Project Profile

Catalyst Building

LOCATION
Spokane, WA

TYPE
Mid-Rise | Commercial Office

ARCHITECT
Katerra + Michael Green Architecture

KATERRA SERVICES PROVIDED
Architecture and Engineering, Design Coordination, Materials, Construction Management

PROJECT STATUS
August 2020
The 150,000 ft² Catalyst Building is the first office building in Washington State constructed out of cross-laminated timber (CLT).

As part of the new South University District, the development is connected to an energy and resource sharing eco-district that serves as a bridge between Spokane’s downtown core and the growing University District. This innovative ecosystem intends to attract new businesses eager to capitalize on the integration of industry and higher education.

The building demonstrates the integration of economic vitality, regional sustainability, and energy efficiency by leveraging the legacy industries of the region (such as timber) and the innovation happening in the construction and education sectors. The use of CLT means the building will have a smaller carbon footprint than that of comparable buildings built with steel and concrete.

One of the goals of the Catalyst project is to connect the public and private sectors by bridging the knowledge/skills gap and creating a building that promotes continual learning. The project is situated near the base of the University District Gateway Bridge – a significant public works project connecting the two university core areas. The project is core and shell commercial with a final intended use of higher education classrooms and labs, co-working spaces, and private sector offices. Eastern Washington University (EWU) will be the building’s primary tenant, moving its Computer Science, Electrical Engineering, and Visual Communication Design programs from their Cheney campus to the new Spokane location.

The Catalyst project is built on an irregular site located near an active railway, which means it must contend with airborne noise and groundborne vibration. The resulting design demonstrates ways in which a prefabricated mass timber construction approach can address site-specific conditions and limitations through deeper integration between design, manufacturing, and construction.
Mass Timber & CLT

The client’s goal was to design and construct a wood building that could match or exceed the performance and ROI of a comparable steel and concrete building and showcase the inherent benefits of CLT with regard to aesthetics, build efficiency, and environmental impact. As a result, the team developed and implemented numerous systems and solutions intended to minimize the use of concrete, steel, and other traditional building materials.

Katerra’s goal is always to prefabricate as much as possible and to minimize the number of trades required to install or construct a specific building component, particularly with the “wet trades” that add significant time and risk to the process. Because CLT offers natural fire resistance, it can be left exposed. This creates a pleasing aesthetic effect but also eliminates the steps of framing, decking, topping, fire proofing, and final finish.

CLT Floors/Ceilings

Leveraging partnerships with Washington State University (WSU) and Technical University Graz (TU Graz), Katerra developed a long-span mass timber floor solution – the Katerra Rib Panel – in the summer of 2018. The rib panel is the first timber solution in North America to address vibration in a common commercial 30-foot span without utilizing any concrete or structural composite action.

CLT Shear Walls

Utilizing 7-ply CLT shear walls with large BRBs (buckling resisting braces), greatly reduces the construction time associated with traditional, concrete shear walls. CLT shear walls are also lighter than concrete, which reduces gravity load and bracing requirements.

CLT Exterior Wall Panels

The Catalyst project uses a 3-ply CLT curtainwall – or “curtainwood” – system, which offers numerous advantages. The exterior wall panels are two-story, allowing for faster assembly and dry-in of the interior space. CLT has naturally excellent hygrothermal properties, optimizing the movement of heat and moisture through the building envelope, and it offers better thermal and acoustic performance than an insulated cold-formed steel wall. It also provides a monolithic substrate for fastening exterior insulation and finishes.
Team
Katerra manufactured most of the CLT components in its Spokane Valley factory and served as the design builder for the project with Michael Green Architecture of Vancouver, British Columbia, as the design architect. McKinstry, whose offices are in Spokane’s University District, was the mechanical, electrical, plumbing, fire protection, and data contractor.

For more information about Catalyst, please visit catalystspokane.com.