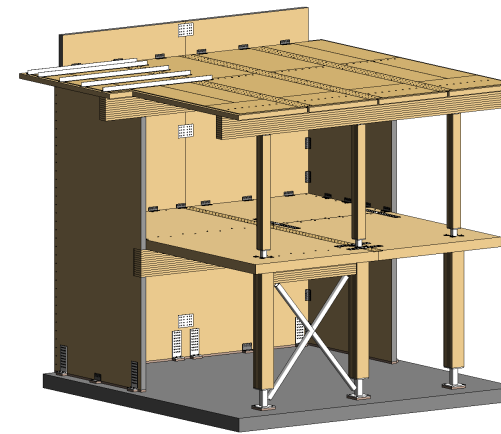


ABBREVIATIONS

&	AND	LVL	LAMINATED VENEER LUMBER (MICROLLAM)
@	AT	MAX	MAXIMUM
AB	ANCHOR BOLT	Mf	FACTORED MOMENT
ADD'L	ADDITIONAL	MIN	MINIMUM
ALT	ALTERNATE	NLT	NAIL-LAMINATED TIMBER
BTW	BETWEEN	NTS	NOT TO SCALE
BCE	BOTTOM CHORD EXTENSION	OC	ON CENTRE
BLL	BOTTOM LOWER LAYER	OD	OUTSIDE DIAMETER
BOT	BOTTOM	O/F	OUTSIDE FACE
BUL	BOTTOM UPPER LAYER	PL	PLATE
CANT	CANTILEVER	PLY	PLYWOOD
CLT	CROSS-LAMINATED TIMBER	PSL	PARALLEL STRAND LUMBER (PARALLAM)
CONC	CONCRETE	P/T	POST-TENSION
CONT	CONTINUOUS	PT	PRESSURE TREATED
Cf	FACTORED COMPRESSION FORCE	REINF	REINFORCING
CIP	CAST IN PLACE	R/W	REINFORCE WITH
CJ	CONTROL JOINT	SB	SLAB BAND
CLR	CLEAR	SIM	SIMILAR
C/W	COMPLETE WITH	SOG	SLAB ON GRADE
CS	COUNTERSINK	SS	STAINLESS STEEL
CSP	CANADIAN SOFTWOOD PLYWOOD	STAGG	STAGGER
CL	CENTERLINE	TBC	TO BE CONFIRMED
COL	COLUMN	T&B	TOP AND BOTTOM
DL	DEAD LOAD	Tf	FACTORED TENSION FORCE
DO	DO OVER	T&G	TONGUE AND GROOVE
DP	DEEP	THK	THICK
DFIR	DOUGLAS FIR	TL	TOTAL LOAD (DL+LL)
EA	EACH	TLL	TOP LOWER LAYER
EE	EACH END	TO	TOP OF
EF	EACH FACE	TOS	TOP OF SLAB
EL	ELEVATION	TS	TIMBERSTRAND
ES	EACH SIDE	TUL	TOP UPPER LAYER
EW	EACH WAY	TYP	TYPICAL
EXT	EXTERIOR	UDL	UNIFORMLY DISTRIBUTED LOAD
EXIST	EXISTING	UNO	UNLESS NOTED OTHERWISE
FDN	FOUNDATION	U/S	UNDERSIDE
FTG	FOOTING	VERT	VERTICAL
GALV	GALVANIZED	Vf	FACTORED SHEAR FORCE
GL	GLULAM	W/	WITH
GrL	GRID LINE	WD	WIDTH
GT	GIRDER TRUSS	WP	WORKING POINT
H1E	HOOK ONE END	WWM	WELDED WIRE MESH
H2E	HOOK TWO ENDS		
HDG	HOT DIPPED GALVANIZED		
H&V	HORIZONTAL AND VERTICAL		
HORIZ	HORIZONTAL		
I/F	INSIDE FACE		
INT	INTERIOR		
KD	KILN DRIED		
LG	LONG		
LL	LIVE LOAD		
LH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LSL	LAMINATED STRAND LUMBER (TIMBERSTRAND)		



DRAWING LIST

S001	GENERAL NOTES
S002	GENERAL NOTES
S003	GENERAL NOTES
S004	GENERAL NOTES
S005	GENERAL NOTES
S100	FIRST FLOOR PLAN
S101	SECOND FLOOR PLAN
S102	ROOF PLAN
S200	SECTIONS
S201	SECTIONS
S202	SECTIONS
S203	SECTIONS
S204	SECTIONS
S205	SECTIONS
S206	SECTIONS
S207	SECTIONS
S208	SECTIONS
S209	SECTIONS
S210	SECTIONS
S211	SECTIONS
S212	SECTIONS
S213	SECTIONS
S214	SECTIONS
S215	SECTIONS
S300	NORTH ELEVATION
S301	SOUTH ELEVATION
S302	EAST ELEVATION
S303	WEST ELEVATION

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Project:

BCIT MASS TIMBER MODEL

BURNABY, BC

Project No:

20.192

Scale: AS NOTED
Drawn By: KM
Checked By: MH/DM

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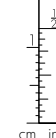
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GENERAL NOTES

Drawing No:

S001



Structural steel - Materials

1. All structural steel shall be detailed, fabricated and erected in accordance with CAN/CSA S16.
2. Provide structural steel to CSA G40.20/CSA G40.21 with the following grades:

Type of member	Grade
Rolled shapes W, WWF, S, T	350W
Rolled shapes C, MC, HP	300W
Rolled shapes L (angles)	300W
Rolled plates	350W
HSS (Class C)	350W
Bolts	ASTM A325
Anchor rods	300W

3. All structural steel shall receive one shop coat of primer to CISC/CPMA 1-73A or 2-75, unless otherwise noted, except parts of members to be embedded in concrete. Primer for exterior exposure shall conform to CGSB 1-GP-40d and shall be zinc-chromate Type 1.
4. Hot dipped galvanizing shall conform to CAN/CSA G164-M92, where required, with a minimum zinc coating of 600g/sq.m. Field touch-up all abrasions, scratches, welds or bolts.
5. Provide camber to beams, girders and trusses as shown on the plans. Cambers shown are for erected in-place condition of members before installation of deck.

Structural steel - Connections - General

1. Provide a minimum bearing of 200 mm for all steel beams bearing on concrete or masonry and a minimum of 100 mm on structural steel, unless noted otherwise.
2. Unless noted otherwise, at beams terminating on concrete or masonry walls, provide 200 mm deep pocket (or full depth for thinner walls) and provide 200x500x19 thick bearing plate and 2-19Øx200 embed anchors with HY-200 epoxy system by Hilti. Fully grout pocket after beam installation.
3. Centre bearing plates under beams, or as noted.
4. Provide full height web stiffeners on both sides of beams at point of concentrated loads, including beams running over tops of columns or girders, beams supporting columns and cranked beams. Web stiffeners shall be of the same size and thickness as the column flanges and shall align with the flanges of the supporting column.
5. Provide seal welded closure plates, minimum 6 mm thick, at all open ends of HSS members, unless noted otherwise.
6. Architecturally Exposed Structural Steel (AESS) members and connections shall be to AISC standards. All welds to be ground smooth. Any splices introduced by the contractor for reasons of constructability must be site welded and ground smooth. Bolted splices in AESS members are not permitted except as shown on the drawings.
7. Where moment connections are indicated, the connection shall develop the full flexural capacity of the smaller connected member.
8. Member splices, where approved, shall develop the full flexural and shear capacity of the member. Members shall not be spliced at points of maximum stress and shall be made only with the approval of the Structural Engineer.
9. Unless noted otherwise, beam connections shall be designed for a minimum of 50% of the shear resulting from the UDL that produces a moment equal to the beam moment capacity of a simply supported beam.
10. Connect all columns to base plates for the forces shown in addition to the larger of:
 - a. The factored horizontal components from bracing at bracing locations.
 - b. 3% of factored vertical column load applied horizontally.

Structural steel - Bolted connections

1. Bolted connections shall have a minimum of 2-19 mm diameter bolts with 10 mm connector plate.
2. Slip critical connections using A325 or A490 bolts shall be used for all bolted connections of bracing members, moment connections, cantilevers and as shown on drawings. Oversized and slotted holes are allowed for slip critical connections. All other bolted connections shall be bearing type where oversized and slotted holes are not allowed unless shown on the drawings.
3. Protruded bolt heads, shafts or nuts shall not extend into or prohibit the application of architectural finishes and shall not extend into or prohibit placement of steel decking.

Structural steel - Welded connections

1. Welding shall conform to CSA W59 and performed by welders under CSA W47.1. Fabricators to be "Fully approved" by the Canadian Welding Bureau under CSA W55.3.
2. A copy of the fabricator's Canadian Welding Bureau certificates shall be included with the shop drawing submission.
3. Welds shall be E-70xx.
4. Minimum welds for connections shall be 5 mm fillet welds.
5. At partial penetration welds, the size given is the minimum effective throat. Fabricator shall provide proper joint preparation to achieve the minimum effective throat as required by CSA W59.
6. All welds exposed to view shall be ground smooth.
7. All stud anchors (Nelson studs) and deformed bar anchors shall be fusion welded to plates as per manufacturer's specifications and recommendations. Any field fillet welded studs or deformed bars will be rejected.
8. Beams noted as composite on the drawings require shear stud connections.

Structural steel - Installation

1. The contractor shall provide temporary bracing during construction necessary to erect the structure, maintain correct alignment and safely resist all possible combinations of dead, construction, erection, wind and other lateral loads. The bracing shall be designed, installed and maintained by the contractor. The bracing shall be removed only after permanent roof and floor diaphragms, shear walls and permanent bracing are complete.
2. No structural steel shall be cut in the field or spliced unless approved by the Structural Engineer. No field burning of holes shall be allowed in structural steel anywhere. No field cutting or alteration of structural members is to occur without the prior written approval of the Structural Engineer. No change in size or position of the structural elements shall be made and holes, slots, cuts, etc., are not permitted through any member unless they are detailed on the approved shop drawings.
3. If anchor bolts are misplaced, or bolt holes misaligned, inform the Structural Engineer.
4. Where columns are stabilized by walls, provide column anchors in abutting walls. Provide erection bracing until walls are built tightly to columns.
5. Grout under base plates to be a minimum of 25 mm using non-shrink grout (48 MPa at 28 days).
6. No final bolting or welding shall be made until as much of the structure as will be stiffened thereby has been properly aligned.
7. Where, in the sole opinion of the Structural Engineer, visual inspection of the welds or the steel members in place in the field is inadequate or inconclusive, such welds shall be examined by a non-destructive testing method. The cost of such testing and reporting shall be paid by the contractor. This is in addition to the requirements of MSE-061.

Glued laminated timber (Glulam or GL)

1. Glulam members shall be Douglas fir 24f-E (24f-EX for cantilever or continuous beams) stress grade with quality appearance grade and 16c-E for columns. Industrial appearance grade may be used where beams are to be concealed.
2. Glulam manufacturer must qualify under CAN/CSA-O177-M89 (R2003). "Qualification code for manufacturers of structural glued-laminated timber."
3. Camber simple span beams 10mm (3/8") per 3000 (10'-0") of span.
4. Submit 4 sets of shop drawings showing all applicable details and material specifications to the Engineer for review prior to fabrication. Shop drawings shall be accompanied by a certificate of conformance to manufacturing standard.
5. Affix authorized label to all members supplied. Also identify each member with mark number.
6. Store glulam off the ground with spacer blocks placed between members. Keep wrapping on the members until permanent protection from the weather is in place but cut holes on underside of wrapping to prevent the accumulation of condensation.
7. All pressure treated glulam to be treated according to CSA-O80 Series-O8 "Wood Preservation." All cutting and drilling to be completed before the treatment. Field apply preservative to equivalent standard, to all areas cut or drilled. Provide preservatives and finishes to consultants' approval for all exposed glulam elements. Provide flashing to architect's approval for all exposed end grain.
8. Unless noted otherwise, at beams terminating on concrete or masonry walls, provide 200 mm deep pocket (or full depth for thinner walls) and provide 200x400x16 thick bearing plate and 2-19Øx200 embed anchors with HY-200 epoxy system by Hilti and 6 mm knife plate with 2-16Ø through bolts. Provide a damp-proof course around beam and shim beam tight in pocket.

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Project:

**BCIT MASS
TIMBER MODEL**
BURNABY, BC

Project No:

20.192

Scale: AS NOTED
Drawn By: KM
Checked By: MH/DM

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GENERAL NOTES

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S002

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Cross-laminated timber panels (CLT)

1. All work to conform to CSA Standard O86 and referenced documents.
2. Panels to be fabricated in accordance with ANSI/APA PRG 320 "Standard for performance rated cross-laminated timber".
3. The panel consists of an odd number of laminations. Where the lamination thickness varies between 19 mm (3/4") and 40 mm (1 1/2").
4. Panels shall have a moisture content of 12% ($\pm 2\%$).
5. Finish panel surfaces in accordance with architectural requirements. See Architectural drawings.
6. Keep the panels continuously protected from weather during transportation, storage and erection. Store panels off the ground with spacer blocks placed between members.
7. Anchor points for installation straps to have 89 mm edge/end distance.
8. Unless noted otherwise, all structural steel connecting panels to each other and to supporting members shall be detailed, supplied and test fitted in the shop by the panel supplier.
9. Unless noted otherwise, use 8 mm diameter self tapping screws to connect panels with 76 mm min length of penetration into connected member. See typical details.
10. Unless noted otherwise, use Simpson connectors or equivalent where required. All nail holes in connectors, including straps, to be filled with 6 mm x 60 mm (1/4"x2 3/8") Gunnebo nails (annular ringed nails) or equivalent. Substitution shall have written approval of the Structural Engineer. See typical details.
11. Steel hardware shall be 300W or better and bolts shall be A307, hot dipped galvanized. All bolts and lag bolts bearing against timber shall have standard "CUT" (oversize) washers unless noted otherwise.
12. In transition area between wood elements and concrete or masonry, provide light-gauge metal, asphalt-impregnated building paper, closed-cell foam gasket material, type S roll roofing, or 0.05 mm polyethylene as a moisture barrier. See typical details.
13. See Architectural for detailing regarding improved noise performance, such as joint sealants.
14. Avoid rapid changes in temperature and humidity when commissioning building HVAC systems to minimize checking of the glue-laminated members.
15. Connection steel assemblies of the glued laminated members shall be inspected at 6 and 12 months after completion of the building envelope and commissioning of the HVAC systems, and tightened sufficiently to bring the faces of the connected materials into close contact without deformation.
16. Finishes shall be detailed to accommodate shrinkage/movement of panels as per manufacturer's recommendations.
17. Coordinate service channels incorporated in panels with Architectural, Electrical and Mechanical drawings. All cuts and holes to be shown on shop drawings and to be approved by Structural Engineer prior to fabrication.
18. Affix authorized label to all members supplied. Also identify each member with mark number.
19. Shop drawings of connections and components designed by the Contractor shall be signed and sealed by a Professional Engineer registered in the jurisdiction noted in MSE-001-2 and submitted with a statement of product compliance with drawing specifications and standards.
20. Submit 4 sets of shop drawings in accordance with MSE-001-3 showing all applicable details and material specifications to the Engineer for review prior to fabrication. Shop drawings shall be accompanied by a certificate of conformance to manufacturing standard.
21. Any changes to the framing shown on these drawings shall have prior written approval of the Engineer.
22. Engineer must complete framing inspection before finishes can be applied to wood framing.

Non-structural elements

1. Non-structural (secondary) elements include but are not limited to the following:
 - a. Architectural components such as guard and hand rails, flag posts, canopies, ceilings, etc.
 - b. Cladding, window mullions, glazing, interior and exterior partition or infill walls
 - c. Skylights
 - d. Architectural pre-cast and pre-cast cladding
 - e. Attachments and bracing for electrical and mechanical components
 - f. Brick or block veneers and their attachments
 - g. Interior and exterior light gauge steel stud walls
 - h. Non-load bearing masonry
 - i. Non-structural concrete topping
 - j. Landscape elements such as benches, light posts, planters, etc.
 - k. Roofing material
2. Design and detailing of the above items and their attachments are not the responsibility of the Structural Engineer. They shall be designed by Specialty Structural Engineers retained by the contractor, who will seal all related shop drawings, review the components in the field and provide all required sealed letters to the authorities having jurisdiction.
3. Secondary or non-structural components and their attachments shall be designed in accordance with Part 4 of the building code.
4. Sealed shop drawings of the secondary or non-structural components which may affect the primary structural system shall be submitted to the Structural Engineer only for the review of their effect on the primary structural system. The subcontractor of these components is responsible for protection of aluminium-steel connections against galvanic corrosion.
5. Installation of non-structural elements to commence at least one month after the reinforced concrete slab supporting the non-structural elements has been poured and the re-shores removed.
6. Non-structural elements must be designed and detailed to accommodate the anticipated deformations as noted above.
7. In addition to construction tolerance, non-structural components shall be detailed for the following building movement and deflection:
 - a. Vertical deflections of beams, slabs and decking: ± 20 mm
 - b. Differential vertical deflections of edges beams and edges of slabs: ± 16 mm
 - c. Horizontal drift during wind and earthquake between floors:
 - i. Drift without damage to non-structural components: ± 13 mm
 - ii. Drift without collapse of non-structural components: ± 50 mm
 - d. Movement at expansion joints:
 - i. Perpendicular ± 50 mm
 - ii. Parallel ± 50 mm
 - iii. Vertical ± 25 mm

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Project:

BCIT MASS TIMBER MODEL

BURNABY, BC

Project No:

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Drawn By: KM

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Field Review

1. The contractor on projects shall provide the Structural Engineer with a minimum of 72 hours (3 business days) advance notice prior to pouring or concealment for field reviews. Field reviews shall be scheduled to be carried out during normal business hours unless special arrangements are made with the Structural Engineer.
2. Field review is only for the work shown on these structural drawings. This review is not a "full time" review but is a periodic review at the sole discretion of the Structural Engineer in order to ascertain that the work is in general conformance with the plans and supporting documents prepared by the Structural Engineer. Field review is not carried out for the contractor's benefit nor does it make the Structural Engineer guarantor of the contractor's work. It remains the contractor's responsibility to build and review the contractor's (and sub-trades) work in conformance with the contract documents. The Structural Engineer shall not be responsible for the acts or omissions of the contractor, sub-contractor, or any other persons performing any of the work or for the failure of any of them to carry out the work in accordance with the contract documents.
3. The following field reviews are considered to be the minimum number of structural field reviews requiring written review by the Structural Engineer for the project:
 - a. Concrete: reinforcing steel shall be reviewed prior to placing concrete. Reinforcing in concrete walls shall be reviewed prior to "buttoning up" wall forms.
 - b. Masonry (including non-load bearing partitions): reinforcing steel shall be reviewed prior to pouring all bond beams. Bond beam and vertical reinforcing shall be in place at the time of field review.
 - c. Timber: framing shall be reviewed prior to covering any framing and before additional loads such as concrete topping and mechanical equipment are applied.
 - d. Steel: structural steel shall be reviewed after the members have been fabricated and are in their final position with all connections complete and all bolts installed and torqued.

Testing and inspection

1. A Geotechnical consultant and an independent inspection and testing company are to be engaged to carry out the following services:
 - a. Soil bearing - refer to MSE-003 and soils report.
 - b. Fill under slabs-on-grade - confirm that fill material used is satisfactory and that the required degree of compaction has been attained.
 - c. Cast-in-place and pre-cast concrete - routine inspection of materials, including slump, cylinder and air entrainment tests and reinforcing rod tests when required or directed in accordance with CSA A23.2. Unless permitted by the Structural Engineer, a minimum of 3 test cylinders shall be cast for each 50 cubic metres or each day's pour, whichever is less. Test one at 7 days and two at 28 days and submit written reports for review by the Structural Engineer. For high fly ash concrete (33% or more) provide one additional test cylinder tested at 56 days. Test reports shall be identified by grid lines, location and elevation for the batch of placed concrete. Submit test results maximum 24 hours after test.
 - d. The contractor is to advise the Geotechnical Engineer a minimum of 24 hours or to a time they approve in advance of a concrete pour for a review of preparations.
 - e. Structural steel - routine shop and field inspection shall be carried out in accordance with the requirements of CAN/CSA S16. The owner shall appoint an independent testing agency to carry out representative testing of bolt torque and welding on structural steel work, including decking as directed by the Structural Engineer. This testing shall take place prior to concealment of all structural steel. The contractor must make accommodation for the testing to take place without additional costs.
 - f. Masonry - when required or directed, concrete blocks shall be tested in accordance with CAN/CSA A165, bricks in accordance with CSA/CAN3-A82.2-M78, and mortar and/or grout in accordance with CSA A179.
2. All inspection and testing services are to be performed by companies certified by the Canadian Standards Association and, for welding, inspectors certified by the Canadian Welding Bureau.
3. Materials testing shall be as directed by the Structural Engineer at the expense of the owner.
4. Additional testing and field review resulting from the rejection of more than 5% of work tested will be at the contractor's expense.

Alterations and connection to existing structure

1. Proposed schedule of work to be coordinated with all sub-trades, the Structural Engineer and owner.
2. Proposed sequence of work to be submitted to the Structural Engineer for review prior to start of work.
3. Inspect the existing building and become thoroughly familiar with the existing conditions. Details shown are based on information available from existing building drawings only.
4. Check all drawings against conditions on site prior to fabricating any structural steel or other pre-fabricated structural components. Report discrepancies to the Structural Engineer before proceeding with the work.
5. Prior to fabrication of structural steel and other pre-fabricated structural components, open up all areas to allow the installation of new structural work, as well as the connection of new work to the existing work. Take any and all necessary field measurements. Modify installation methods and methods for connecting to suit existing site conditions and to the approval of the Structural Engineer. Carry out local repairs to the existing work as necessary and as directed by the Structural Engineer.
6. Shore existing work as required until all new work has been completed and reviewed by the Structural Engineer.
7. Cutting of openings and holes in existing structures:
 - a. Prior to cutting and coring any openings in the existing building, provide the consultant with a sleeving drawing indicating the size and location of proposed openings relative to building grid lines. Existing openings in the vicinity of the new opening must also be shown. Coordinate proposed opening sizes and locations with mechanical and electrical sub-contractors for particular mechanical/electrical equipment being used.
 - b. Unless specifically noted otherwise, locate existing reinforcement and any embedded services, by a positive means (including x-raying, local chipping of slab where approved by the Structural Engineer, cover meter, etc.).
 - c. After all reinforcement and services have been located, notify Structural Engineer who will review and approve of the proposed opening/hole location prior to cutting/drilling. Make any necessary adjustments to the hole location as directed by the Structural Engineer.
 - d. Core drill new holes for pipes to a diameter not larger than the outside pipe diameter plus 25 mm. Do not cut existing reinforcement or services without prior approval of the Structural Engineer.
 - e. Where openings are to be cut, pre-drill the corners using a 100 mm diameter core drill or drill a series of holes to prevent over cutting at the corners.
 - f. In areas where the Structural Engineer permits the cutting of existing reinforcement, the contractor is to examine the core/opening after drilling/cutting to determine the size, cover and orientation of any reinforcement that was cut. The contractor is to mark this information on the sleeving drawing and forward a copy of it to the Structural Engineer for his records.
 - g. For openings in existing masonry, provide shoring and needling of existing structure as required. Make good finished structure.
8. Shore floors as required to support cranes, hoists and other construction equipment.
9. Conform to all applicable codes and bylaws concerning safety, noise and vibrations.
10. Do not cut concrete reinforcement unless reviewed and approved by the Structural Engineer.
11. Modify the lay-out of new through-bolts, expansion anchors and other anchoring devices required to avoid existing concrete reinforcement.
12. Unless noted otherwise, all dowels are to be epoxied into the existing concrete/masonry structure using the Hilti HY injection adhesive system, or approved alternate.
13. Provide 50 mm dry pack grout between tops of beams and underside of existing slabs supported by the new beams unless noted otherwise.

