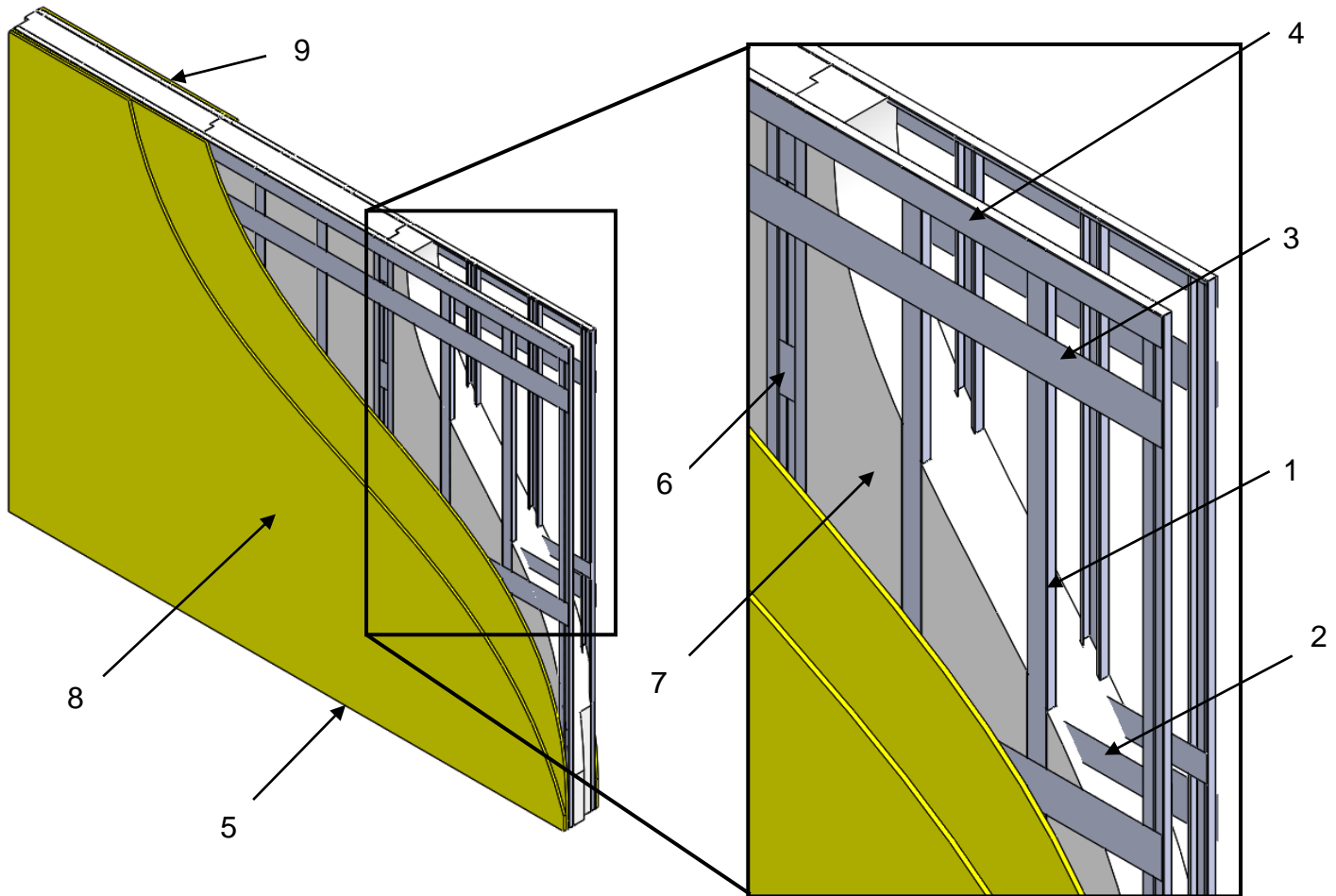


**QAI Design B1100-1a – Greenstone Structural Solutions Inc. – CAN/ULC-S101
 1 Hour Fire-Resistance Rated Load Bearing¹ Prefabricated Wall Assembly**



| No. | COMPONENT | DESCRIPTION | |
|-----|--------------------------------|--|--|
| 1 | Wall Stud ² | Minimum 1.25 mm (18 Gauge) x 64 mm (2-1/2 in.) x 30 mm (1-3/16 in.) steel C-channel wall studs. The end studs at the joint have a 3 mm (1/8 in.) x 25 mm (1 in.) jog in the channel along the 64 mm (2-1/2 in.) dimension. Studs are to be spaced at maximum 406 mm (16 in.) on center (OC). | |
| 2 | Internal Bracing ² | Minimum 0.71 mm (22 Gauge) x 86 mm (3-3/8 in.) horizontal steel strapping on the interior of the stud framing. Located at 1.37 m (4.5 ft) vertical height on the wall panels. | |
| 3 | External Bracing ² | Minimum 0.61 mm (24 Gauge) x 130 mm (5-1/8 in.) horizontal steel strapping on the exterior of the stud framing. Located at 1.22 m (4 ft) and 2.44 m (8 ft) vertical heights on wall panels. | |
| 4 | Top Track ² | Minimum 1.65 mm (16 Gauge) x 89 mm (3-1/2 in.) x 32 mm (1-1/4 in.) J-shaped steel channel with a 13 mm (1/2 in.) return. Fastened to the wall studs with #10 x 19 mm (3/4 in.) self-drilling pan head screws. | |
| 5 | Bottom Track ² | Minimum 51 mm (2 in.) x 51 mm (2 in.) steel angle shall be placed underneath the bottom track on both sides of the wall. Fastened to each stud with one #10 x 19 mm (3/4 in.) self-drilling pan head screw. | |
| 6 | Connection Plates ² | Minimum 1.25 mm (18 Gauge) x 152 mm (6 in.) x 51 mm (2 in.) steel plates fastened using six #10 x 19 mm (3/4 in.) self-drilling pan head screws. The plates are to be placed at maximum 610 mm (2 ft.) starting 152 mm (6 in.) from the bottom. | |
| 7 | Foam Insulation | Type: | Type 2 (Type II) Expanded Polystyrene (EPS) per CAN/ULC-S701 (ASTM C578), listed by approved agency. |
| | | Maximum Density: | 26.5 kg/m ³ (1.65 lb/ft ³). |

continued

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|----------|---------------------------|--------------------|--|
| 8 | Interior Sheathing | Type: | 2 layers of Type X gypsum board compliant with ASTM C1396, listed by approved agency. |
| | | Minimum Thickness: | 16 mm (5/8 in.). |
| | | Fastener Detail: | Both layers are to be fastened at maximum 203 mm (8 in.) OC. The first layer is to be fastened using #6 x 32 mm (1-1/4 in.) Type S drywall screws and the second layer shall be fastened using #6 x 51 mm (2 in.) Type S drywall screws. All screw heads are to be covered with code compliant drywall compound. |
| 9 | Exterior Sheathing | Type: | 1 layer of Exterior grade Type X gypsum wall board compliant with ASTM C1177, listed by approved agency. |
| | | Minimum Thickness: | 16 mm (5/8 in.). |
| | | Fastener Detail: | The boards are to be fastened with #6 x 32 mm (1-1/4 in.) Type S drywall screws spaced at maximum 203 mm (8 in.) OC. |

Notes:

1. The maximum allowable loading for the fire-resistance rated assembly is 55 kN/m (3,800 lb/ft).
2. All steel materials shall be size determined in accordance with CAN/CSA-S16 for anticipated service loading.
3. The listed assembly is evaluated for interior fire only.