

# Ashokan Center



## ***SIPs add energy efficiency to traditional New England style at campus for outdoor learning***

*Every year, bus loads of students from across the Northeast make the trek to Olivebridge, New York to attend a multiday environmental education program at the Ashokan Center. Situated on 374 heavily wooded acres along Esopus Creek in the Catskill Mountains, it offers the ideal setting for hands-on ecology and outdoor learning.*

*In 2012, a planned increased water release from the upstream Ashokan reservoir forced the Ashokan Center to relocate a portion of their campus to higher ground. Working with AIA Award-winning architect Matt Bialecki, Ashokan Center owners Jay and Molly Unger constructed four new sustainable buildings using structural insulated panels (SIPs).*



**Structural Insulated  
Panel Association**

## PROJECT AT A GLANCE

**LOCATION:** Olivebridge, NY  
**SQUARE FOOTAGE:** 24,860, 4 buildings  
**ARCHITECT:** Bialecki Architects  
**BUILDER:** Bialecki Design Build, Inc.  
**SIP MANUFACTURER:** Timberline Panel Company

*6-inch-thick SIP walls and a 10-inch-thick SIP roof help reduce heating loads during harsh winters*

For project architect Matt Bialecki, the new Ashokan buildings presented an ideal opportunity for sustainable architecture, demonstrating how decreasing the carbon footprint of the built environment can directly affect the adjacent natural environment.

Initial discussions proposed one large building that would house the guest rooms, kitchen, dining area, and performance hall. Bialecki then suggested four smaller buildings, creating a number of open spaces and embracing the surrounding landscape.

“I thought it should be a village,” said Bialecki. “It should be a series of buildings broken down into separate functions. When you do that you create a whole opportunity for exterior courtyards and commons.”



## Creating a Sustainable Village



**Structural Insulated  
Panel Association**

The Teacher's Cottage (2,340 sq. ft.) and Lakeside Lodge (4,290 sq. ft.) provide private hotel-style rooms for educators and guests. Students can stay in the Beaverkill Lodge (7,230 sq. ft.) that sleeps 90 in bunk rooms. At 11,000 sq. ft., the Esopus building contains the campus' kitchen, dining room, and performance hall. Bialecki's village concept also helped tie the new buildings to the campus' existing buildings through a series of courtyards.

"There were some existing historic buildings on the campus and we were able, with these buildings, to knit them into that fabric and really create a village," said Bialecki. "This brought the buildings back to a more 19th century scale."

All four buildings were designed to be energy efficient and to meet the requirements of the LEED green building rating system in challenging climatic conditions. Vast temperature swings between the harsh winters and hot summers commonly record 100 deg. F of seasonal temperature variation. And to limit the carbon footprint of the new buildings, the owners requested that no air conditioning be installed.

To help curb the impact of outside temperature fluctuations, all four buildings are built into the surrounding hillside to take advantage of the relatively stable temperature of the soil.

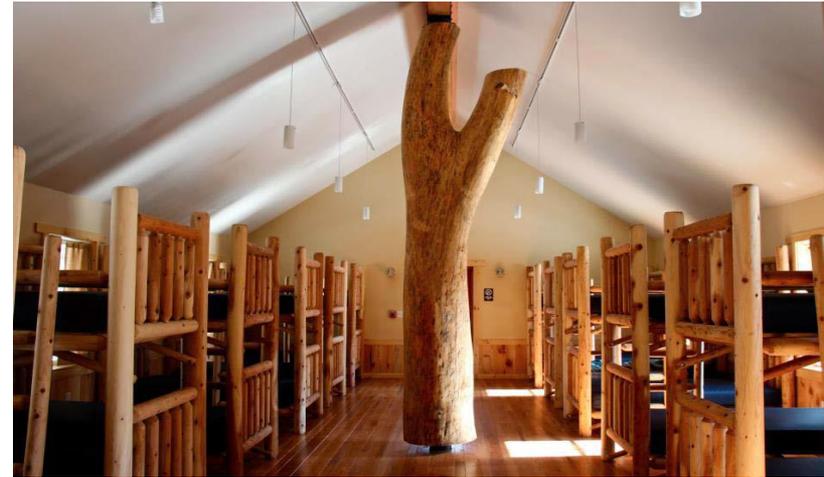
On the above grade walls and roofs, Bialecki specified structural insulated panels (SIPs) from Timberline Panel Company to cut down on thermal bridging and establish an airtight building envelope. Unlike traditional wood or metal frame wall systems, SIPs do not have studs at regular intervals that cause thermal bridging through the building envelope. And because SIPs come in large, prefabricated sections, there are very few gaps to seal against air infiltration. Six-inch-thick SIPs served as load-bearing walls and all buildings used some timber frame elements for the roof structure. Roofs on all the buildings were constructed

