

## **The Aspen Art Museum: What's All the Talk About?**

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What do you get when you put never before seen architecture in the center of the picturesque ski town of Aspen, Colorado? A lot to talk about.

Designed by Pritzker Prize winning architect, Shigeru Ban, the four-story, 30,000 square foot Aspen Art Museum features 12,500 square feet of exhibition space including six galleries, one of which acts as a black box theatre - an education classroom, museum shop, and café. The facility's public areas include an on-site artist studio, administrative offices, and conference room.

Unique design features include a grand staircase along the east side of the building that allows for natural blending of the exterior and interior spaces. Designed to simulate the experience of skiing, as Shigeru Ban states, "you go up to the top of the mountains, enjoy the view, and then slide down". The facility also features open space galleries infused with natural light, a "moving room" glass elevator, and a rooftop sculpture terrace facing Aspen's main skiing/snowboarding mountain, Ajax Mountain. A woven exterior screen made of Prodema, a composite material of paper and resin encased in wood veneer, also blurs the distinction between interior and exterior.

Ban's infamous paper tubes envelope the grand staircase and entrance to the gift shop. His paper tube buildings have been deployed around the world in disaster relief shelters. In fact, the museum's inaugural exhibition, 'Humanitarian Architecture', showcases Ban's designs in disaster relief.

### **So who built this masterpiece?**

The Aspen Art Museum is the type of project that allows Turner Construction's higher level of service and expertise to shine through. Turner has completed over 150 museum projects worth over \$2 billion around the globe. Notable projects include the Art Institute of Chicago's Modern Wing, The Rock & Roll Hall of Fame, Newseum, and the expansion of the Museum of Modern Art.

The stability of a national leader was complemented by the civic pride of the local firm, Summit Construction. Based in the Roaring Fork Valley, Summit knew the local subcontracting market and understood the complexities of working in the Rocky Mountains. Teaming with Summit also strengthened Turner's understanding of how to best plan the work in a close-knit community like Aspen.

### **Speaking of planning.**

The team kicked off the project with six months of preconstruction. A key focus was to evaluate the structure. The team determined that a post-tension cast in place concrete structure would allow them to minimize the overall size and depth of the building to conform to City of Aspen building height restrictions. This structure also enabled the museum to achieve an open concept floor plan void of columns.

The highly artistic and unique paper tube construction had not been used before in the United States. Being an international firm, Turner was able to be resourceful when seeking a millwork contractor that could think out of the box. The team chose a contractor, Imperial Woodworking Enterprises, Inc., who had proved themselves on the Modern Wing in Chicago giving the AAM team confidence in their ability to overcome unique challenges of product not commonly used in construction.

Known for innovation, Turner used Building Information Modeling extensively on the project to model the structure and MEP systems. The models were loaded on iPads and used in the field to confirm the location of systems.

Lean construction was also used on the Aspen Art Museum in the form of prefabrication and scheduling. Prefabricated elements included formwork for the structure, pipe and ductwork for mechanical and plumbing systems, the woven screen which was cut to the varying widths and lengths at the factory in Spain during fabrication, and wood truss structure. Truss cords and web sections were fabricated in 8'-12' sections off-site allowing the system be set and fastened in the field with virtually no field fabrications or modifications required during the raising of the roof

truss. The lean scheduling technique of pull planning was used in a two day, all subcontractor planning session. The team walked through the whole schedule and sequence with the subcontractors to get their collective buy in before moving forward.

### **Let's talk construction.**

An early challenge was coordinating the earth retention system with a neighboring project also under construction just four inches away. The teams communicated frequently and kept an eye on each other's safety efforts so no one got hurt.

A typical Aspen winter sees 82 inches of snow and an average January high of 36 degrees. In order to keep the aggressive schedule moving forward, snowmelt equipment was used during the installation of the foundations during this time to keep the frost out of the subgrade.

As with all of our projects, safety was extremely important. To continuously reinforce the mantra of safety, Project Superintendent, Tim Bottger, held weekly all tradesman safety stand-down meetings. This meeting included a Stretch and Flex program which was continued daily by all workers. To provide positive reinforcement, the team held three all job site safety lunches to reward the workers for going the past six months with no recordable incidents. In addition, Tim performed weekly safety walks with the trade foremen to collectively identify potential hazards. In order to help protect the public and wildlife from construction activities, a secure job site was maintained with site fencing and covered walkways. In addition, they provided bear proof dumpsters. After over 200,000 man hours, there were no lost time incidents.

### **A voice for the environment.**

To efficiently communicate with the design architect in New York and local architect in Basalt, CO, all of the team's submittals and RFI's were submitted electronically through an FTP site and Sharepoint site. This paperless approach contributed to the many sustainability initiatives on the project.

Although the Aspen Art Museum did not seek LEED certification, it showcased a variety of green features including bike racks, no VOC paint, and a location right on the public transportation route. Energy conservation measures included extensive daylighting, Energy Star rated equipment, energy recovery units within the mechanical systems, and the curtainwall was high efficiency, some include as many as five layers of glass, to achieve maximum R-values. Radiant heating was installed in the floors to help heat the structure and photovoltaic roof panels are installed to generate electricity for the building. Water efficiency was achieved through the installation of high efficiency plumbing fixtures, waterless urinals, and xeriscaping. To best manage storm water runoff, permeable pavers and bio retention swales were used to reduce sediment in the city storm sewer.

### **Tell it to the community.**

Throughout construction, the team sought ways to give back to the community by employing local workforce and participating in the local Habitat for Humanity golf outing and bike outing in partnership with USGBC. They were in constant contact with neighbors by way of keeping them informed of construction activities. They partnered with the Aspen Art Museum on their weekly e-newsletter, *AAM Now* providing weekly updates on construction progress and any impacts to the public and neighboring businesses. In addition to the weekly e-newsletter briefings, the team talked directly to neighbors when events would impact them such as major deliveries.

The new Aspen Art Museum is 100% funded by private donations. As construction progressed, the museum itself started being used as a fundraising tool. In order to help minimize disruptions, the team scheduled these tours over lunch while the workers were on break or after hours when workers were done for the day. Continuous communication with museum staff ensured the team had sufficient notice as to when visitors were coming so they could be prepared.

**Shout it in the streets.**

After months of pre-planning, collaboration, and thoughtful execution, the Aspen Art Museum was ready for its debut. Admission is free and aside from providing a cultural experience, the museum also serves as a dining and gathering spot and venue for special events.

Since its opening, the museum has received national and international recognition for out of the box design and environmentally friendly materials. The project was named one of *Architectural Digest's* "14 Most Anticipated Buildings in 2014". It has also been featured in many publications, websites, and special interest blogs such as Architectural Record, Art Newspaper, Aspen Daily News, Aspen Times, Conde Nast Traveler, Financial Times, Forbes, New York Times, The Denver Post, The New Yorker, Wallpaper Magazine, and Washington Times.

So, what do you get when you put never before seen architecture in the center of the picturesque ski town of Aspen, Colorado? A building that speaks for itself.







