

A RETROFIT FOR THE FUTURE CASE STUDY

YONKERS CITY HALL
YONKERS, NY



G **GRAHAM**
ARCHITECTURAL PRODUCTS



“They are high-quality, low-maintenance, commercial-grade windows which closely match the existing window profiles.”

-Brad Tito, Director of Sustainability, Yonkers, NY

+ PROJECT SNAPSHOT

Architect

Samuel Anderson Architects

General Contractor

Arrow Steel Window Corporation, Gary Galati, Principal

Window Design Consultation

Bill Homer, Graham Architectural Products,
Manufacturer Sales Rep
Michael DeRosa Jr., Graham Architectural Products
Vice President of Business and Product Development

Product

Series GT6200

Assignment

Bring greater energy efficiency to a 100-year-old building while meeting New York State Historic Preservation Office standards in the course of replacing 532 windows.

+ CHALLENGE

The Climate Smart Communities program is a New York State initiative to help local communities reduce greenhouse gas emissions, prepare for effects of climate change, and save taxpayers money. As part of the initiative, the City of Yonkers put together an Energy Action Plan, which revealed that the largest source of energy costs for the city is its buildings, and more than half of those costs are from electricity. The plan identified the retrofit of city buildings for energy efficiency as a top priority. Meanwhile, draft and water infiltration problems had been plaguing the windows in City Hall – the city’s third largest energy consumer – since at least 1966. The time had come to do something about it.

+ WHERE ENERGY EFFICIENCY MEETS HISTORIC INTEGRITY

A stately old building high on a hill, Yonkers City Hall houses the classic courtroom that contained much of the action in *My Cousin Vinny*. In fact, says Michael DeRosa, Graham Architectural Products’ vice president of business and product development, “One of my meetings was in the court room, and I walked in and I said, ‘Mrs. Riley and only Mrs. Riley.’ I just had to let that out. It’s my favorite movie.”

Despite that cinematic claim, City Hall had a nagging problem. The city of Yonkers was spending about \$250,000 a year on energy for the building. Windows were a chief culprit and had been since at least 1966.

In a presentation to city council, Yonkers’ Director of Sustainability Brad Tito said, “The problem is that most of the existing center-pivot windows do not close to a true seal and some are completely inoperable or taped shut. Drafts and water infiltration are serious problems.

“... In order to control energy costs and maintain City Hall in a state of good repair, we need to address the windows.”

The city explored repairing the windows, even though the State Historic Preservation Office (SHPO) was pressing for replacement.

However, the project architect determined that “repair would be too expensive given the poor conditions of the windows,” Tito said. And SHPO agreed following a site visit and review of the documents, provided replacement was able to “maintain the historic character of City Hall.” Tito went on to define the “character” of the windows in terms of their “simplicity, color, the proportion of glazing to frame and sash, the transom above and window below, as well as some of the trim details.”

Don’t let “simplicity” fool you: The assignment was challenging.

The city was looking for tilt and turn windows that closely replicated existing sightlines and featured concealed hinges. It wanted the panning and trim replicated too. Compounding the degree of difficulty was the need to match three interior finishes, two woodgrain and one solid color. Graham Architectural Products (GAP) proposed a center-gasketed GT6200 window featuring a 24 mm strutted thermal break for maximum thermal performance. It worked in a lot of ways:

- By incorporating several new dies and custom brake form shapes, GAP was able to match the panning and trim.
- By utilizing hardware from Savio, a European leader in hardware for aluminum windows and doors, GAP was able to conceal the hinges and offer a safety feature that enables a custodian to use a key to unlock windows and swing them open like doors for ease of maintenance.

- By using our expertise in replicating finishes, we were able to develop powder coat solutions that matched the different wood grains and met the city’s needs. We were able to couple those interior finishes with a durable Kynar® exterior finish.

- And by applying our engineering and manufacturing expertise, we were able to create and curve the true third interior muntin to match the historical interior contoured triple grid.

In the end, Yonkers selected Graham’s proposed aluminum solution over wood awning and hybrid wood/aluminum alternatives because, as Tito told council members, “They are high-quality, low-maintenance, commercial-grade windows which closely match the existing window profiles.”



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