NELSON-ATKINS MUSEUM OF ART
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Kansas City, Missouri

Completed: June 2007

Client: Nelson-Atkins Museum of Art
Architect: Steven Holl Architects
Design Arch: Steven Holl & Chris McVoy

Total area:
165,000 square feet (addition);
234,000 square feet (renovation);
463 parking spaces (parking garage)
22 acres (Sculpture Park)

Project Cost: $200 million (expansion and renovation)
THE PROJECT

Client
Architect

THE LANDSCAPE

Paralax
Concept Paintings

THE LENSES

The Envelope
The Breathing T’s
Client: Nelson-Atkins Museum of Art

“We are building the museum on classic principles because they have been proved by the centuries. A distinctly American principle appropriate for such a building may be developed, but, so far, everything of that kind is experimental. One doesn’t experiment with two-and-a-half million dollars.”

Thomas Wight Architect 1930
About the same time as the construction of the museum, Howard Vanderslice donated 8 acres (32,000 sq.m.) to the west of the museum.
Henry W. Bloch

Henry W. Bloch is the co-founder and honorary chairman of the board of H&R Block, which he and his brother, Richard, founded in 1955.

Henry Bloch was born July 30, 1922, the second son of a prominent Kansas City lawyer.

Henry and Marion’s generous gift to the Nelson-Atkins Museum of Art helped create the Bloch Building.
In 1946, Henry and his brother Leon founded the United Business Company, starting the business with a $5,000 loan.

United Business Company's primary focus was bookkeeping, with tax preparation offered as a courtesy to customers and friends.

After much discussion, John finally persuaded them to run an ad twice, late in January 1955.

"Hank, get back here as quick as you can. We've got an office full of people!"
Steven Holl (born December 9, 1947, Bremerton, Washington) is an American academic architect and watercolorist best known for the 1998 Kiasma Contemporary Art Museum in Helsinki, Finland.

Holl graduated from the University of Washington and pursued architecture studies in Rome in 1970. In 1976, he joined the Architectural Association in London and established his offices New York City, and has taught at Columbia University since 1981.
Steven Holl Architects

Simmons Hall of MIT won the Harleston Parker Medal in 2004

St. Ignacious
- Alvar Aalto Medal 1998
- Holl was elected to The American Academy of Arts and Letters 2000
- Time Magazine named Steven Holl as America’s Best Architect, for 'buildings that satisfy the spirit as well as the eye.' July 2001
- BBVA Foundation Frontiers of Knowledge Award in the Arts category, Honorary Fellow of the Royal Institute of British Architects (2003) 2008
- Smithsonian Institute’s Cooper Hewitt National Design Award in Architecture (2002), French Grande Médaille d’Or (2001)
- Arnold W. Brunner Prize in Architecture from the American Academy of Arts and Letters
- AIA 2007 Institute Honor Award and AIA New York Chapter 2007 Merit Architecture Award
- The Center Section at the Pratt Institute (Brooklyn, New York) and the New Residence at the Swiss Embassy both received the AIA New York Chapter 2007 Honor Architecture Award
“With the watercolor, in the quickest way, I could shape a volume, cast a shadow, indicate the direction of the sun in a very small format,” he says. “And I could carry these things around because I was always traveling.”

“I don’t try to force myself to do anything. I start in a half-wakened state. It’s a way of dreaming and thinking, of bridging between painting and architecture.”
Concept design strategies

- maximize visibility of creative life
- low massing with access on all sides
- create new campus and community portals
- shape a new open performing arts courtyard
- sustainability and ecological innovation
The addition to the Nelson-Atkins Museum of Art runs along the eastern edge of the museum campus and provides a counterpoint to the original 1933 Beaux-Arts building.
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The volume’s forms were driven in part by the idea of a parallax view, or the apparent displacement of an object caused by a change in the position from which it is viewed.
This animation is an example of parallax. As the viewpoint moves side to side, the objects in the distance appear to move more slowly than the objects close to the camera.
“The movement of the body as it crosses through overlapping perspectives, through the landscape and the free movement threaded between the light gathering lenses of the new addition are the elemental connections between ourselves and architecture.”

Steven Holl
“The idea of complimentary contrast, the *Stone and the Feather*, drove our design for the addition to the classical stone temple and surrounding landscape.

The addition is not an object: we envisioned a new paradigm fusing landscape and architecture.”

Steven Holl
The galleries, organized in sequence to support the progression of the collections, gradually step down into the Park, and are punctuated by views into the landscape.
An early watercolor sketch by Steven Holl lays out the project's design concept—a series of “lenses” folded into the landscape.
The five lenses emerge from the ground and create a dynamic interaction between architecture and landscape, inside and outside, translucence and opacity, tranquility and energy.