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cm in

ASSY Pre-drilling hole		
Major diameter (d)	Softwood	Steel plate
$\frac{1}{4}$ (6 mm)	$\frac{5}{32}$ (4 mm)	$\frac{9}{32}$ (7 mm)
$\frac{5}{16}$ (8 mm)	$\frac{3}{16}$ (5 mm)	$\frac{23}{64}$ (9 mm)
$\frac{3}{8}$ (10 mm)	$\frac{15}{64}$ (6 mm)	$\frac{7}{16}$ (11 mm)
$\frac{1}{2}$ (12 mm)	$\frac{17}{64}$ (7 mm)	$\frac{33}{64}$ (13 mm)

Note: pre-drill at locations noted on drawings and per manufacturer's requirements noted in "pilot hole length" table

ASSY Pilot hole length recommendation % of the fastener length									
Wood fiber type	Fastener type	Fastener major diameter							
		$\frac{1}{4}$ (6 mm)	$\frac{5}{16}$ (8 mm)			$\frac{3}{8}$ (10 mm)			$\frac{1}{2}$ (12 mm)
		N/A	Fastener length		Fastener length			Fastener length	
			$\geq 13 \cdot \frac{3}{8}$ (≥ 340 mm)	$\geq 19"$ (≥ 480 mm)	$\geq 20 \cdot \frac{1}{2}$ (≥ 520 mm)	$\geq 13 \cdot \frac{3}{8}$ (≥ 340 mm)	$\geq 19"$ (≥ 480 mm)	$\geq 20 \cdot \frac{1}{2}$ (≥ 520 mm)	$\geq 15"$ (≥ 380 mm)
High density species (e.g. Douglas fir)	Partially threaded	-	-	-	-	-	-	-	-
	Fully threaded	-	-	15%	15%	-	15%	15%	25%

Pre-drill and pilot hole screw tables are for ASSY screws by MTC. Refer to manufacturer's pre-drilling pilot hole requirements for other manufacturers.

SYMBOLS	
	DENOTES PARTIAL SECTION
	DENOTES ELEVATION
	DENOTES DETAIL
	DENOTES REVISION ON PLAN/SECTION
	DENOTES CONCRETE TOPPING ON SECTION
	DENOTES MASONRY WALL ON PLAN
	DENOTES NEW CONCRETE ON PLAN & SECTION
	DENOTES NEW WOOD WALL ON PLAN
	DENOTES JOISTS ON PLAN
	DENOTES STEPPED FLOOR OR ROOF (LOW/HIGH) SEE ARCH FOR DATUMS
	DENOTES HANGER
	DENOTES INVERTED HANGER
	DENOTES MOMENT CONNECTION

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Project:

BCIT MASS TIMBER MODEL

BURNABY, BC

Project No:

20.192

Scale: AS NOTED

Drawn By: KM

Checked By: MH/DM

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	24-MAR-2021	Issued for Client Review
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Drawing Title:

GENERAL NOTES

Drawing No:

S005

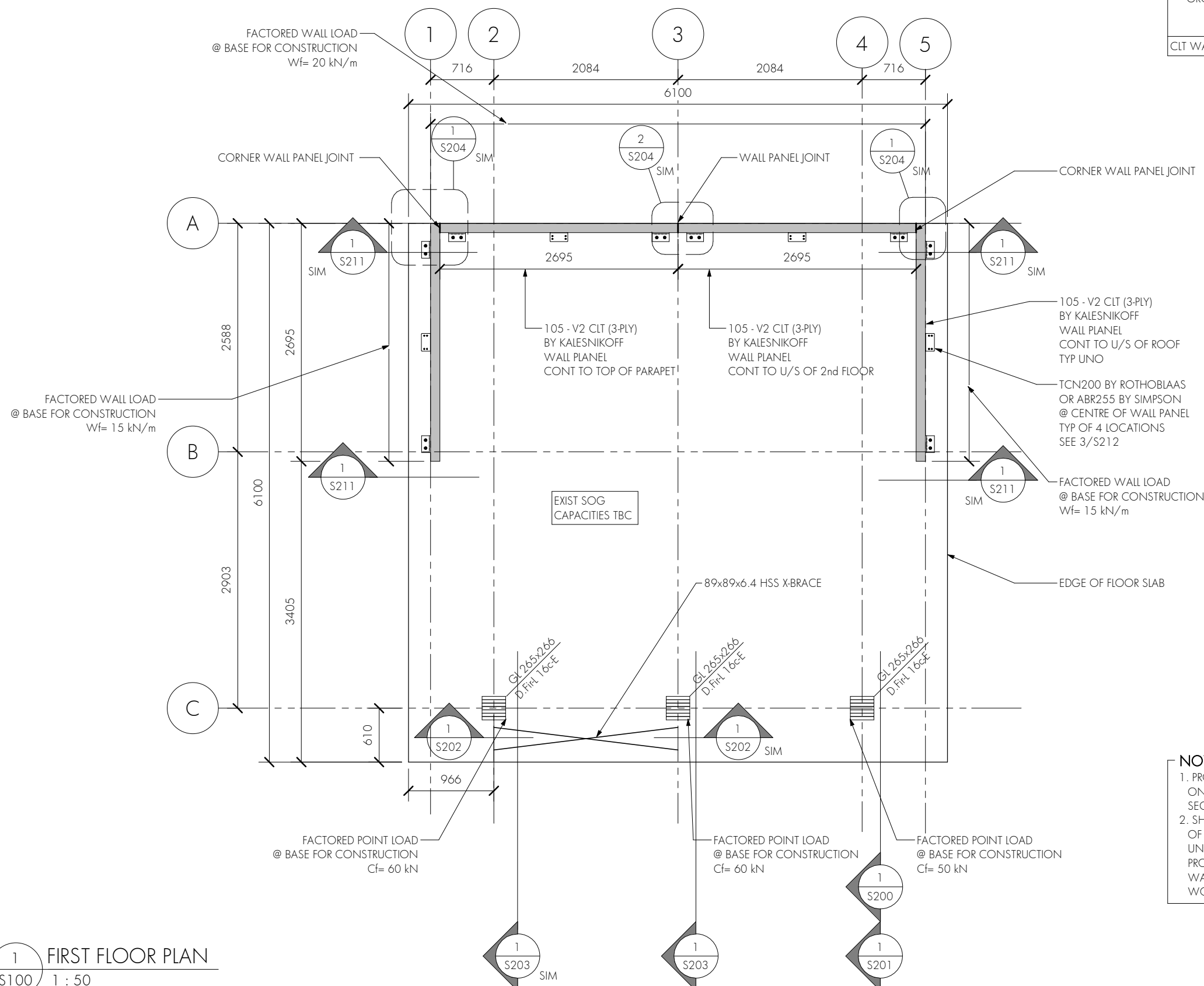
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CONSTRUCTION LOADS			
LEVEL	DEAD LOAD	LIVE LOAD	SNOW LOAD
ROOF	0.5 kPa	1.0 kPa	2.6 kPa
2nd FLOOR	0.8 kPa	1.0 kPa	N/A
GROUND	SELF-WEIGHT OF BASE MATERIAL	1.0 kPa	N/A

CLT WALL LOAD = 0.5 kPa

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NOTES:

1. PROVIDE TEMPORARY BRACES FOR GL COLUMNS ONCE ERECTED UNTIL FLOOR PANELS HAVE BEEN SECURELY INSTALLED WITH X-BRACES.
2. SHIM AND PACK 38 GROUT BETWEEN UNDERSIDE OF COLUMN BASE PLATES AND CONCRETE SLAB AND UNDERSIDE OF CLT WALLS AND CONCRETE SLAB. PROVIDE GROUT FOR FULL LENGTH AND WIDTH OF WALLS. PROVIDE DAMP PROOF COURSE BETWEEN WOOD AND CONCRETE.

Project:
BCIT MASS TIMBER MODULE
 BURNABY, BC
 Project No:
20.192

Scale: AS NOTED
 Drawn By: KM
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1 FIRST FLOOR PLAN
 S100 1 : 50

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Drawing Title:
FIRST FLOOR PLAN
 Drawing No:
S100

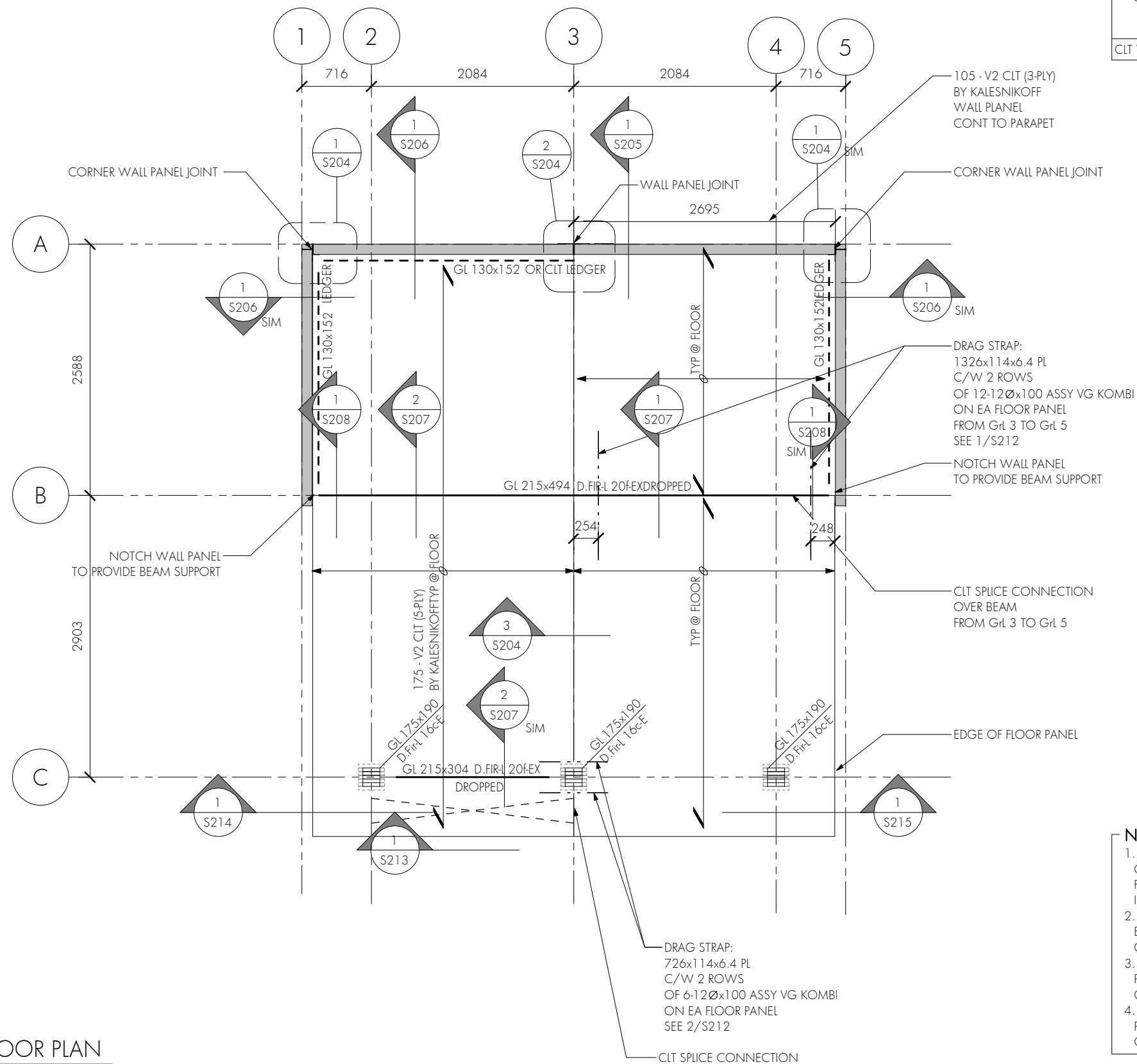
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CONSTRUCTION LOADS			
LEVEL	DEAD LOAD	LIVE LOAD	SNOW LOAD
ROOF	0.5 kPa	1.0 kPa	2.6 kPa
2nd FLOOR	0.8 kPa	1.0 kPa	N/A
GROUND	SELF-WEIGHT OF BASE MATERIAL	1.0 kPa	N/A

CLT WALL LOAD = 0.5 kPa

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- NOTES:**
1. PROVIDE TEMPORARY BRACES FOR GL COLUMNS ONCE ERECTED UNTIL FLOOR PANELS HAVE BEEN SECURELY INSTALLED WITH X-BRACES.
 2. PROVIDE 6mm GAP BTW FLOOR PANEL EDGES AND SIDE WALLS FOR CONSTRUCTION TOLERANCE.
 3. PROVIDE 3mm GAP BETWEEN FLOOR PANEL ENDS AND WALL FOR CONSTRUCTION TOLERANCE.
 4. PROVIDE 3mm GAP BETWEEN FLOOR PANEL-TO-PANEL JOINTS FOR CONSTRUCTION TOLERANCE.

Project:
**BCIT MASS
TIMBER MODULE**

BURNABY, BC

Project No:
20.192

Date: NOVEMBER 05, 2020
Scale: AS NOTED
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Checked By: MH/DM

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1 SECOND FLOOR PLAN
S101 1 : 50

Drawing Title:
**SECOND FLOOR
PLAN**
Drawing No:

S101

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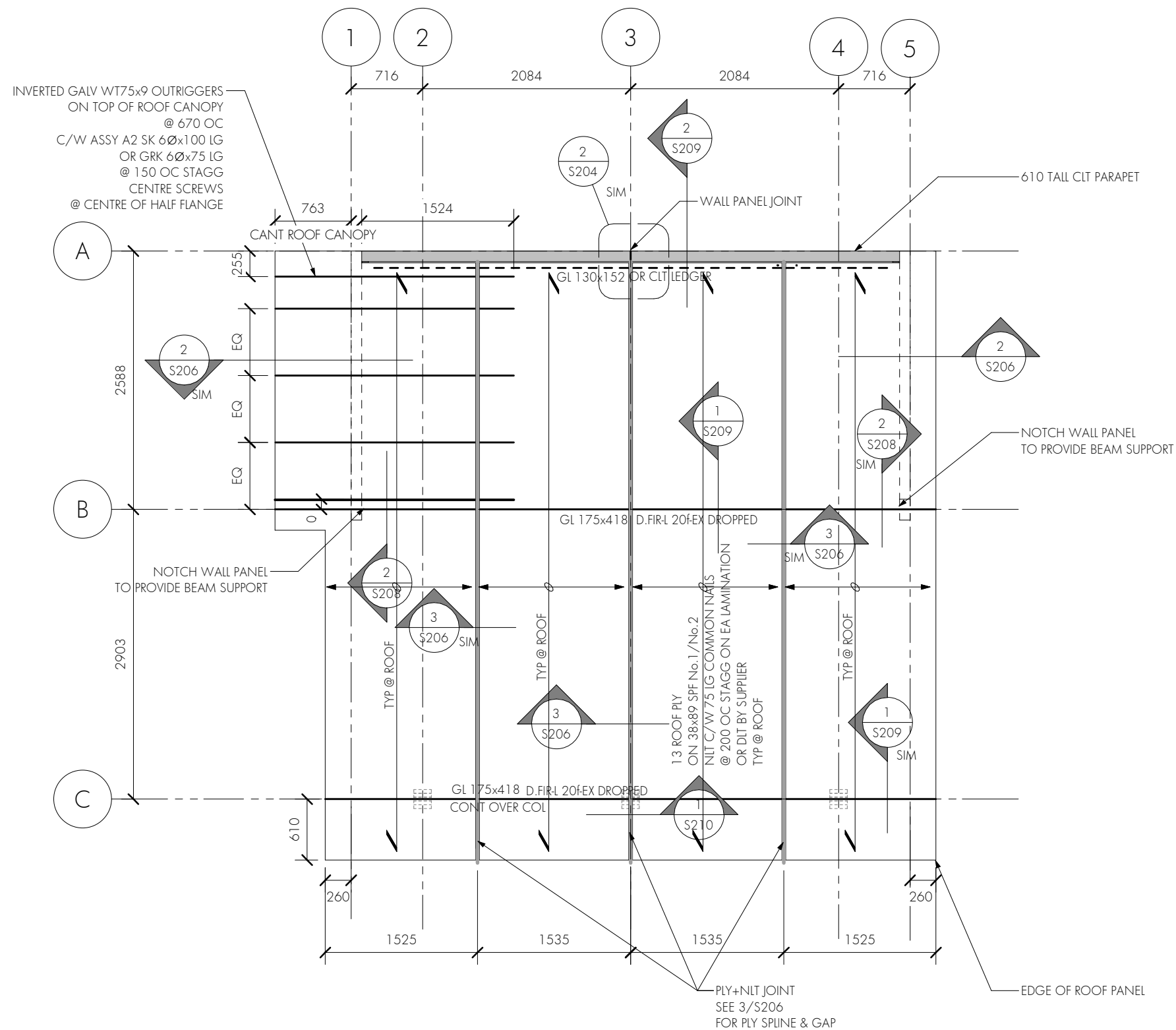


CONSTRUCTION LOADS			
LEVEL	DEAD LOAD	LIVE LOAD	SNOW LOAD
ROOF	0.5 kPa	1.0 kPa	2.6 kPa
2nd FLOOR	0.8 kPa	1.0 kPa	N/A
GROUND	SELF-WEIGHT OF BASE MATERIAL	1.0 kPa	N/A

CLT WALL LOAD = 0.5 kPa

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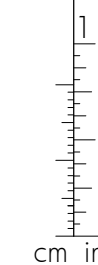
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Drawing Title:
ROOF PLAN

Drawing No:

S102



1 ROOF PLAN
S102 1 : 50

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BURNABY, BC

Project No:

20.192

Date: NOVEMBER 05, 2020

Scale: AS NOTED

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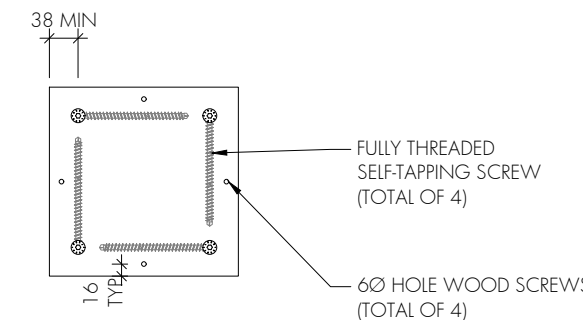
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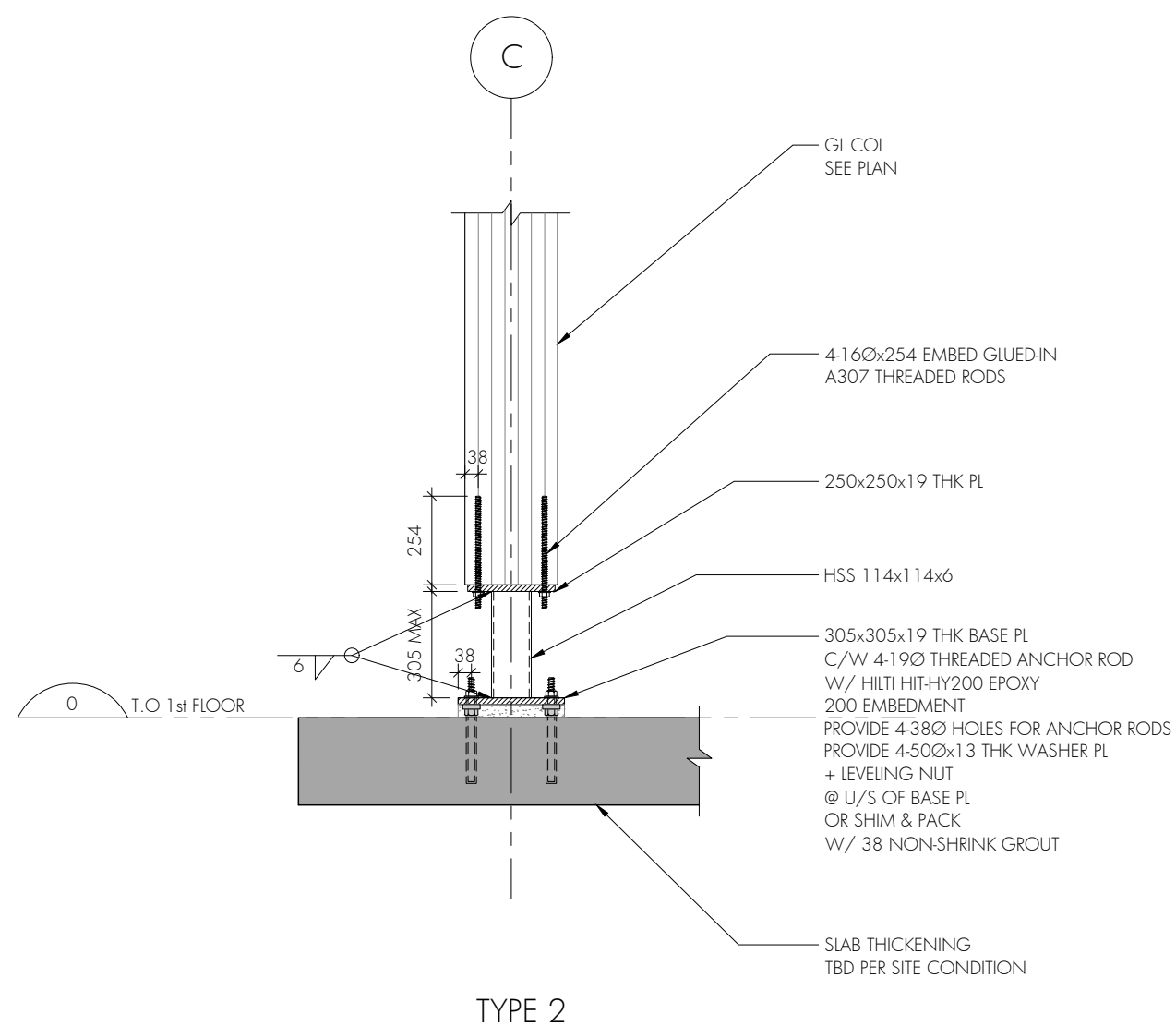
S200

NOTES:

