



Vernon Jubilee Hospital – Polson Tower Expansion

by ZUZANNA WODZYNSKA

Vernon Jubilee Hospital (VJH) in B.C. has had the top two of its seven floors in Polson Tower newly fitted out. The 4,176-square-foot Inpatient Bed Expansion project included 14 new beds and 46 beds relocated from elsewhere in the hospital, bringing the hospital's total number of beds up to 182.

"On those top two floors, there are now 38 private inpatient rooms, eight semi-private patient rooms, two private isolation rooms, two private bariatric isolation rooms and two private bariatric rooms," says Rick Young, the design-build manager on the project from Parkin Architects Western Ltd. "All rooms were designed to take advantage of the spectacular views across the Okanagan Valley."

Patients and their families can now enjoy enhanced privacy provided by these new facilities and see an increase in their comforts as family involvement in patient care is encouraged by the Interior Health Authority, the owners and operators at VJH. Provision has been made to allow a family member to sleep in the patient bedroom along with locked drawer storage to securely store a small number of belongings.

"Accommodation for the family is created in a specific zone within the inpatient bedroom to minimize the possibility of interference in the provision of care to the patient," explains Young. "In all cases, nursing takes place on the side of the bed closest to the corridor door, while family visiting space is on the opposite side of the bed near the window."

In all patient rooms, millwork and equipment placement needed to be consistent in order to develop efficiencies in clinical tasks and patient care. The width and length of each room, its layout, the related remote care station, patient monitor, bumper rails, medical gases, light fixtures, door

size, windows, colours and patient orientation were all standardized throughout these top two floors.

Other details include hookless curtains that can be installed and removed with a single movement without the need for ladders or stools, facilitating more regular laundering and reducing the potential for staff injury. Water-resistant sheet vinyl in various patterns was applied to walls in patient bathrooms and tub rooms, introducing a unique finished character to the interior.

"Where possible, the use of local wood products was integrated into the design to promote a sense of warmth and comfort," notes Young. "Wood ceiling panels were installed in elevator lobbies, wood doors can be seen across the inpatient levels and wood products are utilized in millwork, equipment backing and rough carpentry."

Though the Wood First Act is obviously in evidence, wood-look vinyl flooring and wood grain plastic laminates were used where natural wood is a desirable finish but where its use is restricted by infection control requirements. "Almost a third of materials were sourced locally," adds Jerome Arthur, sustainability manager at Stuart Olson Inc., the general contractors on the project. "This has a positive impact on the economy, while decreasing negative impacts on the environment."

Some requirements were more challenging to implement. "For the last several years, the Province of British Columbia has required that new buildings are constructed to LEED Gold standards where possible," notes Patrick Gall, communications officer at Interior Health. "The base building, Polson Tower, was awarded that certification upon construction."

The challenge for the expansion

project was to not compromise the existing LEED Gold certification. This was achieved by following or improving on the design principles of the base building.

"Projected water use reduction of 37.24 per cent over baselines was achieved by installing low-flow fixtures," explains Arthur. "The control sequences allow for the outside air component to be fixed at 33 per cent air volume to encourage heat recovery from the mechanical cooling, fully utilizing the heat recovery chillers." Other efficiency measures include the use of LED lighting as well as daylight dimming, occupancy and vacancy sensors.

"The codes and standards had changed since the base building was built," says Lex Webster, senior project manager at AES Engineering Ltd., the electrical consultants on the project. "Optimization of existing power systems was required to ensure redundancies were in place and to ensure reliability."

This included an upgrade of the fire alarm system integration with the building management system, since the movement of air in fire situations is critical in high-rise hospital buildings with infirm patients. "Evacuation of patients involves mechanical and electrical systems working together automatically as well as having manual override capabilities," notes Webster. "The result was increased fire safety for the entire building."

Mahdi Yazdinezhad, structural engineer on the project from ROV Consulting Inc., says that as a hospital and post-disaster unit, structural detailing had to be looked at in-depth to ensure safety and building code requirement compliance. For example, additional holes needed to be made in the floor slab for mechanical piping

LOCATION
2101 32nd Street, Vernon, B.C.

OWNER/DEVELOPER
Interior Health Authority

ARCHITECT
Parkin Architects Western Ltd.

DESIGN BUILD CONTRACTOR
Stuart Olson Inc.

STRUCTURAL CONSULTANT
ROV Consulting Inc.

MECHANICAL CONSULTANT
Williams Engineering Canada Inc.

ELECTRICAL CONSULTANT
AES Engineering Ltd.

TOTAL SIZE
4,176 square feet

TOTAL COST
\$27.6 million

so an x-ray scan was done to locate the rebars and provide remedial detail in case they were cut.

"The biggest challenge for the project, however, was constructing above an Intensive Care Unit which was required to remain fully operational," explains Young. After all, cutting and coring concrete generates a significant amount of noise and vibration. "The team at Stuart Olson Inc. was very considerate of the units impacted by the construction and worked closely with Interior Health to ensure patient care impacts were minimal," says Gall.

With careful co-ordination between construction teams and hospital staff, patient rooms in ICU would be shut down at specific intervals. "During these short spaces in time, we moved in, installed localized infection control facilities in the room, completed the hole coring, pipe installation or cabling required, and grouted and sealed openings before a final clean-up and handover back to the floor staff in ICU," recalls Grant Bond, senior project manager on the project at Stuart Olson Inc. "Timing was always critical and we generally had to be prepared to move in on very short notice."

Bond further explains that every Friday a site walk-around with the client and facility managers was done as a risk mitigation technique. "The aim was to find and flag potential risk elements in the construction process which were then recorded on a live spreadsheet and rectified every single week throughout the project," says Bond. The result was minimal deficiencies and a happy client.

The two floor fit-out was a \$27.6-million cost shared between the Province of British Columbia, the North Okanagan/Columbia Shuswap Regional Hospital District and the Vernon Jubilee Hospital Foundation. **A**