



CASE STUDY

Rock Island High School | Rock Island, Illinois

BILCO's Acoustical Smoke Vents Solve Design Dilemma for Illinois School

When Rock Island High School's doors first opened to Illinois students in 1937, the architectural masterpiece represented more than aesthetic achievement — it embodied a community's commitment to education and safety. A recent smoke vent upgrade offers a compelling blueprint for preserving historic buildings while enhancing fire protection and life safety systems.

The statistics are sobering. According to the National Fire Protection Association, U.S. fire departments responded to an estimated 4,150 structure fires at educational properties in 2023. While most school fires remain confined incidents, the potential for catastrophe looms large in buildings constructed decades before modern fire codes existed. Rock Island High School, having survived multiple fires in its history — including a devastating 1949 blaze that required reconstruction — understands this reality better than most.

The school's recent decision to replace its aging "doghouse" style smoke vent with a modern BILCO acoustical unit represents a strategic investment in both safety and functionality. The old vent, likely installed in the 1950s, had outlived its usefulness, developing leaks that required constant patching.

RTM Engineering Consultants faced the delicate challenge of removing the deteriorating vent piece by piece without compromising the roof structure. Project Manager Mitchel Boever's team understood that preserving the building's architectural integrity was as important as enhancing its safety capabilities.

"We had to find the correct areas to cut it apart and dismantle it, but the existing roof needed to be left in place. It had to be removed piece by piece," Boever said.

RTM selected BILCO's acoustical smoke vents for their noise-diminishing properties and the company's ability to solve a design challenge. BILCO smoke vents include a Thermolatch® II positive hold/release mechanism that ensures reliable vent operation when a fire occurs. They are engineered with powerful gas spring operators to open covers in snow and wind.

"We wanted to match the same curb area and upgrade it to a new smoke vent," Boever said. "BILCO was able to provide a customized solution, making the roof work minimal, which is a huge cost savings for a public school district."



BILCO acoustical smoke vents deliver an industry-leading OITC-46 and STC-50 sound ratings. This acoustic performance is crucial for a venue hosting concerts, theater productions, and community events. The vent's ability to minimize exterior noise interference ensures that Rock Island's cultural programming can continue without disruption.

"There wasn't an obvious threat from exterior noise," Boever said. "Because it was over a stage, we wanted something that would not impact stage performance."

Crawford Company was the installing mechanical contractor for the project. McCoy and Associates, BILCO's manufacturer's representative in the region, provided the smoke vent and technical support for the installation of the smoke vent.

As school districts nationwide confront similar infrastructure challenges, Rock Island's example demonstrates that historic preservation and modern safety standards need not conflict. The key lies in selecting innovative solutions that honor the past while protecting the future.