

GENERAL

1. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL SPECIFICATIONS AND WITH THE DRAWINGS AND SPECIFICATIONS FROM ALL OTHER CONSULTANTS. ANY DISCREPANCIES NOTED SHALL BE REPORTED IMMEDIATELY FOR CLARIFICATION.
2. THIS SET OF DRAWINGS SHOWS THE COMPLETED STRUCTURE AND DOES NOT SHOW WORK WHICH MAY BE REQUIRED FOR SAFETY DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR GENERAL SAFETY ON AND ABOUT THE JOB SITE DURING THE CONSTRUCTION PERIOD AND FOR DESIGN AND ERECTION OF ALL FALSEWORK, SHORING, BRACING ETC. TO ENSURE THE SAFETY OF ALL CONSTRUCTION TEMPORARY LOADS AND TO COMPLETE THE WORK. ADHERE STRICTLY TO ALL REQUIREMENTS OF THE WORKERS' COMPENSATION BOARD OF BRITISH COLUMBIA. ALL TEMPORARY WORKS AND SHORING ETC. SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN BRITISH COLUMBIA.
3. ALL CODE REFERENCES ARE TO LATEST EDITIONS AS REFERENCED IN THE NATIONAL BUILDING CODE OF CANADA 2015.
4. REFER TO SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS AND CODE REFERENCES.

FIELD REVIEW:

1. DEPARTMENTAL REPRESENTATIVE THROUGH CWMM CONSULTING ENGINEERS PROVIDES PROVIDES FIELD REVIEW FOR THE WORK SHOWN ON THE STRUCTURAL DRAWINGS PREPARED BY CWMM CONSULTING ENGINEERS LTD. THIS REVIEW IS A PERIODIC REVIEW AT THE PROFESSIONAL JUDGMENT OF CWMM CONSULTING ENGINEERS LTD. THE PURPOSE IS TO ASCERTAIN THAT THE WORK IS IN GENERAL CONFORMANCE WITH THE PLANS AND SUPPORTING DOCUMENTS PREPARED BY CWMM CONSULTING ENGINEERS LTD. AND TO FULFILL THE REQUIREMENTS FOR THE COMPLETION OF LETTERS OF ASSURANCE REQUIRED BY THE APPLICABLE BUILDING CODE.
2. ALL NON-CONFORMING WORKS THAT REQUIRE REMEDIAL ACTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY EXTRA TIME OR COST INCURRED TO PWGSC IN RECTIFYING THE WORK SHALL BE BORNE BY THE CONTRACTOR IN ACCORDANCE WITH THE CONTRACT.
3. ENSURE THAT WORK TO BE INSPECTED IS COMPLETE AT THE TIME OF INSPECTION AND IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. ADDITIONAL INSPECTIONS REQUIRED DUE TO INCOMPLETE WORK OR POORLY EXECUTED WORK, AS JUDGED BY THE DEPARTMENTAL REPRESENTATIVE, AS WELL AS ADDITIONAL DESIGN OR REMEDIAL WORK CAUSED BY DEVIATIONS FROM THESE DRAWINGS, MAY BE CHARGED TO THE CONTRACTOR.
4. A MINIMUM 24 HOURS NOTICE SHALL BE GIVEN TO THE DEPARTMENTAL REPRESENTATIVE BY THE CONTRACTOR FOR ANY INSPECTION TO BE CARRIED OUT.

NON-STRUCTURAL COMPONENTS:

1. NON-STRUCTURAL COMPONENTS ARE NOT THE RESPONSIBILITY OF CWMM CONSULTING ENGINEERS LTD. SUCH COMPONENTS OF THE PROJECT ARE DESIGNED, DETAILED, SPECIFIED AND REVIEWED IN THE FIELD BY OTHERS. LETTERS OF CERTIFICATION OF ADEQUACY, INSTALLATION ETC. OF SUCH COMPONENTS ARE BY OTHERS.
2. MANUFACTURERS OF NON-STRUCTURAL COMPONENTS WHICH AFFECT THE STRUCTURAL FRAMING SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT AND CWMM CONSULTING ENGINEERS LTD. FOR REVIEW. THE SHOP DRAWINGS SHALL CLEARLY INDICATE LOADS IMPOSED ON THE STRUCTURE. REVIEW WILL BE LIMITED TO THE EFFECT OF THE COMPONENTS ON THE STRUCTURAL FRAMING.
3. EXAMPLES OF NON-STRUCTURAL COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO:

- ARCHITECTURAL COMPONENTS SUCH AS HANDRAILS, GUARDRAILS, RAILINGS, FLAG POST, REMOVABLE CANOPIES, CEILINGS, VEHICLE PROTECTION SYSTEMS, ORNAMENTAL COMPONENTS, ETC.

- ARCHITECTURAL PRECAST CONCRETE AND ITS ATTACHMENTS.

- ARCHITECTURAL GLASS BLOCKS AND THEIR ATTACHMENTS.

- BRICK AND BLOCK VENEERS, THEIR REINFORCING IF ANY AND TIES

- LANDSCAPING COMPONENTS SUCH AS BENCHES, LIGHT POSTS, PLANTERS, ETC.

- CURTAIN WALL SYSTEMS, CLADDING, SKYLIGHT, WINDOW MULLIONS, ETC.

- INTERIOR AND EXTERIOR NON-LOAD BEARING STEEL STUD WALLS.

- SUPPORT AND BRACING OF MECHANICAL AND ELECTRICAL SYSTEMS AND EQUIPMENTS FOR NON-GRAVITY AND SEISMIC LOADS.

- WINDOW WASHING EQUIPMENTS AND ITS ATTACHMENT.

- ELEVATORS, ESCALATORS AND OTHER CONVEYING SYSTEMS, INCLUDING PROPRIETARY SUPPORT BEAMS AND THEIR ATTACHMENTS.

- NON-STRUCTURAL MASONRY.
4. NON-STRUCTURAL STEEL STUD FRAMING

- INTERIOR AND EXTERIOR STEEL STUD WALLS AND OTHER ARCHITECTURAL FRAMING SHALL BE DESIGNED BY THE FABRICATOR. DESIGN SHALL BE BY A STRUCTURAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA AND SHALL BE IN ACCORDANCE WITH PART 4 OF THE GOVERNING BUILDING CODE USING THE DESIGN LOADS REFERENCED ELSEWHERE ON THIS DRAWING. SEE ALSO ITEMS 1 AND 2 ABOVE.

- UNLESS NOTED OTHERWISE, EXTERIOR STEEL STUDS FRAMING TO THE UNDERSIDE OF STRUCTURAL STEEL BEAMS OR TO STEEL BRACING MEMBERS SHALL BE DETAILED AND DESIGNED SO AS NOT TO IMPART LATERAL WIND AND SEISMIC LOADS TO THESE MEMBERS. WHERE WIND BEARING STUDS ATTACH TO STEEL BEAM BOTTOM FLANGES PROVIDE STEEL STUD BRACING IN GENERAL CONFORMANCE WITH CWMM'S TYPICAL DETAILS. DETAIL TOP TRACK TO ALLOW FOR ROOF/FLOOR DEFLECTIONS DUE TO GRAVITY LOADS.

DESIGN LOADS:

1. THIS STRUCTURE HAS BEEN DESIGNED FOR SNOW, WIND AND SEISMIC FORCES IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN THE NATIONAL BUILDING CODE OF CANADA 2015.
IMPORTANT CATEGORY = NORMAL
- GROUND SNOW:
RAIN LOAD:

Ss = 2.1 kPa
Sr = 0.3 kPa
- IMPORTANCE FACTORS FOR SNOW

Is = 1.0 FOR STRENGTH
Is = 0.9 FOR SERVICEABILITY
- WIND LOAD:

PROBABILITY 1/50 = 0.63 kPa
- IMPORTANCE FACTORS FOR WIND

Iw = 1.0 FOR STRENGTH
Iw = 0.75 FOR SERVICEABILITY
- EARTHQUAKE FACTORS:

Sa(0.2)	Sa(0.5)	Sa(1.0)	Sa(2.0)	Sa(5.0)	Sa(10.0)
1.3	1.16	0.676	0.399	0.125	0.044

PGA = 0.58
I_E = 1.0 FOR STRENGTH
I_E = 1.0 FOR SERVICEABILITY
(CLAUSE 4.1.8.13 FOR SERVICEABILITY)
R_d = 2.0 R_O = 1.5 FOR CLT PANEL CONSTRUCTION
R_d = 1.5 R_O = 1.3 FOR LOCAL MEZZANINE AREA
- SITE CLASS A

F (0.2) = 0.69 F (0.5) = 0.57
2. SPECIFIED UNIFORM SUPERIMPOSED DEAD LOADS ON ROOF AND FLOORS:

ROOF
MEZZANINE FLOOR
MAIN FLOOR

0.75 kPa
3.20 kPa
1.00 kPa

- UPPER FLOORS AND MAIN FLOOR LOADS INCLUDE GENERAL PARTITION LOAD OF 1.0kPa AND NON-STRUCTURAL CONCRETE TOPPING. FOR MASONRY PARTITIONS, ACTUAL WEIGHTS SHALL BE USED.

- THESE LOADS DO NOT INCLUDE SELFWEIGHT OF STRUCTURE, WEIGHT OF MASONRY PARTITIONS, WEIGHTS OF MECHANICAL EQUIPMENT AND CONCRETE EQUIPMENT PADS.
3. SPECIFIED UNIFORM LIVE LOADS ON FLOORS / ROOF, U.N.O.:

MAIN FLOOR
MEZZANINE FLOOR
CATWALK
MEZZANINE ROOF

4.8 kPa
4.8 kPa
3.6 kPa
1.0 kPa
4. DESIGN SPECIFIED CONCENTRATED LIVE LOADS ON ROOF AND FLOORS, U.N.O.:

ROOF
MAIN FLOOR

1.3 kN
9.0 kN
5. WORST CASE OF UNIFORM OR CONCENTRATED LIVE LOADS WILL BE USED FOR DESIGN OF STRUCTURAL MEMBERS.

FOUNDATION AND SITE WORK

1. REFER TO GEOTECHNICAL REPORT PREPARED BY GOLDER ASSOCIATES DATED SEPTEMBER 05, 2017 AND ALL ITS SUPPLEMENTS AND AMENDMENTS FOR EXCAVATION, BACKFILLING, FILL MATERIALS, COMPACTION, FROST PROTECTION AND OTHER SITE PREPARATION REQUIREMENTS NOTSHOWN ON THESE DRAWINGS.
2. DESIGN SOIL BEARING CAPACITIES:

STRIP FOOTINGS
SEISMIC ELEMENT FOOTING (UNDER FACTORED LOAD)

SLS =200 kPa
300 kPa

ULS =300 kPa
3. ANY FOOTING ELEVATIONS INDICATED ON THE DRAWINGS ARE GENERAL AND SHALL BE USED FOR ESTIMATING AND BIDDING PURPOSES. FOOTINGS MAY HAVE TO BE PLACED AT DIFFERENT ELEVATIONS AS A RESULT OF LOCAL SOILS CONDITIONS, UNDERGROUND SERVICES AND TO ACCOMMODATE OTHER MECHANICAL AND ELECTRICAL SERVICES. FOLLOW TYPICAL DETAILS SHOWN ON THESE DRAWINGS FOR FOOTING PLACEMENT RELATIVE TO ADJACENT FOOTINGS, SUMP AND OTHER EXCAVATED STRUCTURES AND LOCATE AS DIRECTED BY GEOTECHNICAL ENGINEER.
4. THE BASES OF FOUNDATIONS SHALL BE PROTECTED FROM RAIN, SNOW AND ANY WATER INFILTRATION.
5. NO FOUNDATIONS MAY BE POURED BEFORE THE BEARING MATERIAL HAS BEEN INSPECTED.
6. IMMEDIATELY AFTER INSPECTION AND APPROVAL BY THE DEPARTMENTAL REPRESENTATIVE, PROVIDE A MINIMUM 150mm THICK GRANULAR MATERIAL BELOW THE FOUNDATIONS AS PER GEOTECHNICAL REPORT.
7. COORDINATE CONSTRUCTION WITH UNDERSLAB SERVICES AS SHOWN ON MECHANICAL, ELECTRICAL, ARCHITECTURAL AND LANDSCAPING DRAWINGS.
8. REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SITE DRAINAGE, GROUND ELEVATIONS AND DRAINAGE SLOPES.
9. CENTRE ALL FOOTINGS UNDER COLUMNS OR WALLS UNLESS NOTED OTHERWISE.
10. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR WATERPROOFING AND SEALING REQUIREMENTS.

