



The Exchange

by ROBIN BRUNET

Historic structures, as well as the green building industry, could do with more friends like Franz Gehriger. For years, the CEO of SwissReal Group owned the old Vancouver Stock Exchange building and was intent on restoring it even before it received heritage status; he also wanted to augment the facility with a new tower in order to create Vancouver's first LEED Platinum heritage conversion and provide one of the most sustainable buildings in North America.

His daughter, Nadja Gehriger, who is VP of SwissReal, says, "My father could have easily torn down the building and started fresh, but as a European he is extremely aware of the need for sustainability, as well as preserving old buildings – which aren't in abundance in western Canada."

By partnering with Credit Suisse, Gehriger's grand vision has resulted in the impending completion of the \$240-million The Exchange, which includes a complex retrofit of the original 1929 stock exchange building – out of which arises a 375-foot, 31-storey tower with seven levels of underground parking and 370,000 square feet of office space.

To say that Gehriger and a small army of designers and builders were faced with numerous challenges would be an understatement. In 2012, when Vancouver City Council approved the stock exchange facelift, residents of the nearby Jameson House tower complained that their views would be spoiled if Gehriger built a tower that sat beside the stock exchange. "So early on in the design stages we considered either cantilevering the tower over the top of the exchange or placing it directly through the building," says Daniel Hawreluk, partner, Iredale Architecture. "We opted for the latter, and this pulled the tower further east and preserved the views for neighbours. This also allowed us to incorporate a roof deck on the top of the podium, which wouldn't have been possible with two separate buildings."

While the stock exchange building was in relatively good shape, Read Jones Christoffersen Ltd. had to ensure that it was seismically upgraded – and on that score, bringing the new tower's foundation columns through the building would help enormously (10 columns in all, post tensioned slabs with big cantilevers).

This left the brick and other masonry components of the stock exchange's gothic facade to be upgraded. "The idea was to restore the facade and the original lobby," says Hawreluk. "Beyond the lobby everything would be new, including a new six-storey Pender Street lobby. We designed very large and continuous floor plates for the lower levels in order for occupants to experience the old and new building elements – and after that would be the modern tower."

Keri Briggs, Vintage Woodworks VP, says, "The Old Stock Exchange project included 235 windows; 179 of these windows were original historic wood windows that became a unique combination of restoration mixed with new thermal sash upgrades. Fifty-six units, both square head and segmented head, were

manufactured as new high-efficiency replica units, because years ago those units had been replaced with aluminum windows that had failed."

Briggs goes on to note, "Our restoration procedures exceeded some of the toughest safety standards we have ever been faced with, as we worked with both lead and asbestos abatement. The biggest challenge was working off of a hydro lift shared by masons and those managing the asbestos in the mortar. From the street, people may have seen large crate boxes moving from opening to opening. These boxes allowed us to work in all weather and all lighting, protecting the openings, the incredible trades people and containing the lead abatement area."

Apart from safety, a major challenge of The Exchange project was that no underpinning agreement





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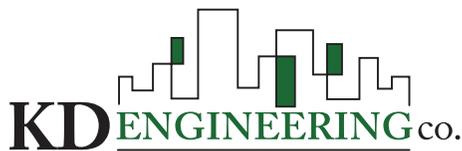
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could be signed with the owner of a neighbouring building, meaning all construction had to be confined within The Exchange's property line. "So swing cranes and other equipment had to be specifically sized to work in tight confines," says Nadja Gehriger.

It also meant that PCL Constructors Westcoast Inc. had to perform elaborate shoring and build the tower's foundations from the top down. Support of the tower over the stock exchange building involved punching holes through all 11 levels of the original building for four of the 10 structural columns. "Establishing the foundations took two years," notes Gehriger. "Needless to say, going up with the new tower was a lot quicker."

Gehriger goes on to point out that one way for the project to meet LEED Platinum standards "was to import radiant heating and cooling and other HVAC systems from Europe. The two buildings incorporate a great deal of European technology."

Wolf Schenke, principal of MCW Consultants Ltd., adds, "A task ambient lighting system of 30-foot candles was designed in order to provide useful and comfortable ambient lighting, and a vertical busduct system enables each floor to be loaded according to need."