## Reducing the Carbon Footprint



**Structural Insulated  
Panel Association**

*The Beaverkill lodge sports log columns harvested from the building site (above). Musicians perform in the Esopus performance hall (below).*



with 10-inch-thick SIPs, creating a cathedral ceiling.

“When you have a bunk room on the upper floor, it helps to have a cathedral ceiling that makes it more spacious,” said Bialecki. “Also, by having the taller ceiling in the two-story spaces we were able to bring in lighting. Part of the buildings’ energy efficiency is to bring in the daylight to minimize the use of electricity for lighting during the day.”

The high performance SIP building envelope helps retain heat produced by an in-floor radiant heating system with 94 percent AFUE natural gas boilers.

To prevent radiant heat gain during the summer months, the SIP roof panels are topped with Bialecki’s trademarked Umbrella Roof System. The system consists of a second layer of roof sheathing with a radiant barrier that is installed over furring strips on the SIP roof panels. The radiant barrier reduces heat transmission, while the vented air space uses natural convection to push unwanted heat away from the building. All buildings are plumbed with low flow fixtures and toilets. Low VOC finishes were used throughout the interior for better indoor air quality.

## Finishing Touches

Although the new Ashokan Center buildings contain many modern green building technologies, the exterior finishing was done in the style of the nineteenth century. The porches that define the entrances to each building are supported by log columns that were harvested as part of clearing the building site or donated from a nearby road construction project. Similar log columns were used on the interior of the Beaverkill lodge as structural ridge supports.

All exterior siding and trim work, as well as interior wood finishes, were milled from the trees harvested onsite or from the road construction project as a conscious effort to source local materials. The prominent visual role of wood finishes showcases a



*Exposed timber trusses, log columns and natural wood finishes imbue the new buildings 19th century style*



**Structural Insulated  
Panel Association**

sustainable, locally harvested product, while also fitting the nineteenth century style of the existing historical buildings on campus.

“The exterior cladding is a mix of eastern white pine, ash, oak, or other hardwood like you would find all throughout the New England area,” said Bialecki. “It is a throwback to traditional New England barn construction.”

The four new buildings allow the Ashokan Center to sleep 150 people. Adding a performance hall in the 11,000 sq. ft. Esopus building provides a crucial indoor stage for the center’s nationally recognized summer music camps.

Bialecki’s unique village-inspired design succeeded in seamlessly incorporated the new construction with historic buildings for a campus that embraces the natural beauty of the surrounding open space. Opting for a high performance SIP building envelope and other sustainable features reduced the campus’ operating cost and overall environmental impact—both important issues for the building owners.



***A mixture of hardwoods felled onsite and from a nearby road construction project were used to finish the exterior of the buildings***



**Structural Insulated  
Panel Association**



**Structural Insulated  
Panel Association**

### Contact us:

SIPA  
P.O. Box 39848  
Fort Lauderdale, Florida 33339  
Email: [info@sips.org](mailto:info@sips.org)  
Phone: 253-858-7472  
Website: [www.sips.org](http://www.sips.org)