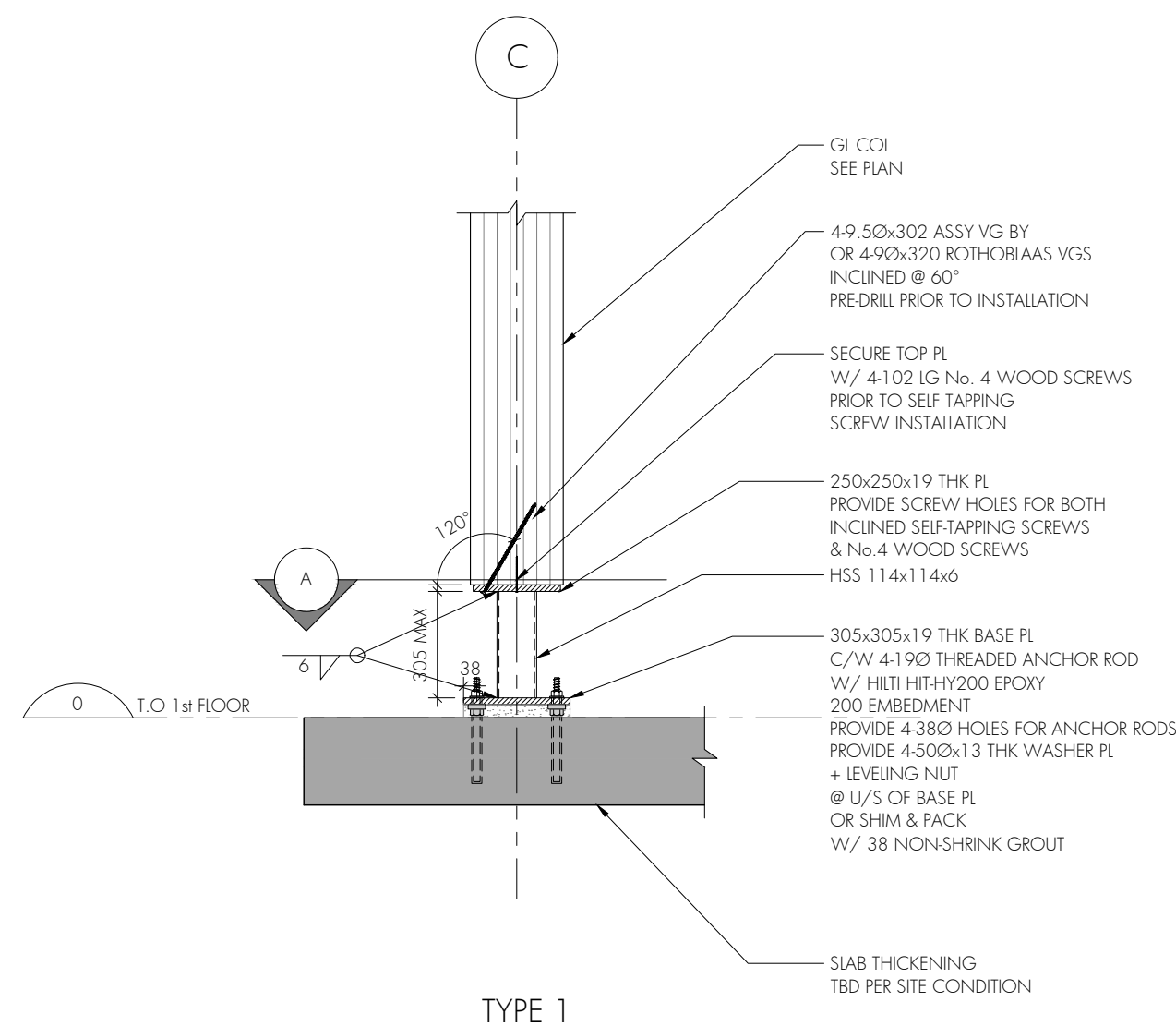
1. COLUMN BASES WITHOUT CROSS-BRACE REFERENCED IN THE GROUND FLOOR PLAN CAN BE TYPE 1, 2, 3 OR 4 AS SHOWN IN S200 AND S201.
2. COLUMN BASE CONNECTION TYPE 2 IS RECOMMENDED FOR THE TRAINING COURSE.



SECTION A



TYPE 2



TYPE 1

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Project:

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BURNABY, BC

Project No:
20.192

Date: NOVEMBER 05, 2020
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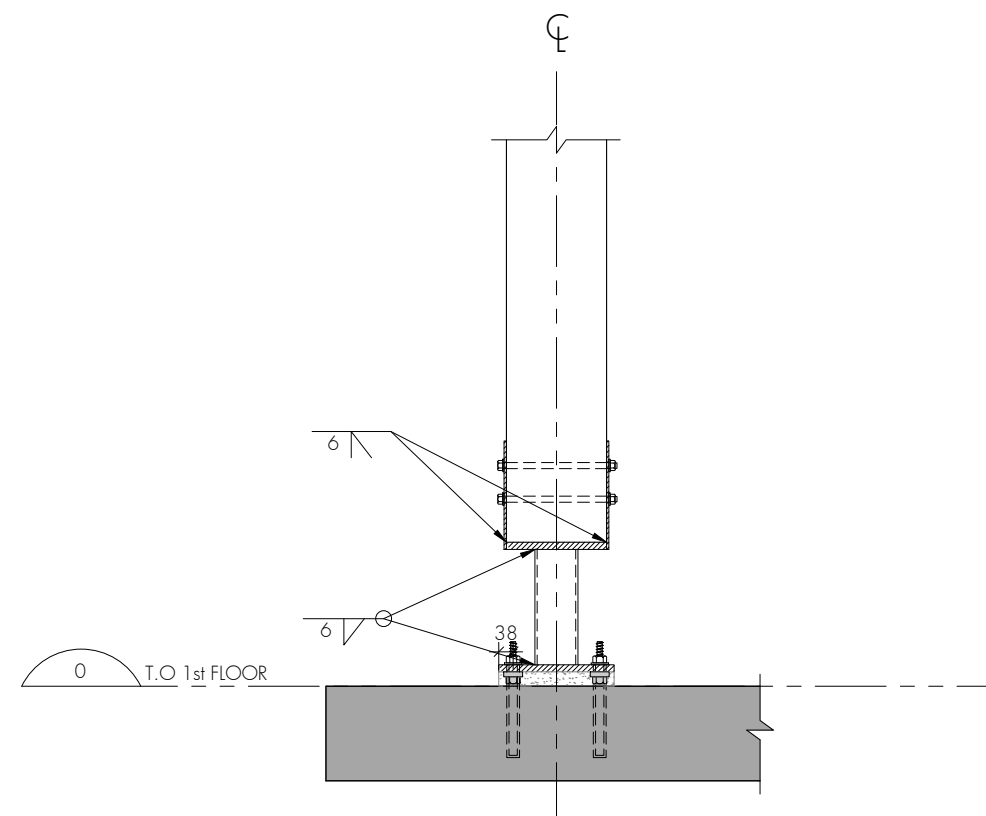
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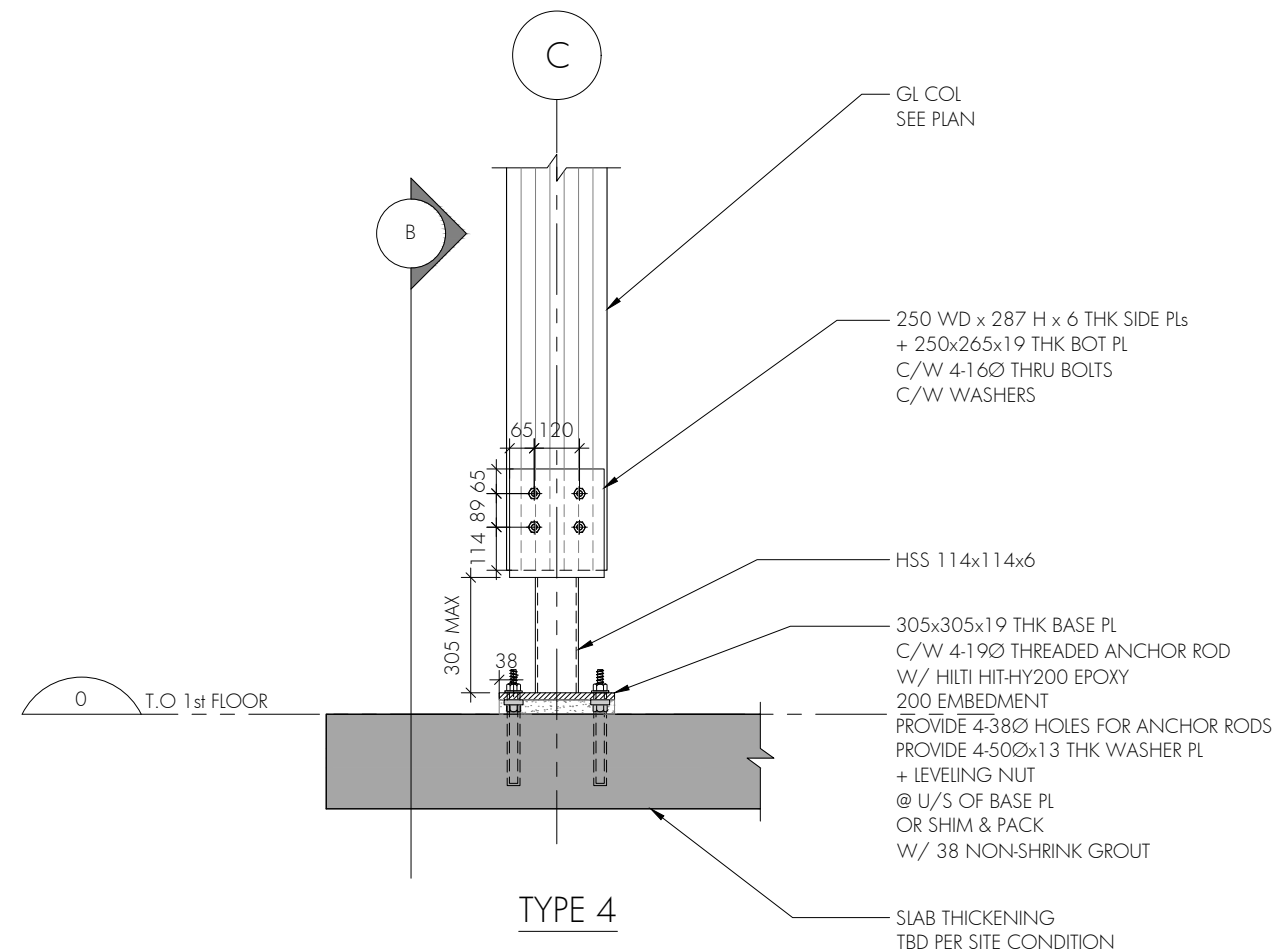
SECTIONS

Drawing No:

S201

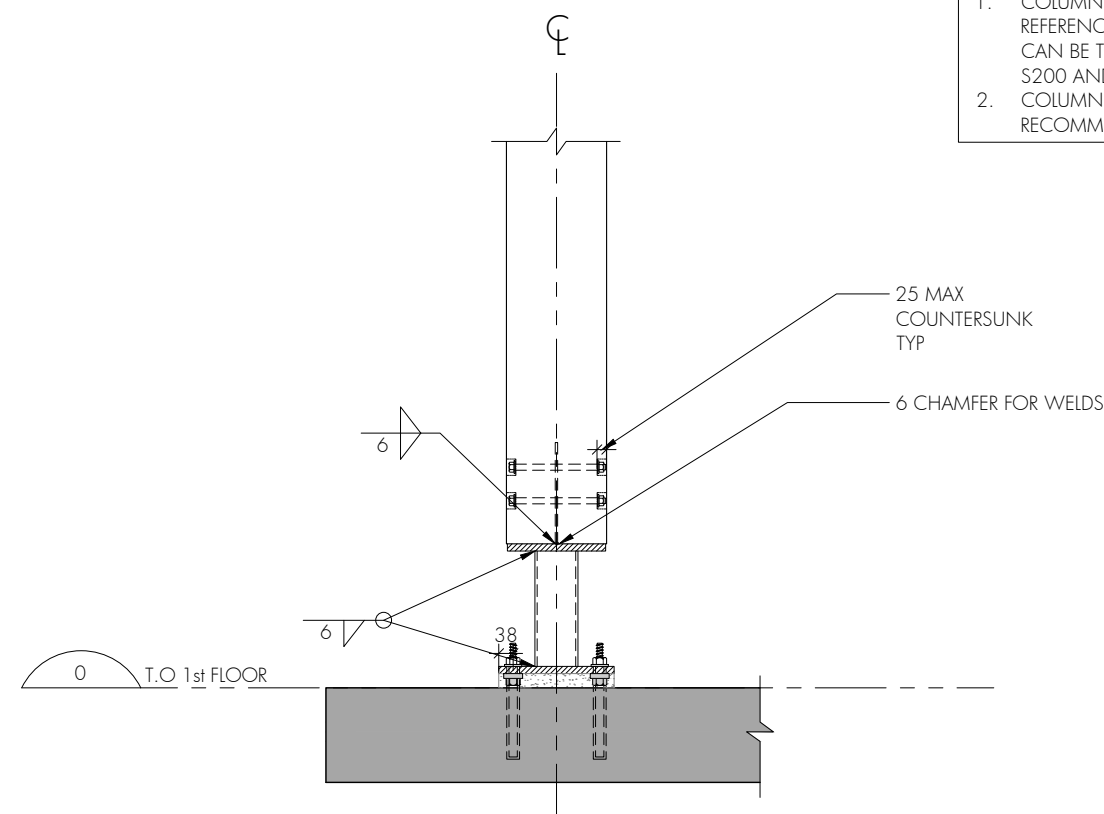


SECTION B

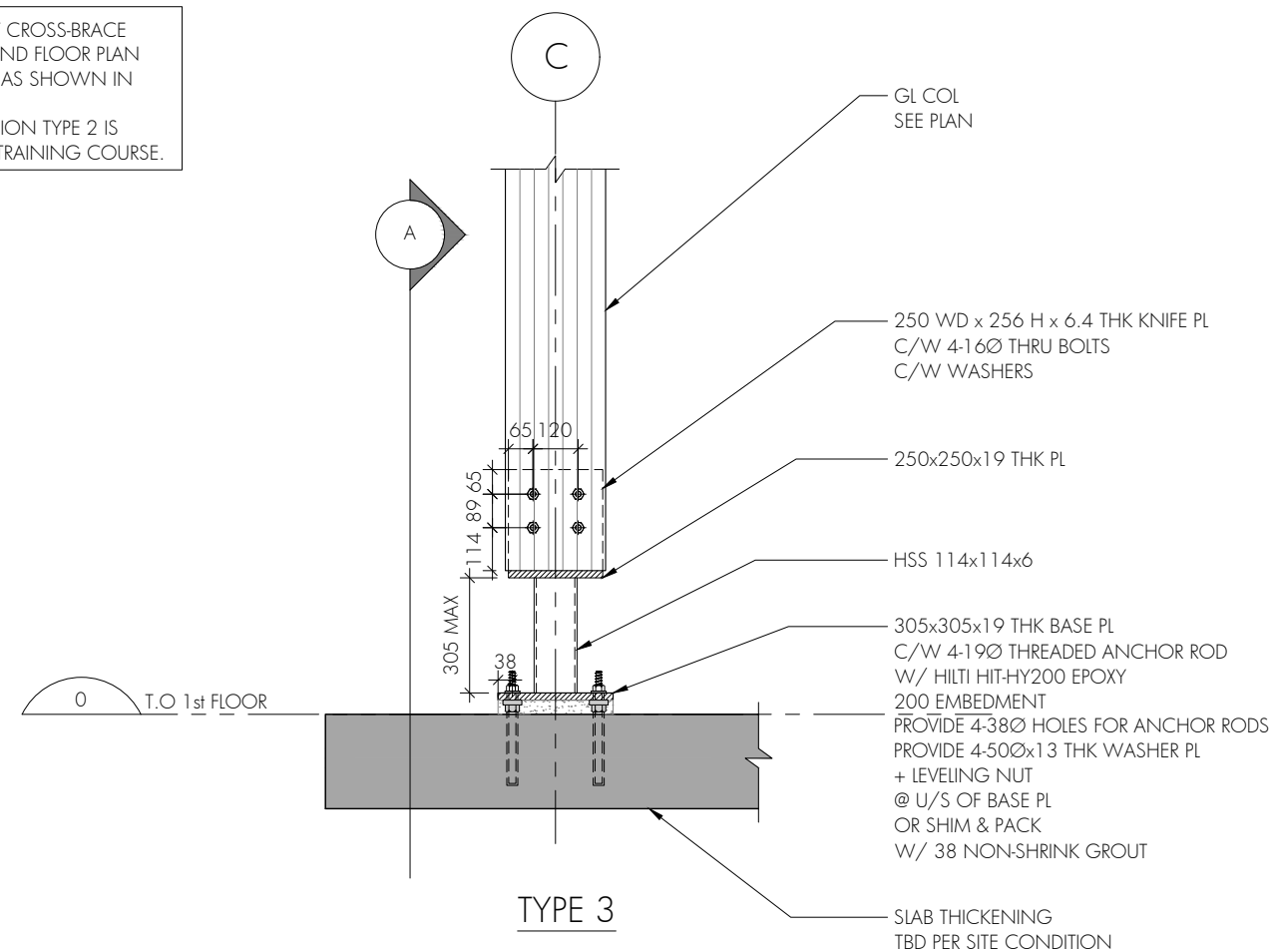


TYPE 4

- NOTES:
1. COLUMN BASES WITHOUT CROSS-BRACE REFERENCED IN THE GROUND FLOOR PLAN CAN BE TYPE 1, 2, 3 OR 4 AS SHOWN IN S200 AND S201.
 2. COLUMN BASE CONNECTION TYPE 2 IS RECOMMENDED FOR THE TRAINING COURSE.



SECTION A



TYPE 3



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Project:

**BCIT MASS
TIMBER MODEL**
BURNABY, BC

Project No:

20.192

Date: NOVEMBER 05, 2020

Scale: AS NOTED

Drawn By: KM

Checked By: MH/DM

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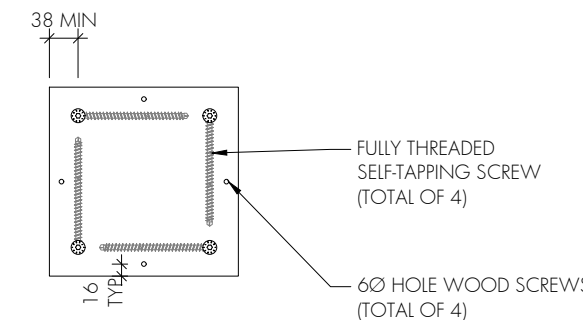
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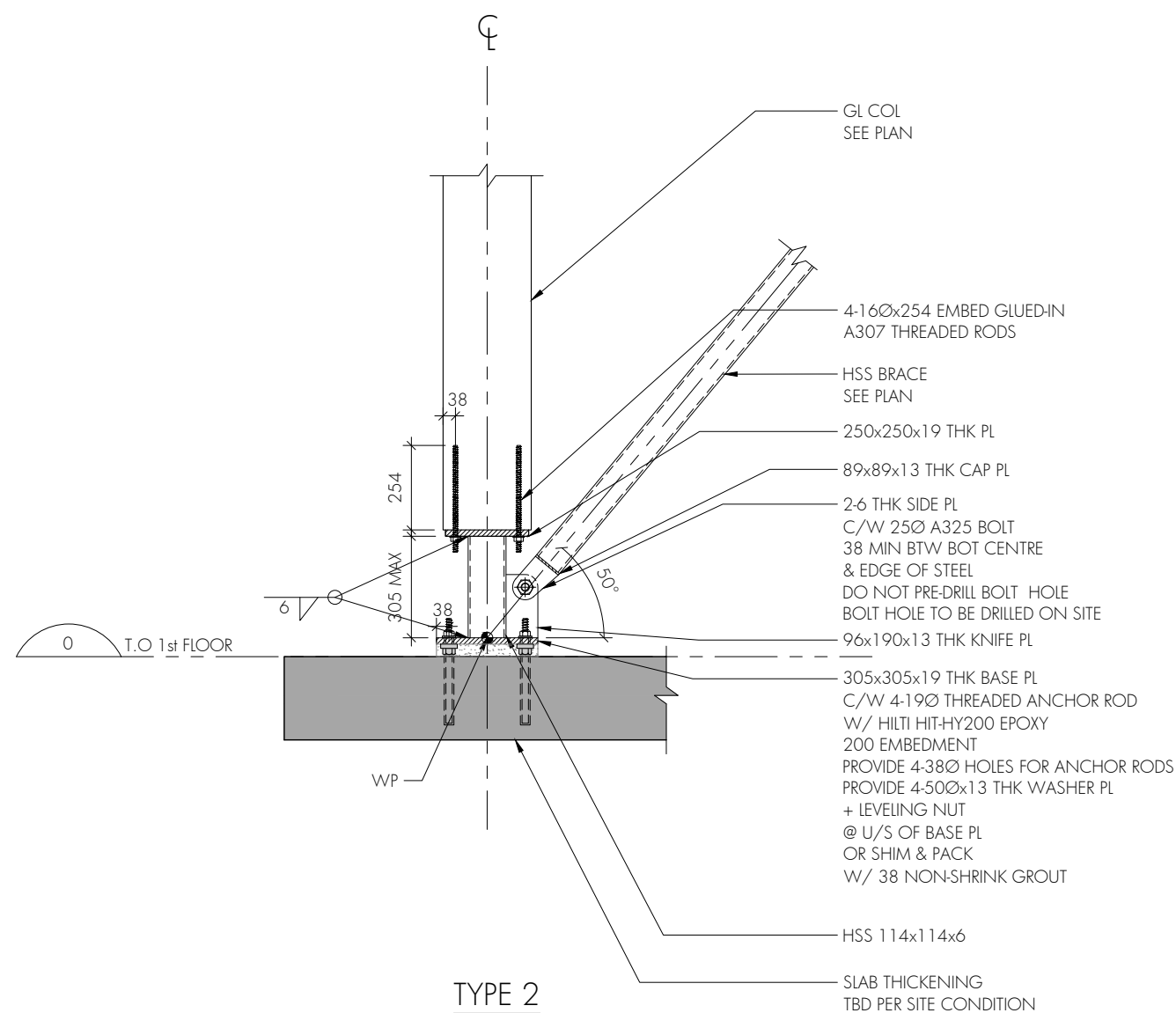
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NOTES:

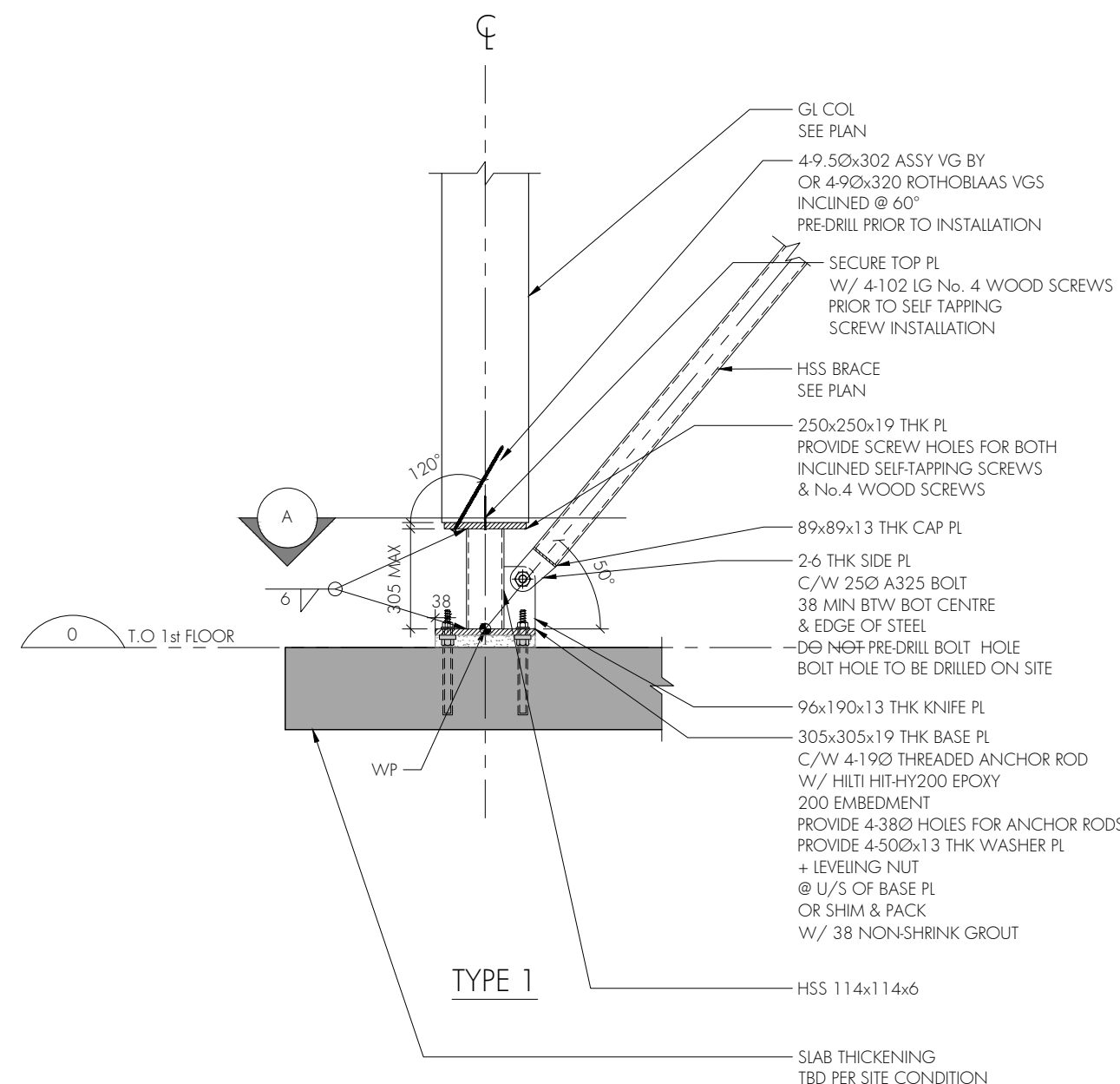
1. COLUMN BASES WITHOUT CROSS-BRACE REFERENCED IN THE GROUND FLOOR PLAN CAN BE TYPE 1, 2, 3 OR 4 AS SHOWN IN S200 AND S201.
2. COLUMN BASE CONNECTION TYPE 2 IS RECOMMENDED FOR THE TRAINING COURSE.



