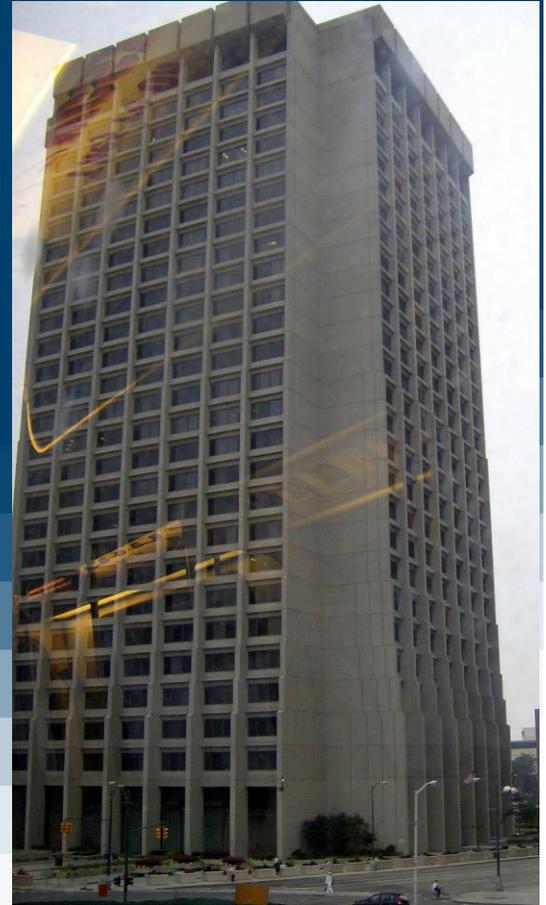


Case Study

Patrick V. McNamara Federal Building Detroit, MI

Capital Reduction



The Patrick M. McNamara Federal Building, located in downtown Detroit, Michigan, is a class A skyscraper. It features approximately 1,000,000 square feet (93,000 m²) on 27 floors and is designed in the brutalist architectural style. The corners are recessed providing additional strength to the structure and eliminating the battle for corner offices.

The building was named after former US Senator Patrick Vincent McNamara, who served Michigan from 1955 to 1966 and houses a variety of government agencies, including the Consumer Product Safety Commission, Army Corps of Engineers, Defense Contract Management Agency, Federal Bureau of Investigation, Internal Revenue Service, Peace Corps, Railroad Retirement Board and Social Security Administration.



THERMOLITE 
WINDOW SYSTEMS



The McNamara Building is a 27 story skyscraper in downtown Detroit and is home to several government agencies.

A Need for Modernization

As part of the GSA's initiative to reduce the environmental footprint of federal buildings and make them as green and energy efficient as possible, a series of projects to modernize and improve the performance of the McNamara Building's HVAC system was put into place.

To accomplish the task of improving the building envelope, Thermolite was called upon to install interior insulating windows.

A total of approximately 90,693 square feet of glass (8,425 m²) was used in the McNamara Building at a total cost of \$1,543,404. Thermolite installed 2,440 RetroWAL™ Silver Series with between glass blinds.

The RetroWAL™ window system was able to reduce the air infiltration that was contributing to the need for significant heating and cooling costs in the McNamara Building.

This was accomplished by sealing the window seams that were allowing in outdoor air and requiring additional HVAC system usage to maintain temperature. RetroWal also increased the existing glass R value.

Immediate Results and Long Term Savings

As a result of the performance of Thermolite's interior insulating windows, GSA was able to downsize the HVAC system upgrade of the McNamara Building. This yielded an immediate savings of more than \$1.5 million in their project budget.

The GSA also found that after the installation of Thermolite's RetroWAL retrofit window system, there was an annual energy savings of approximately \$400,000 in the McNamara Building.

McNamara Building Project Highlights

- 50% reduction in heating loads
 - 21% reduction in cooling loads
 - \$1.5 million decrease in HVAC upgrade costs
 - \$400,000 annual energy savings
- Immediate ROI***

*Window cost was 100% offset by savings in HVAC equipment.

Heating loads were reduced by over 50% and cooling loads reduced by 21%. The ability to reduce the mechanical equipment size paid for the window retrofit entirely.

Tenants of the building also reported being more satisfied with the temperature and sound control of the building.

“THE STEAM SAVINGS PROVIDES A VERY HIGH LEVEL OF SAVINGS DUE TO THE SIGNIFICANT REDUCTION IN COLD AIR INFILTRATION AND REDUCED HEAT LOSS THROUGH THE WINDOWS.”

Robert Calloway, PE

President

Global Facility Solutions, LLC



The McNamara Building occupies the entire city block of Howard and Second Streets, and Cass and Michigan Avenues.

Additional Findings

URS, the nationally recognized A&E firm as the architect of record, was under contract with GSA to perform the Mechanical, Electrical and Plumbing analysis for the modernization of the facility.

As part of this work, URS conducted an energy analysis, which reaffirmed the annual energy savings and provided a summary of the HVAC load calculations.

The final load calculations were based upon the incorporation of the Thermolite system but ignored the effect of the between glass blinds. This resulted in an equipment requirement of eight (8) AHU for an estimated cost of \$6M versus \$7.5M as originally specified.

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