

## Brookfield Properties to Build the Largest Mass Timber Office Building in North America at Pier 70 in San Francisco Use of Mass Timber Drives Creativity, Productivity and Sustainability

**San Francisco, Calif., Dec. 10, 2019** — Brookfield Properties plans to build the largest mass timber office building in North America as part of its 28-acre Pier 70 waterfront development at a historic shipyard property in San Francisco.

“Our decision to use mass timber is inspired by the neighborhood’s culture of creativity, sustainability and strong opinions,” said Brookfield Properties Sr. Manager of Development Cutter MacLeod. “By applying emerging technologies and innovative designs to the structures we’re building here, we are reinforcing that Pier 70 will be a thriving place for creative industries in San Francisco.”

The new 310,000 sq. ft. mid-rise mass timber building will be 85-feet-high with six-floors. It will be the first ground up office parcel built at Pier 70, where construction is underway on a \$3.5 billion waterfront neighborhood with housing, offices, parks and space for artists and local manufacturing, and rehabilitated historic buildings. The mass timber building will serve as a signature gateway structure on the site’s northern side, and boast views of downtown, San Francisco Bay and nearby hills.

The building will feature cross laminated timber (CLT) floor slabs, glue-laminated timber (Glulam) columns and beams, steel lateral seismic framing, and metal cladding. CLT is a relatively new building material that can be used for mid-rise buildings. CLT floor panels laminate layers of solid wood that change direction in each subsequent layer, making the panels strong in two directions, and giving them comparable strength to traditional building materials like steel or concrete.

### A Showcase of Sustainable Design

The lead designer for the Pier 70 mass timber office building is Hacker Architects of Portland, Oregon. The company specializes in the use of mass timber and is headquartered in a CLT building.

“The Pier 70 office building will make a statement about how mass timber technologies are pushing design and construction towards environmentally sustainable design solutions that better connect the workplace to the natural environment,” said Hacker Principal Corey Martin.

Among the building’s interior features will be one- and two-story ceiling heights and windows ranging from 14-28 feet-high, using 27-inch exposed wood beams. The wood is given even more prominence by hiding utilities like piping and conduit in gaps between CLT panels and colonnades where there are no beams. To add a sense of movement, a cantilevered section will extend on four sides, with each corner used as the switching point for the direction of the beams. The strength of CLT also minimizes the need for beams at the building perimeter, allowing for larger floor-to-ceiling window heights and more natural light at its edges than traditional steel and concrete buildings.

“The experience of a wood building is one of softness, depth and light that makes it feel more expansive beyond its boundary. From its interior and exterior, this building will have views through the structure to showcase the wood, the Bay and pedestrian activity,” said Martin.

The building’s exterior will include a simple palette of metal panels finished to appear as raw weathering steel as a reference to the site’s ship building history and adjacent industrial buildings. By shaping and chamfering the panels and alternating their direction on each floor, the panels will capture light in different ways and create visual movement. The dark metal shell will serve as a sharp contrast to the glowing wood interior seen easily from the street. At the pedestrian level, double height notches with living walls will be set in rhythm to nearby building patterns. In addition to offices, Brookfield plans to include a retailer, restaurant and bike lounge at ground level.

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## Mass Timber's Benefits

Mass timber is a renewable resource with a lower carbon footprint than other structures. Martin notes the amount of resources and energy it takes to produce CLT is a fraction of what it required to extract steel or produce concrete. According to the Oregon Forest Resources Institute, it would only take approximately 90 minutes for Oregon's managed timberlands to grow the amount of wood that will be used in the Pier 70 building.

While mass timber can be costlier to build with than steel, the costs are offset by various factors, such as the lighter weight of wood can result in lower foundation costs or the speed of construction improves because offsite prefabrication is done in advance of building assembly. Pier 70's timber building will reduce construction time by approximately 4-6 months compared to a similar-sized concrete building.

"We are excited that the natural material contributes to the biophilic design of the space, which was done intentionally to connect the inhabitants to nature in an organic way. Studies have shown the presence of wood and more natural light in interior spaces improves focus, creativity and mood, and reduces stress. That, in turn, increases worker productivity, health and happiness," said Martin.

Another benefit is that mass timber easily achieves required fire resistance by adding wood for a "char layer" and can resist fire better than steel, which needs added fireproofing for a building of this scale. In contrast, an ordinary 4-5 story wood building made of "stick" wood framing has a fire rating that comes from the materials concealing the wood.

"Mass timber is structure, finish and fire proofing, where the size of the wood elements can be increased to withstand fire," Martin said. "Exposing the wood provides an exceptional finish, which minimizes the need to add ceilings and other fire proofing material."

Wood structures are also light, yet strong and flexible, allowing them to perform well in seismic events.

Design approvals for the Pier 70 timber office building are underway. Pending approvals by the Port of San Francisco and the City of San Francisco, construction is targeted to begin in spring 2020 and to be completed within two years.

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## About Brookfield Properties

Brookfield Properties is a fully-integrated, global real estate services company that provides industry-leading portfolio management and development capabilities across the real estate investment strategies of Brookfield Asset Management — a global alternative asset manager with over \$500 billion in assets under management.

Brookfield Properties develops and manages premier real estate with a focus on maximizing the tenant experience in addition to the investment and operational performance of the asset. We also focus on integrating leading-edge real estate technologies which enables us to be at the forefront of innovation and sustainability — benefiting not only our tenants, residents and business partners, but also the communities in which we operate.

For more information about our approach to operating and developing best-in-class real estate, please visit [brookfieldproperties.com](http://brookfieldproperties.com).

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The Pier 70 mass timber building provides views through the building to showcase the wood, the Bay and pedestrian areas.

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At night, the Pier 70 mass timber structure's dark metal shell will serve as a sharp contrast to the glowing wood interior seen easily from the sidewalk.

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Double height open areas at the Pier 70 office building showcase how mass timber provides softness, depth and light to make it feel more expansive beyond its boundary.

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The wood is given more prominence by hiding utilities like piping and conduit in gaps between CLT panels and colonnades where there are no beams at the Pier 70 office building.