CONCRETE REINFORCING:

1. REFER TO SPECIFICATIONS FOR CONCRETE STRENGTH, EXPOSURE CLASS & OTHER REQUIREMENTS.
2. REINFORCING BARS f_y=400 MPa. ALL DOWELS ANCHOR BOLTS AND INSERTS SHALL BE PLACED BEFORE THE CONCRETE IS POURED.
3. PROVIDE MINIMUM CONCRETE COVER TO REINFORCEMENT AS FOLLOWS:

CAST AGAINST EARTH
EXPOSED TO EARTH OR WEATHER:
ELSEWHERE:

75mm
50mm
40mm
4. MINIMUM EMBEDMENT LENGTHS FOR DOWELS SHALL BE AS FOLLOWS, UNLESS NOTED OTHERWISE:

BAR

20MPa

25MPa

30MPa

35MPa

40MPa

10M	350	300	300	300	300
15M	500	450	400	400	350
20M	650	600	550	500	450
25M	1000	900	850	800	750
30M	1200	1100	1000	950	850
35M	1400	1300	1150	1100	1000

* INCREASE LENGTHS BY 30% FOR BARS WITH DEPTH OF CONCRETE CAST BELOW GREATER THAN 300mm (TOP BARS).
5. MINIMUM SPLICE LENGTH SHALL BE CLASS B AS FOLLOWS, UNLESS NOTED OTHERWISE:

BAR

COMPRESSION SPLICE

TENSION SPLICE

20MPa

25MPa

30MPa

35MPa

40MPa

10M	350	450	450	400	400	400
15M	500	650	600	550	500	450
20M	600	850	750	700	650	600
25M	750	1300	1200	1100	1000	950
30M	900	1600	1400	1300	1200	1100
35M	1050	1850	1650	1500	1400	1300

* ALL SPLICES SHALL BE TENSION SPLICES.
* INCREASE LENGTHS BY 30% FOR BARS WITH DEPTH OF CONCRETE CAST BELOW GREATER THAN 300mm (TOP BARS).

STRUCTURAL STEEL

1. REFER TO SPECIFICATIONS FOR STEEL WORK, STEEL DECK, DESIGN CODE REFERENCES AND OTHER REQUIREMENTS.
2. GRADES OF MATERIALS:

W SHAPES
C SHAPES AND ANGLES
HOLLOW STRUCTURAL STEEL (HSS)
STRUCTURAL PIPE
OTHER STRUCTURAL STEEL AND MISC. METAL
BOLTS, NUTS AND WASHERS
ANCHOR BOLTS
STEEL DECKING
STEEL STUD

350W (ASTM A992, A572 GRADE 50)
300W
350W, CLASS C
ASTM A53, GRADE B
300W
ASTM A325
ASTM A307
CSSBI 101M, GRADE A
CSA - W59, APP. H
3. DRAWINGS FROM ALL CONSULTANTS SHALL BE EXAMINED FOR EXACT LOCATIONS, DIMENSIONS AND ELEVATIONS.
4. STEEL FABRICATORS AND CONTRACTOR SHALL CONFIRM ALL LOCATIONS, DIMENSIONS AND ELEVATIONS WITH ACTUAL SITE MEASUREMENTS BEFORE FABRICATION. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY FABRICATION AND WORK DONE PRIOR TO REVIEW AND APPROVAL OF THE SHOP DRAWINGS.
5. CONCRETE TOPPED STEEL DECK:

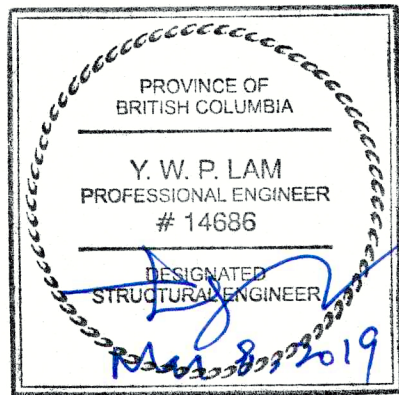
STEEL DECKING SHALL BE DESIGNED BY THE MANUFACTURER FOR WEIGHT OF WET CONCRETE AND OTHER RELEVANT LOADS IN CONNECTION WITH THE CONCRETING OPERATIONS.

UNLESS NOTED OTHERWISE, CONCRETE TOPPING SHALL BE REINFORCED WITH WMM152x152xMMW8 1MMW8 1 LOCATED 25mm FROM TOP OF SLAB AND SPLICED TWO CROSS WIRES PLUS 50mm.
6. DECK EDGE AND CHORD MEMBERS:

ALL EDGES OF STEEL DECKING SHALL BE SUPPORTED BY EDGE ANGLES FASTENED TO MAIN STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE, USE L100x100x6 AT FLOORS AND L75x75x6 AT ROOFS.

UNLESS NOTED OTHERWISE, ALL MEMBERS DESIGNATED AS DIAPHRAGM CHORD MEMBERS AND ALL PERIMETER EDGE ANGLES SHALL BE CONNECTED BY FULL STRENGTH GROOVE WELDS OR BY FULL STRENGTH SPLICE PLATES ON EACH LEG TO FORM CONTINUOUS COMPRESSION AND TENSION MEMBERS. WELD EDGE ANGLES AND CHORDS TO BEAMS, JOISTS AND SHEAR CONNECTORS AND WELD DECK TO ANGLE CHORDS AND STRUCTURAL MEMBERS AS SHOWN ON DRAWINGS OR AS DETAILED BY DECKING CONTRACTOR.

STRUCTURAL DRAWING LIST (WOOD OPTION)	
WS101	GENERAL NOTES
WS102	GENERAL NOTES & TYPICAL DETAILS
WS103	TYPICAL DETAILS
WS201	FOUNDATION AND GROUND FLOOR PLAN
WS202	ROOF PLAN & CATWALK PLAN AND DETAILS
WS203	MEZZANINE PLANS & DETAILS
WS301	SECTIONS & DETAILS SHEET 1
WS302	SECTIONS & DETAILS SHEET 2
WS303	SECTIONS & DETAILS SHEET 3
WS401	SECTIONS & DETAILS SHEET 4
WS402	SECTIONS & DETAILS SHEET 5
WS403	CLT PANEL CONNECTION REQUIREMENTS



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Revision/	Description/Description	Date/Date

Client/client

Project title/Titre du projet
5071 WEST SAANICH ROAD
VICTORIA, BC, CANADA

NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY

Consultant Signature Only

Designed by/Concept par
PL / SZ

Drawn by/Dessiné par
LH

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Gestionnaire régionale, Services d'architectural et de g'ie, TFSOC
PREETIPAL PAUL

Drawing title/Titre du dessin

GENERAL NOTES

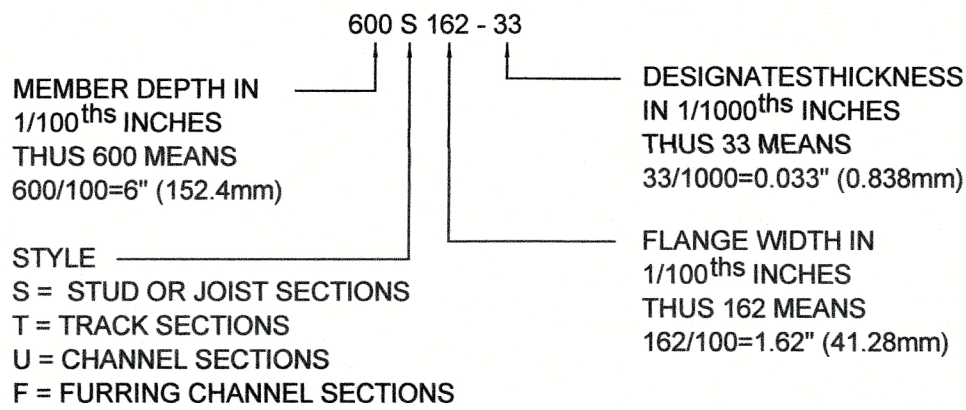
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Revision no./La Révision no.
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STEEL STUDS

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ARCHITECT'S DRAWINGS AND ANY DISCREPANCIES SHALL BE REPORTED FOR CLARIFICATION, PRIOR TO PROCEEDING WITH ANY INSTALLATION.
2. SHEET STEEL TO ASTM A446: GRADE A (33 KSI MIN. YIELD) FOR MATERIAL 0.045" (1.22MM) AND THINNER
3. STEEL STUDS, TRACKS, BRIDGING CHANNELS: AS MANUFACTURED BY MANTANE CONSTRUCTION PRODUCTS LTD. OR CORUS METAL PROFILES LTD. SUBSTITUTIONS REQUIRE OF DEPARTMENTAL REPRESENTATIVE APPROVAL.
4. SCREWS: BUILDEX TEKS SELF-DRILLING SELF-TAPPING SHEET METAL SCREWS NO. 8-18 OR APPROVED EQUAL.
5. FOR FASTENING TO STRUCTURAL STEEL USE RAMSET LOW VELOCITY FASTENERS: RED HEAD STRAIGHT SHANK DRIVE PIN (0.14" SHANK DIAMETER), HILTI ENK P.A.T., OR APPROVED EQUAL.
6. FOR FASTENING TO CONCRETE USE DRILLED ANCHORS OF 25mm EMBEDMENT, MINIMUM, UNLESS NOTED OTHERWISE. HILTI KWIK-CON II + 3 /W HEX WASHER OR PRE-APPROVED ALTERNATE ONLY.
7. SPECIFICATION FOR STUD OR TRACK SIZE AND THICKNESS:



MASONRY

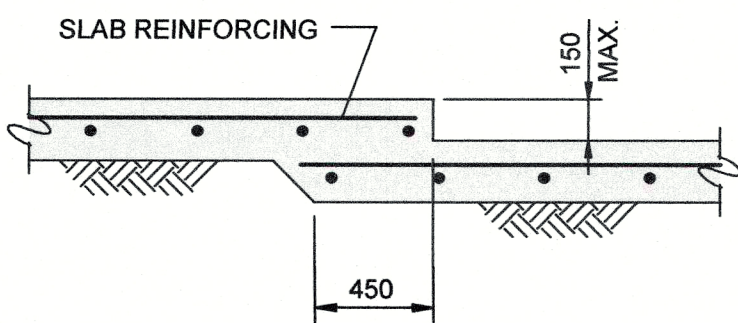
1. UNLESS NOTED OTHERWISE, REFER TO SPECIFICATION FOR MASONRY REQUIREMENT MATERIALS AND WORK SHALL CONFORM AS FOLLOWS:
- CONCRETE MASONRY: EXTERIOR LOAD-BEARING MASONRY CONFORMING TO CSA-A165, CLASSIFICATION H/15/A/M.
2. UNLESS NOTED OTHERWISE REINFORCE 200 MASONRY WALLS AS FOLLOWS:
- VERTICAL: 1-15M @ 800 CENTERED IN GROUTED CORE
HORIZONTAL: 3.8mm DIA. LADDER JOINT REINF. @ 400
2-15M IN CONTINUOUS BOND BEAMS AS SHOWN BELOW.
H<2400: 1 BOND BEAM AT TOP OF WALL
2400<H<4800: 1 BOND BEAM AT TOP OF WALL PLUS 1 BOND BEAM MIDHEIGHT (OVER WALL OPENINGS) (H = CLEAR HEIGHT OF WALL)
- ADDITIONAL: 1-15M VERT. AT UNSUPPORTED ENDS OF WALLS
1-15M VERT. AT ALL CORNERS AND INTERSECTIONS
1-15M VERT. AT EACH SIDE OF OPENINGS
1-15M VERT. IN EACH CELL OF PIERS AND PILASTERS
2-15M ABOVE AND BELOW ALL OPENINGS, 800 PAST EDGE. (MAY BE PART OF CONTINUOUS BOND BEAMS)
3. UNLESS NOTED OTHERWISE SPLICE REINFORCING AND EMBED DOWELS AS FOLLOWS:
- | | | | |
|---|---------------|---------------|---------------|
| DOWEL EMBEDMENT: 25M BARS: 800 (INCL. LENGTH OF HOOK) | 20M BARS: 500 | 15M BARS: 400 | 10M BARS: 300 |
| SPLICES: 25M BARS: 1500 | 20M BARS: 900 | 15M BARS: 650 | 10M BARS: 450 |
| WIRE REINF.: 300 | | | |
4. ALL VERTICAL REINFORCING SHALL RUN CONTINUOUS THROUGH BOND BEAMS AND LINTELS OR BE SPLICED AS SPECIFIED.
5. STRAIGHT OR HOOKED DOWELS SHALL BE PROVIDED IN FOUNDATIONS OR GRADE BEAMS TO MATCH ALL VERTICAL REINFORCING BARS. SPLICE LENGTH AS SPECIFIED.
6. NOTIFY THE DEPARTMENTAL REPRESENTATIVE MINIMUM 24 HOURS PRIOR TO ANY GROUT POUR.
7. CELLS TO BE REINFORCED SHALL BE KEPT CLEAR OF MORTAR.
8. FILL CELLS CONTAINING REINFORCING STEEL OR ANCHOR BOLTS WITH 20MPa GROUT, 10mm AGGREGATE, 200-250 SLUMP. PUDDLE OR VIBRATE TO COMPLETELY FILL CELLS. REVIBRATE AFTER 10 TO 40 MINUTES, WHEN EXCESS WATER HAS BEEN ABSORBED BY MASONRY UNITS. TOP OFF FILLED CORES WITH FRESH GROUT AFTER REVIBRATION.
9. HEIGHT OF LIFTS SHALL COMPLY WITH CAN3-A371.