SECTION A



TYPE 2



TYPE 1

COLUMN BASE SECTION
FOR X-BRACE

1
S202 1:20

cm in

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Project No:

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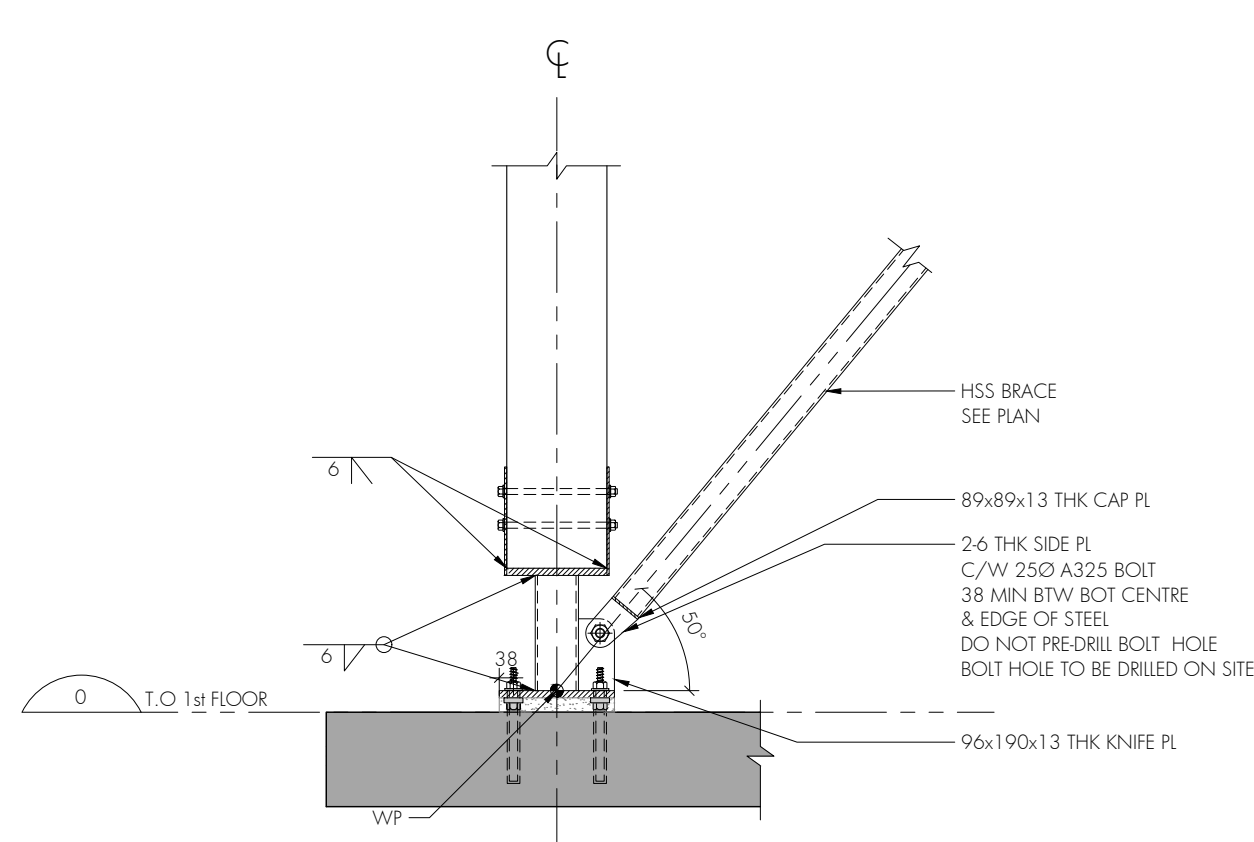
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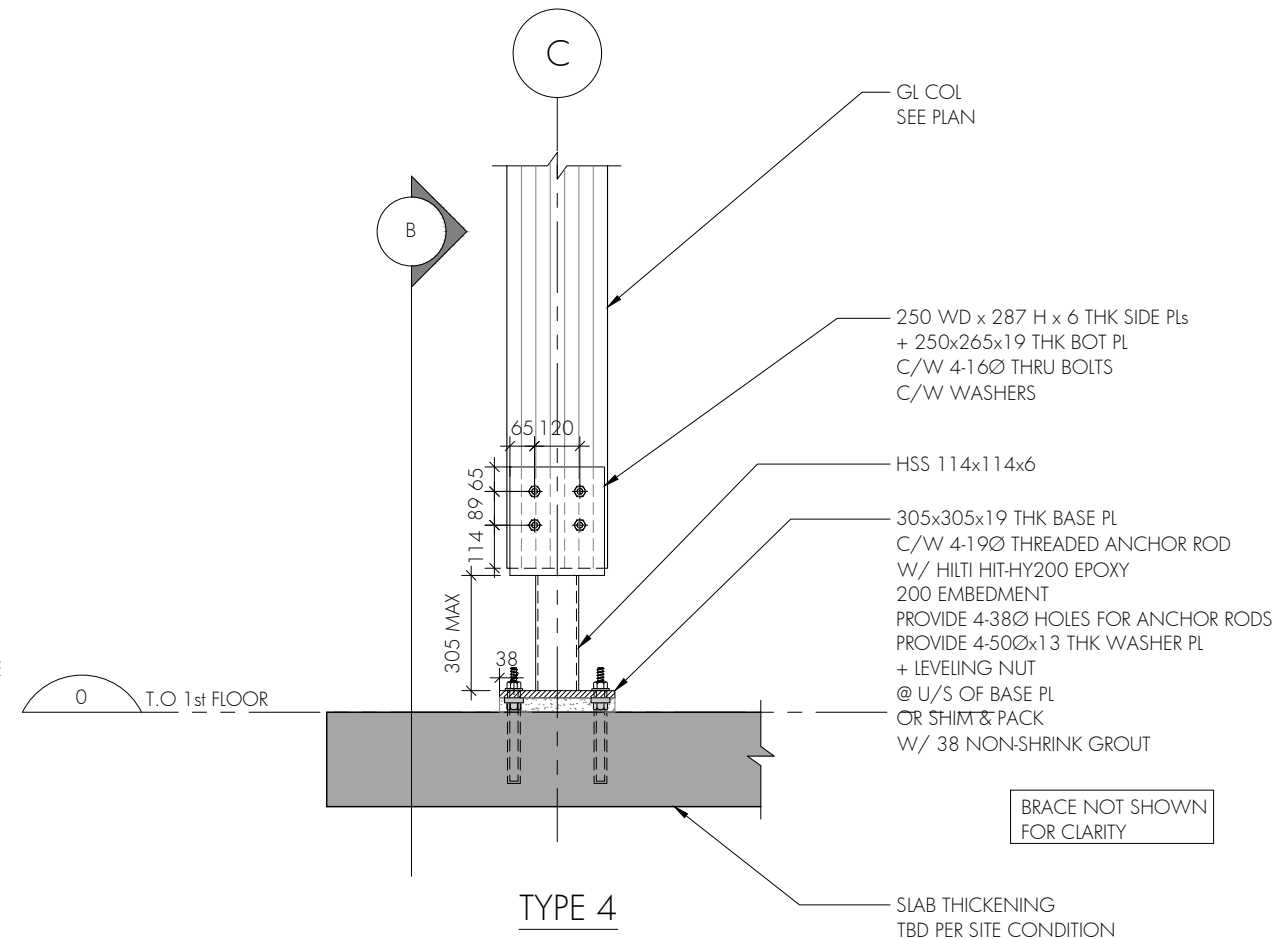
SECTIONS

Drawing No:

S203

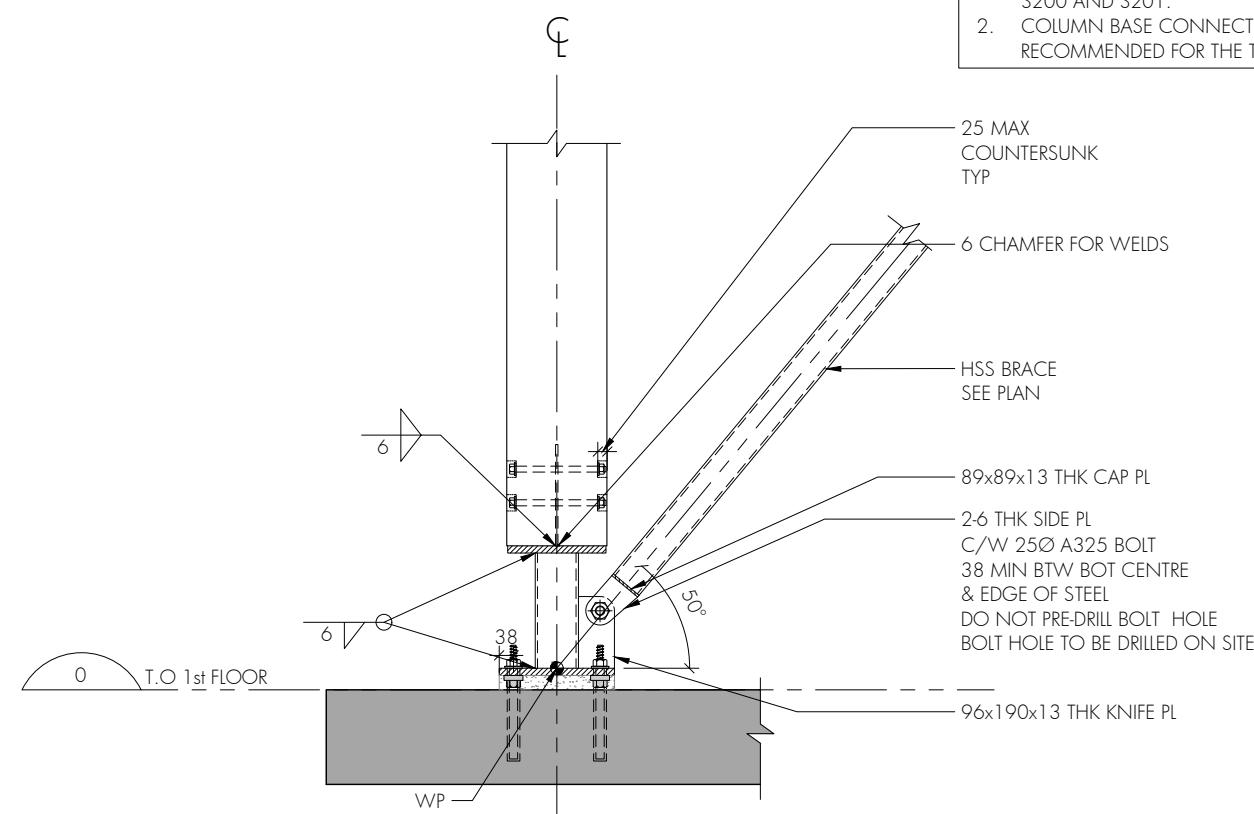


SECTION B

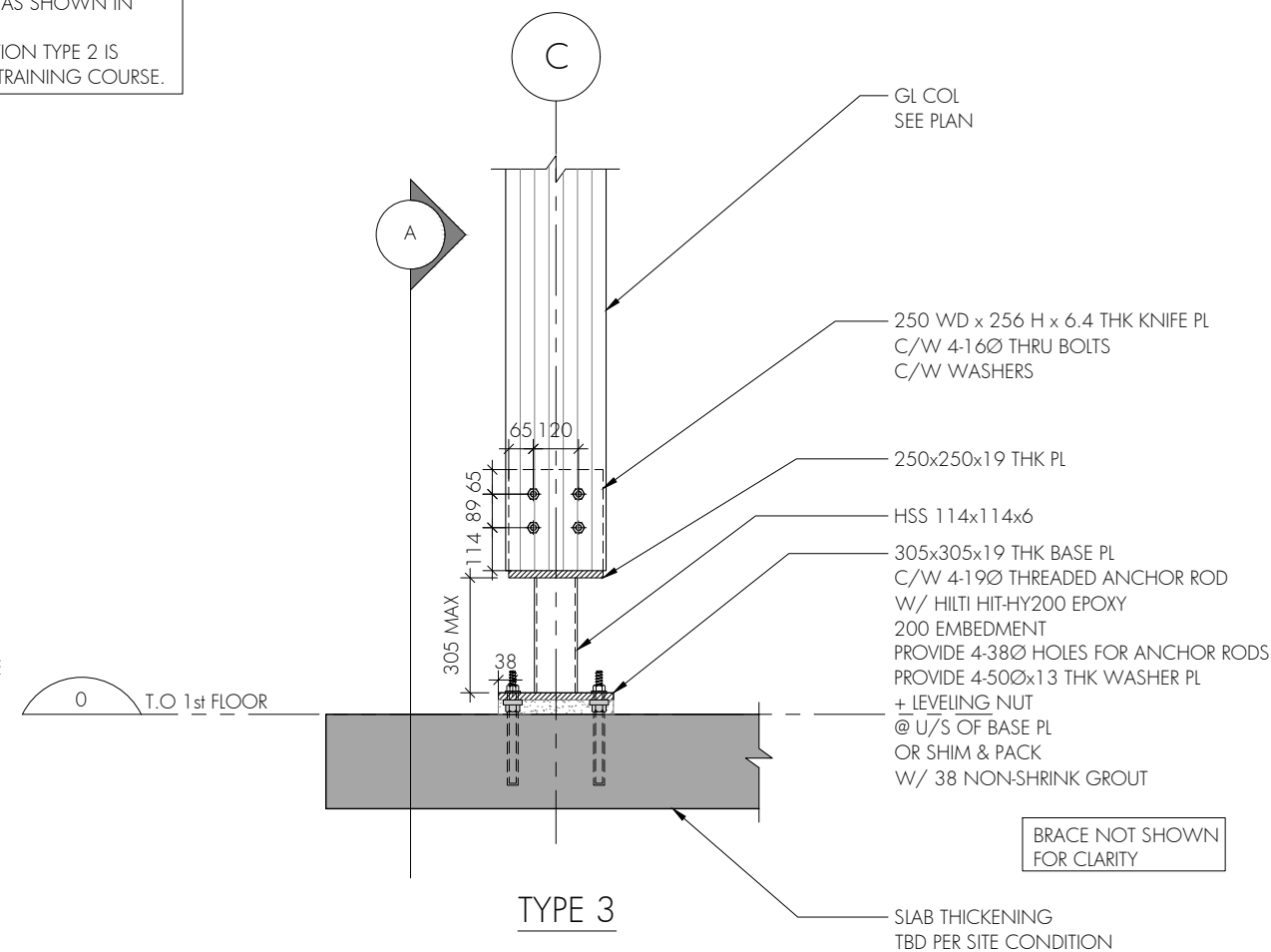


TYPE 4

- NOTES:
- COLUMN BASES WITHOUT CROSS-BRACE REFERENCED IN THE GROUND FLOOR PLAN CAN BE TYPE 1, 2, 3 OR 4 AS SHOWN IN S200 AND S201.
 - COLUMN BASE CONNECTION TYPE 2 IS RECOMMENDED FOR THE TRAINING COURSE.



SECTION A



TYPE 3

COLUMN BASE SECTION
FOR X-BRACE

1
S203 1:20

cm in

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**BCIT MASS
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BURNABY, BC

Project No:

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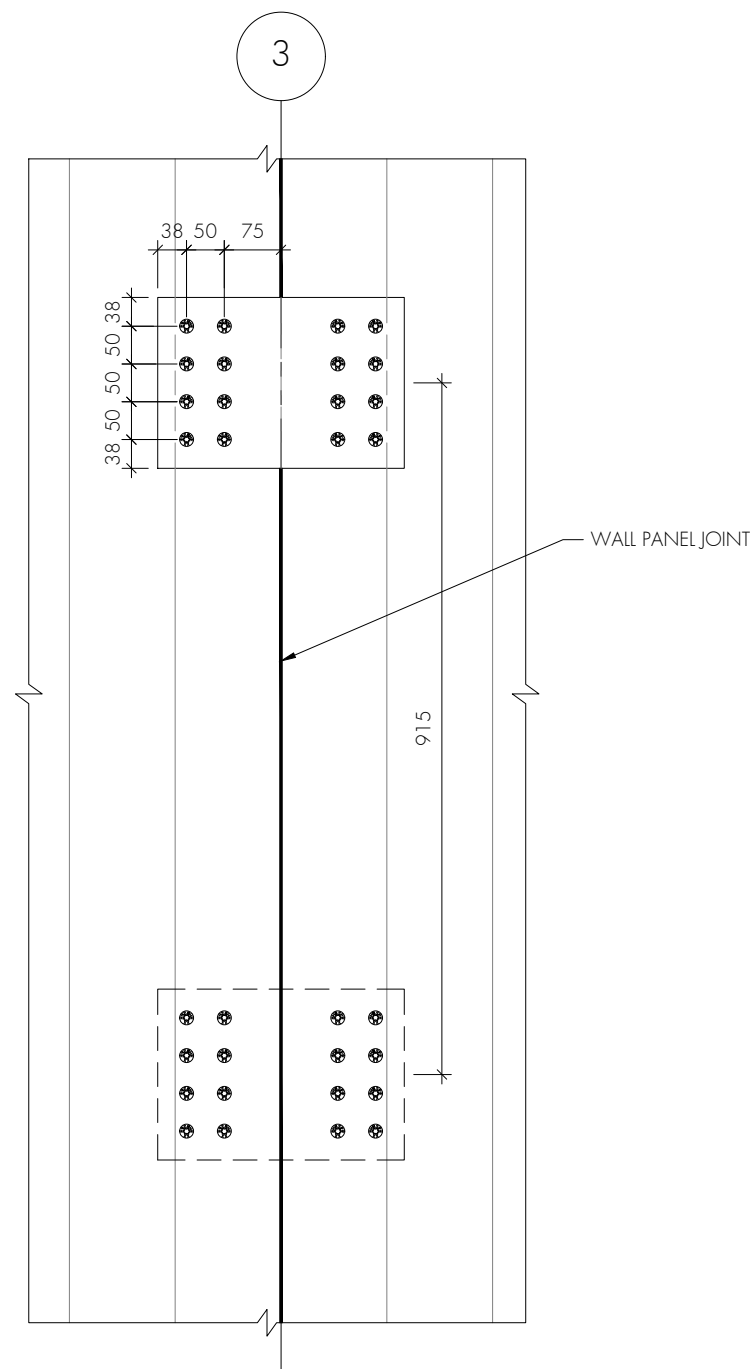
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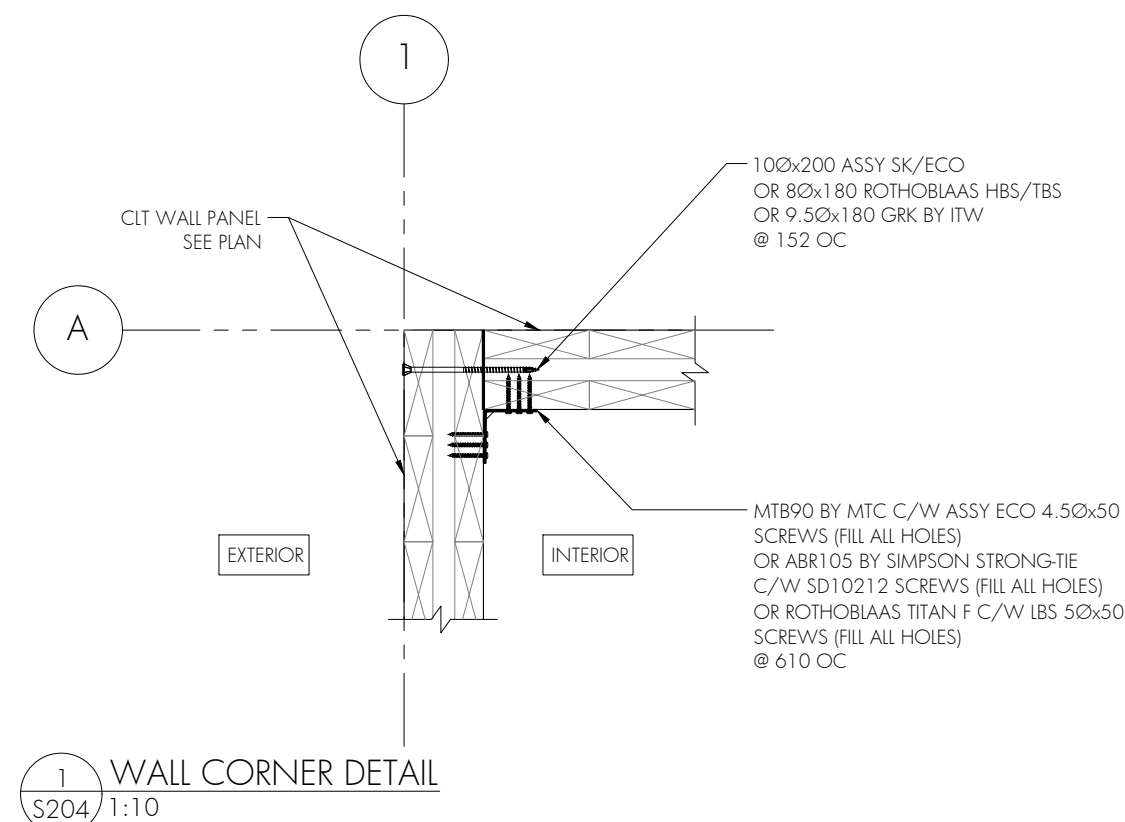
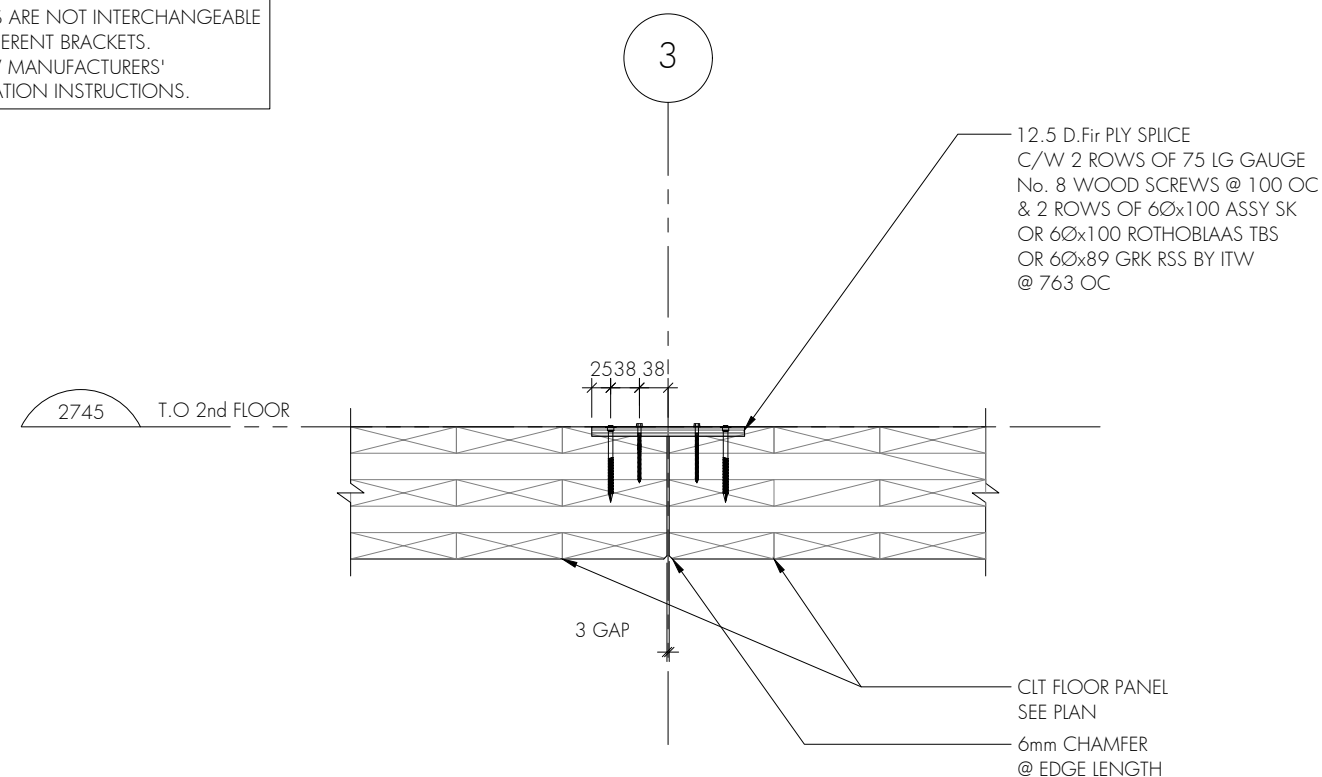
S204

