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NEW YORK CITY'S FIRST NET ZERO ENERGY SCHOOL DEDICATED

Designed by Skidmore, Owings & Merrill and named in honor of former DOE Deputy Chancellor, the Kathleen Grimm School for Leadership and Sustainability at Sandy Ground sets a new standard for energy performance

Staten Island, NY – Last month, the New York City Department of Education (DOE) and the NYC School Construction Authority (SCA) dedicated the city's first net zero energy school to the late Kathleen Grimm, former DOE Deputy Chancellor. Schools Chancellor Carmen Fariña joined students, families, staff, local officials, and design team members in a ribbon-cutting ceremony on October 22 to mark the occasion. The Kathleen Grimm School for Leadership and Sustainability at Sandy Ground, designed by Skidmore, Owings & Merrill LLP (SOM) and built by the Leon D. DeMatteis Construction Corporation for the SCA, achieves its net zero energy target by harvesting as much energy from renewable on-site resources as it uses on an annual basis. The school opened for classes this September.

Located at the intersection of Bloomingdale and Woodrow Roads, on the south shore of Staten Island, the 444-seat, 68,000-square-foot primary school is designed to comply with the SCA Green Schools Guide, a stringent rating system similar to the U.S. Green Building Council's LEED certification process and developed specifically for New York City public schools. As the SCA's first "sustainability lab," the Kathleen Grimm School will also help achieve the OneNYC goals for reduction in global warming emissions.

"By pushing for higher environmental performance with our design, we have a remarkable opportunity to define a new standard for energy efficient school buildings in New York City and worldwide," said SOM Design Partner Roger Duffy.

Situated on 3.5 acres, the school is oriented to the center of the "L" shaped site in order to optimize natural light for the interiors and the photovoltaic panels. The gym, cafeteria, library, and administrative offices are adjacent to the main entrance, while all learning spaces are on the north and south sides of the building along a double-height offset corridor.



Photo © Alberto Alas | DeMatteis Construction

The sizeable corridors promote visibility and facilitate easy circulation throughout the building, as well as bring ample sunlight to both floors of the building. Playgrounds on the north and south sides of the school provide room for outdoor activities.

The Kathleen Grimm School achieves a remarkable 50% reduction in energy use over a typical new public school in New York City thanks to its aggressive approach to sustainability. The school's many sustainable design features include photovoltaic panels on the building's roofs and south facade, skylights and reflective ceiling panels that amplify natural light, a geo-exchange heating and cooling system, energy recovery ventilators and demand-control ventilation, and a solar thermal system for hot water. The set back of the windows on the building's south facades and the vertical relief on the building's exterior reduce thermal heat gain, and also contribute to this impressive energy statistic. The south façade is sloped 70 degrees and equipped with photovoltaic panels, while the east, west, and north facades are clad with precast rain screens that span from the ground to the roof. SOM has also integrated systems for collecting data on the building's energy consumption to help benchmark the building's sustainability. Despite its significant year-round usage, the Kathleen Grimm School will achieve net zero energy consumption.

Through efficiency studies of the photovoltaic panels, the design team optimized the configuration of PV panels, consisting of various plane sizes situated at different slopes. The team designed the roof shape and central courtyard after studying sun angles. As the primary energy creator, the photovoltaic panels produce 662,500 kWh of energy to offset the energy consumption of the building and its users. The shape of the building's roof has been optimized for energy production and also creates an iconic feature that represents a core mission of the project.

The Kathleen Grimm School provides a learning environment in which the building is an active participant in the educational process. A key educational opportunity exists for students and faculty in managing energy consumption; occupant engagement in the energy saving process is vital to reaching the building's net zero energy target. Interactive dashboards displayed throughout the building present real-time data on energy usage and production, allowing for immediate feedback on energy choices and healthy competition between classes and grade levels. Engaging design continues with signage both outside the Kathleen Grimm School and in its corridors, narrating the building's numerous sustainability strategies and educating visitors and students about energy conservation. Specific sustainability nodes provide curated educational spaces with seating, as well as a touchscreen monitor connected to the building's dashboard system for impromptu lessons.

NYC School Construction Authority President & CEO Lorraine Grillo said, "The late Kathleen Grimm was a dedicated public leader and it is fitting this innovative new school, named in her honor, will lead New York City into achieving Mayor de Blasio's sustainability goals."

About Skidmore, Owings & Merrill LLP

Skidmore, Owings & Merrill LLP (SOM) is one of the leading architecture, interior design, engineering, and urban-planning firms in the world, with an almost 80-year reputation for design excellence and a portfolio that includes some of the most important architectural accomplishments of the 20th and 21st centuries. Since its inception, SOM has been a leader in the research and development of specialized technologies, new processes and innovative ideas, many of which have had a palpable and lasting impact on the design profession and the physical environment. The firm's longstanding leadership in design and building technology has been honored with more than 1,700 awards for quality, innovation, and management. The American Institute of Architects has recognized SOM twice with its highest honor, the Architecture Firm Award—in 1962 and again in 1996. The firm maintains offices in New York, Chicago, San Francisco, Los Angeles, Washington, D.C., London, Hong Kong, Shanghai, Mumbai, and Abu Dhabi.

About the New York City School Construction Authority

The NYC School Construction Authority's mission is to design and construct safe, attractive and environmentally sound public schools for children throughout the many communities of New York City. We are dedicated to building and modernizing schools in a responsible, cost-effective manner while achieving the highest standards of excellence in safety, quality and integrity.

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