WOOD PRODUCTS

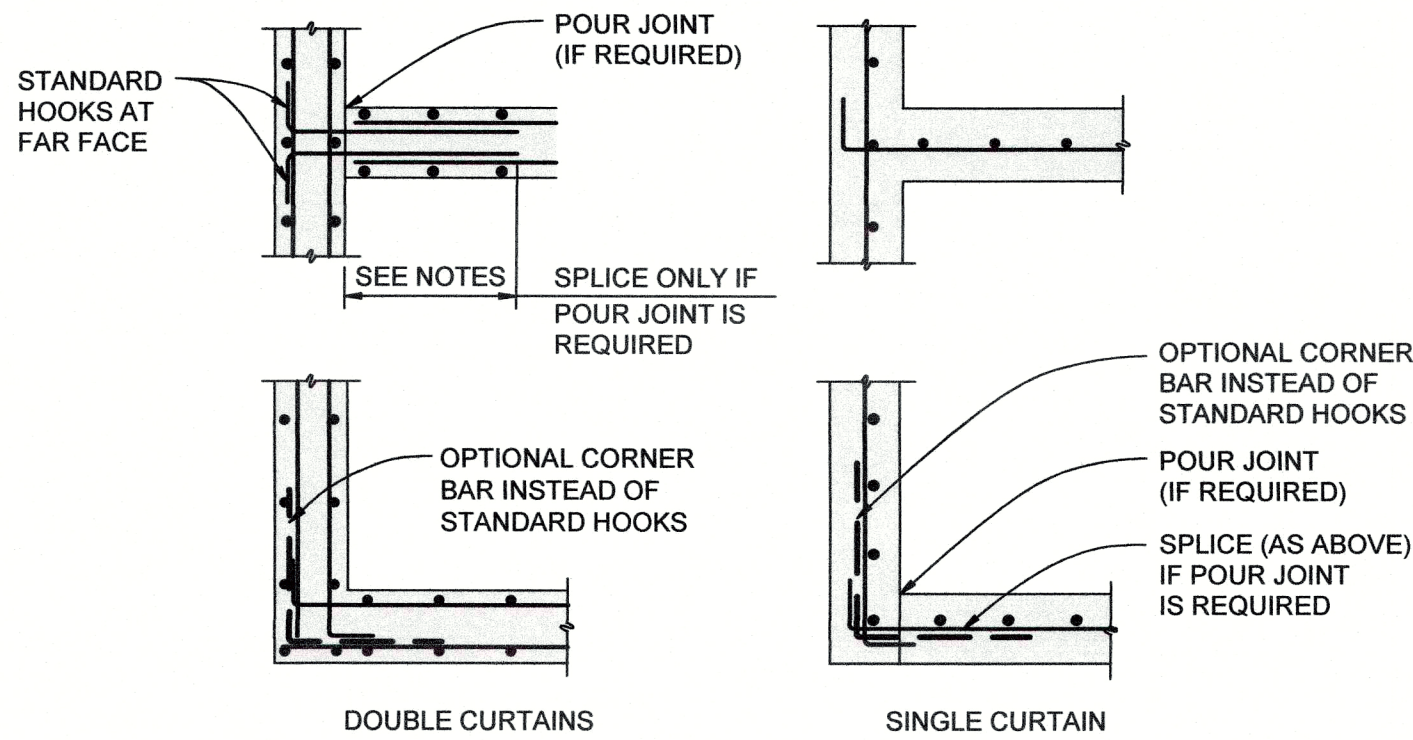
1. REFER TO SPECIFICATIONS FOR WOOD WORK, CROSS LAMINATED TIMBER (CLT), GLUE LAMINATED TIMBER, DESIGN CODE REFERENCES AND OTHER REQUIREMENTS.
2. ALL LUMBER MATERIAL TO CONFORM TO N.L.G.A. GRADING RULES, AND CSA-086.14. PLYWOOD SHALL CONFORM TO CSA 0121. CLT SHALL CONFORM TO CSA-086-14
3. DIMENSION LUMBER SHALL BE AS SPECIFIED BELOW: POSTS AND BEAMS DOUGLAS FIR #1
4. ALL PLATES AND SILLS BEARING ON MASONRY OR CONCRETE SHALL BE PRESSURE-TREATED D-FIR #2 OR BETTER.
5. CONNECTIONS:
- ALL BOLTS AND ANCHOR BOLTS SHALL CONFORM TO ASTM A307.
 - ALL BOLTS AND NUTS MUST BE FITTED WITH CUT STEEL WASHERS.
 - ALL STEEL PLATE USED IN CONNECTION DETAILS SHALL BE GRADE 300W.
 - ALL NAILING SHALL BE WITH COMMON WIRE NAILS TO CSAB111.
 - BOLT HOLES SHALL BE 1 MM LARGER THAN THE BOLT DIAMETER.
 - BOLTS IN WOOD SHALL NOT BE LESS THAN 7 DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE UNLESS OTHERWISE DETAILED.
 - LAG SCREWS SHALL BE PREDRILLED WITH A BIT SIZE OF 65% OF THE SHANK DIAMETER FOR THE THREADED PORTION. LEAD HOLES SHALL BE THE SAME LENGTH AS THE UNTHREADED PORTION AND THE SAME DIAMETER AS THE SHANK. SCREW ALL LAGS INTO PLACE. CUT WASHERS SHALL BE PROVIDED UNDER HEADS WHICH BEAR ON WOOD.
 - NO CHECKS OR SPLITS ALLOWED AT AREAS TO BE BOLTED OR LAGGED.
6. SHEARWALLS AND DIAPHRAGMS USING CLT PANEL SHALL BE CONSTRUCTED WITH PANELS NOT LESS THAN 2400mm WIDE.
7. NAILS SHALL BE PLACED NOT LESS THAN 9mm FROM THE PANEL EDGE AND SHALL NOT BE OVER-DRIVEN MORE THAN 15% OF THE PANEL THICKNESS.

GLUE LAMINATED TIMBER

1. GLUED LAMINATED TIMBER SHALL BE MANUFACTURED TO CSA-O122. MANUFACTURER SHALL BE QUALIFIED ACCORDING TO CSA TO CSA-O177.
2. STRESS GRADES: SEE BEAM & COLUMN SCHEDULE
SERVICE GRADE: EXTERIOR
APPEARANCE GRADE: QUALITY - WHERE EXPOSED TO VIEW
INDUSTRIAL - WHERE CONCEALED
3. GLUES SHALL CONFORM TO THE APPROPRIATE SERVICE GRADE AND SHALL CONFORM TO CSA-O122.
4. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH GENERAL NOTES. CLEARLY INDICATE MATERIAL, SIZES, CAMBER, AND CONNECTIONS ON THE DRAWINGS.
5. UNLESS NOTED OTHERWISE CAMBER BEAMS 0.004 OF SPAN.