SCREWS ARE NOT INTERCHANGEABLE FOR DIFFERENT BRACKETS. FOLLOW MANUFACTURERS' INSTALLATION INSTRUCTIONS.



SECTION A

3 FLOOR PANEL TO PANEL SECTION
S204 1:10



1 WALL CORNER DETAIL
S204 1:10

2 WALL PANEL-TO-PANEL DETAIL
S204 1:10

cm in

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Project:

BCIT MASS TIMBER MODEL
BURNABY, BC

Project No:
20.192

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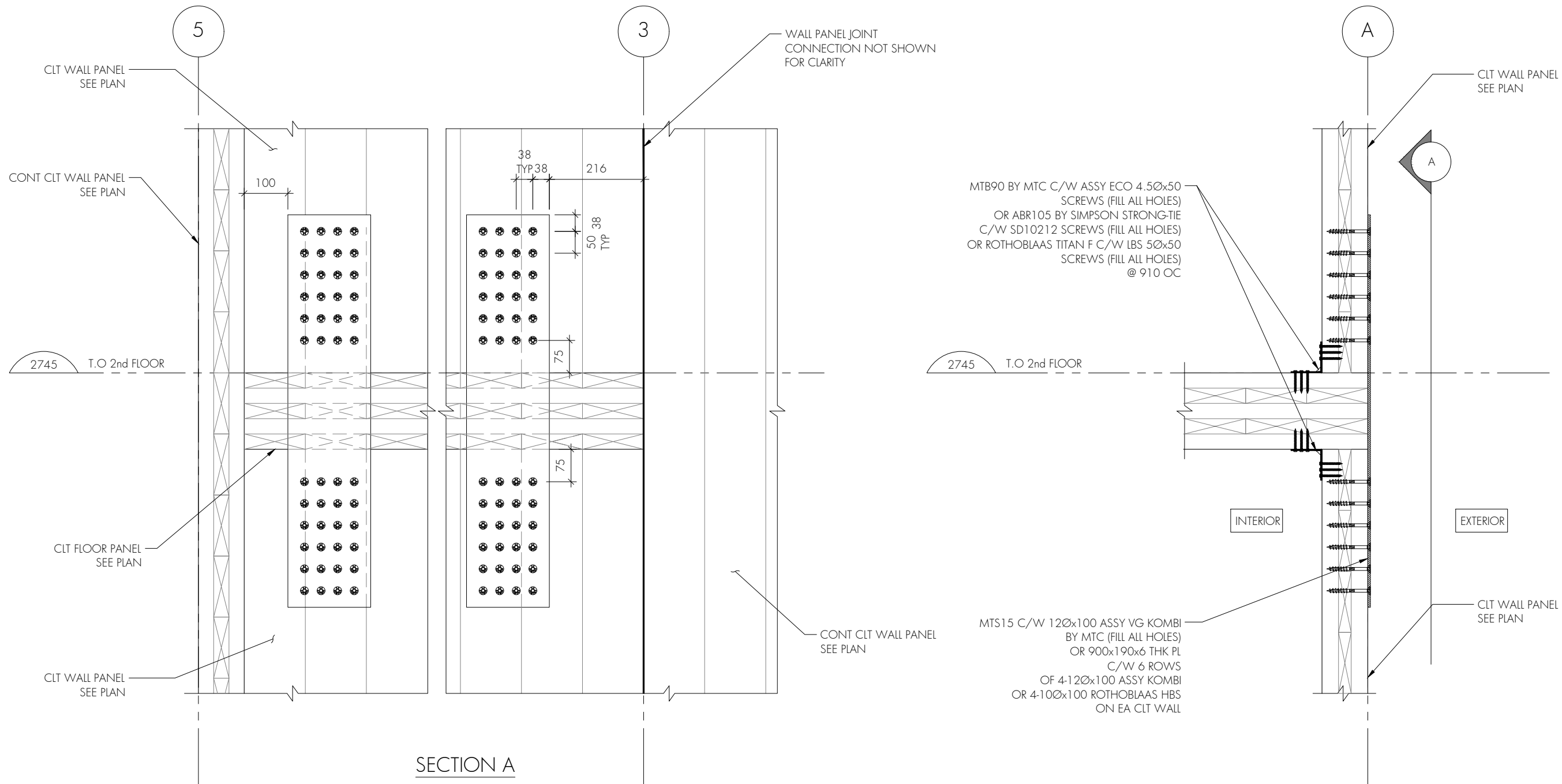
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Drawing Title:

SECTIONS

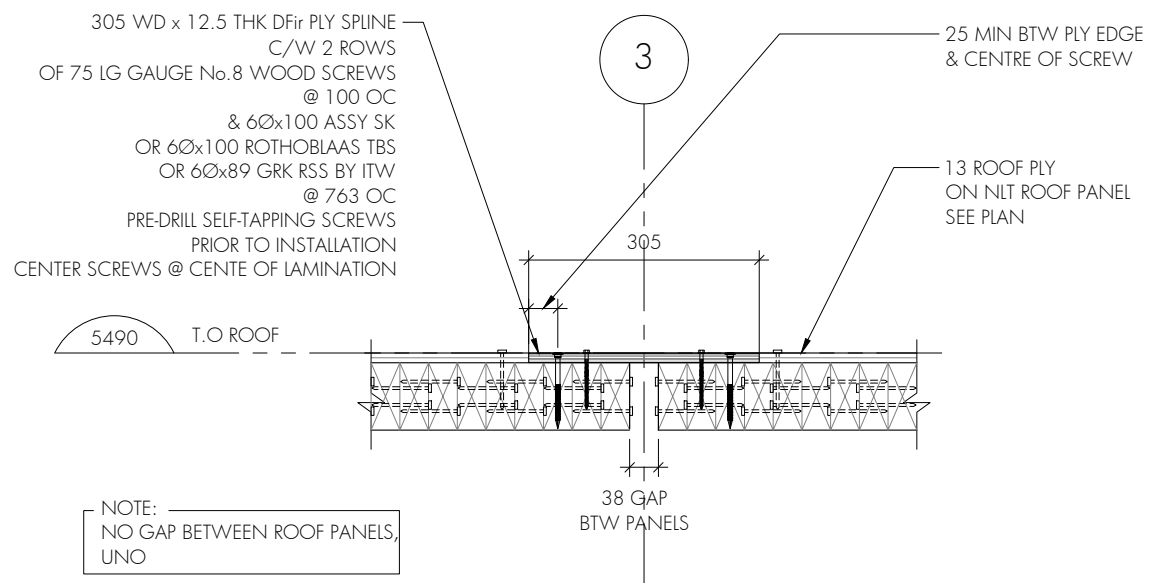
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S205

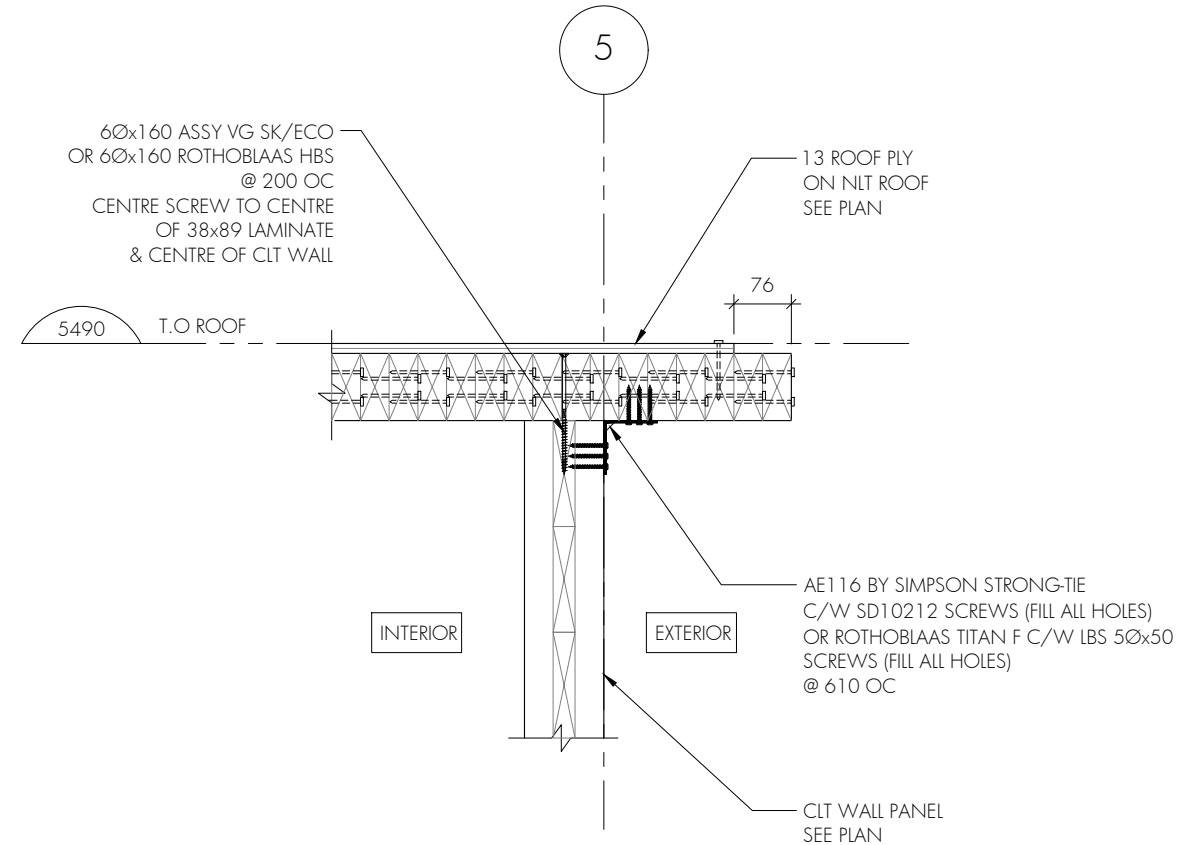


FLOOR PANEL TO WALL PANEL SECTION
(PLATFORM FRAMING)

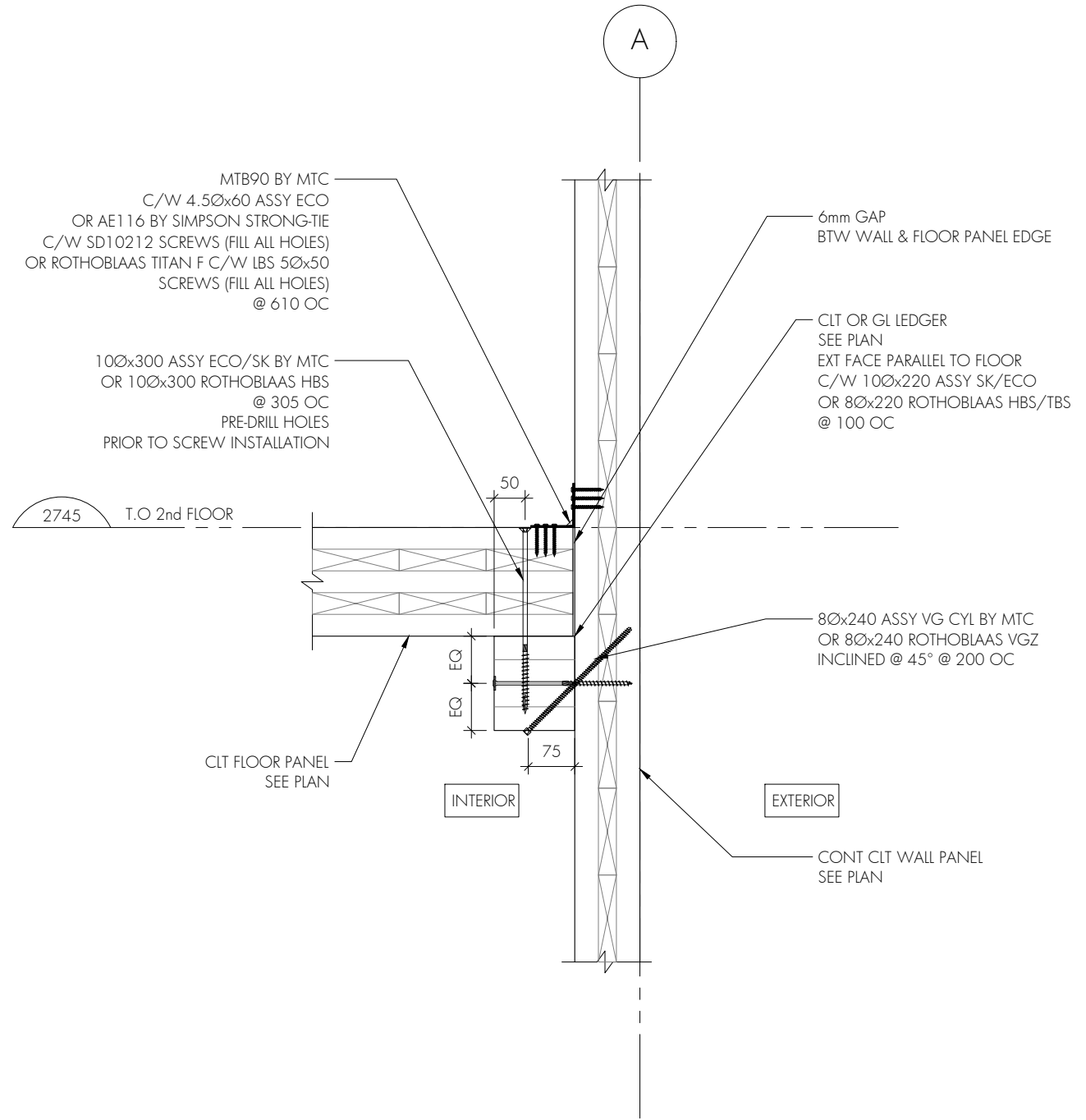
1
S205 1:10



3 NLT ROOF PANEL-TO-PANEL SECTION
S206 1:10



2 NLT ROOF TO CLT WALL PANEL SECTION
S206 1:10



1 FLOOR PANEL TO WALL PANEL LEDGER SECTION
(BALLOON FRAMING)
S206 1:10

SCREWS ARE NOT INTERCHANGEABLE
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FOLLOW MANUFACTURERS'
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BURNABY, BC

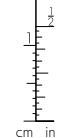
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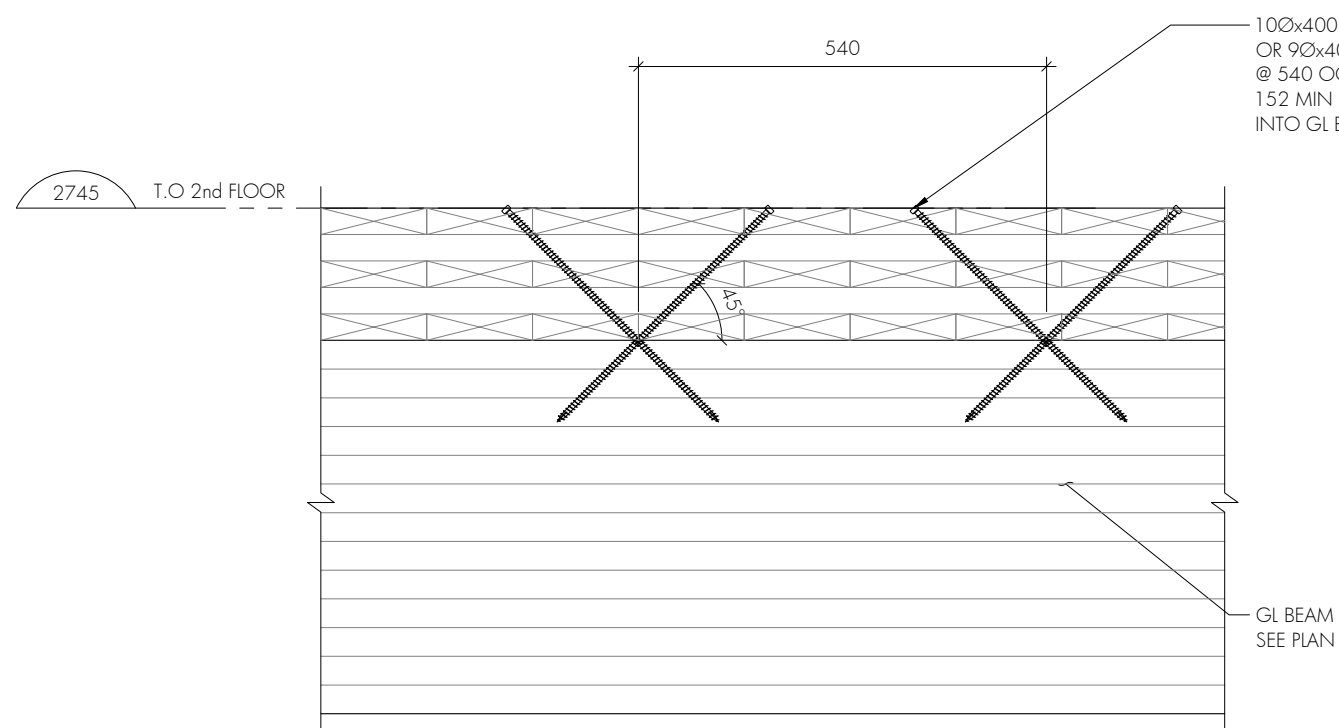
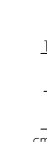
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SECTIONS

