

M Station Achieves LEED® Platinum and Indoor Comfort with VRF Zoning Systems

Austin, Texas

Foundation Communities, Austin, Texas, was founded in 1994 with the mission to provide everyone in Austin with a high-quality place to live near good jobs and schools. The 501(c)(3) organization provides sustainable, affordable homes and free onsite support services to thousands of low- to moderate-income households, including families with children, veterans, seniors and the disabled. The M Station community is a result of this effort.

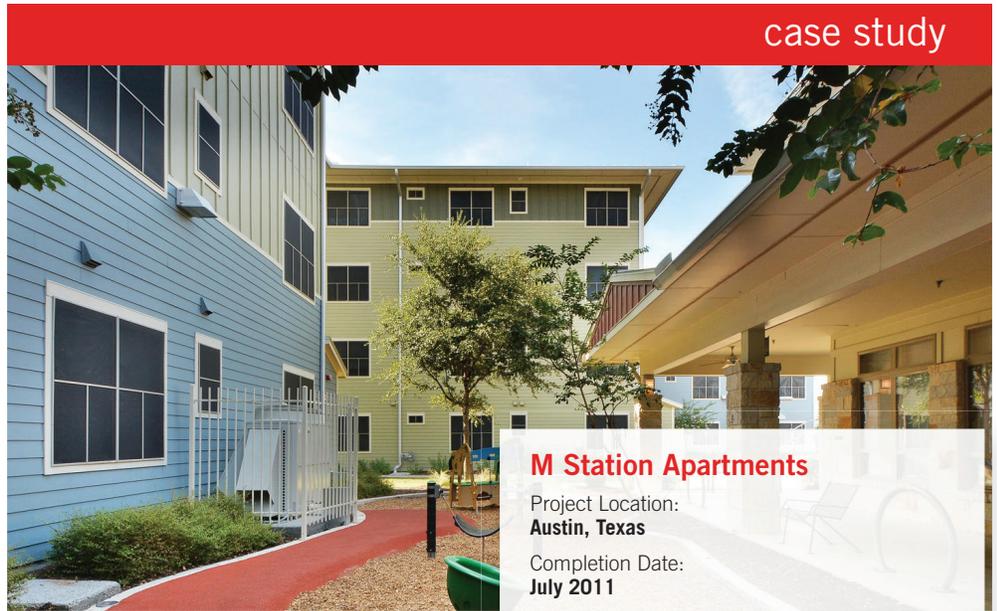
► Challenge

To find an HVAC system that would conserve energy, provide tenant comfort and enable easy maintenance.

Architect Sunshine Mathon, LEED AP and director of design and development for Foundation Communities, worked with a team to develop the original concept and design of M Station. The team decided on an aggressive green building goal of LEED® Platinum certification from the U.S. Green Building Council, and ended up exceeding the certification requirements by more than 25 points.

Critical to this certification was a Variable Refrigerant Flow (VRF) zoning system from Mitsubishi Electric US, Inc. Cooling and Heating Division (Mitsubishi Electric), Suwanee, Georgia.

“In addition to holding very high green building standards for our communities, helping families succeed is our mission bottom line,” Mathon said. “With this in mind, I needed to find an HVAC system that would complement our very energy-efficient apartments. I realized that most conventional HVAC systems will not deliver the high bar set for achieving our LEED Platinum goals. I realized that most systems would not size properly – fit size to load. I soon discovered that only VRF engineering could do the job.”



M Station Apartments

Project Location:
Austin, Texas

Completion Date:
July 2011

Project Team

Owners:

Foundation Communities, Austin, Texas

Engineer:

AYS Engineering, Round Rock, Texas

HVAC Contractor:

Efficient Air Conditioning & Electric, Austin, Texas

Distributor:

Robert Madden Industries, Austin, Texas

Mitsubishi Electric Equipment Installed:

(19) PURY Outdoor Units

(4) PKFY Indoor Units

(166) PVFY Indoor Units

(1) PLFY Ceiling-recessed Cassette Indoor Unit

(17) CMB BC Controllers

Mathon tapped Ross Aleman, principal at AYS Engineering, Round Rock, Texas, to design the best configuration for the multifamily complex.

Another benefit with using VRF was the ability to connect a single outdoor unit to up to 50 indoor units. M Station features 150 one-, two- and three-bedroom apartments. Mathon said, “Before VRF, if a multifamily developer wanted to specify heat pumps for 150 dwellings, he would have to deal with 150 outdoor units – a nightmare of a compressor farm that would be space-inefficient and an architectural challenge.”

George Drazic, president, Efficient Air Conditioning & Electric, Austin, said, “My installation team at M Station found the equipment very easy to install. We have done many Mitsubishi [Electric] installations and have found that if we follow the installation instructions to the letter, we can turn our systems on and have zero leaks.”

► Solution

A VRF zoning system from Mitsubishi Electric provided the features and reliability M Station needed for its residents and its LEED® Platinum certification.

Drazic also spoke to the system’s reliability: “During and after start up, we have had excellent success with zero fan coil or compressor failures. Had this been a conventional system, there would have been more repair and maintenance calls.”

Mathon noted that occupant comfort was of the utmost importance. “We strive to provide first-class housing to our customers. The Mitsubishi

Electric system provides best-in-class climate control for tenants year-round. Each unit can be set at a different temperature, depending on the tenant’s preferences. The systems are great from everything from individual rooms to larger communal spaces.”

Mathon said the system is also beneficial for owners and property managers because of its advanced controls network. Information on the energy usages and performance statuses of all of the equipment throughout the entire complex is displayed on single PC screen. A manager can conveniently see in real time how each piece of equipment is functioning.

The equipment has functioned very well so far, suggesting strong operation in the future. “At M Station, there have been no leaks for the three years the system has been operating,” said Drazic. “The system will run smoothly, with little maintenance for many years.” ■