

Paoli, Pennsylvania

VILLAGE SQUARE



CHALLENGE

Creating and maintaining a comfortable environment for all four floors of each home in a new 30-townhouse community

SOLUTION

Zoned Comfort Solutions® from Mitsubishi Electric

RESULT

True zoning for a low monthly utility cost

Village Square is a new development in Paoli, Pennsylvania. The project is constructing a 30-townhouse community¹. With a handful of homes already completed, and the rest slated for completion through the end of 2018, it is already evident that Village Square brings something important to the area. Each home in the community offers residents 2,711 square feet of space spread across four floors. And each offers an advanced cooling and heating system that ensures year-round performance and utility savings for owners: Hyper-Heating INVERTER® (H2i®) technology from Mitsubishi Electric Zoned Comfort Solutions®.

Tad Vaughan is the vice principal at Vaughan and Sautter Builders, Wayne, Pennsylvania. He said, "Townhouses are popular in this area. The cost of land doesn't fluctuate, so if you can put more units on your land, the price per unit comes down, making the price of each unit more attractive for potential homebuyers." Vaughan

also explained that townhouses let homeowners increase their budget for necessities "and spend less on the things they don't need, like maintaining their yard. So townhouses offer an efficient solution."

With the objective of offering maximum value, Vaughan said his "goal was to provide the highest square footage possible in each of the units. From an HVAC perspective, the challenge was finding a system that would allow us to decrease the size of the ductwork and provide a high-efficiency system."

Vaughan also favored zoned technology based on prior experience. "We have completed a number of high-efficiency projects – computer server rooms, detached garages and home additions. For the Village Square project, the Mitsubishi Electric technology would allow us to provide four separate floor zones. Having this separation allows the homeowner to create four different



comfort zones, while the variable speed [compressors] lets the homeowner efficiently control energy savings while controlling the individual zones for maximum comfort.”

Chadds Ford Climate Control, Inc., Chadds Ford, Pennsylvania, regularly partners with Vaughan and Sautter Builders in designing and installing cooling and heating systems. Operations Manager Ken Blackburn supported the selection of Mitsubishi Electric zoned technology as a smart choice for Village Square based on addressing the space limitations and providing energy savings. “Projects like Village Square, if we had selected a conventional system, would have required multiple outdoor units. With a high-efficiency Mitsubishi Electric system, multiple indoor units can be supported on one outdoor unit, and the components all fit in a small space. This system also provides Mitsubishi Electric ‘brand appeal’ and advanced controls, both of which match the expectations of higher-end townhomes.”

After some back and forth, the team decided in favor of the Mitsubishi Electric system. Vaughan said, “They have a great product that offers multiple styles – like ducted or wall-mount ductless – letting us zone each floor individually. That was very appealing to us. And we needed to be able to operate without back-up heat, so the hyper-heating technology also

offers a great fit. The overall product has come a long way.” Blackburn added, “The Mitsubishi Electric design offered the best building space utilization per floor – creating a straightforward layout that was easier to install in a confined space. The installation was completed on a floor-by-floor basis. In short, Mitsubishi Electric is one of the better system designs on the market.”

Blackburn also discussed how the “Mitsubishi Electric brand is supported by our distributor, Peirce-Phelps, Inc. Their engineering team worked side by side with us on the Village Square project design. It was great. They were very helpful throughout the project.”

Vaughan described the installation as “being fairly easy, even with 14-inch joists. The smaller ductwork made it easier, and placing line sets required minimal work. The wall[-mounted] units were straightforward.” The team also installed two ducted units in each home, combining ductless and ducted technologies “to allow for more air circulation.”

“The system works well. Our first tenant moved in last week and we showed them how to control their temperature through REDLink™. He was really pleased with it,” said Vaughan. Thinking ahead to future homeowners’ experience, he said, “I

think people will love the fact that they can’t hear the system. They’ll almost forget it’s there. And they’ll have four zones and full comfort control. The advanced controls system is great – they will have the ability to control the temperature from Florida or the shore or wherever they are.”

Vaughan was also encouraged by local realtors’ reaction to the system, since “we count on them to convey what the positives really are. We went the extra mile by having the realtors visit the local distributor; they saw systems operating and talked to technicians and contractors. They were especially impressed by the [wall-mounted units’] infrared

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— Tad Vaughan, vice principal, Vaughan and Sautter Builders

¹ The project is being completed by Village Square Construction Company, LLC, a collaboration between Vaughan and Sautter Builders, Wayne, Pennsylvania and the Nolen Companies, Prussia, Pennsylvania.

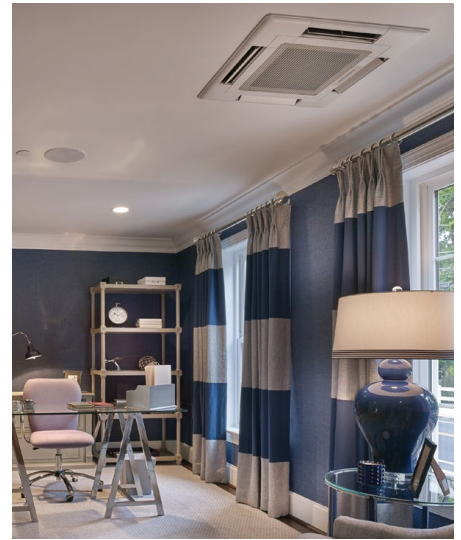
sensor and its sophistication. Overall, the realtors are supportive of the Mitsubishi Electric system and the additional value provided to Village Square customers.”

The reduced energy costs have also created value. Vaughan owns one of the townhouses himself, and he pays about \$100 per month to cool, heat and light his unit. He expects many of the units – the ones on the interior – to have even lower electric costs, perhaps \$50 to \$75 per month. The U.S. Energy Information Administration’s most recent energy survey shows Pennsylvania residents are paying an average of \$196/month for energy, making a Village Square home expenditure approximately one-half of its neighbors’.

These numbers are not surprising given the results of a recent energy audit. Between the ENERGY STAR® rated Mitsubishi Electric equipment, ENERGY STAR appliances, LED lighting and other efforts, the development’s energy certificate is impressive. It establishes Village Square as a leading benchmark for building townhomes with superior energy efficiency combined with air-

tight construction, showcasing what it looks like to deliver a home with maximum comfort. The Mitsubishi Electric equipment results from the audit demonstrated great ratings: 16.8 SEER, 10.75 EER and 10.5 HSPF.

Blackburn wasn’t surprised by the final product, nor has he been surprised by homeowners’ excitement over zoned technology and advanced controls. “People love to talk about these systems. They especially like the wall-mounted unit’s infrared eye that searches for cold spots in the room and adjusts accordingly. When we present our projects at trade fairs, there is always a lot of interest in Mitsubishi Electric systems. They have really established a new benchmark compared to competing brands. They are much more efficient and reliable.”



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PROJECT TEAM

Builder/Developer:

Village Square Construction Company, LLC (Vaughan and Sautter Builders, Wayne, Pennsylvania & the Nolen Companies, Prussia, Pennsylvania)

HVAC Contractor:

Chadds Ford Climate Control, Inc., Chadds Ford, Pennsylvania

Distributor:

Peirce-Phelps Inc., Blue Bell, Pennsylvania

EQUIPMENT

- ▶ (1) MXZ M-Series Outdoor Unit
- ▶ (2) MSZ Wall-mounted Indoor Units
- ▶ (1) SEZ Horizontal-ducted Indoor Unit
- ▶ (1) SLZ 4-Way Ceiling-recessed Cassette Indoor Unit
- ▶ (4) Wireless Wall-mounted Thermostats