

Simpson Strong-Tie Materials Demonstration Lab

This cutting-edge interdisciplinary college facility will provide space for large-scale testing and materials demonstration

A rendering of the interior space in the Simpson Strong-Tie Lab

Out to bid. Normal enough to hear about a construction project, but words worth celebrating in the Construction Management Department these days.

“We have worked with Simpson Strong-Tie on this project since its inception several years ago,” remarks CM Department Head Al Hauck. “They’ve been a strong partner in developing the idea of a materials demonstration lab and bringing it to fruition.”

Simpson Strong-Tie is the lead donor to this entirely privately funded building and, in addition, has contributed all of the timber connections used on the project. Their participation

also led to the groundbreaking use of timber in a commercial/institutional project in California. Donated sustainably harvested timber further makes this project unique.

“This has been an exciting project from a design perspective,” says lead architect Tom Reay (CM '79) of Omni Design Group in San Luis Obispo. “I’m a Cal Poly CM alum so working on a building that will be used by students in the CAED and pulling together the needs of the college is a great experience.”

From a professional standpoint, Tom adds that the use of polycarbonate cladding on three sides of the building was important. The use of



translucent material means the building structure will be visible from the outside.

Dean R. Thomas Jones points to the programming, design and construction innovations as critical to the success of this facility. “We are a college of design, planning and construction and that needs to be evident in everything we do,” he says.

The building’s main feature is a tall, open area where students can engage in what the dean terms “a robust understanding of the materials and systems that are the basis of our professions.”

Cal Poly history is replete with photographs of students actively building and testing across the campus grounds, an activity that is constrained nowadays. The Simpson Strong-Tie building will allow what those campus projects could not: constructability and performance reviews, productivity evaluations, students building full scale mock-ups in a weather protected space, and exhibitions of building materials.

The facility is designed to take a future internal exhibition on the teaching mezzanine and the building has been structured to receive a green roof. There are also plans for the design and construction of an extended courtyard, which would include a steel frame to demonstrate exterior cladding systems.

Michelle Kam-Biron (ARCE '87), P.E., S.E. is technical director of the Wood Products Council-WoodWorks-California and has worked with the design team to enable the use of a heavy timber brace frame in the project by



A rendering of the Simpson Strong-Tie Materials Demonstration Lab from the northwest corner

providing technical resources such as testing reports from Phil Line, P.E. of American Wood Council (AWC), AF&PA.

“WoodWorks is excited about assisting on the Simpson Strong-Tie lab from schematics all the way through to construction,” says Michelle. “The project will showcase wood’s strength and natural beauty, not to mention its ability to absorb carbon dioxide from the atmosphere when it’s used in buildings. Wood is the only major building material that is renewable, reusable and sustainable.”

The Simpson Strong-Tie Materials Demonstration Lab will bridge the gap between traditional hands-on work and contemporary building technology. Bid day is slated for late summer guaranteeing the start of another new chapter for the Construction Innovations Center and the CAED.



Architect Tom Reay

Cal Poly alumnus Tom Reay heads up lab building project

Tom Reay (Construction Engineering '79) is pleased to lead the architectural team designing the Simpson Strong-Tie Materials Demonstration Lab. His firm, Omni Design Group of San Luis Obispo, knew from the beginning that designing a building for the CAED was daunting, but that it would be a unique opportunity. “Thinking about the college’s interdisciplinary and hands-on pedagogy ultimately led our design.”

Under the firm’s leadership the structure evolved from the original concept of a metal building to a concrete base with exposed heavy-timber structure and translucent polycarbonate

walls. “With the association of Simpson Strong-Tie we wanted to reflect their point of view and a structure that was a pedagogical tool down to its materials.”

Tom was pleased to work with structural engineer Michael Parolini (ARCE '03) of Lampman & Smith. And he points out that many other members of the design team are Cal Poly alumni.

“As a student I looked out my studio window onto the construction of the new library. I like that today’s students can watch building on campus and learn from it.”