



## LEGALETT CONTRIBUTES TO THE PERFORMANCE OF THE PASSIVE HOUSE SALUS CLEMENTINE BUILDING

**Salus Clementine, a four-storey, 42-unit affordable housing project in Ottawa for men and women living with severe mental illness, is one of the few Passive House - certified projects in Canada. This means that it's "ultra" energy efficient, reducing energy consumption by nearly 70%, and this starts right at the base using the GEO-Passive slab by Legalett.**

Legalett was specified because of soil challenges at the site - the water table was within six inches of the base - and for the company's unique engineered ICF GEO-Passive Slab combined insulation and forming solution.

According to Legalett's Ken Williams, the Geo-Passive Slab allows greater flexibility to projects, without necessarily requiring site remediation. "Our slab both insulates the underside of the concrete to isolate it from the surrounding earth avoiding moisture issues, and it spreads the bearing load across the surface allowing the slab to also act as a footing."

Legalett was able to adapt its processes, and the design, as the Salus plans evolved. "We do not normally add a membrane between the insulation (an expanded high density polystyrene foam - EPS) and concrete as the EPS itself provides a building code compliant moisture barrier but Passive House (PH) standards have a higher specification so a 15ml poly that was taped and sealed was used to ensure there were no penetrations through the poly, and we sandwiched the membrane between the EPS layers to avoid accidental punctures from the rebar-chairing system laid prior to concrete placement," said Williams. The resulting solution met both the foundation and footing support required, and also the PH requirements specific to this project.

Another unique aspect was the elevator designed for the project. To meet the unit's structural requirements, a floating raft slab on the same insulation type as the main slab was constructed below the main slab to hold the elevator and the entire unit was then connected to the main slab after it was constructed.

Choosing to specify a Legalett floor slab also offers the option of adding a proprietary, closed loop air-heated radiant floor system that can be connected to a SunWall PH active solar air heater. Williams says, "The combination of SunWall PH and Legalett's warm floors perfectly matches with the Ontario government's proposed NET Zero energy bill because the floor is super insulated and offers the option of heating with minimal amounts of electricity."



Legalett has been serving the North American market with unique insulated slab and foundation solutions for over 25 years, with over 1,000,000 ft<sup>2</sup> of its systems successfully installed.



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