CONCRETE DEPRESSION IN SLAB ON GRADE

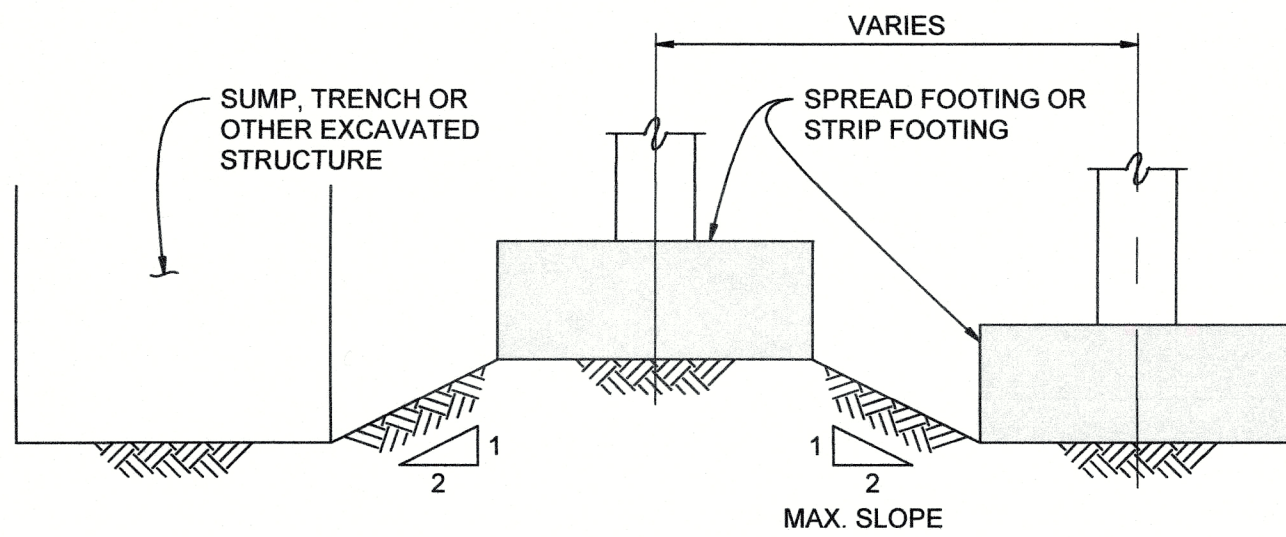


TYPICAL WALL INTERSECTION PLAN DETAILS

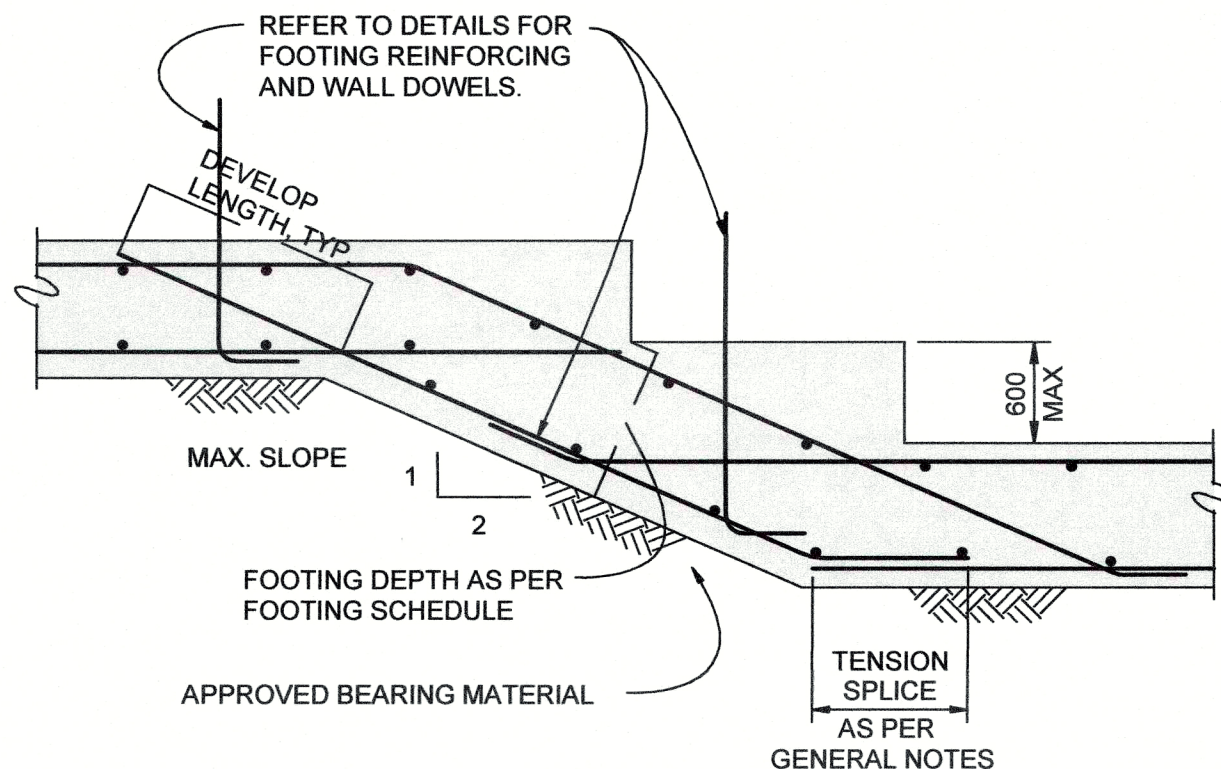
DETAILS FOR SINGLE AND DOUBLE CURTAINS ARE SIMILAR

ABBREVIATIONS

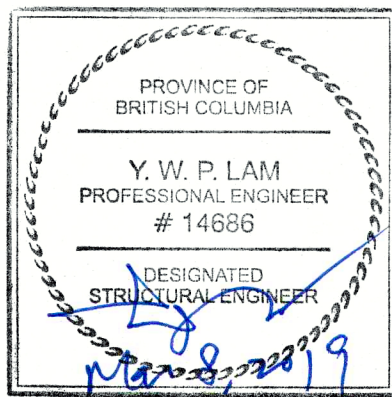
A.BOLT	ANCHOR BOLT	L.V.	LENGTH VARIES
ALT.	ALTERNATE	L.G.	LONG
ARCH.	ARCHITECTURAL	LL	LOW LEVEL
BLDG.	BUILDING	LLV	LONG LEG VERTICAL
BOT.	BOTTOM	LLH	LONG LEG HORIZONTAL
BTW.	BETWEEN	LSH	LONG SIDE HORIZONTAL
C/C	CENTER TO CENTER	LONG.	LONGITUDINAL
C/W	COMPLETE WITH	MAX.	MAXIMUM
C.I.P.	CAST IN PLACE	MECH.	MECHANICAL
CANT.	CANTILEVER	MIN.	MINIMUM
CL	CLEAR	N/A	NOT AVAILABLE
COL	COLUMN	N.S.	NEAR SIDE
CONC.	CONCRETE	N.STUD	NELSON STUD
CONT.	CONTINUOUS	N.T.S.	NOT TO SCALE
DL	DEAD LOAD	O/C	ON CENTRES
DN	DOWN	OPP.	OPPOSITE HAND
DO	DITTO	OWSJ	OPEN WEB STEEL JOIST
DP.	DEEP	P.C.	PRECAST CONCRETE
DWG.	DRAWING	PL	PLATE
E.W.	EACH WAY	PLY.	PLYWOOD
E.F.	EACH FACE	PROJ.	PROJECTION
ELEC.	ELECTRICAL	R/W	REINFORCED WITH
ELEV.	ELEVATION	R/C	REINFORCED CONCRETE
EXIST.	EXISTING	S.O.G.	SLAB ON GRADE
EXT.	EXTERIOR	SIM.	SIMILAR
FL	FLOOR	STAGG.	STAGGERED
F.S.	FOOTING STEP	T&B	TOP AND BOTTOM
FDN.	FOUNDATION	T&G	TONGUED & GROOVED
FTG.	FOOTING	T.O.C/S	TOP OF CONCRETE/STEEL
G.L.	GLULAM	THK.	THICK
GALV.	GALVANIZED	TJ	TIE JOIST
H1E	HOOK ONE END	TRAN.	TRANSVERSE
H2E	HOOK TWO ENDS	TYP.	TYPICAL
HL	HIGH LEVEL	U/S	UNDERSIDE
HORIZ.	HORIZONTAL	U.N.O.	UNLESS NOTED OTHERWISE
INT.	INTERIOR	VERT.	VERTICAL
CLT	CROSS LAMINATED TIMBER		



RELATIVE ELEVATIONS OF ADJACENT FOOTING



STEPPED STRIP FOOTING



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4		
3		
2		
1		
0	ISSUED FOR TENDER	MAR. 08 2019
Revision/	Description/Description	Date/Date
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VICTORIA, BC, CANADA

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ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY

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LH

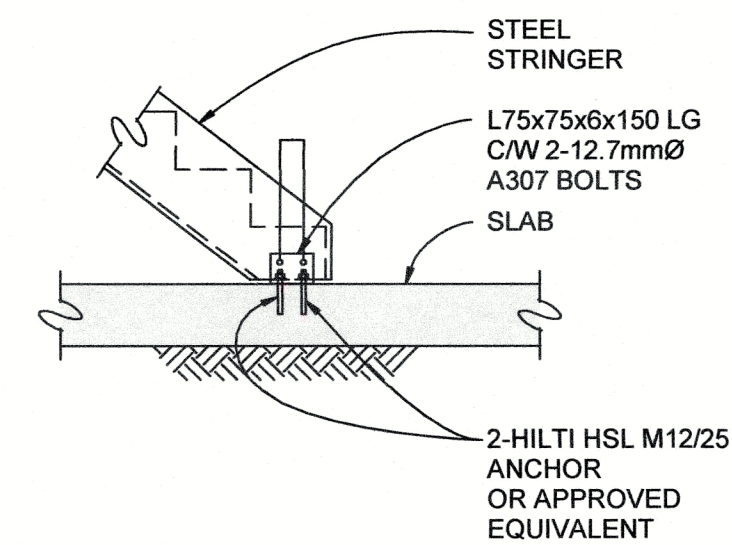
PWGSC Project Manager/Administrateur de Projets TPSGC
PATRICK TRUONG

Regional Manager, Architectural and Engineering Services
Gestionnaire régional, Services d'architecture et de génie, TPSGC
PREETIPAL PAUL

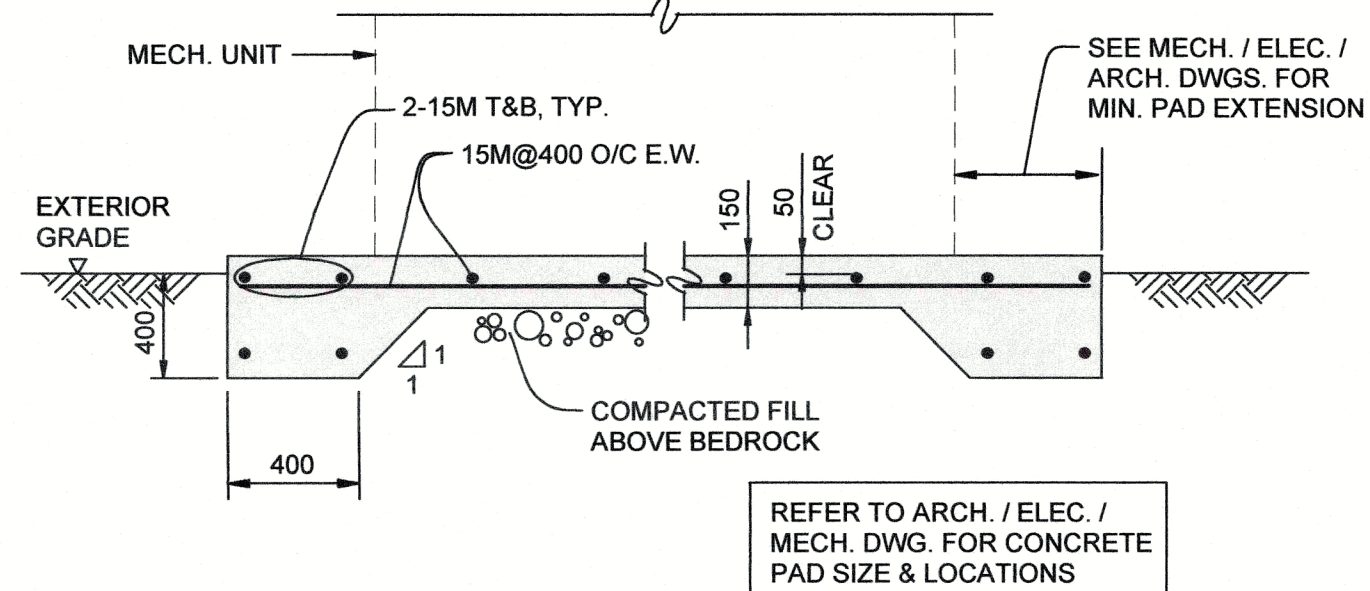
Drawing title/Titre du dessin

GENERAL NOTES
& TYPICAL DETAILS

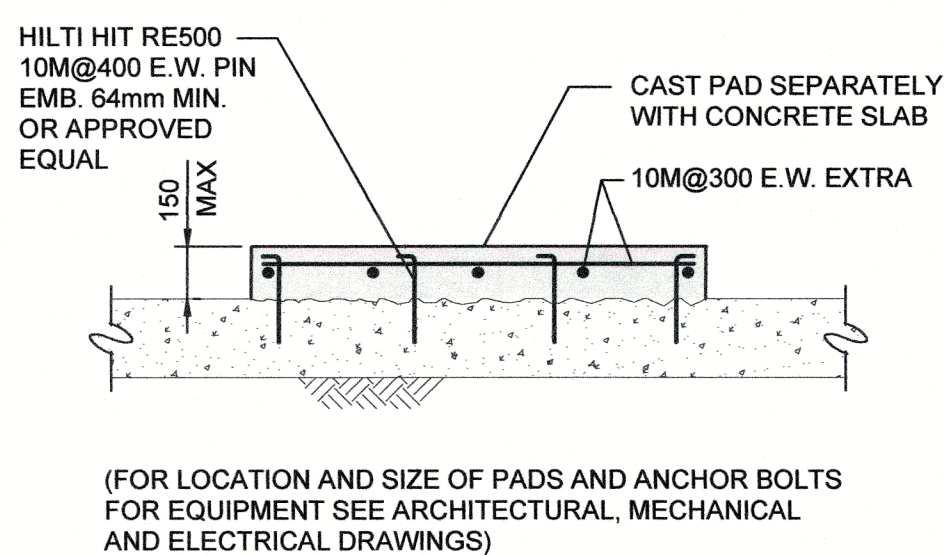
Project No./No. du projet R.077596.001	Sheet/Feuille WS102 OF XX	Revision no./La Révision no. 0
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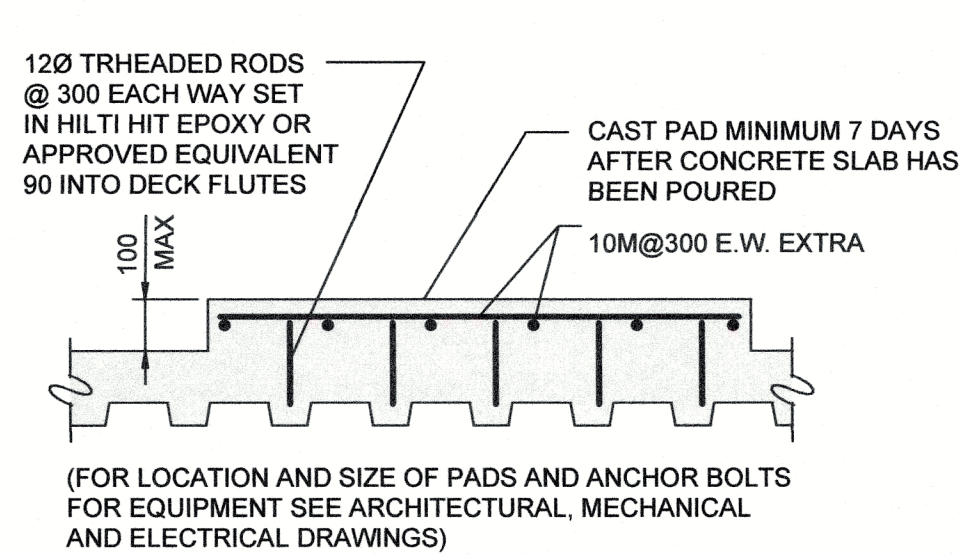
BOTTOM STEEL STRINGER DETAIL