The lenses’ multiple layers of translucent glass gather, diffuse and refract light, at times materializing light like blocks of ice.

During the day the lenses inject varying qualities of light into the galleries, while at night the sculpture garden glows with their internal light.
Certainly dynamic by day as light and shadow move across the Bloch Building's surfaces, at night the building become something else altogether—an other-worldly series of glowing glass blocks, which tumble gently down the sloped landscape.
The sculpture garden continues up and over the gallery roofs, and provides sustainable green roofs to achieve high insulation and control storm water. The “meandering path” threaded between the lenses in the Sculpture Park has its sinuous complement in the open flow through the continuous level of galleries below.
Multiple entry points
main drop off
parking garage
Atkins building
sculpture garden
Five volumes -- “lenses” -- because of the way they bring light into the galleries and subtly reshape one’s views of the space.
The main gallery lighting element is the “stitch track”—short runs of track that create a zipper-like effect on the ceiling plane and tie the long and short perspectives of the galleries together.
As visitors move through the new addition, they will experience a flow between light, art, architecture and landscape.

Some 650 drawings were needed, not including 300 perspectives to predict vantage points of museum goers.
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The long narrow underground addition was built below grade and adjacent to the existing museum.

As seen in Concrete Construction, February 2004
By day and by night the geometric forms of the new addition cast a strong profile and compliment the 1933 Atkins building.
ENVELOPE
The lenses required the use of more than 6,000 planks of channel glass.

Curtainwall
  0.25-inch-thick, double-interlocked planks lined with translucent insulation

Interior walls
  double-interlocked, laminated, acid-etched glass. Iron content was reduced to allow pure light to pass through.
**KC BOUND**

The glass is manufactured in Germany by Lambert's Glasfabrik. The company is one of only a few worldwide that can produce the specialized glass for the Nelson.

1. Shipment of glass cross the ocean to Norfolk, Va., or Newark, N.J. This typically takes 3 weeks.

2. At the ports, the glass shipment containers are loaded onto trucks that rumble to Kansas City and Carter Glass Co., downtown.

3. In Kansas City.
   - Once the glass arrives in Kansas City, Carter Glass applies a UV safety film and inserts an insulation pad in some planks.
   - The glass is transported as needed to the Nelson construction site in two trailers specially fitted for the glass.

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**At the factory...**

A. Huge glass furnaces melt the materials, forming a slab of molten glass. The glass has a low iron content, which helps reduce the natural green color.

B. The hot glass is pressed into its 16-inch channel shape, and rollers leave a solar texture as it comes out of the furnace.

C. The planks of glass are cut into lengths from 8 feet to almost 18 feet. Some planks with angled ends await field measurement before cutting.

D. The planks are heated, cooled and hardened in a process called tempering.

E. Some of the planks are then sandblasted to help diffuse the light.

F. Finally, the glass is given a scorching bath called heat soak. This technique weeds out flawed glass, which breaks, leaving only stronger planks ready to ship.

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**Sandblaster**

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**Heat Soak**
INSTALLING THE GLASS

1. Glass is lifted to workers.
2. Plank is positioned into a plastic insert and an aluminum track.
3. Position is checked for proper alignment.
4. Installers seal joints with silicone rods and caulking.

FITTED TOGETHER

The glass planks are interconnected. This cross-section shows how the individual planks will tie together. Light will have to pass through multiple surfaces.
A unique, board-form wall at the eastern edge of the project also serves as a retaining wall. To create a unique texture for the wall, carpenters nailed 1-inch-wide slats to the form and completed the wall one section at a time. They also designed a concrete mechanical screen with holes for airflow by hand-placing sonetubes into the form.
The parking garage is transformed into an unexpected art installation as light is allowed to permeate the below grade space through the circular skylights, part of the Walter De Maria sculpture above, *One Sun / 34 Moons*. 
60 ft long by 12 ft wide precast concrete “wave T’s”
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The galleries are organized around a series of “Breathing T's,” structural elements that allow both north and south light into the galleries while providing a mechanical service zone below.
Through the center of the glass lenses are a series of T-walls, referred to as “Breathing T's,” which form a structural spine and allow a mix of north and south light into the galleries, creating a volumetric play of light.
Natural light is deflected from curved surfaces called Flutter "T’s"
Renfro devised a three-layer shade system, with 7-, 11-, and 50-percent transmission, so that the daylight light levels in the galleries are no less than a minimum of 7 footcandles and no more than a maximum of 27 fc
A court dedicated to the Museum’s significant holdings of Isamu Noguchi sculptures
transparency/ translucency