

Mitchell Associates Architects Designs and Builds New Main Station for Midway (NY) Fire Department

05/01/2018

By Alan M. Petrillo

The Midway (NY) Fire Department had to replace an original main station built in 1951 that was located on a busy highway and, despite two additions that were completed in 1987 and 1992, was in poor condition.

An evaluation by a local engineering firm determined that the station had so many problems that it would be more economically feasible to demolish the old station and replace it with a new one.

DECIDING TO GO NEW

Charles Rappazzo, Midway's building committee chair, says the department had C.T. Male Associates evaluate the old building. "They found we had unsealed asbestos ceilings above our drop ceilings; the Stowe exterior finish (mesh over fiberglass insulation covered with cement) on the outside of the addition was not installed and sealed properly so that it leaked, giving us mold and mildew issues; concrete block had deteriorated; some of the second floor supporting wood joists were either not touching the walls or were rotting away; and the roof had rotted near a chimney membrane covering," Rappazzo points out. "They told us it would cost \$3 million to make repairs to the old building, while a brand new structure would cost \$3.5 million. We chose to go with a new fire station."

Bob Mitchell, principal in Mitchell Associates Architects, says his firm won the contract from Midway to design and build the new station. "The fire department worked out of its Station 2 on Consaul Road, which also is the district headquarters, while we knocked down Station 1 and built the new station," Mitchell notes. "The finished design that Midway chose became a 15,474-square-foot station with three apparatus bays, two double-deep drive-throughs, and the third a single deep with space behind it to hold all the firefighters' turnout gear in lockers."

Rappazzo notes that during the 11/2-year construction time for the new Midway Station 1, firefighters responded out of Station 2, where their gear and apparatus had been relocated. "We moved our midmount aerial ladder and two engines into the three bays at Station 2, left the pickup truck outside, and put the squad unit out back," he says. "We also squeezed in more lockers so the firefighters would have their turnout gear there, but it was very tight, and we were always bumping into each other when dressing for a call."







FUNCTION WITHOUT FRILLS

Midway Fire Department is located midway along the heavily traveled State Route 5 commercial corridor connecting Schenectady and Albany, New York. The department is staffed by 55 volunteer firefighters who respond to more than 300 calls a year and provide fire protection and emergency medical services to approximately 3.2 square miles of residential and commercial properties.

Rappazzo points out that the department wanted a new Station 1 that was “functional but not

fancy. It came out very well, a place that's very easy to get around and very easy to work in," he says.

Mitchell says that the station design includes a tailpipe exhaust capture system in the apparatus bays, an air-tight boundary between the clean and dirty side of the station, no ductwork passing through the boundary between clean and dirty areas, constant heat recover ventilation, 95 percent efficiency heating combustion, variable frequency drives for all pumps and fans, and LED and T5 lighting. Total cost, he notes, was \$4,161,973, or \$269 per square foot.



A decon laundry room is located on an outside wall adjacent to the apparatus bays.

The exterior of Midway Station 1, Mitchell says, is made up of concrete masonry units (CMUs) as its external skin, with a shallow-pitch roof of $\frac{3}{8}$ inch per foot with drain structures on the roof to capture water and channel it to storm drains, as well as scuppers as roof overflow devices. “When Midway had the wet down of the new station, they and other departments invited to the ceremony sprayed the station with so much water that water was shooting out of the overflow scuppers to about 40 feet away from the building,” he says, “so the overflow scuppers certainly were doing their job properly.”



The Midway Fire Department's members room in the new station.

Regarding the air-tight boundary in the station, Mitchell says there are two air streams, one outgoing and one incoming, which are separated by plastic films. The heat of the outgoing airstream gets transferred by 70 percent to the cold incoming airstream without the transfer of any contaminants, he notes, allowing the system to recover 70 percent of its heat.

Mitchell says that Midway also chose to have low-E glass in the apparatus bay doors, which does not transmit ultraviolet light that can damage turnout gear and other equipment, and went with LED lighting in the station as well as T5 fluorescent lighting (5/8-inch-diameter), which was used in the various offices.

Rappazzo says that Midway firefighters and officers are pleased with the end result of Station 1. “We designed a station that we thought could last 100 years,” he says, “and planned for the future when expansion or changes might be necessary to accommodate changing needs of the department. The space we are in is very easy to work in and came out very well. We’re really pleased with the result.”

ALAN M. PETRILLO is a Tucson, Arizona-based journalist, the author of three novels and five nonfiction books, and a member of the *Fire Apparatus & Emergency Equipment* editorial advisory board. He served 22 years with the Verdooy (NY) Fire Department, including in the position of chief.

