Close to the picturesque Pleasant Lake and overlooking the historic James J. Hill barn, creamery and blacksmith shop, this elegant and rustic home in North Oaks in Minnesota has become a model of energy efficient living with a HERS Index of 64.

A northern suburb of Saint Paul, Minnesota, North Oaks is a small, quaint community centered on the picturesque Pleasant Lake. Originally purchased by Saint Paul magnate, James J. Hill in 1883 to function as a breeding and hobby farm, the area is now home to over 4,500 residents.

In 2013, the team of building professionals from Bob Michels Construction, Inc. worked to transform a rustic 4,279 sq. ft. home into an energy efficient residence to increase the functionality and flow of the property as well as take advantage of the surrounding views.

The Project
The project’s engineer, architect and designer collaborated to ensure that the building’s exterior stone envelope was kept to retain its charm but sought to overhaul the interior to improve the overall flow of the house. The kitchen and lower level of the house were redeveloped to be more conducive to entertaining. Additionally, the design team were tasked to ensure that the property was energy efficient while implementing all of the unique features that their client had requested.

The design team looked at including energy saving features including high performance windows and Icynene spray foam insulation. Licensed Icynene spray foam contractor, Advantage Foam Insulation was asked to install Icynene Classic™ throughout the renovation project.

As a light density, open cell spray foam insulation material, Icynene Classic™ provides both thermal insulating value as well as an air barrier in one step making it ideal for residential projects. Additionally, Icynene Classic™ is vapor permeable meaning it can support bi-directional drying of assemblies and offers excellent sound attenuation properties.

High quality windows and Icynene insulation have significantly contributed to the energy efficiency of my home. I have noticed this during the cold Minnesota winter months. My home stays consistently warm due to the insulation and usage of high quality windows and Icynene insulation. 

Homeowner

The team from Bob Michels Construction, Inc. took a strategic approach by planning the renovation in phases to allow for consistency throughout each floor and throughout the whole house. Although the construction crew and spray foam team had to work within the confines of the home without touching the exterior façade, strong communication and a well planned approach helped reach solutions for any challenges along the way.

The Result
Upon completion of the renovation project, the house was assessed for its energy efficiency and maintains a HERS Index of 64. The home is 36% more energy efficient than the HERS reference home that is built to code.

By including Icynene spray foam insulation into the renovation among other green measures, the home has superior energy efficiency with no air gaps allowing for air leakage. Furthermore, rooms are much quieter allowing occupants to live comfortably without disruption.

The home has been identified as a Dream Home in the Parade of Homes: Fall 2014 Showcase. Additionally, the home is Minnesota Green Path Advanced Remodel certified.

Footnotes:
1. Icynene Inc. would like to thank the team at Bob Michels Construction, Inc. for their assistance with this document. Photographs supplied by Bob Michels Construction, Inc.