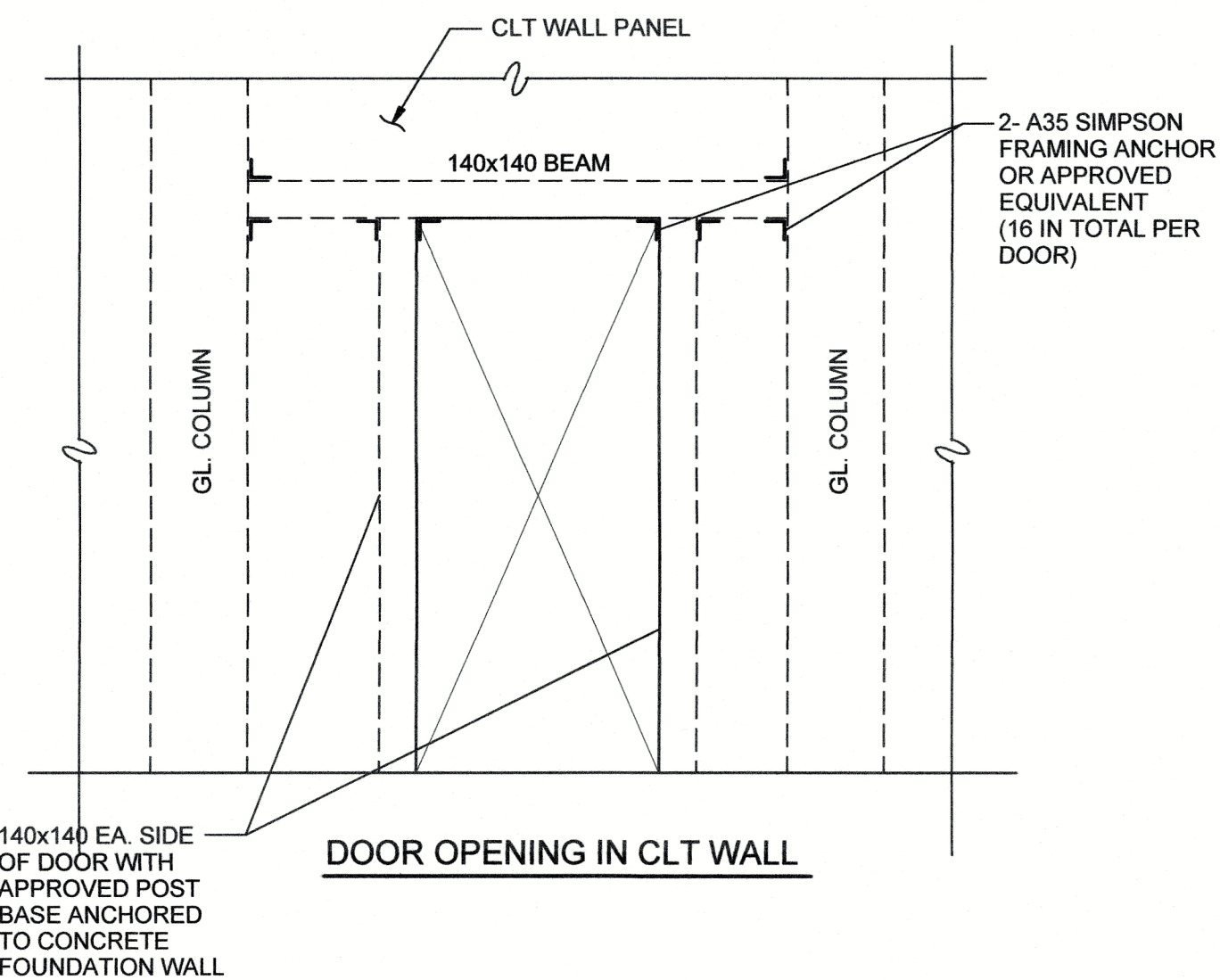
TYPICAL EXTERIOR CONCRETE PAD FOR EQUIPMENTS



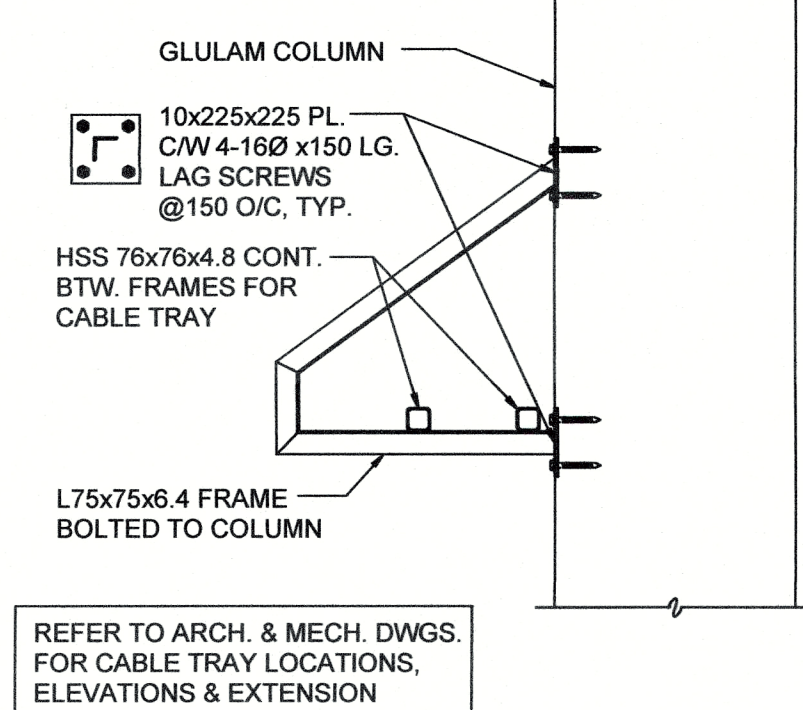
TYPICAL EQUIPMENT PADS ON CONCRETE SLAB ON GRADE



TYPICAL EQUIPMENT PADS ON CONCRETED STEEL DECK

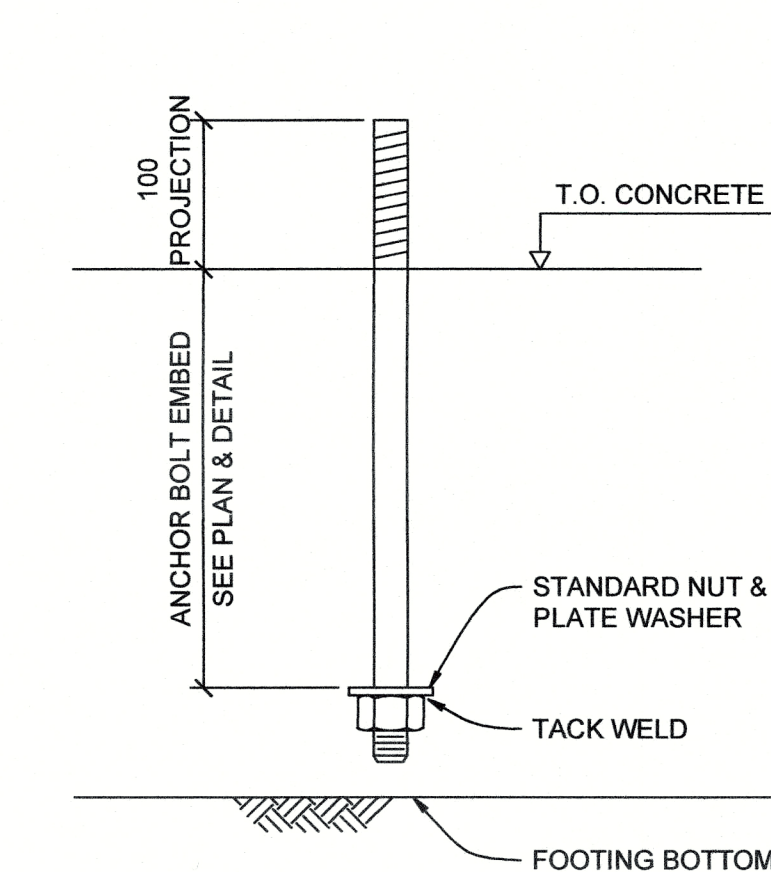


DOOR OPENING IN CLT WALL

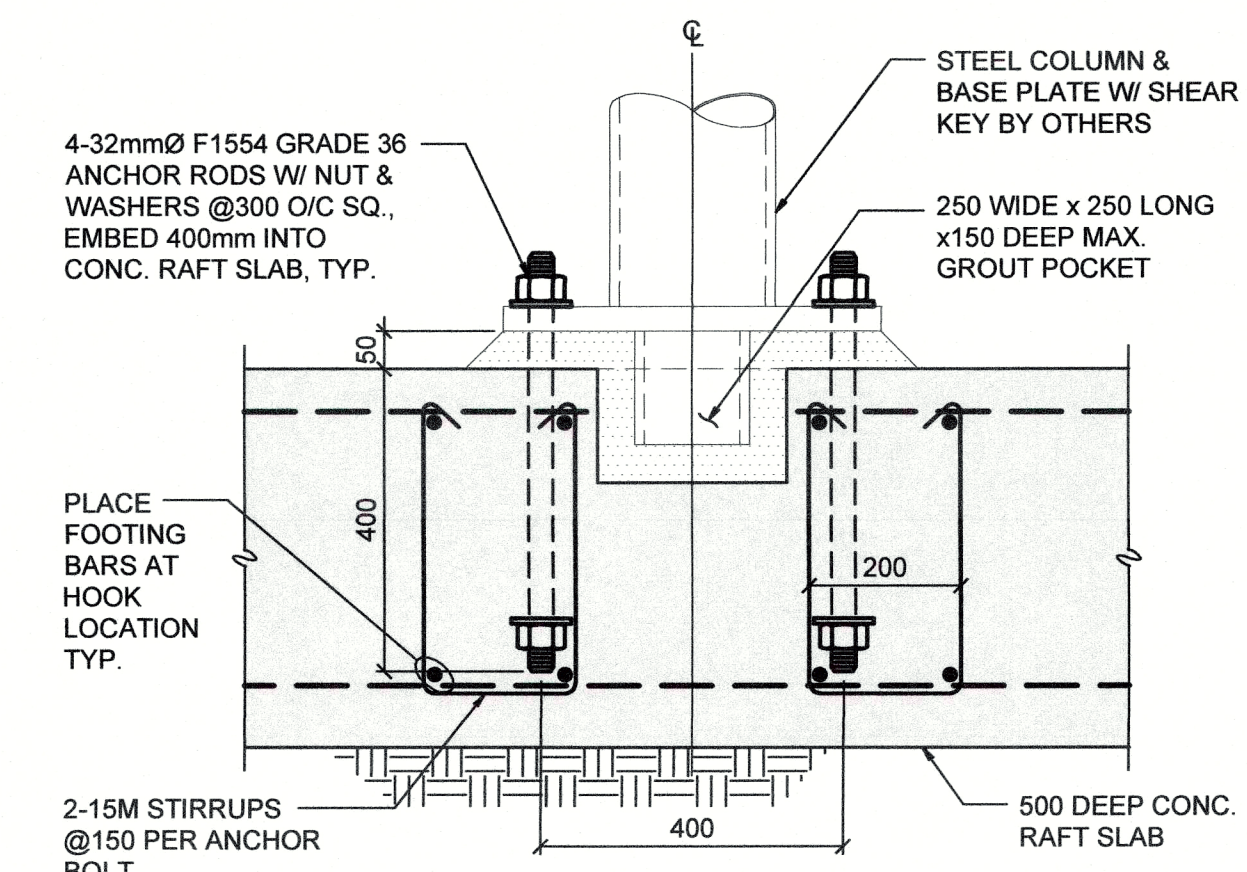
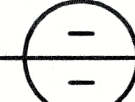


