

Sidwell Friends School

Green Building

Visit the KieranTimberlake Associates website to learn more about our building.

Guided by its Quaker values, Sidwell Friends is committed as an institution to practicing responsible environmental stewardship. Our curriculum is grounded in teaching students about the natural world and their relationship to it. With the decision to construct a new Middle School, Sidwell Friends chose sustainable design as a logical expression of its values. We believe that a "green building" provides an opportunity to achieve an outstanding level of integration between the curriculum, values and mission of the School.

"Green" Components of the New Middle School

There are four major components of the new Middle School building that reflect our commitment to environmental stewardship.



[Click here to view a larger version of the new middle school.](#)

Water Management:

A constructed wetland, the first in Washington, DC, treats building waste water on site. It is part of a closed system that recycles the water back to the building and lavatories. Constructed wetlands use biological processes to clean water, providing students with a vivid example of how such systems work in nature.

Green roof vegetation holds and filters rainwater; gutters and downspouts direct rainwater to a biology pond, which supports native habitat. Herbs grown by students on the green roof are supplied to the cafeteria.

Energy Efficiency:

Building orientation, passive and mechanically assisted ventilation, solar chimneys and other features reduce the need for supplemental energy for heating and cooling.

Window placement, skylights and reflective panels maximize use of natural light in new and existing classrooms.

In every classroom, a dual system of light-filtering roller shades are installed that can be adjusted to accommodate natural light changes as well as room darkening requirements for AV projection.

The use of energy for lighting in this building is 10 – 15% of that of a comparable code compliant building. This reduction in

energy use in the lighting also dramatically reduces the need for cooling in the building as a result of the heat created by lights. The integrated lighting/fenestration/shading design is the single most effective energy conserving measure deployed in the building.

5% of the building's total electrical load is generated by photovoltaic panels located on the roof.

Building Materials:

Recycled, rapidly renewable and locally produced materials such as cork, gypsum, linoleum, bamboo and wheatboard substrate were used to furnish the building. These materials are harvested with minimal environmental impact.

The skin of the building is of western red cedar, reclaimed from wine casks.

Building systems are visible.

Existing building was not demolished, but rather renovated and enlarged to further reduce damage to the environment.

Indoor Air Quality:

Paints, carpets and adhesives were selected for low emission of volatile organic compounds. Fresh air ventilation is separated from heating and cooling so that each can be calibrated to the number of occupants and outdoor temperature.

LEED Certification

Sidwell Friends has been awarded a Platinum level LEED rating for the Middle School. It is the first secondary school in the United States to have a LEED Platinum rating and the first LEED Platinum building in the District of Columbia.

Created by the U.S. Green Building Council in 1993, LEED (which stands for Leadership in Energy and Environmental Design) emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor environment quality. It is the industry standard certification program that defines high-performance green buildings and awards credits for various green building attributes. There are four levels of certification: certified, silver, gold, and platinum. The more credits, the higher the recognition and certification. In order to be a highly visible, national, model building that could serve as a demonstration site and a teaching facility, Sidwell Friends believes that platinum certification will best assist us in accomplishing this goal.

Environmental Stewardship in the Classroom

The current approach to designing green schools focuses largely on environmental responsibility and human health concerns. Sidwell Friends' new Middle School, however, is more comprehensive in its plan, providing students with an exceptional opportunity to have a direct experience with their natural environment. The new Middle School is a central part of an invigorated environmental science curriculum providing a teaching tool through which students can witness natural and human-created systems at work. The building is a hands-on laboratory for students to learn about ecological cycles. Students monitor the building functions and constantly measure the "health" of the facility. Teachers of every grade level have access to the building's exposed systems for the study of flora and fauna, rainforests, human cellular structure and environmental science, as well as many aspects of the mechanical, electrical, structural and plumbing systems.

Research has long shown that children excel when they have had the opportunity to connect the lessons they are learning with a concrete sensory experience. Sidwell Friends' new Middle School moves the curriculum beyond the confines of the textbook and allow students to gain an experiential knowledge of environmental systems and the natural environment.

Environmental Stewardship in the Community

Sidwell Friends intends to make the building available to teachers and students in the Washington area and share its curriculum with schools across the country through a variety of collaborations, including a real-time performance monitoring program via the Internet. We hope to demonstrate how schools can integrate environmental design with an environmental curriculum and switch to a path of sustainability.

Partners in Environmental Stewardship

Sidwell Friends has partnered with the internationally-recognized architecture firm KieranTimberlake Associates LLP on the Middle School project.. Based in Philadelphia, the firm is known for its research, inventive design and planning services. The School is also working with Andropogon Associates, LTD, a leading landscape architecture firm with pioneering experience in the field of ecological planning and design. Their goal for the Middle School project is to integrate the functional needs of the built environment with ecologically sound alternatives in an effort to create sustainable landscapes.

Representatives from World Resources International, the Center for the New American Dream, and the National Building Museum are all part of Sidwell's environmental advisory committee. David Orr, environmental educator at Oberlin College and Steven Kellert, Professor of Social Ecology at Yale University's School of Forestry and Environmental Studies, are serving as consultants as well. Specifically, Kellert has initiated a study for publication to assess the physical, emotional, intellectual, and interpersonal impacts of Sidwell Friends' new green Middle School on its students, teachers, and staff.

LEED Certification

Sidwell Friends Middle School has been awarded a LEED Platinum rating by the U.S. Green Building Council, making it the first Platinum-rated K-12 school in the world and the first Platinum building in Washington, DC.

Tours

To schedule a tour of our Middle School *Green* Building, please email greenbuilding@sidwell.edu. Please note that there may be limited tour availability during the summer months.