



Photos by Bill Lemke

Project Overview

Project:

Quabbin Regional High School

Location:

Barre, MA

Architect:

Boston Bay Architects

General Contractor

Kronenberger & Sons Restoration, Inc.

Product:

Quadwall®

Sq.-Ft.

8,950 sq. ft.

Quabbin Regional High School

Achieving the Private School Feel in a Public School: How an Updated Skylight Solved Quabbin High School's Daylighting Problem

After only a decade of use, the skylight at Quabbin Regional High School in Barre, Massachusetts had deteriorated beyond repair. The skylight's ability to perform had been compromised by thermal and wind movements, repeated leaks, and yellowing to the point that it was non-compliant with current energy and state building codes. In fact, an investigation by the Massachusetts School Building Authority called the skylight

“structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children where no alternative [to replacement] exists.”

“The product they had up there was outdated and it wasn't worthwhile to put back,” said Elvin Phillips of Boston Bay Architects, based in Allston, Massachusetts. “In our research, we found the CPI daylight system and we used it because we liked the detailing

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CPI Daylighting's Quadwall® barrel vault skylight, with additional high performance insulation and two single-slope skylights running the length of the barrel vault on both sides provided Quabbin the solution it desperately needed. The 8,950 sq. ft. project was specified in clear over clear matte glazing to achieve maximum daylighting without any glare. “The added insulation is just so much higher than the other products to consider with a thinner envelope,” said Phillips. “This is a huge skylight so the amount of energy mathematically that you save made a compelling argument. The school will probably make their money back on that within five to ten years, that's for sure.”

The Quadwall system is an assembly of two independent translucent insulated panels, resulting in one integrated and high-performance daylighting system. It is the only system that can provide indefinite building envelope protection with its removable exterior glazing feature. The panels are

scalable and can be configured with various features while maintaining its integrity, including: additional insulation (chosen by Quabbin), Class A fire-rated roof assembly, sound reduction, dynamic shading, additional structure performance, and even military forced entry resistance. The system is joined by a mechanically interlocking connection, and eliminates the need for vulnerable adhesives. This adds durability as well as even light distribution with the system's patented tight-cell technology.

The new and improved skylight provides daylight to the school's multi-purpose space that serves as a gym, cafeteria, and more for its 1,200 students. It has already made a big impact in the past year since its installation. “It's a nice, bright area now. Schools that come here for sporting events see the skylight and say, ‘Wow! Is this a private school?’ No, we are a public school,” said Claire Barnes, the Facilities Director in the Quabbin Regional School District. “Everything is working fine; the skylight is tight – the way it should be.”