

# StructuresUnlimited

ENGINEERING DAYLIGHT

## Project Report

Hudson County School of Technology

Secaucus, NJ, USA

Skylight

Architect: RSC Architects  
Photographer: Jeffrey Totaro



## Testimonial

“Our design team, working collaboratively with our educators, have created something truly revolutionary. I know that it will serve our students and staff with the resources to drive learning to the next level.”

Amy Lin-Rodriguez, school superintendent



**STRUCTURES UNLIMITED SPECS:**

Skylight
Sawtooth & Custom Shed Skylights
Aluminum Box Beam Frame: 5" x 10"   6" x 13"
Aluminum Finish: #79 aluminum
Size: 16' x 73'   41' x 177'

**KALWALL PANEL SPECS:**

Panel: 2.75"
Grid core: shoji
Exterior FRP: crystal
Interior FRP: crystal
Panel U-Factor: 0.23
Solar Heat Gain Coefficient: 0.33
Visible Light Transmission: 30%

**PROJECT CREDITS:**

Architects: RSC Architects   DMR Architects
General Contractor: Terminal Construction Corp.
Photographer: Jeffrey Totaro

**WHY STRUCTURES UNLIMITED?**

Single source turnkey solutions include:
Technical sales consultations
Estimating + budgeting services
Daylight modeling services
Design + engineering services
Drafting + modeling
Project management
Precision fabrication
Professional installation

**CREATING A STUNNING AND ENERGY-EFFICIENT LEARNING ENVIRONMENT**

Architects and educators are constantly working together to find new ways to enhance the learning experience in schools and classrooms. But there is one constant when designing buildings for students: natural daylight. Studies have consistently shown that introducing natural daylight into a classroom increases mood, attendance and overall performance.

The project team for the Hudson County School of Technology in Secaucus, N.J. embraced this strategy with widespread use of daylighting solutions by Structures Unlimited Inc. and Kalwall®.

The 350,000-square-foot building, which cost \$160 million to build, includes a spectacular Skyroof® over the school's main atrium that combines Structures Unlimited's low maintenance, corrosion and moisture resistant aluminum box beams with Kalwall's lightweight, composite panel technology. Structures Unlimited, a leader in large scale daylighting systems and strategic partner of Kalwall, provided design control, fabrication, delivery and complete installation of the Skyroof and a custom shed skylight that greets students at the main entry corridor.

Patterned after a similar project that Structures Unlimited designed for an award-winning school in Washington, D.C., the Skyroof and skylight engulf students in glare-free museum quality daylight™, creating a stunning and comfortable energy-efficient environment that minimizes heat loss in the winter and provides virtually no solar heat gain during warmer months.

"The main Skyroof is a direct reflection from the Dunbar High School project in Washington, but on a larger scale," said Kalwall's Steve Del Guercio. "The dimensions and engineering were unique to this project."

In addition to the main Skyroof and skylight, the school's gymnasium features Kalwall translucent panels on three levels, with a front elevation that has arched topped heads and a barrel-arched roof. There are also six self-supporting ridge roof Kalwall skylights over meeting rooms, classrooms and offices that bring the proper amount of natural daylight into the building. A highly respected study by the Heschong Mahone Group showed students in classrooms with the most daylighting progressed 20 percent faster on math tests and 26 percent faster on reading tests over a year period than those with the least daylighting.

The magnificent, state-of-the-art facility was completed in 2018 and is a model for sustainability, receiving LEED Gold certification. In addition to unparalleled daylighting from Structures Unlimited and Kalwall, the project utilizes wind turbines, geothermal heating, 27,000 square feet of solar panels and 20,000 square feet of green roofs. The school serves more than 1,200 students and is set on 20 acres. It includes four areas of vocational education: Culinary Arts, Design and Fabrication, Applied and Environmental Services, and Visual/Tech and Performing Arts.

"The (Frank J. Gargiulo Campus) will quickly become the gold standard for technical high schools across the country," said Amy Lin-Rodriguez, acting superintendent of the school. "Our design team, working collaboratively with our educators, have created something truly revolutionary. I know that it will serve our students and staff with the resources to drive learning to the next level."

**Awards:**  
**LEED Project of the Year: Schools**  
 U.S. Green Building Council New Jersey

**Educational Interiors Showcase: Outstanding Design**  
 American School & University

