



**PARK ONE EAST  
AND PARK ONE  
WEST**  
EDMONTON, ALBERTA

(Reprinted with permission from  
ArcelorMittal Dofasco Steel Design, 2009)

**Design and Construction Team**

**OWNER:**  
Cal Casa Ltd.

**ARCHITECT:**  
Arndt Tkalcic Architecture

**CONSTRUCTION MANAGER:**  
Abbey Lane Homes

**STEEL PANEL  
FABRICATOR/ERECTOR:**  
Composite Building Systems Inc./  
Kerr Interior Systems Ltd.

**FRAMING SUPPLIER:**  
Steelform Building Products  
780-440-4499

**Q-DECK SUPPLIER:**  
Vicwest 780-454-4477

**PHOTOGRAPHY:**  
Ken Orr

## Lightweight Steel Framing Contributes to Sustainability in Condominiums



Suites range from 70.6m<sup>2</sup> to 111.5m<sup>2</sup> (760 to 1200 sq. ft.), providing features such as airconditioning, granite kitchen countertops with under-mount double stainless steel sinks, stainless steel appliances and ceramic tile flooring in the foyers, kitchens, and bathrooms. Kerr Interior Systems of Edmonton installed all the light steel framing (LSF) panel assemblies built by its sister company Composite Building Systems Inc., also of Edmonton. The LSF is supplied by Steelform Building Products Inc. and the Q-Deck by Vicwest.

Each building is 3,917m<sup>2</sup> (42,159 sq.ft.) involving a wide variety of light steel framing LSF studs and panel assemblies. Steel was chosen because of the reduced fire risk during construction and to eliminate settling issues (drywall cracks, door/hardware adjustments etc.) that occur with other building materials due to shrinkage and compression of the structure.

The heated underground parkade is concrete, with the ground and above floors framed with load-bearing and non-loadbearing galvanized and Galvalume steel panel assemblies of varying gauges based on the floors and spans involved. For instance, steel in the exterior walls ranges from load-bearing 1.811mm (.0713") to .879mm (.0346"). Corridor walls range from 1.146mm (.0451") down to .879mm (.0346") with party walls a double

row with gauges from 1.438mm (.0566") down to .879mm (.0346"). Interior walls range from 1.811mm (.0713") to .879mm (.0346") with non-load bearing interior partitions of .478mm (.0188") material.

The flooring throughout is 50.8mm (2") concrete over 38mm (1.5") Q-Deck utilizing .91mm (.036") ZF075 galvaneal steel supplied by Vicwest, and 1.9mm (.075") and 1.52mm (.060") steel floor joists.

Each building has a flat roof with 254mm (10") light steel framing (LSF) joists, Q-Deck and a BUR.

Meticulous care was taken in designing the buildings to fit in with, and complement, the existing neighbourhood ambience. The resulting combination of light gauge load bearing steel sections and concrete cost less than all-concrete construction.

Quantities of framing involved:  
The structural load bearing light steel framing is industry standard Z275 (G-90) finish and the non-load bearing is Z120 (G-40).

LIGHT STEEL FRAMING ASSEMBLIES – LSF Sections

MPA 340 (Grade 50) Z275 (G90) Coating  
254mm stud x 41.3mm flange x 1.73mm  
– 18,841m Joist and track (10" x 1.625" x .068") – 61,815 L.F. (1000S162 – 68mil)

92mm stud x 41.3mm flange x 1.37mm  
– 48,560m Load bearing stud and track (3.625" x 1.625" x .054") – 159,370 L.F. (362S162 – 54mil)

MPA230 (Grade 33) Z180 (G60) Coating  
92mm stud x 41.3 flange x 1.09mm  
– 8,583m Load bearing stud and track (3.625" x 1.625" x .043") – 28,156 L.F. (362S162 – 43mil)

92mm x 41.3mm x .84mm  
– 6,629m Load bearing stud and track (3.625" x 1.625" x .033") – 22,075 L.F. (362S162 – 33mil)

MPA230 (Grade 33) Z120 G40 Coating  
63.5mm x 31.75mm x .46mm  
– 15,866m Non load bearing stud and track (2.5" x 1.25" x .018") – 52,054 L.F. (250S125 – 18mil)



Sustainable construction is not something that is exclusive to expensive projects, but can be applied to virtually any development, even specific aspects of a project. Park One East and Park One West are side-by-side upscale condominiums built around a light steel framing system (LSF) in the heart of Edmonton. The 32-suite buildings are intended to appeal to both young professionals and homeowners seeking luxurious maintenance-free living.



The floor joists are supported by the load bearing wall assemblies, with ZF075 galvaneal steel deck screwed down to the joists. Furring channels are attached to the joists for future attachment of drywall. Joists are spaced 609 to 1,219mm (24" to 48") depending on span and load. Mechanical and electrical services are easily installed.



Front of the four story Park One East. The exterior load bearing EIFS envelope and interior panel assemblies were assembled in the plant and then shipped to the site. This allowed greater quality control, as well as, removing weather and scaffolding issues from the construction challenges.



Canadian Sheet Steel Building Institute  
652 Bishop St. N., Unit 2A  
Cambridge, ON N3H 4V6  
Tel: (519) 650-1285  
Fax (519) 650-8081  
www.cssbi.ca