



LEVEL 3 FRAMING PLAN
SCALE: 3/16" = 1'-0"

GENERAL NOTES:

- Unless noted otherwise on the drawings, the following notes shall govern.
- All work on this project shall conform to the current version of the 2024 Ontario Building Code (OBC 2024), any local regulations and bylaws, and the current Occupational Health and Safety Act (OHSA) and current regulations for construction projects. All codes and standards shall be those referenced in OBC 2024.
- All standards are to be the year, editions, document numbers, etc as per OBC 2024 Division 6, T.1.3.1.2. Where discrepancies exist between our drawings and T.1.3.1.2, the table shall govern, unless noted otherwise.
- This set of drawings supersedes and replaces all previous drawings.
- Read these drawings in conjunction with all related contract documents and architectural, mechanical, electrical and civil drawings.
- The contractor shall verify all conditions and measurements at the site and verify all dimensions given on the structural drawings with the architectural drawings. Report to the engineer any discrepancies or unsatisfactory conditions which may adversely affect the proper completion of the project before proceeding with the work.
- If any structural discrepancies on the drawings exist, the most stringent shall apply.
- Drawings are not to be scaled.
- Construction and shop drawing review must be completed as per code.
- Submit shop drawings as per Table 1. Shop drawings shall be certified by a professional engineer where required and reviewed by the contractor for dimensional correlation with the drawings and field conditions prior to submitting to Tacoma Engineers. Fabrication of elements on shop drawings may not proceed until shop drawings have been reviewed and approved by Tacoma Engineers.
- Construction loadings shall not exceed the specified design loads indicated on the drawings. The contractor shall make adequate provision for construction loads and temporary bracing to keep structure plumb and in true alignment at all phases of construction. Any bracing members shown on the drawings are required for the finished structure and may not be sufficient for erection purposes.
- OBC 2024 Division C, Subsection 1.2.2, requires general review of the construction by the design professional. Tacoma Engineers shall be given a minimum of 48 hours notice at (519) 765-2000 (Guelph) or (705) 735-1875 (Barrie) or (226) 647-0109 (Waterloo) by the Contractor for the following required construction reviews:
 - Demolition - Prior to commencing any work.
 - Structural framing (structural steel / wood framing) - Prior to covering with interior finishes.
 - Final framing - Upon completion of all structural elements.
- Retain a certified independent testing or inspection company for testing & inspection for the items in Table 2.
- The design and review of secondary building elements (those elements not specifically included in these drawings) is the responsibility of the project architect. Elements include but are not limited to architectural features, non-loadbearing interior walls, interior partitions, windows, doors, masonry veneers, cladding, and supports for mechanical systems.
- All non-loadbearing interior walls and partitions (steel stud, concrete block, wood stud) shall be constructed to allow for 25mm (1") vertical, independent deflection below all floor and roof members, while still providing lateral support to the top of the partition, through the use of deflection tracks, clips, or other methods.

TABLE 1: SHOP DRAWING SUBMITTALS

ITEM	REQUIRED SUBMITTALS	ENGINEERS STAMP REQ'D?	NOTES
Structural steel erection drawings	Yes	Yes	Stamp for connections only
Miscellaneous metal (including guards and handrails)	Yes	Yes	
Steel roof deck and composite deck	Yes	Yes	

TABLE 2: REQUIRED TESTING & INSPECTION

Results shall be submitted directly to Tacoma Engineers from the testing company for review.

ITEM	REQ'D	NOTES
Structural steel inspection	Yes	

STRUCTURAL DESIGN LOADS:

- Structural design is to OBC 2024 Part 4.
- Design loads are unfactored unless noted otherwise.
 - Climatic Design Data (Kitchener):

S _s	=	2.0 kPa
S _i	=	0.4 kPa
Wind Pressure q ₍₃₀₎	=	0.37 kPa
 - Building Importance Category = Post-Disaster

STRUCTURAL STEEL:

- All structural steel elements are designed in accordance with CSA S16.
- Submit erection and shop drawings for review by the project engineer. Standard connections shall conform to the Handbook of Steel Construction. Non-standard connections (including moment connections) shall be designed and sealed by a professional engineer registered in the province of Ontario.
- Structural steel beams and columns shall conform to ASTM A992/992M grade 50 (F_y = 345 MPa), unless noted otherwise.
- Structural steel channels and angles shall conform to CSA G40.21 grade 300W unless noted.
- All HSS shall conform to CSA G40.21 grade 350W (Class C), unless noted otherwise.
- All steel plate to be A36 (F_y = 248 MPa) material (minimum), unless noted otherwise.
- Welding shall conform to CSA W47.1 and CSA W59, by the Canadian Welding Bureau (CWB). All welding shall be completed by CWB certified welders. Third party welding inspection shall be performed by firms certified to CSA W178.1 and W178.2.
- Bolted connections shall be made using grade A325 bolts, unless noted otherwise.
- Anchor rods shall conform to ASTM F1554 (formerly ASTM A307). Material shall be minimum grade 36 (F_y = 414 MPa) (formerly ASTM A307 grade C), or CSA G40.21 300W (F_y = 450 MPa).
- Structural steel shall be tested by an independent CSA certified testing company for erection tolerances, plumbness, alignment, connections, elevation, material, and workmanship.
- Contractor to provide copies of testing reports to Tacoma Engineers.
- Galvanizing for metals shall conform to CSA G164, unless noted otherwise. Touch-up on site by grinding the surface to bright metal and applying zinc rich paint conforming to CAN/CGSB-1.181 (or ASTM A780).
- Column bearing grout shall be 35 MPa (minimum), non-shrink, and 38mm (1.5") thick (minimum).
- All structural steel shall be new material unless approved by Tacoma Engineers.
- All structural steel shall receive a minimum of one coat of approved shop primer, touched up as required on-site, except that steel which is to receive spray-on fireproofing shall not be primed.
- Structural steel members shall not be spliced without the approval of the engineer.
- Coordinate with mechanical, electrical and all other subtrades whose work affects the detailing, fabrication and erection of the structural steel.
- Do not cut openings in structural steel members without approval from Tacoma Engineers.
- Design CWS's to meet span/360 for snow or live load and span/240 for total load deflection limits.
- Exterior structural steel:
 - Shall be protected from corrosion by **hot dip galvanizing**.
 - HSS columns shall have drainage holes at the base 13mm (1/2") dia., max. 50mm (2") up from base.
- Where masonry bears on steel beams, weld 15M x 300mm (12") long weldable rebar dowels at 1200mm (48") o.c. to beams.
- If holes in base plates are oversized to suit site conditions, notify Tacoma Engineers and supply and install plate washers to cover the hole.
- Design steel connections to the maximum UDL loads in the Steel Handbook beam tables, provided no point loads act on the beam and when shears are not indicated.
- Connections shall be concentric and shall not introduce eccentricity into any elements, including beams into which beams frame.
- Headed studs (e.g. for cast-in-plates) shall be in conformance with CSA. Use Type B for composite steel beams and Type A for all others.

STEEL DECK:

- Roof deck shall be 38mm (1.5") high, 0.76mm (0.030") (22 ga.) thick LDC, with flutes at 150mm (6") o.c., continuous over minimum 3 spans, unless noted otherwise.
- Welding of steel deck shall be done by companies certified by the Canadian Welding Bureau (CWB) under CSA W47.1. Welders shall be certified by the CWB for deck welding.
- Deck fastening shall be as shown on plans or drawings but at a minimum: weld roof deck to all supporting members with 20mm (3/4") puddle welds at 300mm (12") o.c. (interior) and 150mm (6") o.c. (perimeter). Button punch all seams at 600mm (24") o.c.
- Composite steel floor deck shall be 38mm (1.5") high, 0.76mm (0.030") (22 ga.) thick, unless noted otherwise.
- Composite deck fastening shall be as shown on plans or drawings but at minimum: weld composite deck to all supporting members with 20mm (3/4") puddle welds at 300mm (12") o.c. (interior) and 150mm (6") o.c. (perimeter). Button punch all seams at 600mm (24") o.c.
- Concrete on composite floor deck shall use 10mm (0.375") pea gravel for composite slabs with 90mm (3.5") concrete thickness, for workability.
- All concrete on composite floor deck shall be reinforced with welded wire fabric (WWF) 152x152mmW16.74MW16.7 (6"x6"x16), c/w 30mm (1.25") top cover and minimum lap length of 200mm (8"). Mesh shall be set on chairs. Submit a sample chair for review.
- Concrete on composite floor deck shall have no sawcuts.
- Composite concrete floors shall be covered with plastic and kept moist for the first 3 days of curing.
- End laps shall be minimum 50mm (2") and shall be formed over supports.
- Where deck is welded in place, the steel deck shall be inspected and all top side areas where the metallic coating has been burned by welding shall be covered by a zinc rich paint conforming to CAN/CGSB-1.181 (or ASTM A780). No iron oxide paint accepted.
- Openings in deck over 150mm x 150mm (6" x 6") shall be framed with L51x51x6.4 (L2x2x.25) angle on each side, perpendicular to the flutes. The angle shall be welded to at least two flutes on each side of the opening.
- For openings over 300mm (12"), provide C100x8 (C4x5.4) H-frame to frame the opening.
- Provide C100x8 (C4x5.4) H-frames to provide vertical support below all roof top unit edges.
- Steel deck shall be cold formed steel with minimum F_y = 230 MPa, conforming to ASTM 653/A653M - steel sheet, zinc-coated (galvanized) or zinc-iron alloy-coated (galvalume) by the hot-dip process, with LDC coating (ASTM A653M ZF75 / ASTM A653M A25).
- Design, fabrication and erection of deck shall conform to CSSBI 10M (CSSBI 12M for composite deck).
- Provide 1.22mm x 200mm (18 ga. x 8") continuous plate over the deck to deck joint where metal deck changes orientation.

