July 31, 2025

Cushing Terrell

Harlan Martin
Fortress Building Products
1720 N 1st St.
Garland, TX 75040

RE: Fortress Evolution Ontario Code Compliance

Dear Harlan,

Per your request, Cushing Terrell (CT) has analyzed the report, "CCRR-0313: Evolution Steel Framing," for code compliance with the 2024 Ontario Building Code (OBC 2024) and the 2020 National Building Code of Canada (NBC 2020).

The calculations assume a single residence dwelling only, with a maximum live loading of 1.9kPa (40psf), and a dead load of 0.5kPa (10psf). With snow loading assumed to be zero, the minimum load table in CCRR-0313 shall be the equivalent of 75psf unfactored loading (Tables 4 & 10). Any table with a total unfactored load below 75psf will not be in accordance with NBC or OBC and shall not be implemented.

Cushing Terrell analyzed the "CCRR-0313: Evolution Steel Framing" for OBC 2024 and NBC 2020 code compliance only. We take no responsibility for any element of Evolution Steel Framing, any element that may attach to it, nor for any element it may attach to.

Please contact us with any questions.

Sincerely,

Sushil Shenoy, PE
Project Manager

Job: Fortress_OBC

Cushing Terrell

Fortress Evolution Loading Checks

LRFD conversion for lowest possible loading

$DL := 10\ psf$ Design Dead Load

$LL := 40\ psf$ Design Live Load

$R_n := DL + LL = 50\ psf$ Total Unfactored Loading

ASD Load Combos

$LC := DL + LL = 50\ psf$ Governing Load Combo

$\Omega := \frac{(DL + LL)}{LC} = 1$ ASD Reduction Factor

$\phi := \frac{1.5}{\Omega} = 1.5$ Conversion to LRFD Reduction Factor (Assuming Live Load is equivalent to approximately 3x(DL) - Ref AISC 2015 - Comm B3

$R_n \cdot \phi = 75\ psf$ Minimum Loading required

$ULS := 1.25\ DL + 1.5\ LL = 72.5\ psf$ Equivalent Canadian Loading Combo (2019 NBC-AE, Table 4.1.3.2.-A)

Result - Per the CCRR-0313 report, Span Table 4 shall be the minimum values allowed for single span beams, and Table 10 shall be the minimum values allowed for double span beams