



#### COMPLETION DATE

January 2016

#### PROJECT TEAM

##### HVAC Contractor:

CMR Mechanical,  
Dexter, Michigan

#### CHALLENGE

Selecting an energy-efficient system to offer guests a comfortable environment

#### SOLUTION

Zoned Comfort Solutions™  
from Mitsubishi Electric

#### RESULT

A Michigan-island vacation cottage that satisfies guests with controllable year-round comfort through kumo cloud™

As a well-known HVAC contractor in Michigan's Ann Arbor region, Andy Bobo, co-owner, CMR Mechanical, Dexter, always provides his customers with effective solutions to efficiently cool and heat their homes. However, when it came to installing a cooling and heating system in his vacation home called AshKay Island – **a 100 percent off-grid, 1,700-square-foot cottage located on an 8-acre island off Iron Mill Pond in Manchester, Michigan** – Bobo faced a new, yet exciting challenge. He needed to find an energy-efficient system that could cool the entire house during the summer but also serve as a backup heat source during Michigan's subzero winter season. Knowing how efficient and flexible it could be, Bobo selected Zoned Comfort Solutions™ from Mitsubishi Electric Cooling & Heating (Mitsubishi Electric) to do the job.

In September 2013, Bobo and his family bought AshKay Island with the idea of building a cottage and renting it to families who wanted a private island getaway without having to leave the Great Lake state. Bobo knew that providing comfort in a rental home was key and that he “needed a way to cool and heat the cottage beside the wood-burning stove.”

Not only did the system need to provide comfort, it also needed to be as energy-efficient as possible since the house is completely off-grid. “We have 30 Mitsubishi Electric solar panels on the roof. It's the heart of the system for electricity; therefore, **I needed to find a super-efficient [cooling and heating] system that could run off of the energy produced by the solar panels. Ultimately, I needed the right-size system that could cool and heat the house without using too much battery power.**”

With the cottage built on a deck platform, storage for any cooling and heating system would also

pose a challenge. When Bobo saw the amount of ductwork that would be necessary to accommodate a traditional system, zoned technology offered a clear advantage. “I would have had to install a ducted system under the cottage, in which case the ductwork would be exposed to the outside, which I didn't want. So a ductless system would eliminate ductwork completely and still offer complete comfort. Plus, the refrigerant lines are so small and don't require the space and hassle that ductwork does. They are way more efficient carrying heat and transferring energy.” **By selecting zoned technology, Bobo would get the best of both worlds – he would be able to install a system that best suits the aesthetics of the home, achieve energy efficiency and offer his guests a comfortable stay.**

For Bobo, selecting zoned technology was synonymous with selecting Zoned Comfort Solutions from Mitsubishi Electric. “I didn't look anywhere else; it was going to be Mitsubishi Electric. As a business owner, I've been a Diamond Contractor™ for five years and I wanted to show my customers that I use the products that I sell.” He also said having Mitsubishi Electric solar panels helped solidify his decision: “The fact that I was able to pair Mitsubishi Electric solar panels with Mitsubishi Electric heat pumps topped it off. When it's really hot out, the solar panels can collect a ton of solar energy, push it into the batteries and then transfer energy to the heat pump to cool the entire house.”

Following the decision to use Mitsubishi Electric technology in the cottage, Bobo installed the units in one day, and everything went smoothly. “It was a clean install – the indoor unit is basically built into the wall and hung about 12 feet high. I installed the unit in the primary area that serves for a/c, but I also placed the unit high enough on the wall that it will

dehumidify the entire space and circulate heat.” Since installation, he’s been more than pleased with the system’s operation: “When the outdoor temperature was 93 degrees, it was 63 degrees inside. The one indoor unit can cool the entire house with an inside variation temperature of only two degrees.”

Bobo noted how the system’s capability to pair with the programmable controller app, kumo cloud™ from Mitsubishi Electric, allows him to preset the temperature of the house before guests arrive, further enhancing the guest experience. **“The house is on an island and you have to take a boat to get there, so not having to go to the location to**

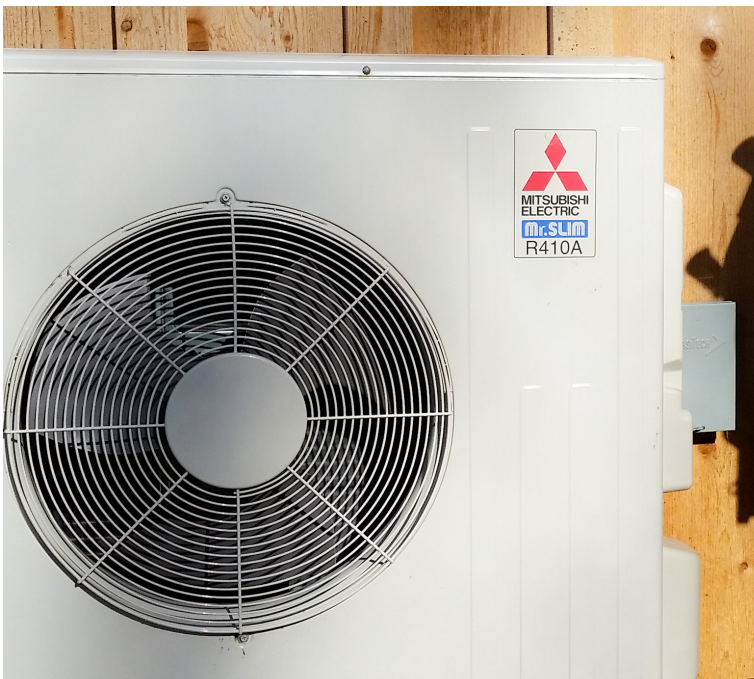
**set the temperature is huge. Before guests walk in the front door, I can set the temperature using kumo cloud. Guests are expecting the house to be ready and it’s becoming a necessity to have an app like this.”**

From the beginning, Bobo dreamed of creating a vacation rental home where families could get away and relax, and now with Zoned Comfort Solutions from Mitsubishi Electric, he can offer families a comfortable stay during any time of the year. “This is a seasonal cottage so I just needed a system for the summertime, but now with Mitsubishi Electric, the house can operate 365 days a year.”



*“The easiest part of building this cabin was putting in the Mitsubishi Electric unit. It worked from the minute we turned it on and has worked ever since. I’m so happy that Mitsubishi [Electric] came up with a product that worked so flawlessly for this application.”*

*- Andy Bobo, property owner and co-owner, CMR Mechanical, Dexter, Michigan*



**MITSUBISHI ELECTRIC EQUIPMENT INSTALLED**  
1 MUZ M-Series Outdoor Unit, 1 MSZ Wall-mounted Indoor Unit