



Fixed and operable windows with elegantly framed sightlines provide natural light in the summer and maximum energy efficiency during Michigan winters in this 21st-century modern lakeside home on Glen Lake—one of the most beautiful lakes in Michigan.

## Midcentury lakeside renovation

### Location:

Glen Lake, Michigan, USA

### Type:

- Residential

### Architect:

Ray Kendra, Environmental Architects,  
Traverse City, Michigan

### General contractor:

Burkholder Construction, Traverse City, Michigan

### Distributor:

Northern Michigan Glass, Traverse City, Michigan

### Window system manufacturer:

- Western Window Systems, Phoenix Arizona, USA
- Series 600 Window Wall
- Series 670 Casement and Awning
- Series 900 Hinged Door



Glen Lake: white sand beaches and clear blue waters, Little Glen Lake and its big sister Big Glen Lake are among the most beautiful in the state of Michigan

### Situation:

In northern Michigan, the summer—with its blue skies, low humidity, and pleasant temperatures—is short but wonderful. Glen Lake is just a few miles from Lake Michigan. Several villages and hamlets lie along or near its shore. Nestled up next to Sleeping Bear Dunes National Lakeshore, is a midcentury modern renovation that makes the most of this summertime and year-round paradise.

Huge walls of glass frame truly picturesque views of the water just a few yards away, and they bathe the addition with tons of natural light, enlivening the space in the summer and giving it a soft, warm glow during the long, cold northern Michigan winter.

“Our approach was to create a glass box to take advantage of the amazing southern views and exposure to the site,” says architect Ray Kendra. “As we are typically working on very scenic sites with great natural attributes, the indoor-outdoor connection is something we are constantly embracing in our designs. Aluminum windows and doors with clean, slim-framed sightlines offer that connectivity.”

### Facing a 100-year storm in Northern Michigan

Dubbed *Storm of the Century*, straight-line 100 mph winds raced through Sleeping Bear Dunes National Lakeshore in August 2015 downing and twisting thousands of trees in the popular tourism and agriculture area — and its affects can still be seen today.

“Just two weeks after completion, the owners were inside watching the extreme weather with concern, however the exterior of the newly renovated home had no damage,” according to Ray Kendra.

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### Action plan:

The windows and doors in homes play a vital role in keeping the inclement weather out, while bringing the natural light and views in at the same time.

Material choices are worthy of careful consideration for anyone looking to build or remodel in Northern Michigan.

Ray Kendra, owner-architect of Environment Architects, chose aluminum windows at the midcentury modernist home on the beachfront at Glen Lake and other similar residential and light commercial projects designed, built or renovated in Traverse City, northern Michigan and Lake Michigan coastal locations within the past few years.

Compared to other materials, aluminum windows with an insulating thermal barrier polymer are stronger, yet inexpensive and have the potential to close the loop in manufacturing processes. Aluminum thermal barrier windows are perfect for cold climates and will hold up to stresses, weathering and look great when used in large openings.

### About the fenestration products:

The Series 600 Window Wall replaces exterior barriers with expanses of glass that let in light and frame beautiful views. Completely customizable, a limitless array of openings—from single-panel to door-size to openings that span an entire wall—allow the architect to create views from various sizes and shapes of glass. And because the Series 600 is designed to integrate with various ventilating window styles as well as the Series 900 hinged and sliding doors, it's flexible as well as functional.

The Series 600 Window Wall is energy-efficient thermal barrier aluminum. Dual-paned low-E glass reflects heat while allowing light to pass through. The Series 600 increases energy performance, and aluminum is low maintenance, too.

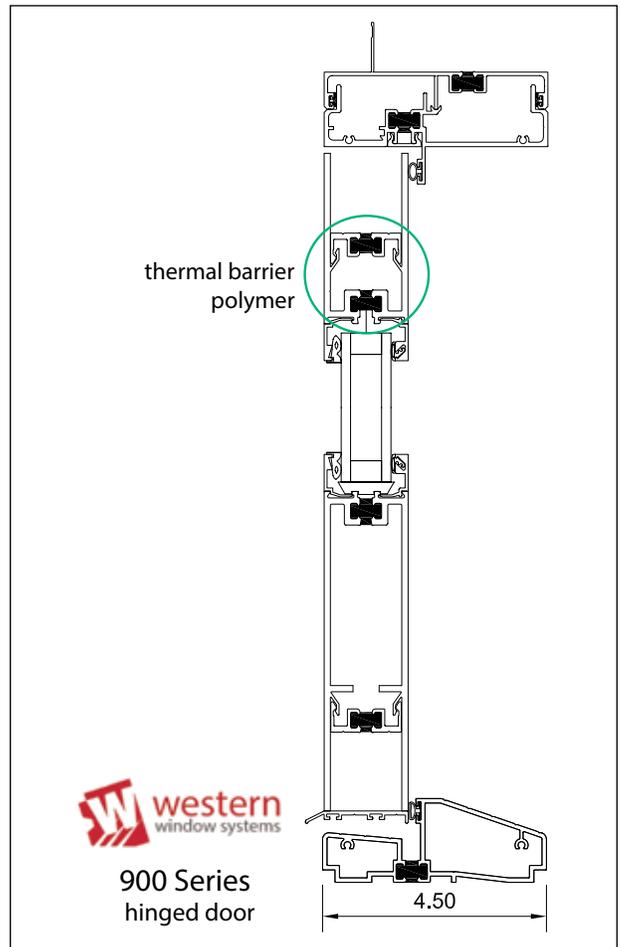


Figure 4

### Sources:

<https://env-arch.com/> Ray Kendra, Environment Architects

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Figure 4: Western Window Systems