ruby+associates

STRUCTURAL ENGINEERS

Ruby+Associates Project Wins Design Recognition

Farmington Hills, MI., October 2009 -- Farmington Hills based Ruby+Associates, a constructability focused structural engineering firm, is part of the team that recently received special recognition from Building Construction+Design magazine, the publication that "inspires the building community", for its work on Kingswood School at Cranbrook in Bloomfield Hills, Michigan. Other members of this team included Skanska and Quinn Evans Architects.

Influenced by Frank Lloyd Wright's famous Prairie Style approach, with wide overhanging hipped roofs, long horizontal bands of windows, and decorative leaded glass doors, Kingswood was designed by famed architect Eliel Saarinen in 1930. The building is made even more striking by its elegant, 90,000-square-foot copper roof.

By the beginning of the 21st century, the 70-year-old Kingswood roof had become structurally unsound and in dire need of replacement. Skanska and Quinn Evans Architects were given the assignment for a complete replacement of two-thirds of the roof. (The remaining portion had been replaced in the late nineties.)

Ruby+Associates was called in to provide structural design of the critical eave support and soffit framing to maintain the original design while at the same time providing additional strength within the shallow eave depth. What made the assignment especially challenging is the fact that Kingswood is now a National Historic Landmark so the construction had to meet precise requirements that were even stricter than normal.

Beyond simply replacing the distinctive roof, the construction group was tasked with devising a roofing system that also improved on what had already been an effective drainage system. The solution was a custom-built eave design that features built-in gutters that slope 1/16th-inch per foot to the drains to promote positive drainage and reduce the chance of leaks. The eaves and gutter box were wrapped with an ice and water shield as a second line of defense, and a drainage tube was installed below the soffit so that any dripping could be immediately detected and corrected. In reality, it was a three part solution.

"Kingswood is an architectural treasure. Our challenge was to replace the roof and improve the effectiveness of the original design without in any way altering the appearance," said Jay Ruby, President and CEO of Ruby + Associates. "We wanted it to look just like it did when Eliel Saarinen first saw it in 1930. That was a tough puzzle, but solving puzzles is what we're all about and I think the award from Building Design + Construction, plus the reaction from our client, says that the team succeeded."

Building Design+Construction's coveted Reconstruction Awards recognize exceptional renovation, preservation, and adaptive-reuse projects.

In addition to Ruby's work at Kingswood School, the firm has been involved with several other significant renovation and rehabilitation projects including U.S. Cellular Field, Chicago, IL; the Grosse Ile Bridge, Grosse Ile, MI; the Allen County War Memorial Coliseum, Fort Wayne, IN; St. Joseph Church in Oxford, MI; Jenison Fieldhouse and Delia Koo International Center at Michigan State University; and the Dierksen Federal Building in Chicago, IL. Select details follow.

- **U.S. Cellular Field Renovation, Chicago, Illinois -** During this stadium renovation, Ruby+Associates provided cost-saving value review and redesign services, erection procedure expertise and connection design to Steel Service Corporation for the new steel roof, façade modifications and the left field suites addition. The bleak, old-fashioned concrete roof was transformed into a charming motif that rivals today's new stadiums.

- **Grosse Ile Bridge, Grosse Ile, Michigan** - Ruby+Associates has provided structural engineering services for this 1914 bridge for the past two decades, including construction documents for the replacement span, which was built using modern methods and materials while replicating the look of the original structure, and design of an award-winning swing span mechanism replacement, which replaced the aged original mechanism using present day technology.

- **Allen County War Memorial Coliseum Renovation, Fort Wayne, Indiana** - During renovation of this venue, Ruby+Associates provided structural engineering expertise to guide dismantling of the existing roof, and to lift the new 3.2 million pound roof 42 feet (in 4 hours) to new concrete pylons using 16 strand jacks. Ruby subsequently developed an inspection and maintenance program to maintain the 43,700 square foot roof system.

About Ruby + Associates

The Ruby+Associates team designs and engineers exceptional solutions to the world's most challenging structural engineering projects. We do more than just design the buildings you know and recognize… we make them possible.

For more information on Ruby + Associates, please visit www.RubyUSA.com.

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Media Contact:
Patrick Liebler, Liebler Group, (313) 832-4376, Pat@lieblergroup.com