



TRILLIUM HEALTH PARTNERS LONG-TERM CARE HOMES

CASE STUDY



OVERVIEW

As part of Ontario's Accelerated Build Pilot Program, this project includes two new long-term care homes, each with private or semi-private bedrooms, lounge areas, dining rooms, terraces and 100% fresh air supply capability.

PROJECT DETAILS

Contractor: EllisDon

Architect: Montgomery Sisam

Engineer: EXP & Entuitive

Contract Value: \$25 M

Tonnage: 2,700 Imperial Tons

OUR ROLE

Supply and erection of structural steel and deck.

APPROACH

Steelcon was awarded this project in January 2021 for the construction of a level-two grillage structure to support a modular multi-story building above. The project had an aggressive delivery schedule of May 2021, with the drawings at 50% DD stage.

The initial design consisted of heavy/deep conventional welded wide flange (WWF) members and wide flange (WF) members. Due to the uncommon nature of some of these sizes, many of which were hard to procure and had to be either mill rolled or had extremely long lead times, there was a substantial concern that the schedule could not be achieved.

Steelcon proposed the SIN beam system as a replacement option, along with our design team to assist in the redesign of the grillage steel to incorporate the system, which would allow schedule achievement as all the coils and plates could be ordered and the SIN beams manufactured in house.

Throughout the course of the redesign, Steelcon engineers were tasked with ensuring that the SIN beam met the design requirements as well as any height restrictions. Steelcon's engineers successfully matched the vibration requirements, stiffness, and design load requirements needed for the project, which were very high and specific to withstand the modular structure above.



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APPROACH CON'T

While the project required sprinklers and ducts to pass through beams, whether it be using the conventional system or SIN beam, Steelcon achieved these by shop fabricating holes with the required reinforcement through the beams.

One of the many challenges at one point in the design was that many of the design loads increased, resulting in a massive change and upsizing to 50% of the beams within the grillage frame. If this had been a conventional project, all the conventional beams previously ordered would have been scrapped/wasted. With the SIN beam and its flexibility in design and use of coils/plates, we were able to accommodate these changes without any change to the schedule.

RESULTS

In addition to meeting schedule requirements, the SIN beam replacement option resulted in a substantial cost savings for the client.

Working alongside EllisDon's M&E team and utilizing BIM & Tekla software, all height restrictions were maintained.

Steelcon successfully achieved the May 2021 delivery schedule as planned.