Schenke credits the Gehriger family for being "extremely forward thinking. For example, back in 2012 Franz insisted on all LED lighting and was willing to pay the upcharge; fortunately this technology rapidly became more affordable and the selection way more expansive in the intervening years."

The Exchange offered unique landscaping opportunities. PWL Partnership Landscape Architects Inc. founding principal Margot Long and her team provided streetscape elements including the reinsertion of

glass blocks along the edges of the stock exchange building to acknowledge its heritage (the old trading area was located in the basement); they also created a rock garden and seating area for the tower's amenities space as well as an expansive green roof for the top of the stock exchange.

While final completion of The Exchange is scheduled for later this year, Nadja Gehriger is already impressed by the realization of her father's dream. "Honestly, the final result is even better than the renderings, which were spectacular," she says. "It's an honour to preserve an important part of Vancouver's heritage and make it part of the city's future." **A**

LOCATION

475 Howe Street, Vancouver, B.C.

OWNER

Credit Suisse / SwissReal LP Holdings Corp.

DEVELOPER

SwissReal Investments Ltd.

PROJECT MANAGER

MKT Development Group Inc.

ARCHITECTS

Iredale Architecture / Harry Gugger Studio (Basel, Switzerland)

GENERAL CONTRACTOR

PCL Constructors Westcoast Inc.

STRUCTURAL CONSULTANT

Read Jones Christoffersen Ltd.

MECHANICAL CONSULTANT

Integral Group

ELECTRICAL CONSULTANT

MCW Consultants Ltd.

LANDSCAPE ARCHITECT

PWL Partnership Landscape Architects Inc.

WINDOW RESTORATION AND REHABILITATION

Vintage Woodworks Inc.

TOTAL SIZE

400,000 square feet

TOTAL COST

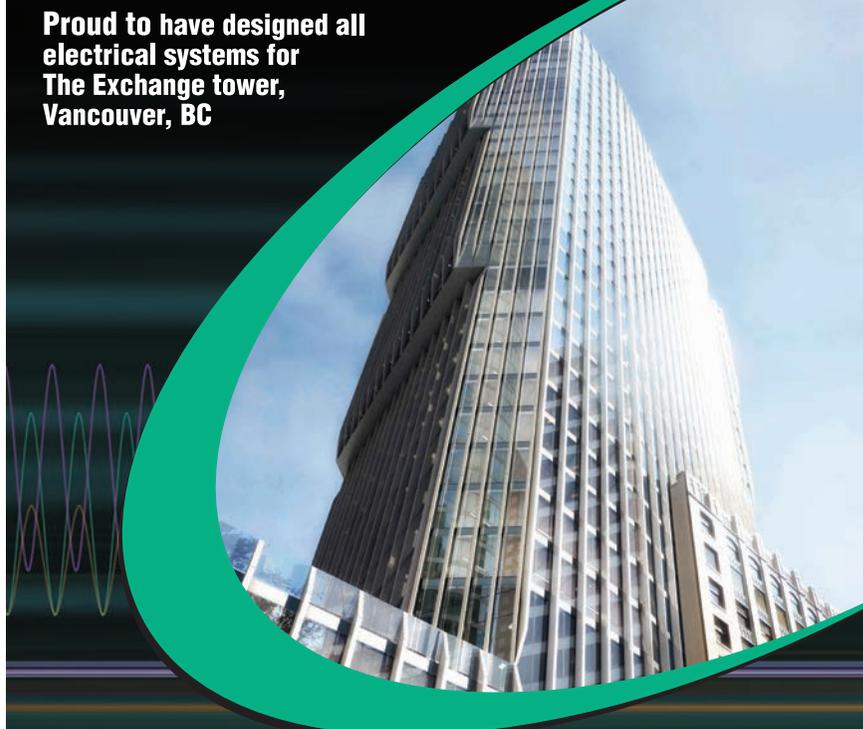
\$240 million

PHOTOGRAPHY COURTESY PCL CONSTRUCTORS WESTCOAST INC.



MCW Consultants Ltd.

Proud to have designed all electrical systems for The Exchange tower, Vancouver, BC



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Congratulations to PCL Constructors Westcoast Inc.

We are proud to have completed the masonry work for The Exchange.