TYPICAL STEEL SUPPORT DETAIL FOR CABLE TRAY

1:25



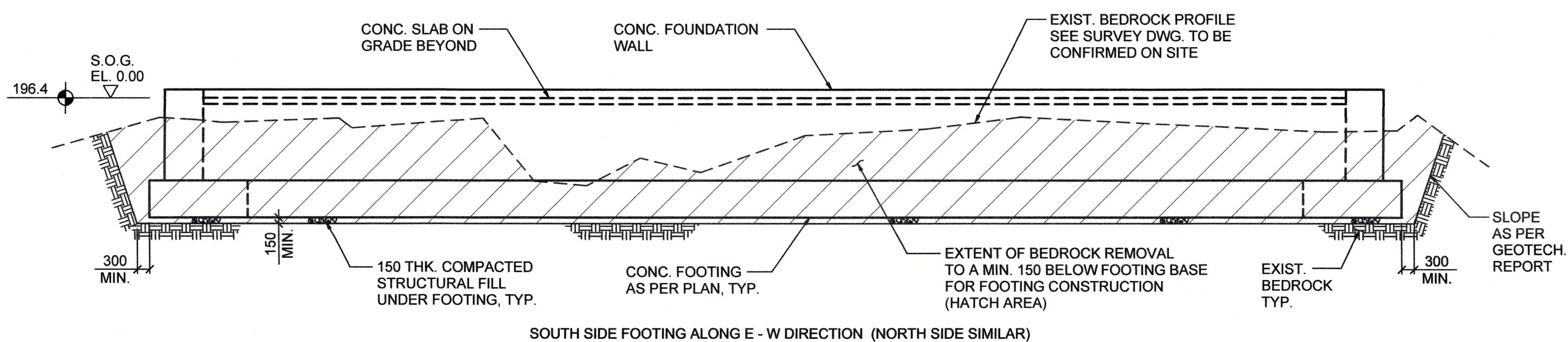
TYPICAL ANCHOR BOLT DETAIL



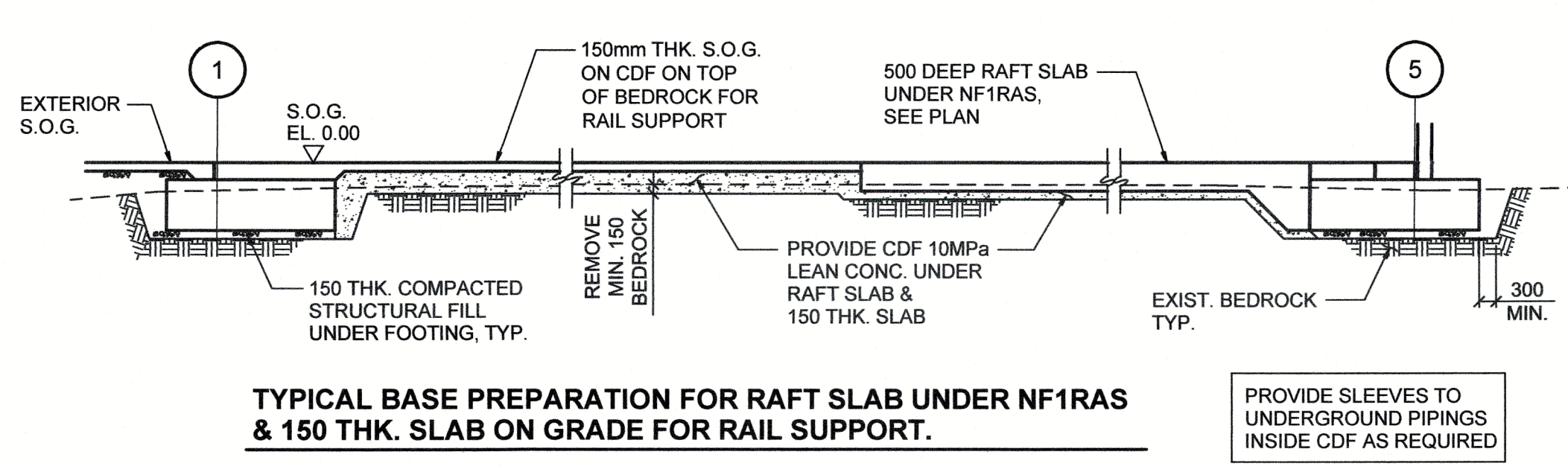
TYPICAL NF1RAS SUPPORT FRAME COLUMN BASE ANCHOR BOLT DETAIL

1:10

TYPICAL FOR 6 COLUMNS

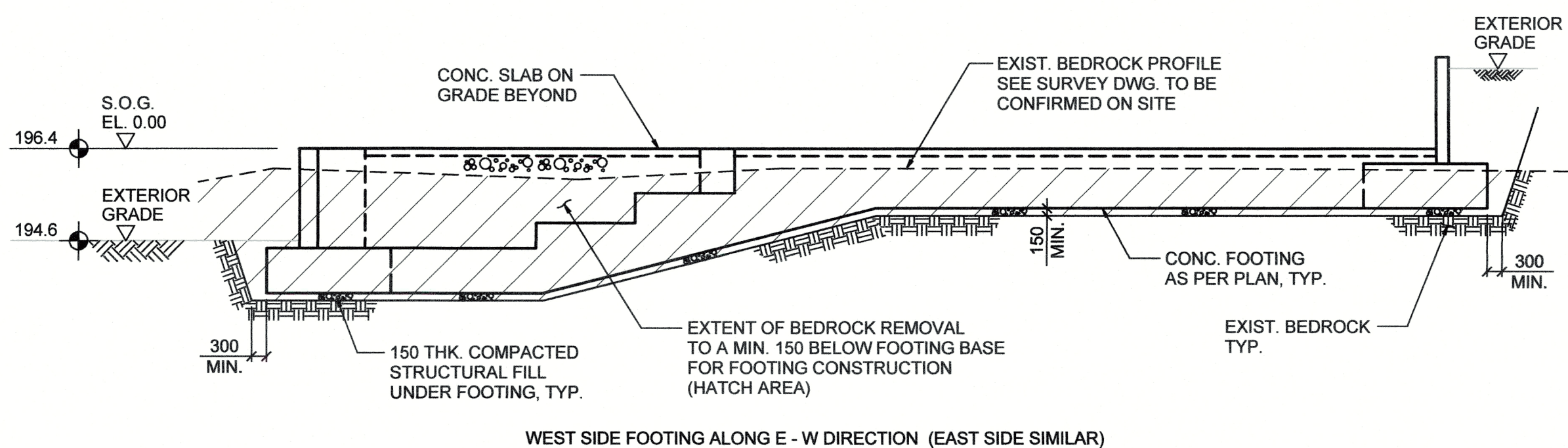


SOUTH SIDE FOOTING ALONG E - W DIRECTION (NORTH SIDE SIMILAR)



TYPICAL BASE PREPARATION FOR RAFT SLAB UNDER NF1RAS & 150 THK. SLAB ON GRADE FOR RAIL SUPPORT.

PROVIDE SLEEVES TO UNDERGROUND PIPINGS INSIDE CDF AS REQUIRED



TYPICAL DETAIL SHOWING BEDROCK REMOVAL FOR FOOTING CONSTRUCTION



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5071 WEST SAANICH ROAD
VICTORIA, BC, CANADA

NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY

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PATRICK TRUONG

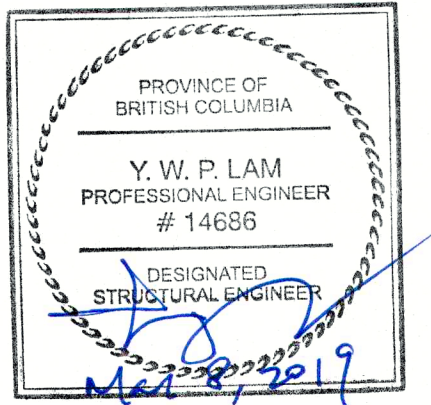
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architecture et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

TYPICAL DETAILS

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
R.077596.001	WS103 OF XX	0

12715



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Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architecture et de g.én., TPSC
PREETIPAL PAUL

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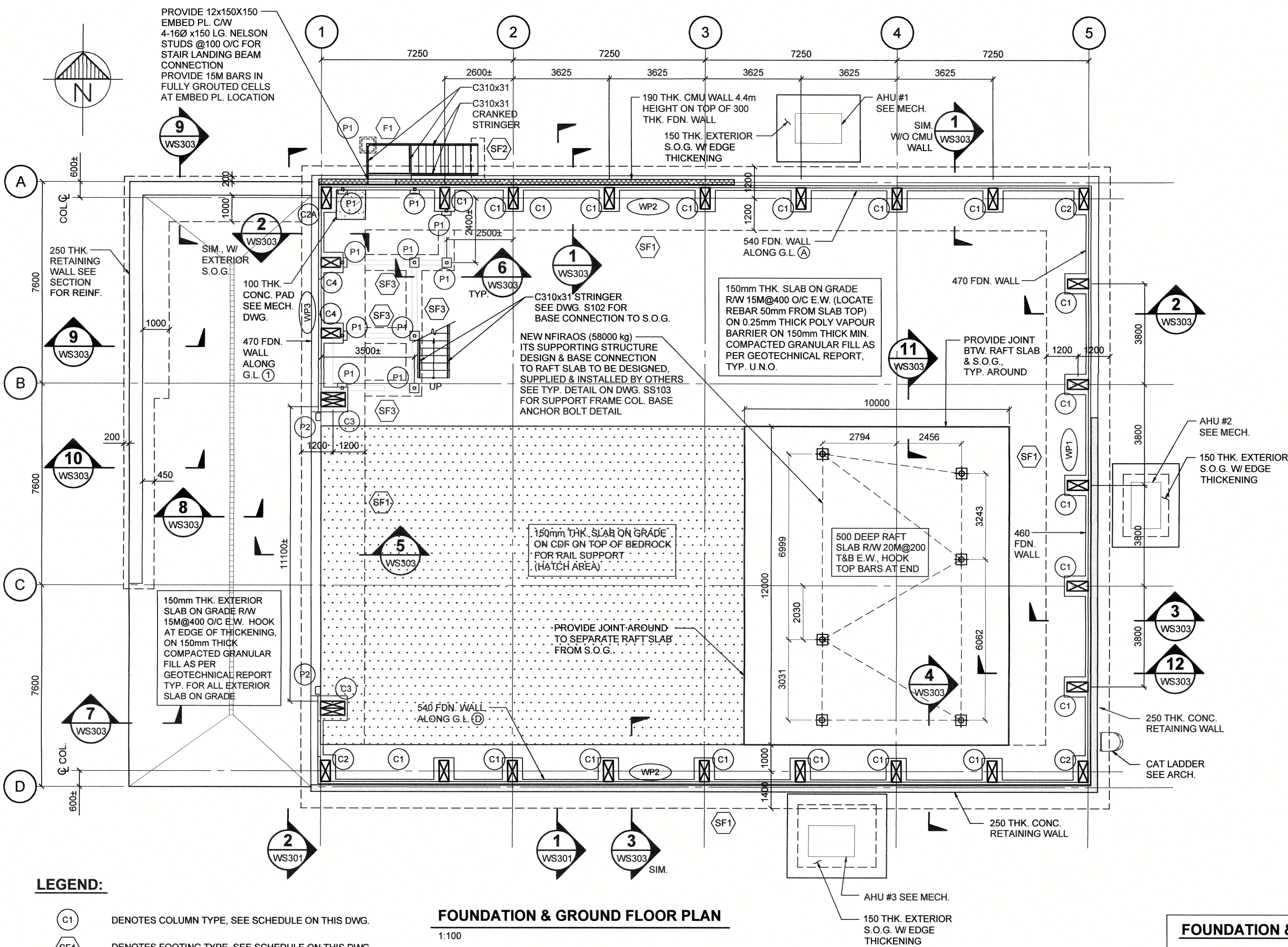
FOUNDATION &
GROUND FLOOR PLAN

Project No./No. du projet
R.077596.001

Sheet/Feuille
WS201
OF XX

Revision no./
La Révision
no.
0

12715



LEGEND:

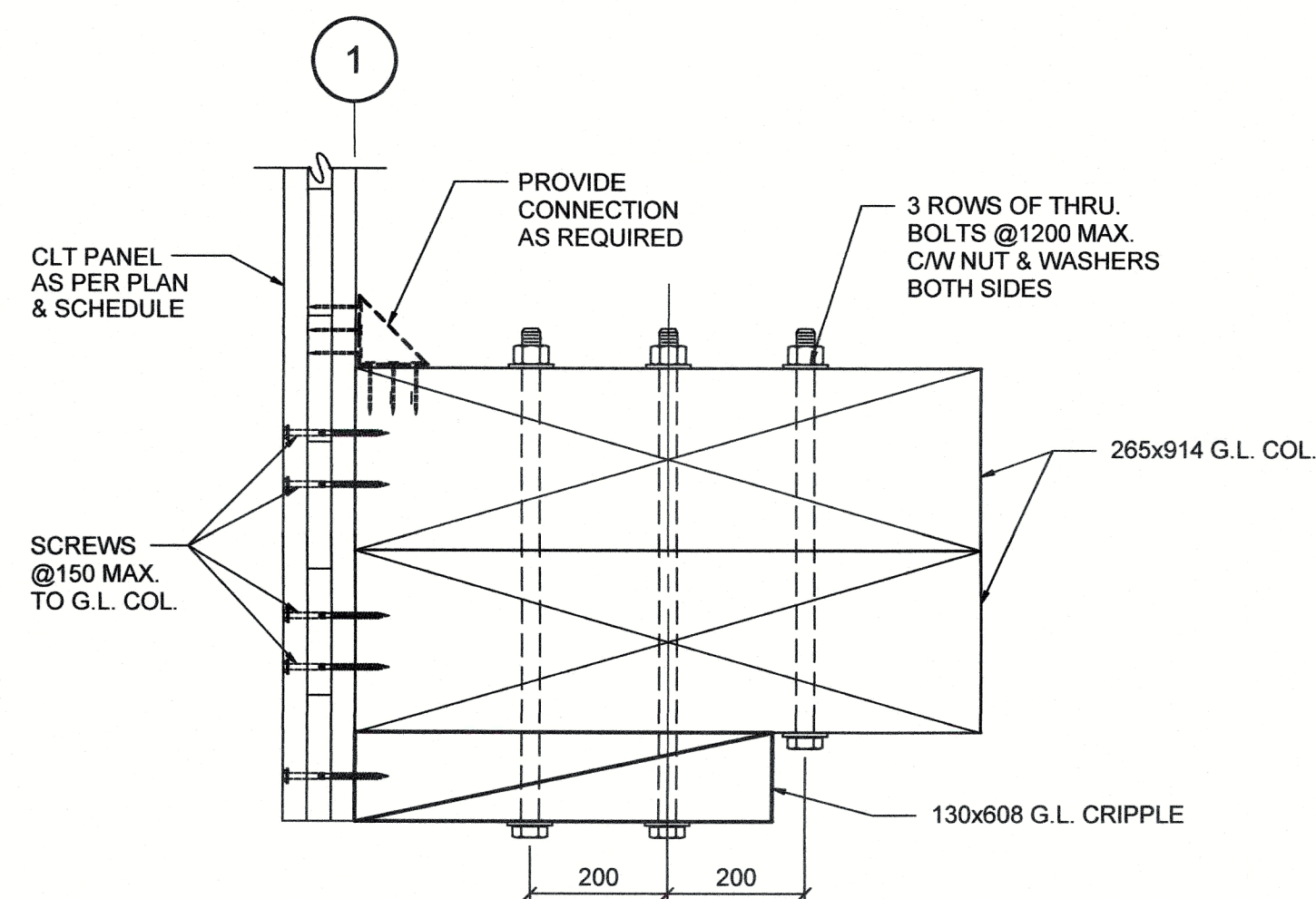
- C1 DENOTES COLUMN TYPE, SEE SCHEDULE ON THIS DWG.
- SF1 DENOTES FOOTING TYPE, SEE SCHEDULE ON THIS DWG.
- WP1 DENOTES CLT WALL PANEL TYPE, SEE SCHEDULE ON THIS DWG.
- DENOTES SLAB EXTENT FOR RAIL SUPPORT,
DESIGN UNIFORM LIVE LOAD = 12 kPa
CONCENTRATED LIVE LOAD = 87.5 kN (OVER 250x600mm)
SEE TYP. DETAIL ON DWG. WS103 FOR BASE PREPARATION

