

CASE STUDY



Concrete Creates a Public Space for Fisher Pavilion

Seattle Center's new exhibition hall wins awards for sustainability

Since Seattle adopted its Sustainable Building Policy in 2000, all city-funded projects over 5,000 square feet are required to achieve Leadership in Energy and Environmental Design (LEED) Silver certification. Fisher Pavilion—a new concrete exhibition hall that hosts more than 250,000 visitors each year at Seattle Center—took green building a step further, earning recognition as one of the American Institute of Architect's Committee on the Environment (AIA/COTE) Top Ten Green Projects of 2003.

Seattle Center is a focal point for social activity in the Emerald City, and Fisher Pavilion is at the heart of it all. Situated within view of the Space Needle and International Fountain Plaza, the site offers 24,000 square feet of entertainment space. To create the public space with a concrete face, project architect Miller | Hull Partnership employed a combination of precast and cast-in-place concrete for 90 percent of the facility. The pavilion is buried on three sides, with 19,000 square feet of usable roof plaza. The pavilion offers approximately 14,000 square feet of floor exhibition space with a nearly 20-foot height.

Project manager Ron Rochon, Miller | Hull, says the decision to use concrete was easy. “The finishes have to be super-durable, so exposed concrete is a natural. Unless they demolish it, it's a 1,000-year building.” All vertical elements are cast in place, while horizontal elements are precast. The main exhibition hall is spanned with 65 precast T-shaped elements, similar to those used on bridge decks; the roof structure is created with precast concrete plank.

To create the roof paving system, the team used 12-by-12 precast concrete pavers to form a decorative design that can be seen from the top of the nearby Space Needle. Two concrete pylons with glazed canopies house mechanical equipment and elevators.

Concrete's thermal mass helps even out changes in building temperature, a key component of the energy efficiency of Fisher Pavilion. Rochon says using earth-sheltered concrete “drops the delta across the exterior envelope—we don't have incredible temperature swings on three sides.” The result is significant energy savings that help beat the ASHRAE heating and cooling standard by 20 percent, a benefit potentially worth two points toward the LEED energy and atmosphere credit. The north wall is composed of sliding glazed garage doors that can be opened to allow natural ventilation.

Fisher Pavilion stands as a centerpiece for Seattle's green building program, says Rochon. “The building makes a civic statement.” Fisher Pavilion is currently completing the LEED certification process.

Project Team:

Owner/Developer: Seattle Center

Architect: Miller | Hull Partnership, LLP

Contractor: Howard S. Wright Construction Company

Civil and Structural Engineer : AKB Engineering, Inc.

Precast Concrete Contractor: Concrete Technologies