a tree so it gives back more energy and water than it actually uses?’” Mark says. “This moves way beyond LEED Platinum.”

In the journey of creating the Willow School, nature has taught all the participants — the Biedrons, architects, educators, and students — so much. There is perhaps no grander showing of gratitude that the founders can make to the natural world than designing a regenerative building that actually makes the environment better.

“People always tell me it feels good just being here,” Mark says. “And that makes sense: We as human beings are genetically hardwired to want to connect with one another and with nature. When we do, we feel good. So, if you bring nature into your building, you’re going to have this feeling. Why not give children that same feeling while they’re learning 2 plus 2?” *