NOTES:

- REFER TO MECH. & ARCH. DWGS. FOR OPENINGS THROUGH CLT PANEL. CONTRACTOR SHALL PROVIDE ENGINEERED SUPPLEMENTARY FRAMING AROUND WALL OPENING INCLUDING CONNECTION AS REQUIRED TO SUIT CLT PANEL DESIGN REQUIREMENT.
- REFER TO DWG. WS103 FOR TYPICAL EXTERIOR CONCRETE PAD UNDER MECH. EQUIPMENT.
- REFER TO DWG. WS203 FOR MEZZANINE FLOOR & ROOF PLANS & DETAILS.
- CONTRACTOR TO SUBMIT SLAB-ON-GRADE CONTROL JOINT PATTERN FOR APPROVAL.
- REFER TO DWG. WS103 FOR TYP. DETAIL SHOWING BEDROCK REMOVAL FOR FOOTING CONSTRUCTION.
- REFER TO DWG. WS103 FOR TYP. BASE PREPARATION FOR RAFT SLAB UNDER NF1RAS & 150 THK. SLAB ON GRADE FOR RAIL SUPPORT.
- REFER TO DWG. WS103 FOR ANCHOR BOLT BASE DETAIL.

FOUNDATION & GROUND FLOOR PLAN

1:100



TYPICAL INTERFACE CONNECTION DETAIL FOR GLULAM COLUMN C3

1:10

FOUNDATION & CONCRETE NOTES:

- ALL FOOTING, RAFT SLAB & SLAB-ON-GRADE SHALL BE SUPPORTED ON 150mm MIN. THK. STRUCTURAL FILL PLACED OVER BEDROCK. CONTRACTOR SHALL EXCAVATE SOIL DOWN TO BED ROCK AS REQUIRED. REFER TO GEOTECHNICAL REPORT FOR BASE PREPARATION.
- PROVIDE FOOTING STEPS AS REQUIRED FOR FOOTING ALONG G.L. ① & ⑤ TO SUIT EXIST. GROUND & BEDROCK PROFILE. REFER TO TYP. DETAIL ON DWG. WS102 FOR STEPPED STRIP FOOTING DETAIL.
- CONCRETE PROPERTIES:

MEMBER	MINIMUM 28-DAYS STRENGTH (MPa)	MAXIMUM AGGREGATE SIZE (mm)	EXPOSURE CLASS	AIR CONTENT CATEGORY
FOOTINGS, RAFT SLAB, FDN. WALL & PILASTERS	25	20	F-2	2
INTERIOR SLAB ON GRADE	25	20	N	-
SLAB ON GRADE - EXTERIOR	32	20	C-2	1

COLUMN SCHEDULE

MARK	SIZE	REMARK
C1	365x798 24F-EX GLULAM	SEE DWG. WS302 FOR BASE CONNECTION
C2	365x798 24F-EX GLULAM	SEE DWG. WS302 FOR BASE CONNECTION
C2A	365x798 24F-EX GLULAM	SEE DWG. WS302 FOR BASE CONNECTION
C3	2-265x912 24F-EX GLULAM + 130x608 24F-EX GLULAM CRIPPLE AT ONE SIDE ADJACENT TO O/H DOOR	SEE SEPARATE DETAIL ON THIS DWG. FOR INTERFACE CONNECTION SEE DWG. WS302 FOR BASE CONNECTION
C4	365x722 24F-EX GLULAM	SEE DWG. WS302 FOR BASE CONNECTION
P1	HSS 102x102x6.4 C/W 16x250x250 BASE PL. W/ 4-19Ø F1554 GR36 A.BOLTS EMB 400mm INTO CONC. PIER	350x350 CONC. PIER R/W 4-C20M VERT. & 10M TIES @300
P2	HSS 305x203x13	AS PER DETAIL C / WS301 FOR BASE CONNECTION

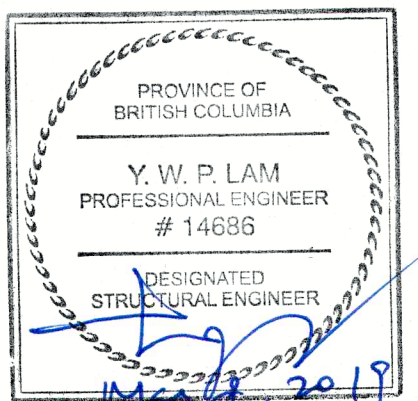
CLT WALL PANEL SCHEDULE

WALL TYPE	CROSSLAM CLT SERIES	CLT GRADE	WALL THICKNESS (NO. OF PLY)	DESIGN IN-PLANE SHEAR FORCE (kN/m)
WP1	87V	V2.1	87mm (3 PLY)	20
WP2	87V	V2.1	87mm (3 PLY)	15
WP3	105V	V2M1.1	105mm (3 PLY)	55

NOTE: - EXTERIOR LAMINATIONS OF WALL PANELS TO BE HORIZONTAL, TYP.
- TYPICAL PANEL WIDTH 2438mm
- CLT WALL PANEL TO BE DOUBLE SPAN MIN. TYP. U.N.O.
- REFER TO DWG. WS403 FOR CLT PANEL CONNECTION REQUIREMENTS.

FOOTING SCHEDULE

TYPE	SIZE (mm) (LENGTH x WIDTH x DEPTH)	REINFORCING
SF1	2400 WIDE x900 DEEP	10-25M CONT. T&B LONG. C20M@300 T&B TRAN. ALT. HOOK
SF2	500 WIDE x 500 DEEP	3-15M T&B LONG.
SF3	600 WIDE x350 DEEP	3-15M T&B LONG.
F1	600 x 600 x 250 DEEP	3-15M BOTTOM EACH WAY



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MC

PWGSC Project Manager/Administrateur de Projets TP50C
PATRICK TRUONG

Regional Manager, Architectural and Engineering Services
Gestionnaire régional, Services d'architecture et de génie, TP50C
PRETIPAL PAUL

Drawing title/Titre du dessin

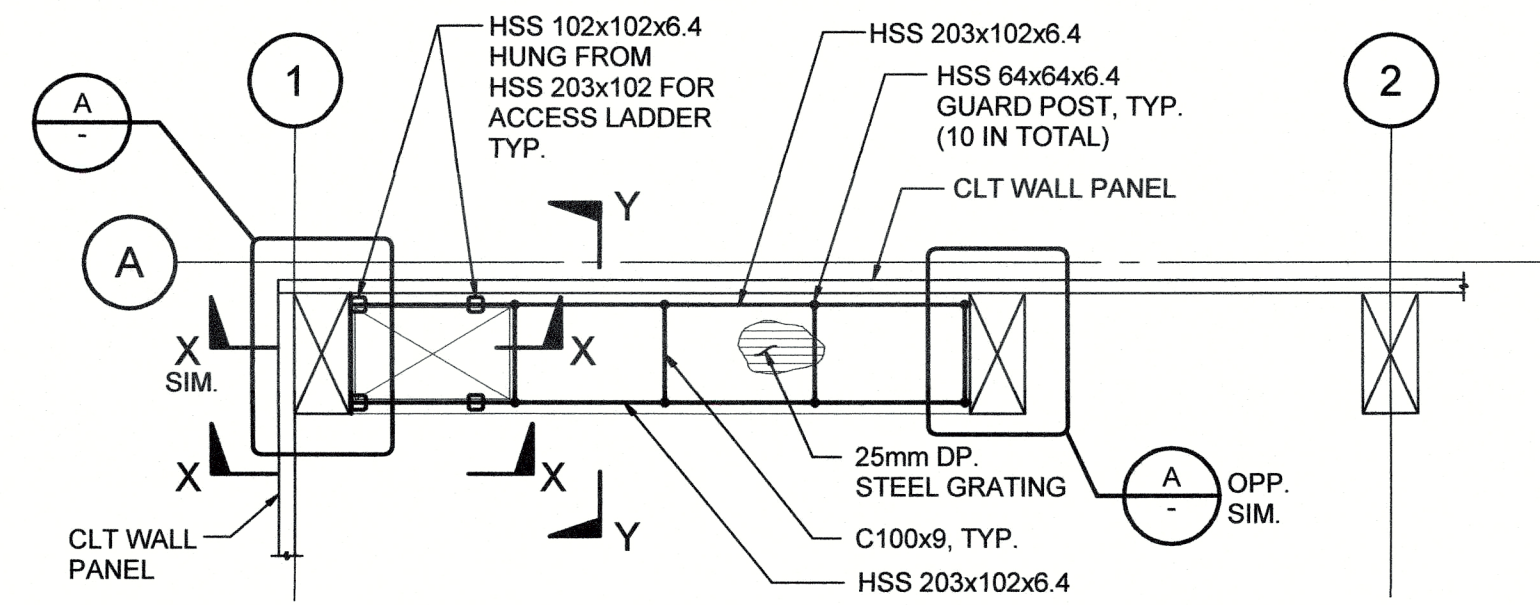
ROOF PLAN & CATWALK
PLAN AND DETAILS

Project No./No. du
projet
R.077596.001

Sheet/Feuille
WS202
OF XX

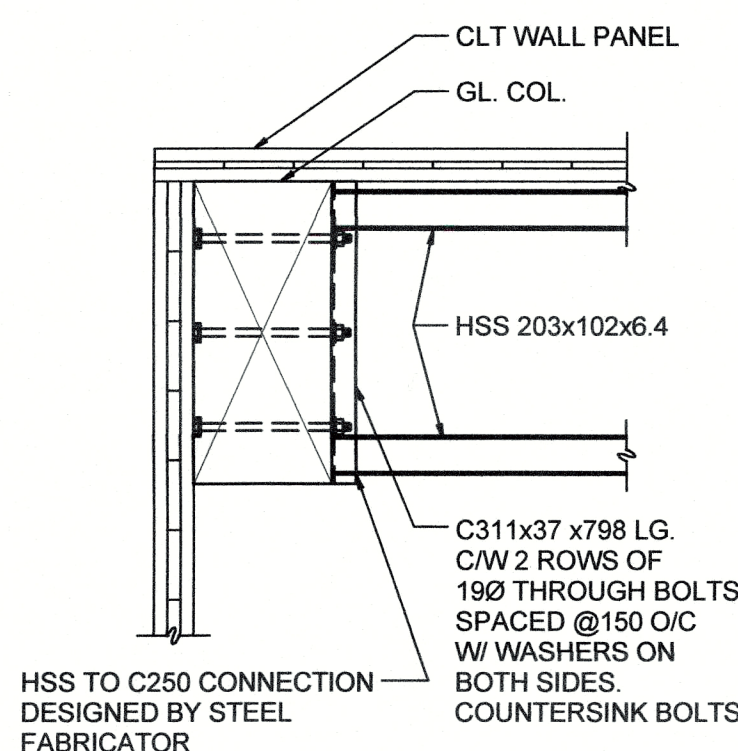
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CATWALK LAYOUT PLAN