Drawing No:
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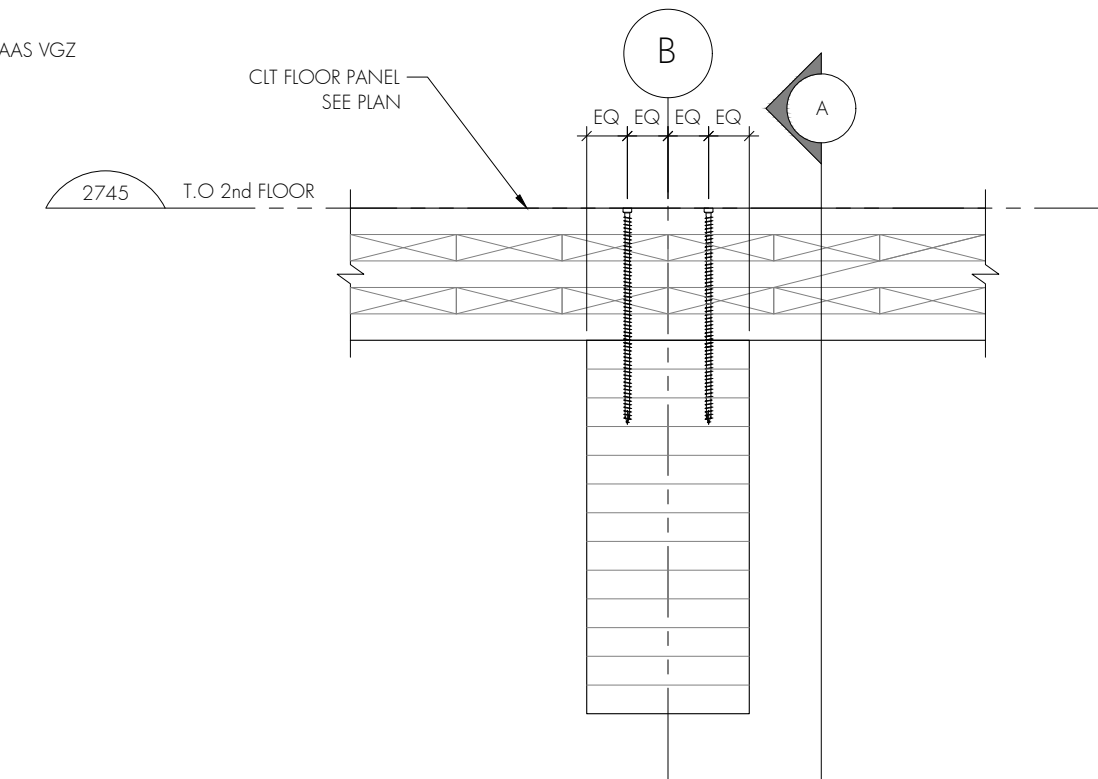


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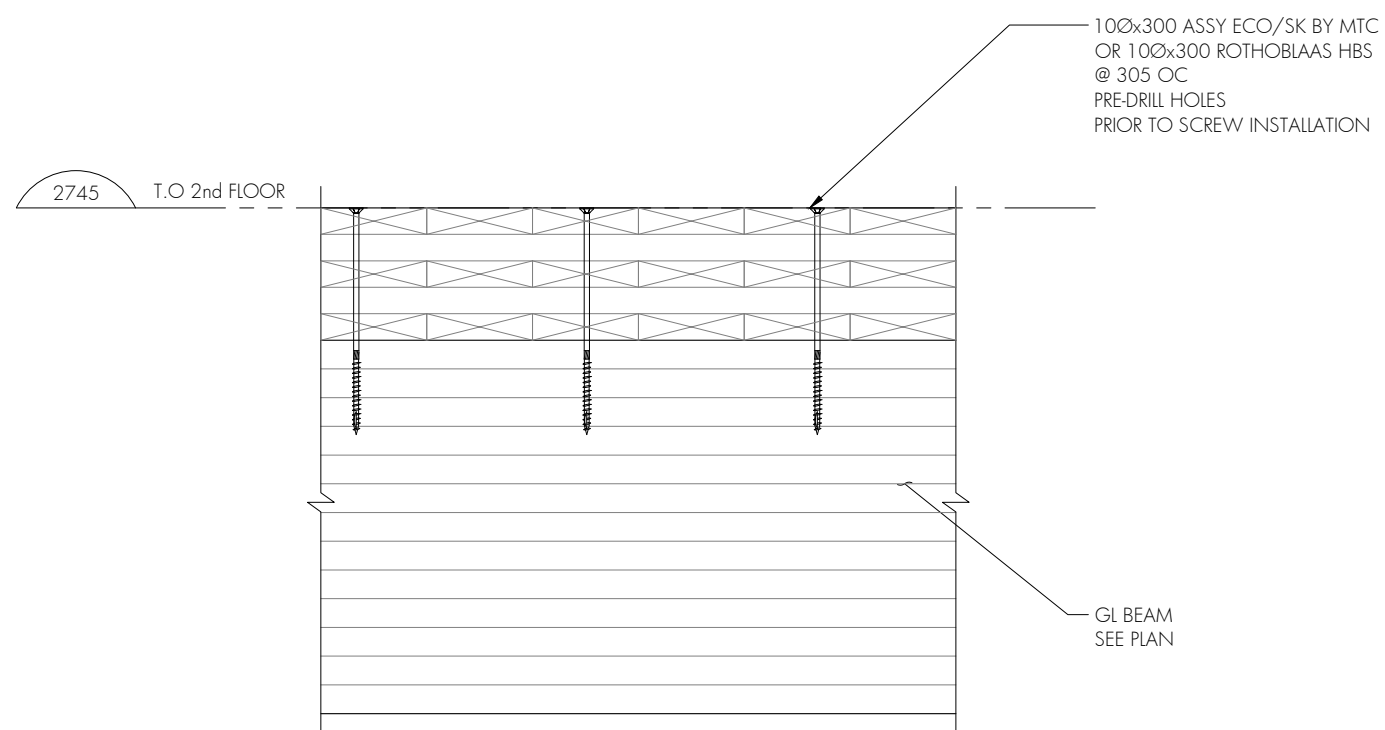
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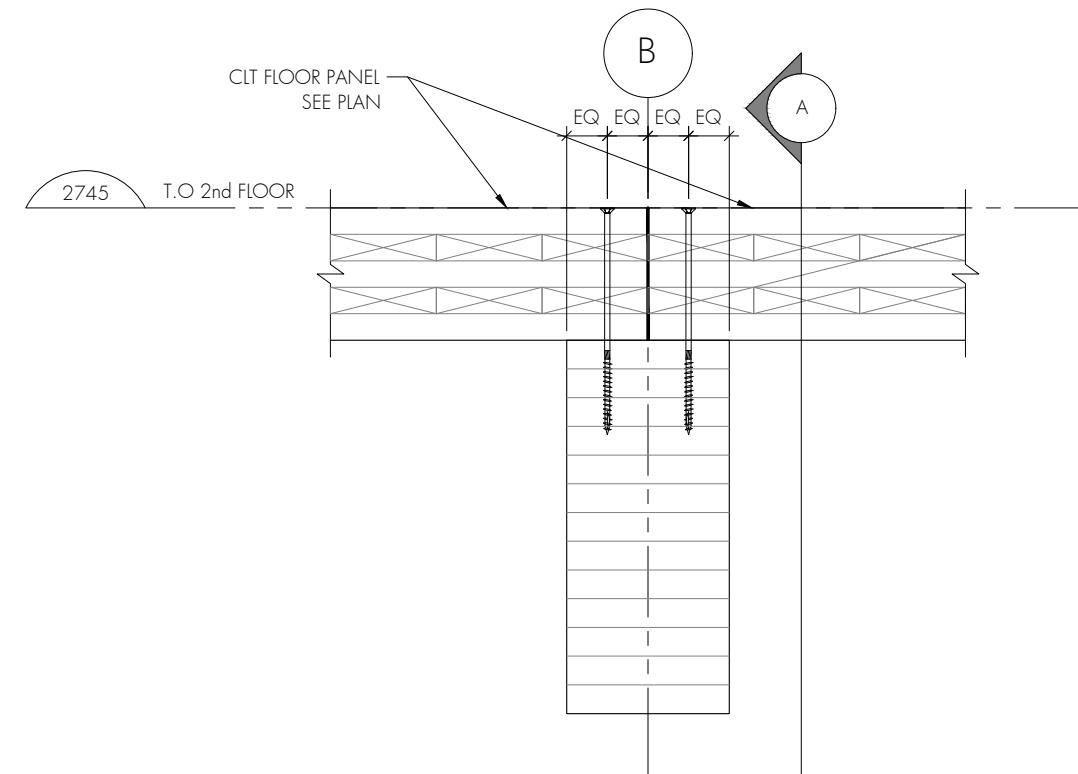
SECTION A



2 CLT CONTINUOUS GL BEAM SECTION
S207 1:10



SECTION A



1 CLT SPLICE ON GL BEAM SECTION
S207 1:10

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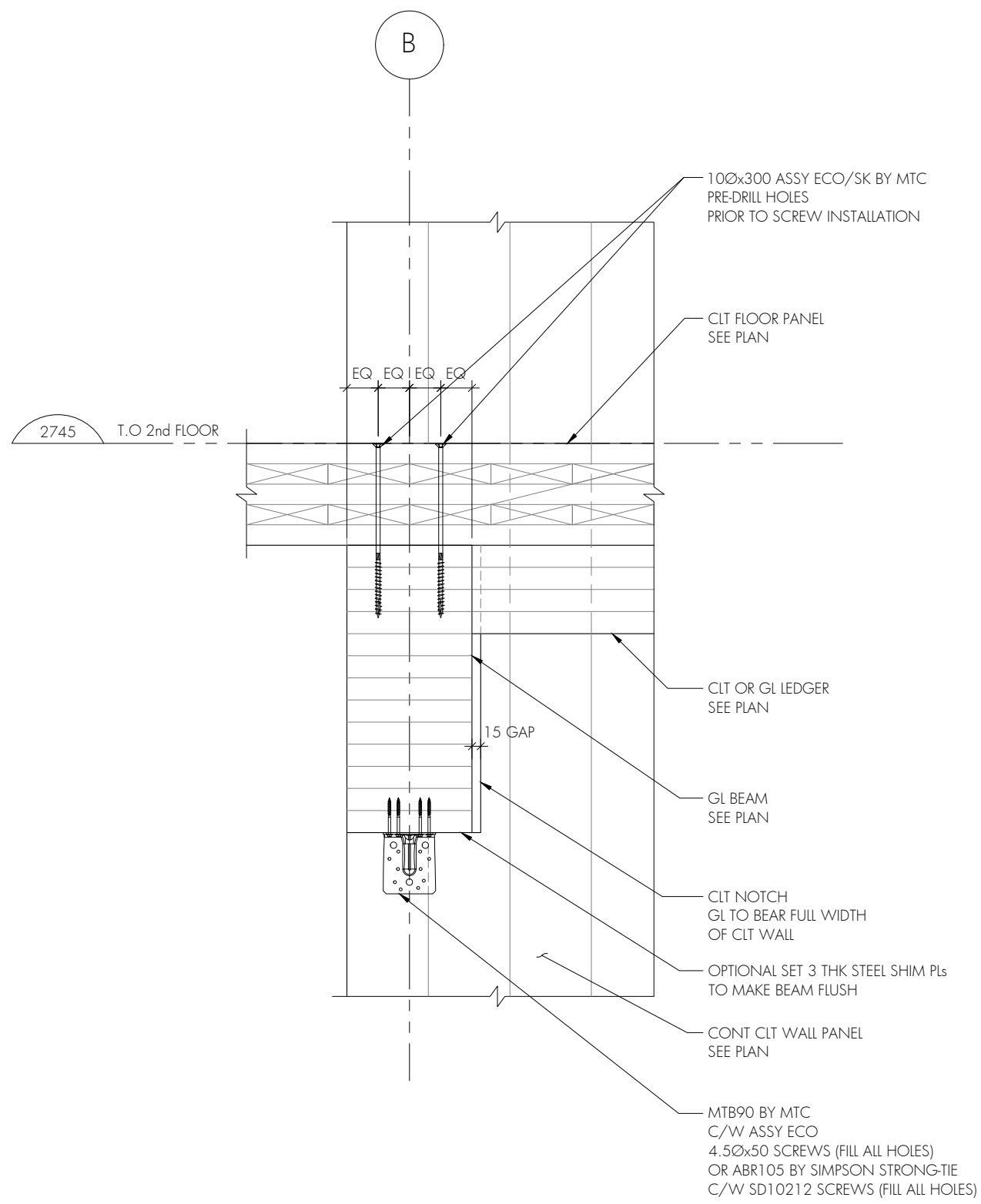
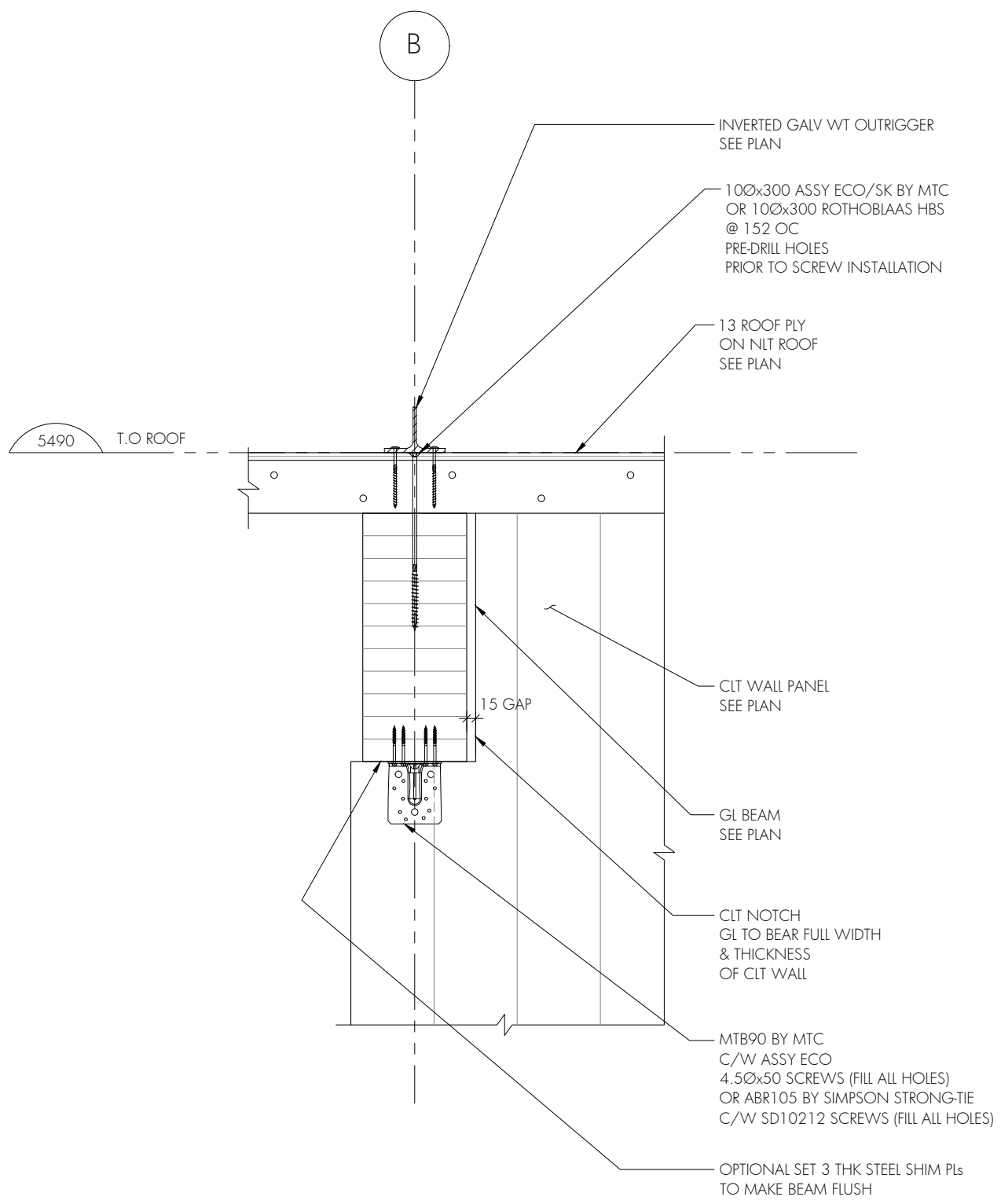
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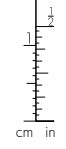
Drawing Title:
SECTIONS

Drawing No:
S208



2 ROOF - GL BEAM TO CLT WALL SECTION
 S208 1:10

1 2nd FLOOR - GL BEAM TO CLT WALL SECTION
 S208 1:10



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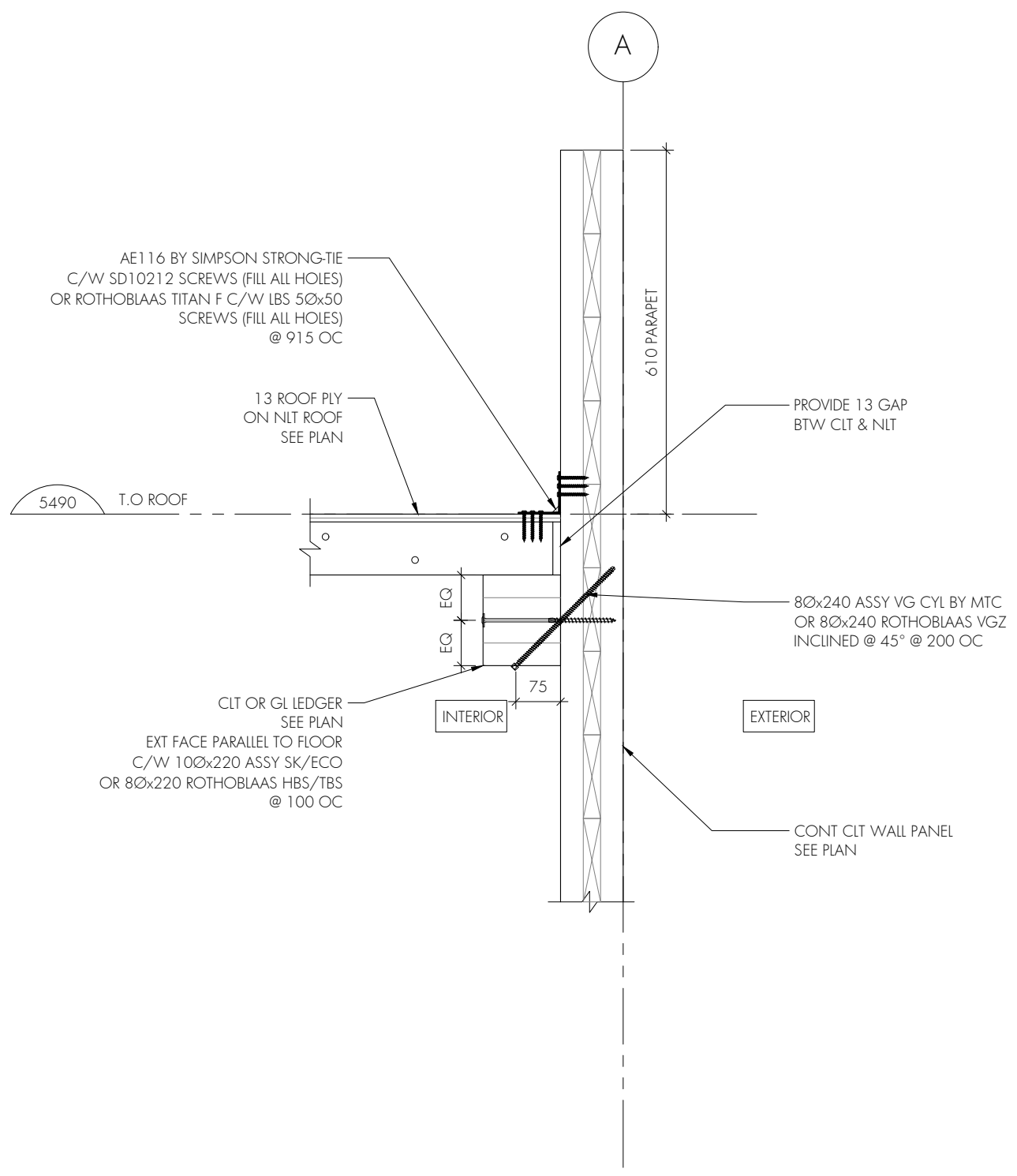
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20.192

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 Drawn By: KM
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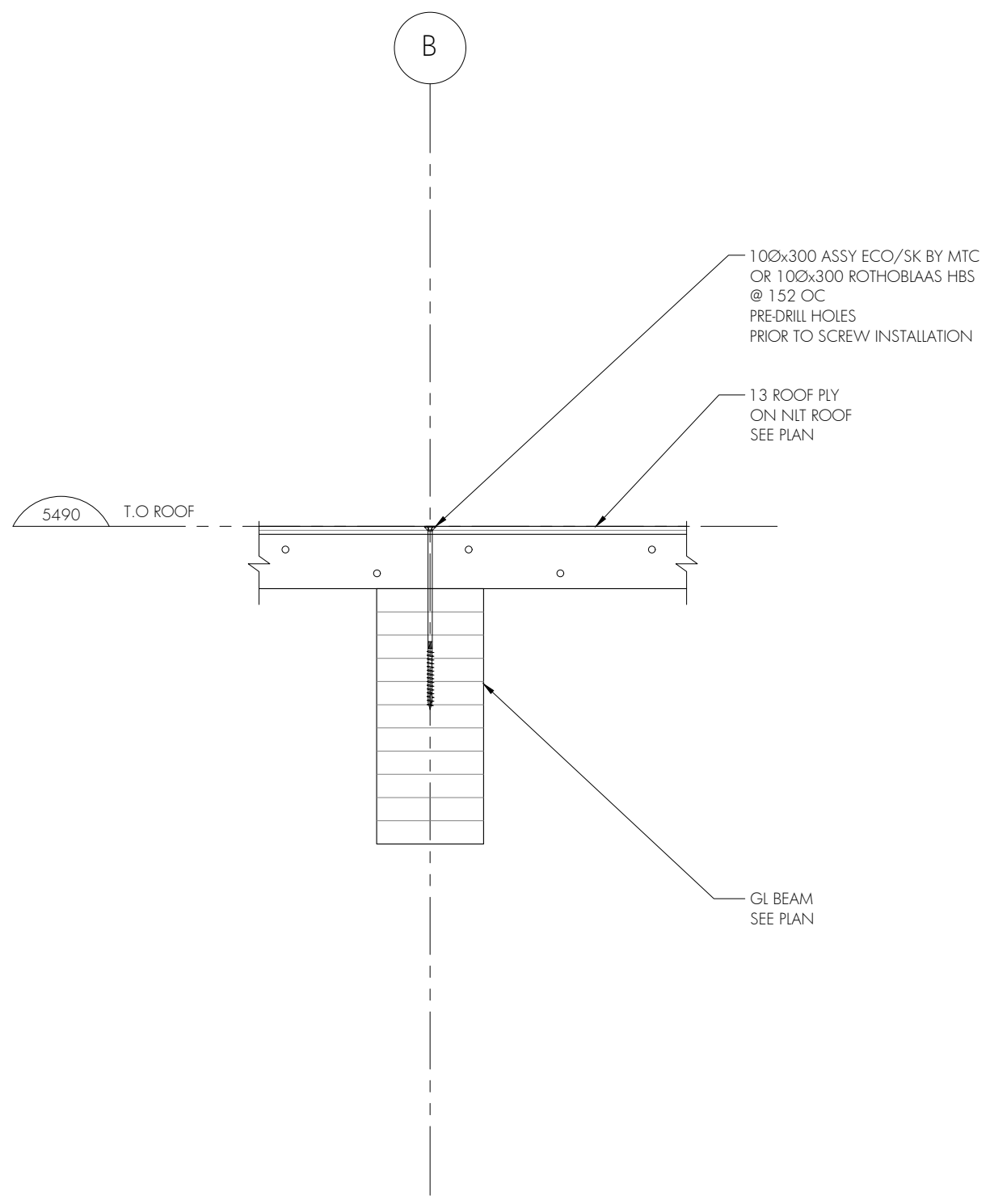
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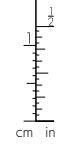
Drawing Title:
SECTIONS
 Drawing No:
S209



