

Project

Name
Perry Creek Townhomes

Location
Midland, MI

Completion Date
2011-present

The Team

HVAC Contractor
Answer Heating & Cooling

HVAC Distributor
Shoemaker

Fujitsu Equipment

(5) AOU12RLFV

(20) AOU15RLS

(15) AOU18RLXFZ

(6) AOU15RLS2

(10) AOU12RLS2H

To be installed Spring 2015

(13) AOU12RS2H

(10) AOU12RS3H

(7) AOU18RLXFZH



Big Energy Savings for Townhomes

Perry Creek Townhomes is a 38-acre multi-family development located about a mile from the Dow Chemical headquarters in Midland, Michigan. The buildings at Perry Creek Townhomes have six rental units, each with an attached garage. One, two and three bedroom models are available in a row-home configuration. With models anywhere between 800-sq.ft. and 1,500-sq.ft., the GC wanted to keep as much area as possible for living space. Phase one and two, which started in late 2011 and early 2013 respectively are now complete, with phase three well underway. The 56 completed units are all occupied, while most of the incomplete units are already under contract. The future of Perry Creek Townhomes looks twice as bright, with the Dow family of companies next door, constantly recruiting more talent. When Perry Creek is finished, 150 families will call the subdivision home.

Design Challenge

The GC wanted to keep as much area as possible for living space. So Answer eliminated the need for a mechanical room. Fujitsu ductless split systems heat and cool the homes, allowing Answer to remove all indoor equipment except the water heater. Evaporator units occupy only the smallest wall space while the compact condensing units reside outside. Other advantages of using mini-split systems were the ability to get rid of ductwork and crawlspaces and reduce energy bills. Perry Creek rental units that were occupied in 2013 show significant savings over three other subdivisions that the GC owns. The month of August showed that a

Perry Creek home with Fujitsu ductless systems averaged \$155 less per month than a home in another nearby subdivision with heat pumps and central AC - a savings of 68%.



Solution

Fujitsu systems were chosen to meet the needs of the design challenge not only to save space, reduce energy consumption and eliminate ductwork, but also to provide adequate heat in our climate. Energy efficiency and ease of maintenance were definitely the main driving force behind the change in equipment. The Fujitsu systems at the facility range from 18 to 27.2 SEER, dismissing the concern of efficiency almost immediately. After efficiency was addressed, the need for adequate heat was again revisited and that is when Answer became educated on Fujitsu's Halcyon XLTH line. The Halcyon XLTH line operates at lower ambient temperatures than other ductless heat pumps on the market, and the units that Answer chose are able to provide sustained heating until outdoor temperatures drop below -15°F, thus fulfilling the need to provide adequate heat in their climate.

Results

The majority of the units are single-story, ranch style structures, served by one 15,000 BTU 15RLS2H. The evaporator is located near the entry to the home, moving air towards the kitchen and bedrooms. In the two-story floor plans, and 18,000 BTU, dual-zone compressor is connected to two 9,000 BTU indoor units. When a tenant first moves into a Perry Creek home, they receive a letter from the GC explaining the savings and comfort advantages of using the mini-split approach.

Energy information gathered from several Perry Creek rental units that were occupied in the summer of 2013 shows significant savings over three other subdivisions that the GC owns. The month of August showed that a Perry Creek home with Fujitsu ductless systems averaged \$155 less per month than a home in another nearby subdivision with heat pumps and central AC - a savings of 68%.

Comparison to two other nearby developments showed average monthly savings of \$75 and \$20. Although the heating season savings stats aren't quite as impressive, Perry Creek is still the lowest energy consumer of the four subdivisions, with savings of \$68, \$25 and \$21 in the month of October.

“I spoke with several manufacturers about the problems we were having and none were willing to offer a solution. It was just one more thing that made the switch to the Fujitsu units an easy decision.”