LIGHTWEIGHT STEEL FRAMING:

- All lightweight steel stud and joist work shall be done in accordance with CSA S136 and the CSSBI "Lightweight Steel Framing Manual", latest edition.
- Provide steel stud shop drawings certified by a professional engineer in the province of Ontario for all exterior studs. Provide a final construction review report certified by the design engineer for all exterior studs.
- All lightweight steel stud framing and bridging, tracing, connectors and other metals shall be galvanized to a minimum G60 / Z180 / AZM150 and all screws shall be cadmium plated.
- Install bridging in wind bearing wall studs at a maximum of 1500mm (60") o.c. Install bridging in floor joists at a maximum of 2100mm (84") o.c.
- Install bridging in vertical load bearing wall studs at a maximum of 1200mm (48") o.c.
- Anchor tracks with approved anchors at a maximum spacing of 600mm (24") o.c.
- Install double studs on both sides of all openings greater than 900mm (36"). All headers, sills and studs around openings shall be designed and specified by the certifying engineer.
- Use 1.12mm (0.045") (18 ga.) minimum for all track and headers.
- Use 1.12mm (0.045") (18 ga.) minimum for all studs backing masonry.
- Minimum steel stud gauge is:
 - 0.85mm (0.033") (20 ga.) for 150mm (6") and smaller studs
 - 1.12mm (0.045") (18 ga.) for 200mm (8") studs
 - For larger studs or joists, follow CAN3-S136 for minimum member thickness
- Allow for 25mm (1") vertical, independent deflection in all structural loadbearing members.
- For wall studs, use a minimum horizontal deflection limit of L/360 for roofs, L/480 for floors.
- Parapets, railings and walls acting as guards shall be designed to loads on guards in accordance with OBC 4.1.5.14, and 4.1.5.16.
- All lightweight steel members shall conform to AISI S240-15 and ASTM A653/A653M, 228 MPa yield for steel 1.12mm (0.045") (18 ga.) or thinner. All lightweight steel members shall conform to AISI S240-15 and ASTM A653/A653M, 345 MPa yield for steel 1.44mm (0.057") (16 ga.) or thicker. Except for tracks, all shall have liped flanges.
- Bridging channels shall be minimum 1.12mm (0.045") (18 ga.) for wall studs and 1.44mm (0.057") (16 ga.) for floor joists. Clip angles shall be minimum 1.44mm (0.057") (16 ga.) for wall studs and 1.81mm (0.071") (14 ga.) for floor joists.
- Lightweight steel members shall be spaced at maximum 400mm (16") o.c. Adjust material thickness and spacings as required by the design criteria.
- Tracks and headers shall be at minimum equal thickness, material, and coatings as studs, and thicker as required.

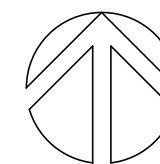


WRHN
Waterloo Regional
Health Network

PROJECT LOGO



TRUE NORTH



CONSTRUCTION NORTH

KEY PLAN

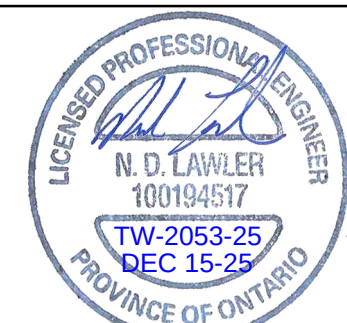
REVISIONS:

No.	DESCRIPTION	DATE
1	ISSUED FOR TENDER	2025.12.15
2	ISSUED FOR PERMIT	2025.11.28
1	ISSUED FOR 100% DESIGN DEVELOPMENT	2025.10.31

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT / ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

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DRAWING TITLE:
LEVEL 3 FRAMING PLAN

DRAWN BY:	B. MARTIN	DATE:	2025.09.30
CHECKED BY:		SCALE:	As Indicated

PROJECT NO.: TW-02053-25

DRAWING NO.: S1.1

010104