2 NLT ROOF TO CLT WALL SECTION
 S209 1:10



1 NLT ROOF TO GL BEAM SECTION
 S209 1:10



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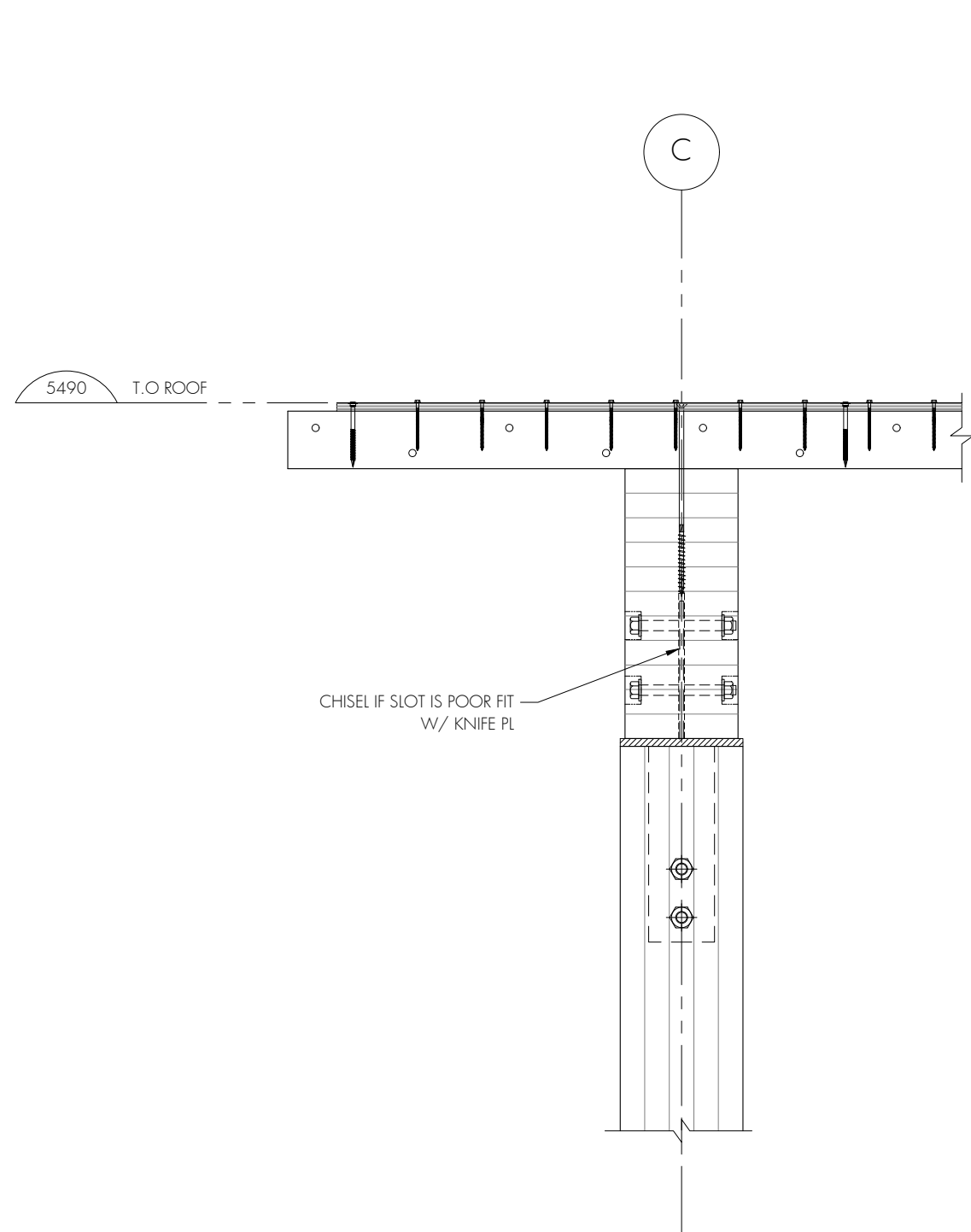
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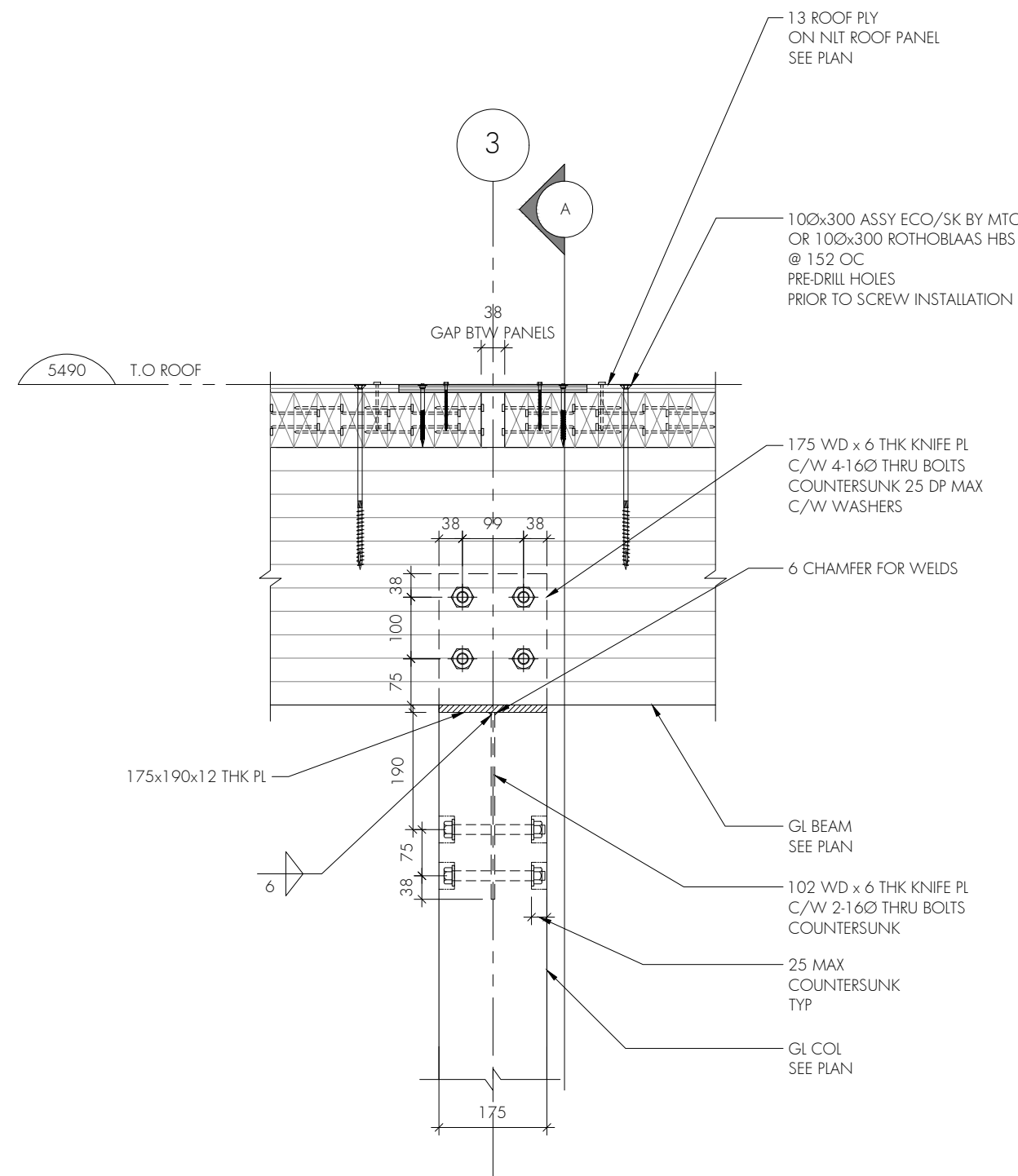
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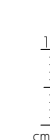
S210



SECTION A



1 NLT ROOF PANEL-TO-PANEL SECTION
S210 1:10



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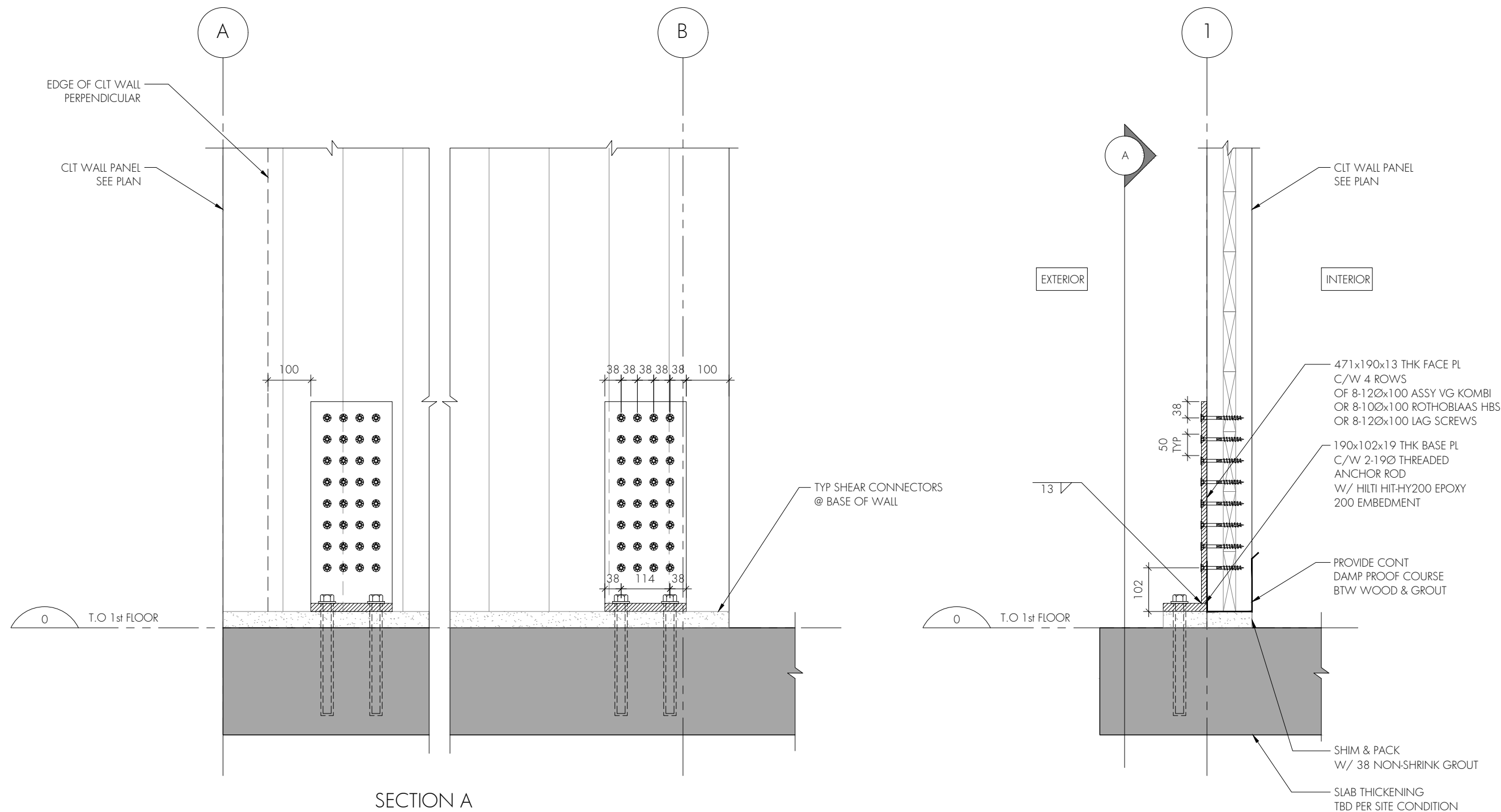
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Drawing Title:

SECTIONS

Drawing No:

S211



SECTION A

CLT WALL HOLD DOWN SECTION
ALONG GrL 1, 5 AND A

1
S211 1:10

cm in

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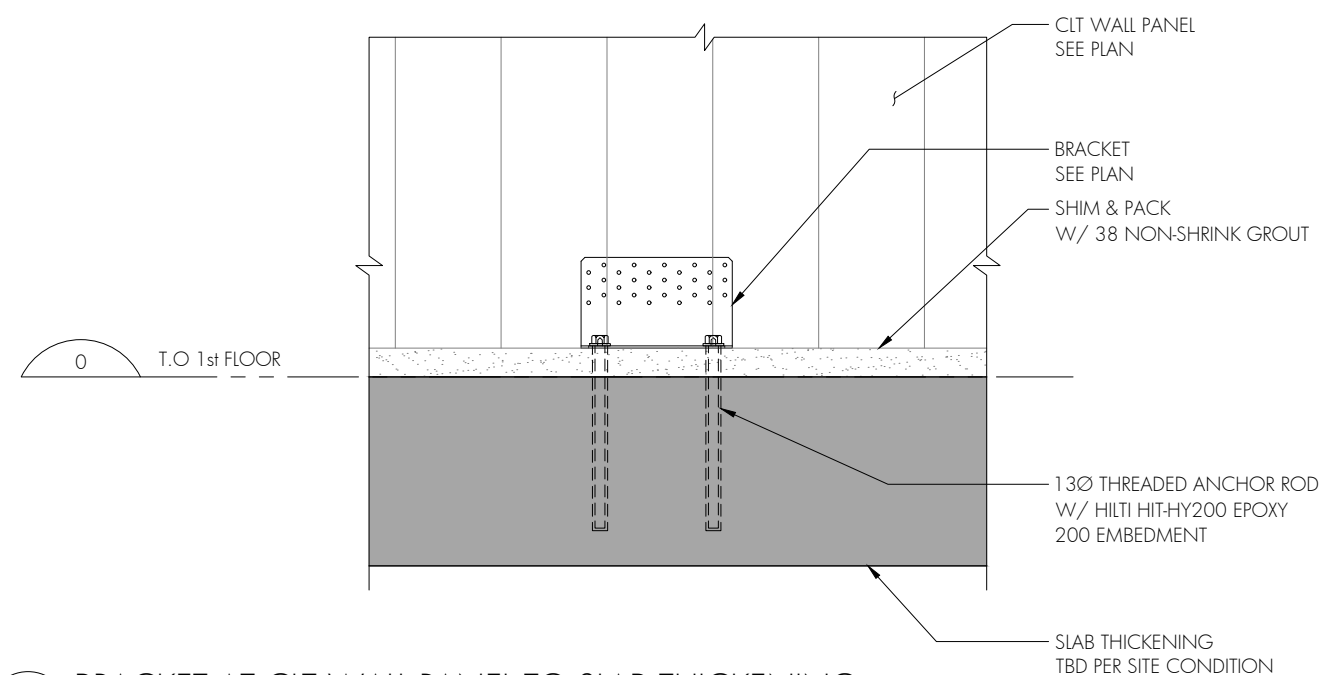
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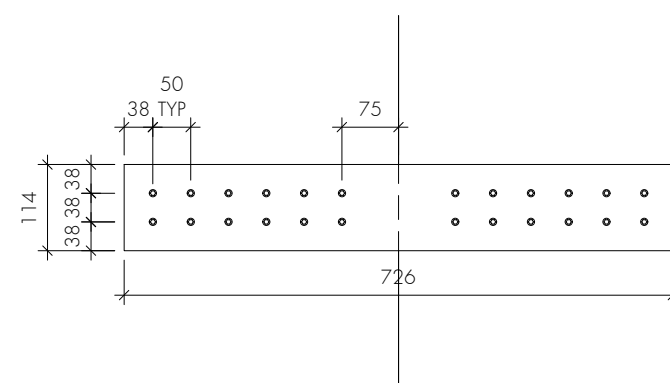
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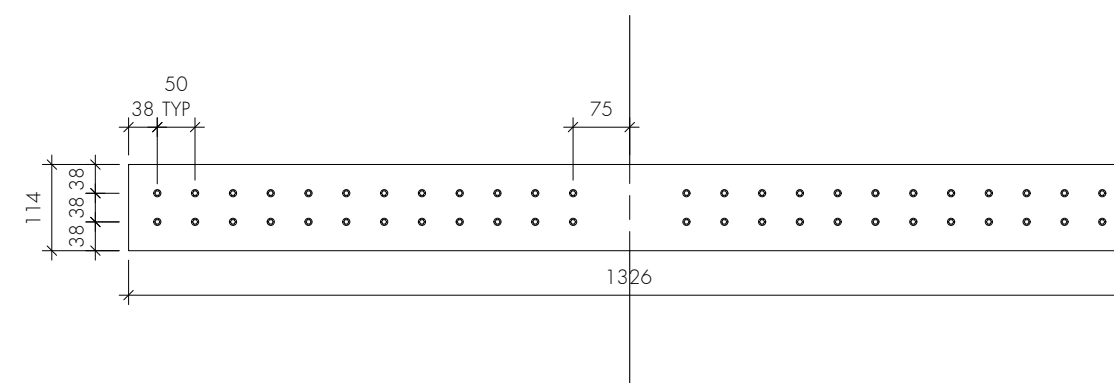
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3 BRACKET AT CLT WALL PANEL TO SLAB THICKENING
S212 1:10



2 DRAG STRAP ON FLOOR PANEL-TO-PANEL DETAIL
S212 1:10



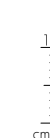
1 DRAG STRAP ON FLOOR PANEL-TO-PANEL DETAIL
S212 1:10

Drawing Title:

SECTIONS

Drawing No:

S212



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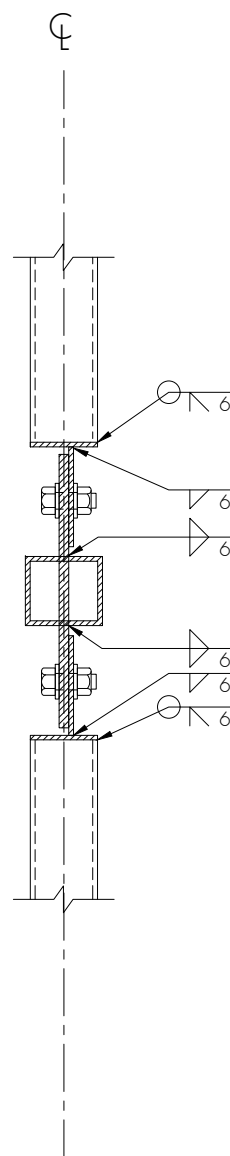
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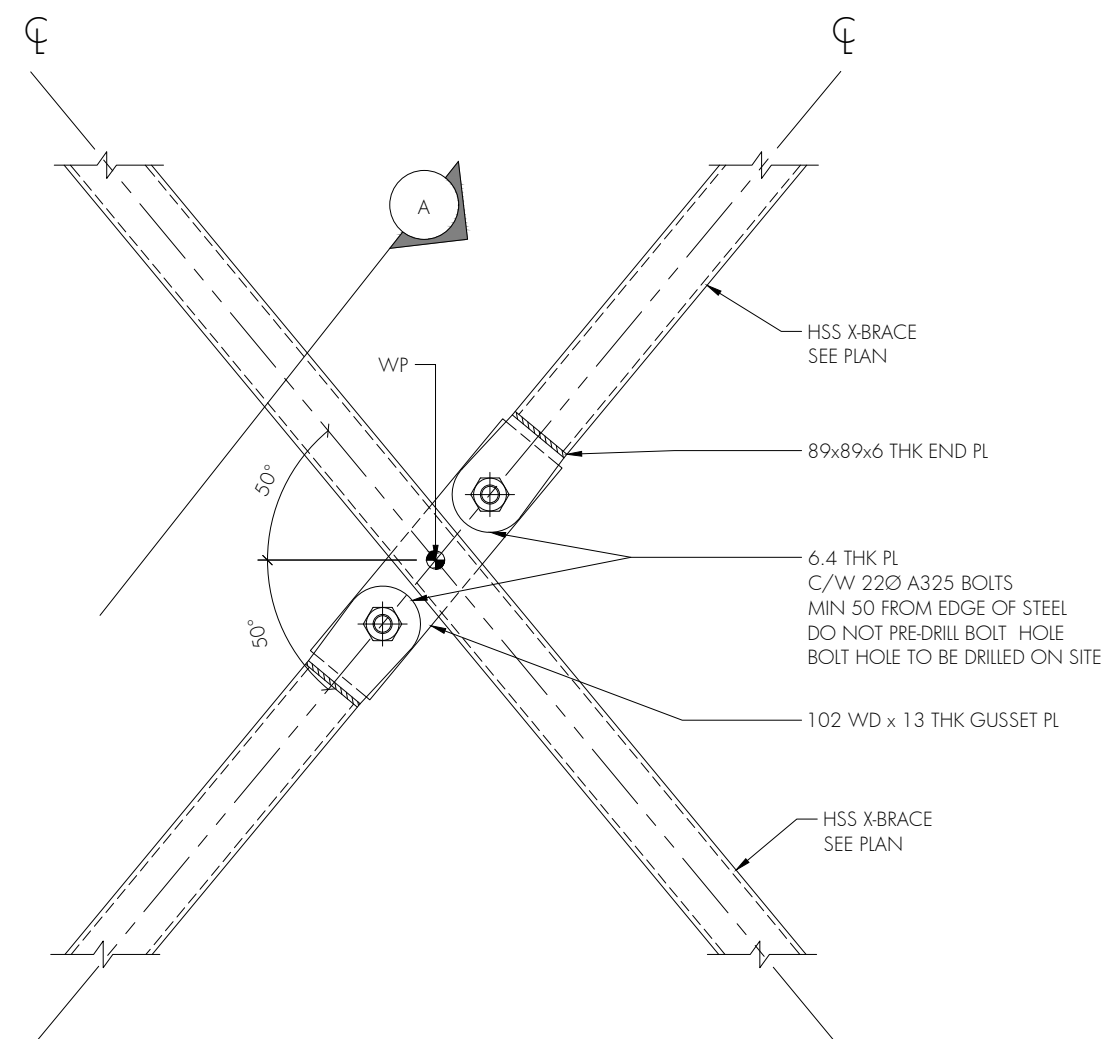
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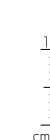
S213



