

Saint Xavier High School Louisville, Kentucky



Education | Case Study



CLIENT

Saint Xavier High School: Sangalli Center

CHALLENGE

Provide form and function – Find a cost-effective way to capture as much daylight as possible to create an inspiring, adaptable learning space in the center of Saint Xavier High School.

RESULTS

Solatube tubular daylighting devices (TDDs), paired with daylight-sensitive light dimming, enable the interior space to be exposed to natural light while reducing energy consumption and optimizing the wellness of occupants

PRODUCT

(9) Solatube SolaMaster 750 DS-C units

SOLATUBE DISTRIBUTOR/INSTALLER

Shaffner Heaney Associates

ARCHITECT

JRA Architects

BACKGROUND: Saint Xavier High School launched a \$51 million initiative called the X Effect Campaign in November 2019. As part of the initiative, the school first wanted to renovate the existing library to create a learning center that could fulfill the modern needs of its students. The center's prominent location along the street made it an ideal investment both to upgrade the school's existing street presence and to reinvigorate a primary learning space that had few upgrades since opening in 1973.

With \$7 million devoted to this project, the architects at JRA Architects proposed maintaining the existing building shell, but strategically repurposing materials and building a new classroom space along the street to create a new community landmark and address the school's current overcrowding. The new space, which is now known as the Dr. Perry Sangalli Interactive Learning Center, would reinvigorate the media center as the heart of the education campus.

"Our team has used Solatube Daylighting Systems across a wide array of projects because of their affordability and efficiency. When faced with this daylighting challenge at Saint Xavier High School, we knew Solatube could help us meet our goals."

- Colin L. Drake, AIA, LEED AP of JRA Architects



CHALLENGE: Saint Xavier and its partners had to weave through the complications that came with building the new center in the midst of the COVID-19 pandemic. These complications included local and national delays in the supply chain, forcing them to get creative and work where they could, with the materials they had available. The school leaders had emphasized that they wanted the entire space to be bright and inviting, sparking both academic success and creativity. This left the architects with the challenge of finding a cost-effective way to capture as much exterior daylight as possible for the public circulation and gathering space that once stitched the two former buildings together. The design team knew they needed a way to deliver an ample amount of natural light to the space without raising energy costs.

Colin L. Drake, AIA, LEED AP of JRA Architects, explained, “Our team has used Solatube Daylighting Systems across a wide array of projects because of their affordability and efficiency. When faced with this daylighting challenge at Saint Xavier High School, we knew Solatube could help us meet our goals.”

“Solatube products have consistently delivered optimized daylight performance across a diverse range of project types. The various daylighting products afford designers a range of options that coordinate with high performance, high design buildings, all at a great value,” added Drake.

SOLUTION: JRA Architects worked with their local Solatube Distributor, Shaffner Heaney Associates, to develop a daylight analysis of the proposed space, which was paired with their electrical engineer's nighttime photometric to develop the optimal spacing of the Solatube Daylighting Systems and conventional lighting.

Nine Solatube 750 DS-C units paired with daylight-sensitive light dimming and two conventional lay-in light fixtures were used to evenly distribute natural daylight in the two-story atrium while greatly reducing energy costs. The all-in-one design creates unique-looking lighting elements that march through the space while delivering a cost-effective daylighting solution for the school.

RESULTS: Through a combination of renovations, the 40-year-old media center was transformed into a more acoustically controlled, bright and inviting student destination at the heart of campus. The daylit learning commons not only serves as a media center breakout area but an adaptable learning space and venue for extracurricular meetings and events. The natural fluctuations and quality of light in the space now offer students an ideal environment for learning, where access to daylight and quality views have measurable benefits to academic outcomes and occupant wellbeing.

Get design help or information for your next project.
Visit <http://www.solatube.com/commercial>
or call 1-888-SOLATUBE.

Solatube International, Inc.
2210 Oak Ridge Way | Vista, CA 92081 | 888.765.2882
www.solatube.com | ©2023 Solatube International, Inc.

