

LEED for Homes Project Snapshot

Carlson Studio Architecture
Birch Haven Residence
Middleville, MI
LEED PLATINUM

74% Expected Energy Savings
 Based on HERS Score

26% Construction Waste
 Diverted from Landfill



Photo Courtesy of: Carlson Studio Architecture. Photograph by Steve White

STRATEGIES AND RESULTS

LEED encourages and rewards the use of SIP panel construction in the homes standards. SIPs create a well-insulated and tightly constructed building envelope, speed up construction and reduce waste. The home uses passive design features and a roof mounted solar PV system with space for more PV panels. The key passive design feature is to rotate the main roof plan 20 degrees to the south, so that the main roof is only 15 degrees from due south facing. This passive feature helps to block the summer sun, but lets the winter sun penetrate deep into the home for passive solar heat gain.

EXEMPLARY PERFORMANCE

Energy Exceptional Energy Performance- Using a combination of great windows, high insulation levels and structural insulated panel construction, the project achieved 29.5 of 34 available points and a HERS score of 26. Heat recovery System.

Water- High and Very Efficiency fixtures and fittings. Kohler Fixtures are featured. Non concrete based on vegetative / permeable driveway for boat input.

LEED™ Facts

Birch Haven



LEED for Homes
 Certification Awarded 3/28/2017

Platinum 102*

Innovation in Design 10/11

Location & Linkages 5/10

Sustainable Sites 16/22

Water Efficiency 9/15

Energy & Atmosphere 31.5/38

Materials & Resources 10.5/16

Indoor Environmental Quality 19/21

Awareness & Education 1/3

*Out of 136 possible points

PROJECT BASICS

Project Type	Single Family
Conditioned Space	4171 sq ft
Bedrooms	5
Bathrooms	3+1/2
Lot Type	Previously Developed
Construction Type	New Construction

KEYS TO SUCCESS

Windows	Andersen Insult. Low-e
On Site Renewables	7.2 KW PV Array
Wall System	Structural Insulated PnlS
Roof Insulation	R-48
Solar Orientation- South facing roofs	
Lighting- LED lighting throughout	
Reuse of garage, salvage of existing home	

THE LEED FOR HOMES DIFFERENCE

Construction Waste Management Plan	<input checked="" type="checkbox"/> YES!
On-Site Performance Tests	<input checked="" type="checkbox"/> YES!
Custom Durability Planning Checklist	<input checked="" type="checkbox"/> YES!
Third-Party Verified Documentation	<input checked="" type="checkbox"/> YES!

About the Project Team

Design: Carlson Studio Architecture
www.carlsonstudio.org
 Sarasota, FL, Seattle WA

Contractor: Homes by True North
www.truenorthhomes.net/
 Grand Rapids, MI

Michael Bruggink, Fen View Design
 Landscape Architect

Rater - Michael Holcomb

LEED for Homes Provider

GreenHome Institute

About LEED for Homes

LEED for Homes is a voluntary, third-party certification program developed by residential experts and experienced builders. LEED promotes the design and construction of high-performance green homes, and encourages the adoption of sustainable practices throughout the building industry.



www.usgbc.org/homes

The information provided is based on that stated in the LEED® project certification submittals. USGBC does not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.