SECTION A



1 HSS CROSS JOINT SECTION
S213 1:10



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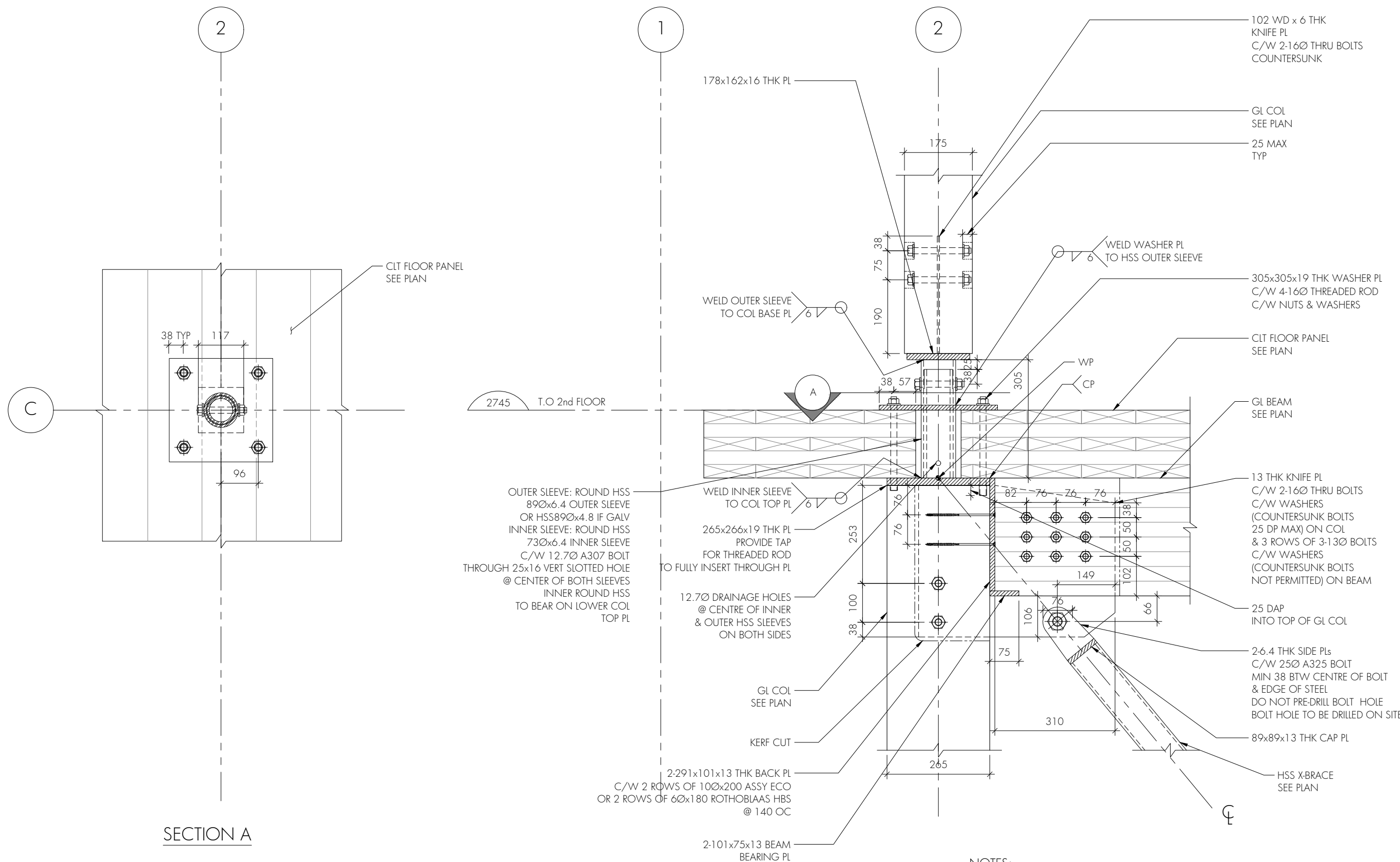
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Drawing Title:

SECTIONS

Drawing No:

S214



SECTION A

1 GL COLUMN-TO-COLUMN SECTION
S214 1:10

- NOTES:
1. CONTINUOUS 6 FILLET WELD FOR STEEL TO STEEL JOINTS TYP, UNO.
 2. PROVIDE WOOD OR STEEL SHIM PLATES BELOW WASHER PL FOR LEVELING AS REQUIRED.
 3. PROVIDE 20Ø MAX BOLT HOLES THROUGH CLT FLOOR PANEL.

cm
in

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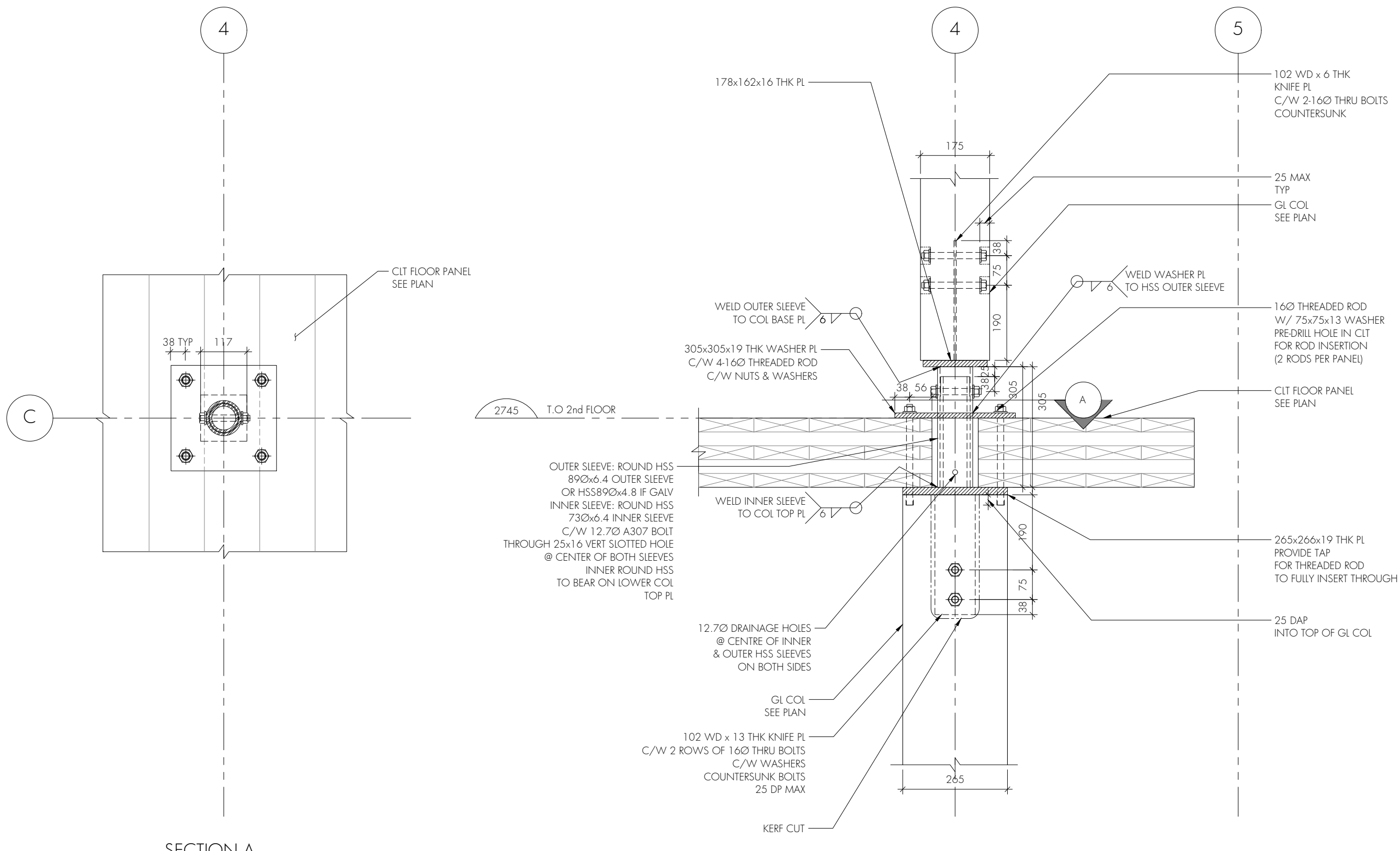
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Drawing Title:

SECTIONS

Drawing No:

S215



SECTION A

1 GL COLUMN-TO-COLUMN SECTION
S215 1:10

- NOTES:
1. PROVIDE WOOD OR STEEL SHIM PLATES BELOW WASHER PL FOR LEVELING AS REQUIRED.
 2. PROVIDE 20Ø MAX BOLT HOLES THROUGH CLT FLOOR PANEL.

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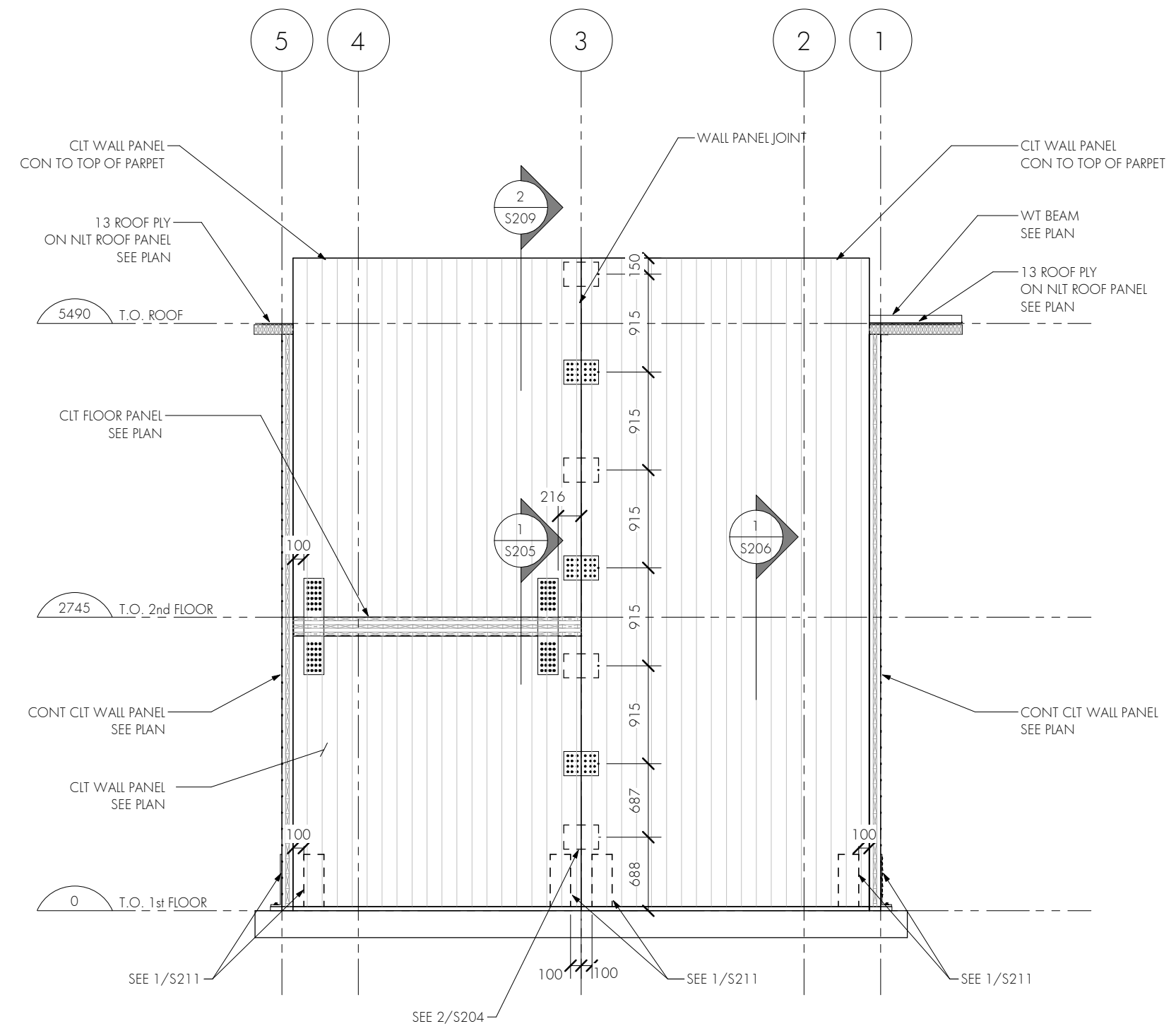
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Drawing Title:

**NORTH
ELEVATION**

Drawing No:

S300



1 NORTH ELEVATION
S300 1 : 50

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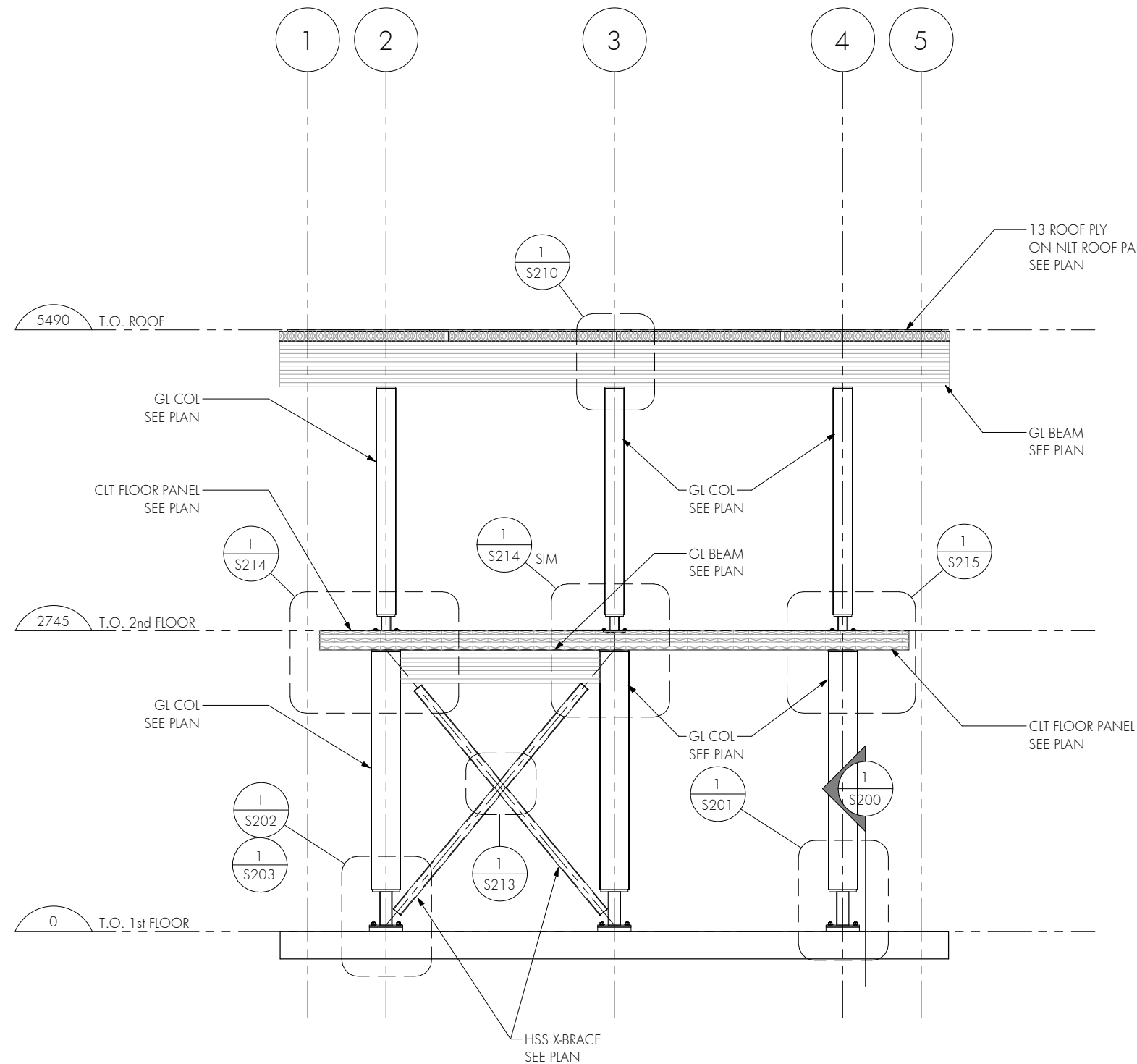
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1 SOUTH ELEVATION
S301 1 : 50



Drawing Title:
**SOUTH
ELEVATION**

Drawing No:

S301

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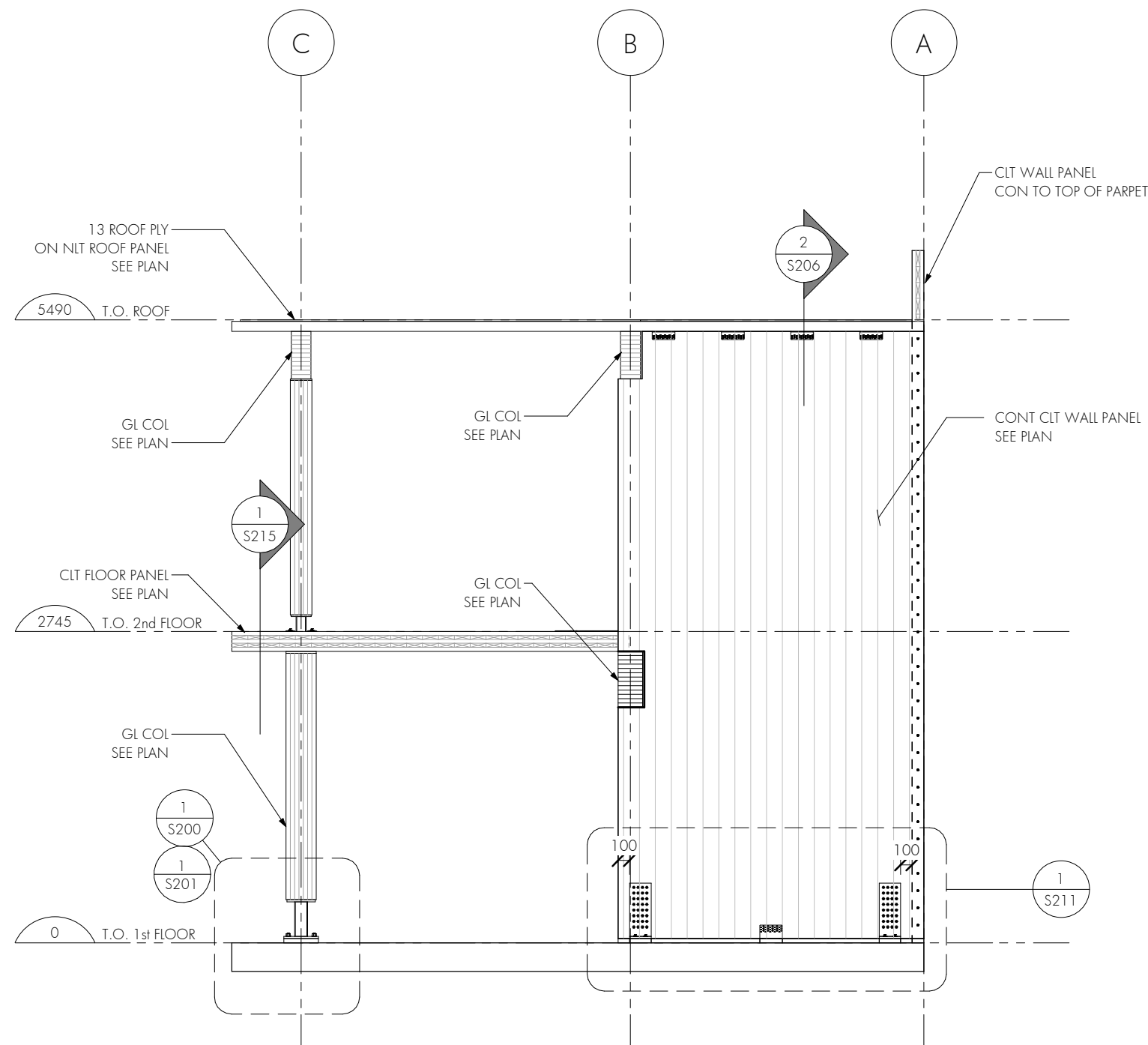
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Drawing Title:

EAST ELEVATION

Drawing No:

S302



1 EAST ELEVATION
S302 1 : 50

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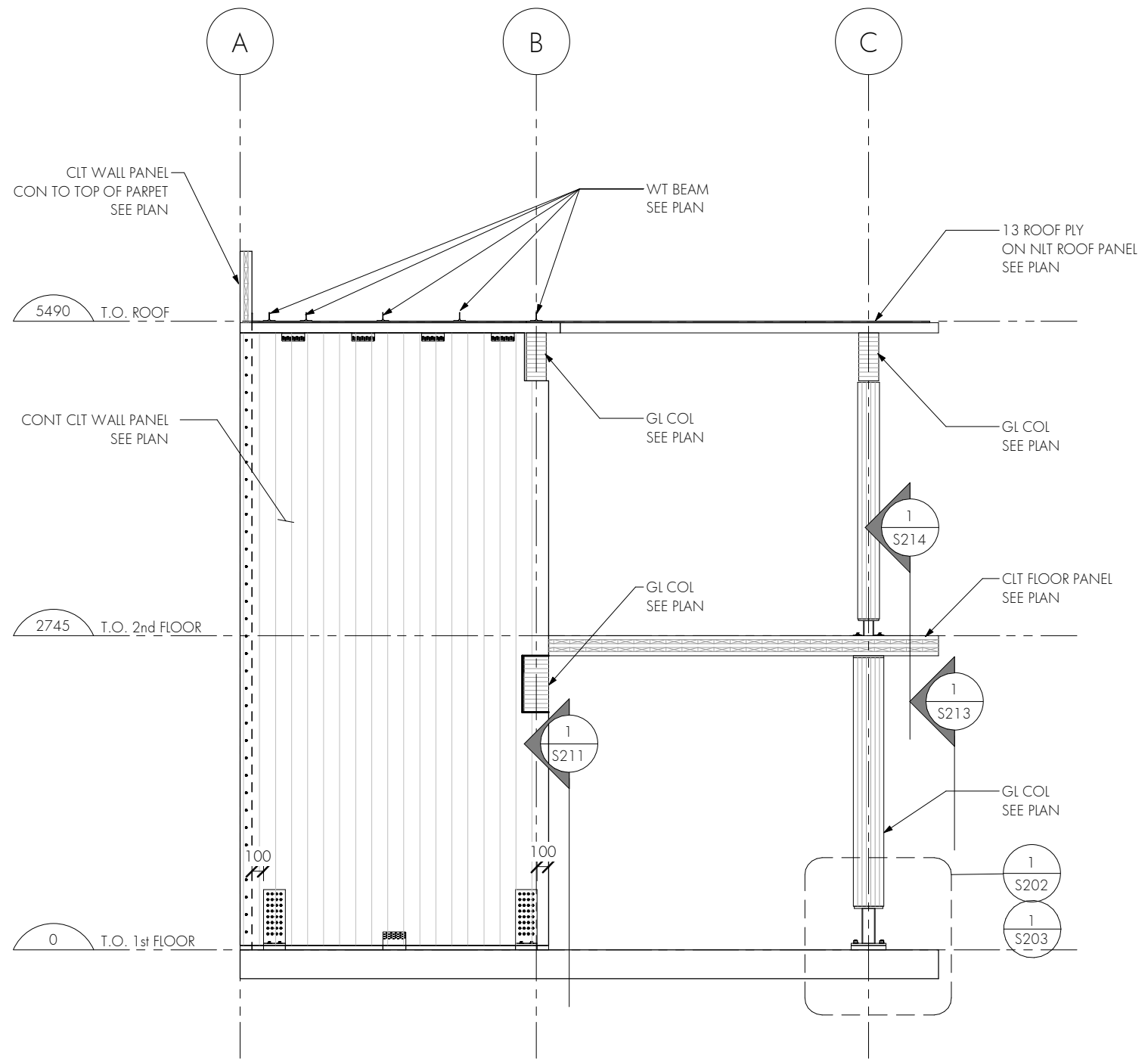
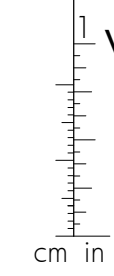
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Drawing Title:

WEST ELEVATION

Drawing No:

S303



WEST ELEVATION
1 : 50