Perkins&Will



THINK WOOD Challenging Conventional Design Industry icons Lawrence Perkins and Philip Will met while studying architecture at Cornell University; together they opened Perkins&Will in Chicago in 1935. Today, Perkins&Will is one of the world's largest architecture firms with 26 studios across the globe and over 2,000 employees designing projects as varied as the National Museum of African American History in Washington, D.C. to the Chase Tower in Chicago. The firm began working with mass timber in 1995 and to date has completed more than 30 mass timber projects worldwide.

Beyond design excellence, Perkins&Will is a purpose-driven company focused on sustainability, well-being and diversity initiatives. Their nonprofit, <u>AREA Research</u>, includes seven research labs designed to partner, discover, and apply new knowledge across the design profession, including recent insights on the COVID-19 pandemic.







PHOTO | Perkins&Will

"Mass timber isn't simply a green building fad, it's a resurgence of one of the oldest building materials used by humans. The desire to use wood in commercial buildings will increase not only because it's the more sustainable choice, but because building occupants and tenants will prefer it."

ANDREW TSAY JACOBS DIRECTOR OF BUILDING TECHNOLOGY LAB, AIA, EIT AT PERKINS&WILL



From the studio:

Our firm is committed to mitigating the environmental impacts of our projects, processes, and construction. We recognize that heavy timber has the potential to radically realign a building's relationship with embodied carbon. From the first stages of design to the recyclability of a structure at the end of its life, mass timber is a sustainable option at its core: It's a renewable material that also offers stunning aesthetics.

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RENDERING | Steelblue

1 De Haro

The gravel yard at <u>De Haro</u> has been owned by the same San Francisco family for over 95 years, serving as home to the San Francisco Gravel Company for three generations. In 2014, the family approached SKS Partners to re-develop the site. Once complete, 1 De Haro will be the first CLT building in San Francisco and the first multi-story mass timber building in California.

The triangular, creek-side lot presented a number of design challenges, including poor soils that made an all-concrete structure cost prohibitive. After studying both mass timber and concrete during the design process, the design team chose mass timber for its lighter weight, design aesthetics, acoustic, and sustainable qualities. The upper office floors were designed with CLT slabs and glulam post and beams structures with wood to wood connections – the first multi-story building in California to do so. The exterior is wrapped in a full-height glass curtainwall to maximize daylight and views and to "celebrate the beauty, warmth and character of the exposed wood inside." The property was leased before vertical construction began.

"Mass timber allows us to highlight design precision and high-quality construction. Exposing wood allows us to celebrate the structure rather than spend money to cover it up."

MATT COVALL SENIOR ASSOCIATE AT PERKINS&WILL



PHOTO | Perkins&Will

DC Southwest Public Library

The new <u>Southwest DC Library</u> is one of the city's only public libraries to sit on its own site, giving the structure urban distinction within the surrounding park. The 25,000 SF building was designed to achieve LEED Gold certification for environmental design, integrating energy and water conservation strategies including a living green roof to produce oxygen and absorb runoff, along with photovoltaic panels that collect solar energy. The library's high-performance facade will capture diffused northern daylight, provide maximum visibility to the building's surroundings, and optimize energy conservation.

Participatory design shaped the final concept for this civic structure. The project team hosted <u>community meetings</u>, including visioning exercises and focus groups with residents and staff to gather ideas and inspiration. The library's distinctive folded-plate cantilever roof is constructed from prefabricated dowel-laminated timber, creating an inviting aesthetic to welcome visitors inside and out. The building exterior features an inviting porch and balcony, while natural bio-swath vegetation will enhance the structure, creating visual connection with an adjacent park.





RENDERINGS | Perkins&Will

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Billerica Memorial High School

More and more of today's education design—from elementary to post-secondary—showcases climate-smart, low-carbon building strategies. At <u>Billerica Memorial High School</u>, timber contributes to the building's carbon-conscious design. Embodied carbon in the sustainably certified spruce timber structure offsets the equivalent of a typical school bus traveling over 460,000 miles.

The 325,000 SF Billerica, Massachusetts-based structure elegantly combines wood, steel, and glass, giving a modernist nod to neighboring neoclassical civic buildings, while delivering a high-tech, future-ready educational environment. The design reflects Billerica's heritage as a New England mill town, recalling the timber structures of many historic town buildings. Inside the main atrium, a lattice of wood, and exposed glulam timber roof adds warmth, aesthetic detailing and acoustic control.

Designed to function, in part, as a community center, the facility can accommodate civic events in its gymnasium, auditorium, and dining commons, and serves as a dynamic town center, offering ample spaces for the entire community to gather and connect. The project garnered various design awards and was recently featured in Architectural Record's Schools of the 21st Century Issue.





PHOTOS | Chuck Choi



Solo

Siting lightly upon a forested knoll overlooking the spectacular Soo Valley north of Whistler in British Columbia's Coast Mountains, <u>SoLo</u> is not a typical alpine home. Under the direction of developer Delta Land Development, Perkins&Will designed this prototype to demonstrate a unique approach to building off-grid in a remote environment where every choice has consequences. Performance led, the home expresses a restrained material palette while generating more energy than it uses, eliminating fossil fuels and combustion from its operation entirely.

Challenging conventions in both aesthetics and construction, the SoLo prototype acts as a testing ground for low-energy systems, healthy materials, prefabricated and modular construction methods, and independent operations intended to inform larger projects like <u>Canada's Earth Tower</u>. A Passive House certified building, timber was selected as SoLo's primary structural material and is authentically expressed and exposed throughout the home—a 'temple to Douglas Fir'. Given the valley's extreme climate, it was critical to have an 'enclosure-first' approach to ensure energy efficiency and outstanding comfort. The team applied a two-layer approach to the enclosure—an outer heavy timber frame acts as shield, resisting the weather, while the heavily insulated inner layer acts as the thermal barrier. With the addition of double height glazing opening the home up to the valley's incredible views, the home has achieved PHI Low Energy Building certification.



PHOTOS | Perkins&Will

River Beech Towers

As part of a masterplan development along the Chicago River, the River Beech Tower is a residential high-rise which, if built, would be taller than any existing timber building. The system engages an exterior diagrid system, taking advantage of the natural axial strength of timber. The building's vertical and lateral loads are resisted by connecting the outer diagrids with the internal cross bracing that skirts the central atrium, allowing for efficient load distribution across all timber elements. The collaborative team behind this academic and professional undertaking includes Perkins&Will architects, engineers <u>Thornton Tomasetti</u>, and the University of Cambridge. The team traveled to AutoDesk Build Space in Boston to fabricate the large heavy timber nodes designed for structural support. These full-scale mockups currently are located in the Chicago studio, displayed for all to observe. Next, the project team aims to build a full-size modular unit of the tower using the nodes they've constructed and tested.



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