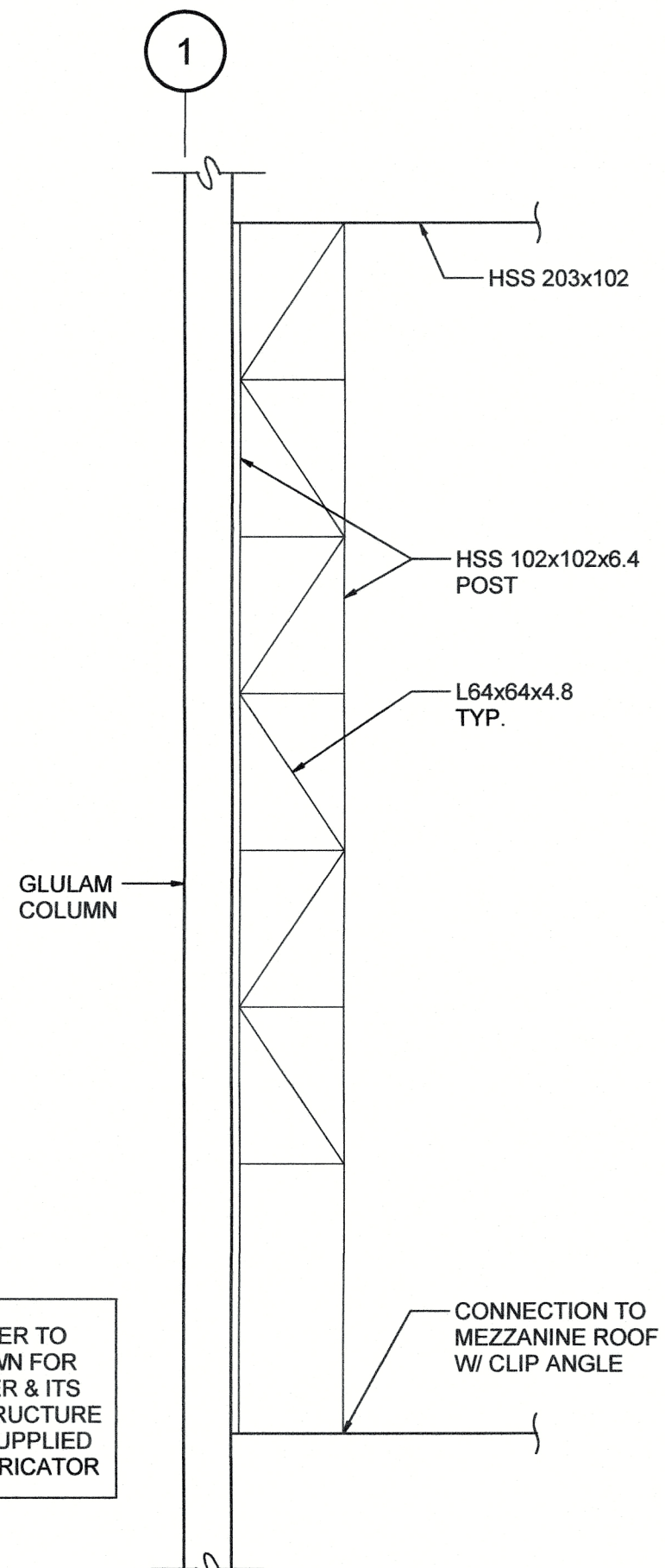
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PLAN DETAIL A

1:20

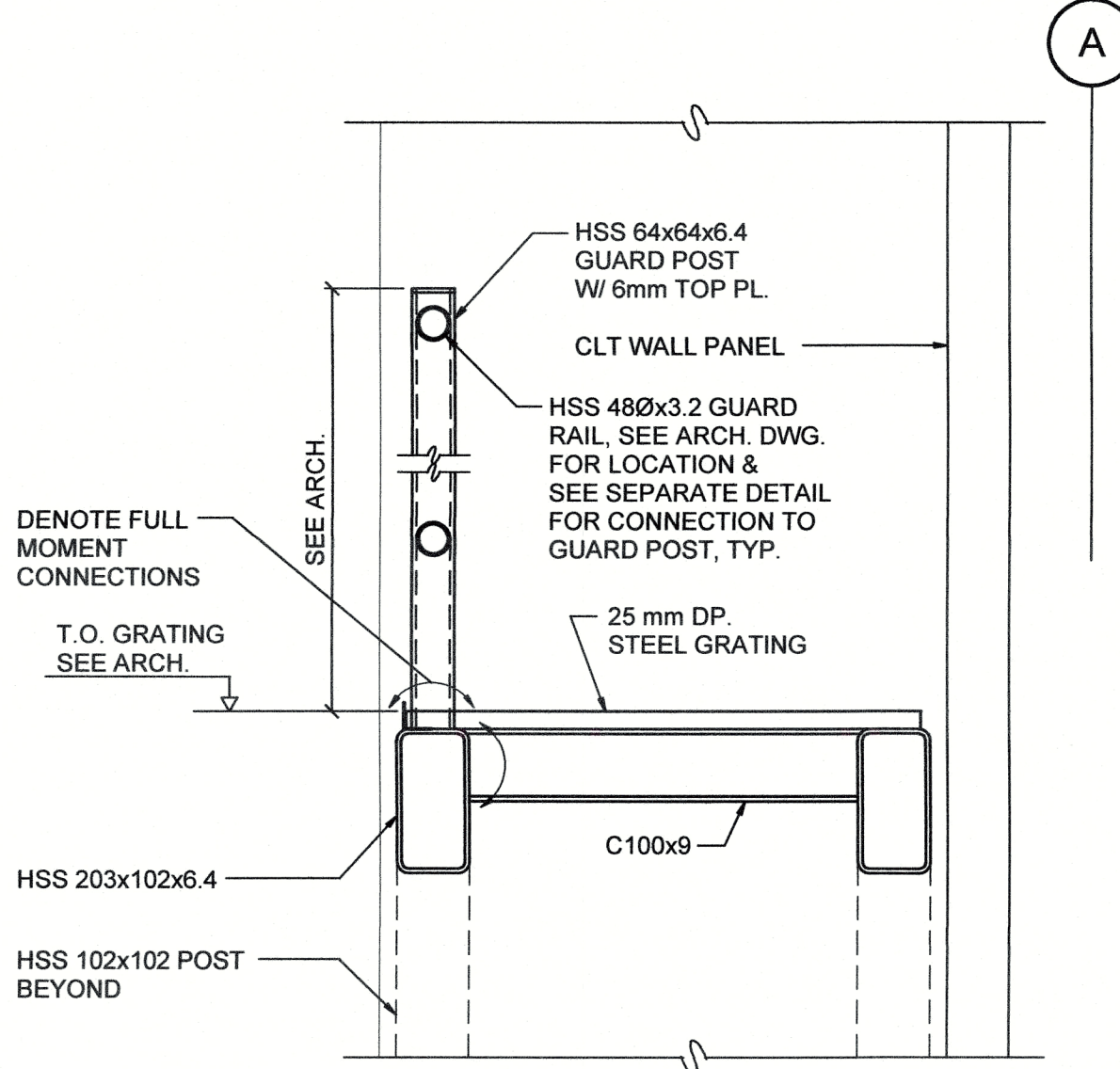
AT CATWALK LEVEL



SECTION X - X

1:50

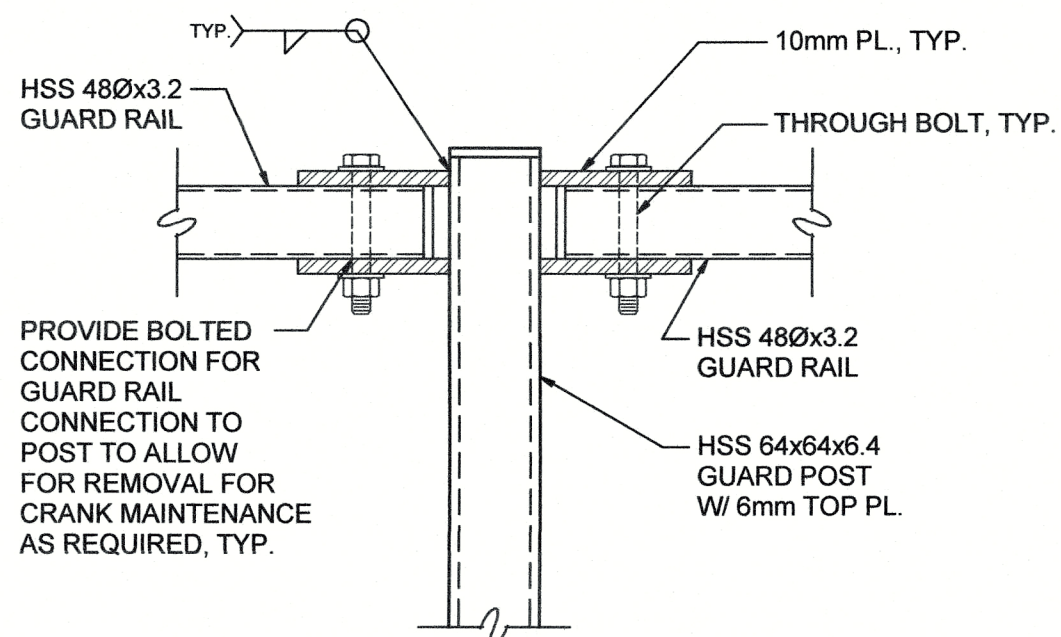
MAINTENANCE LADDER TO
CATWALK NOT SHOWN FOR
CLARITY. THE LADDER & ITS
CONNECTION TO STRUCTURE
SHALL BE DESIGN, SUPPLIED
& INSTALLED BY FABRICATOR



SECTION Y - Y

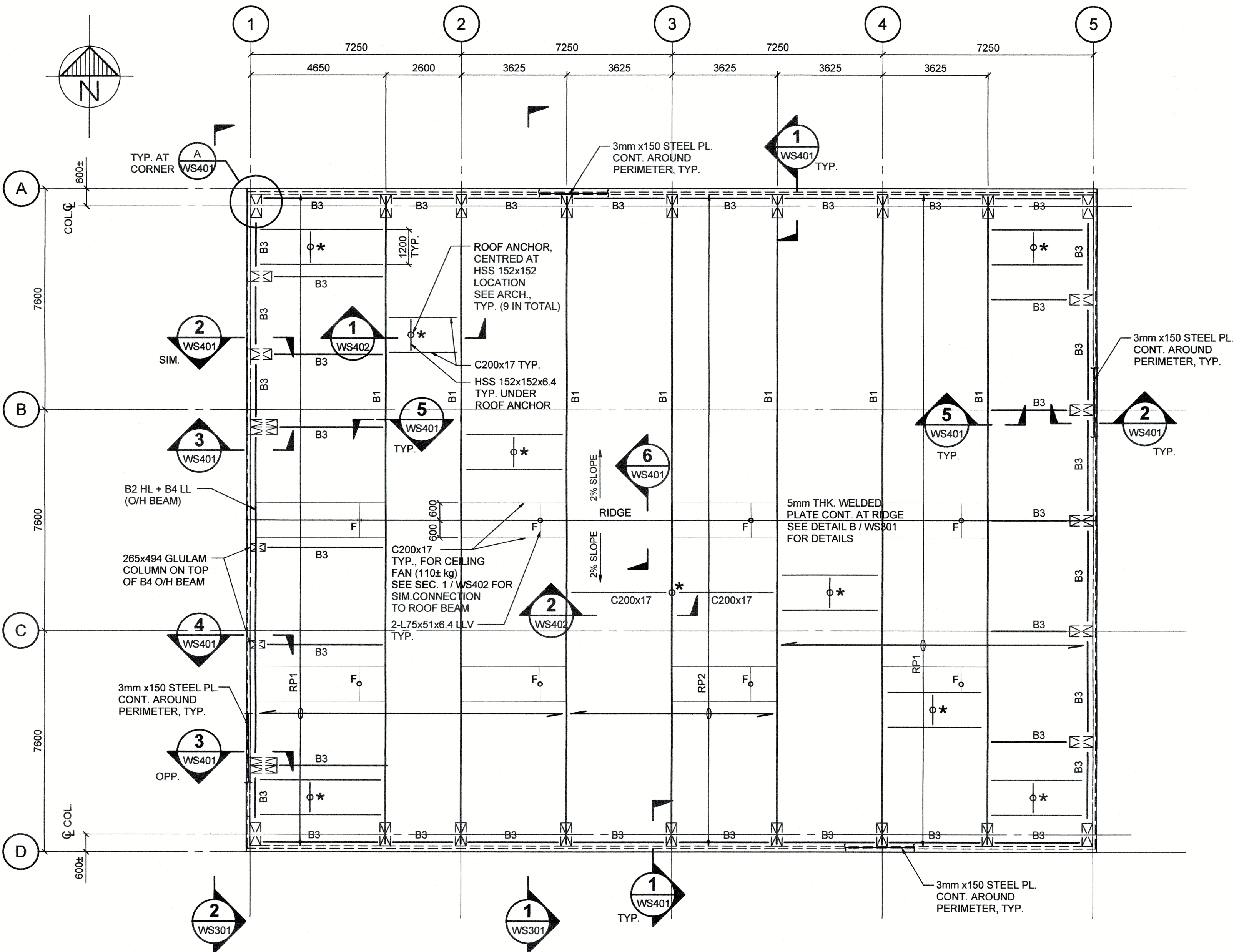
1:10

MAINTENANCE LADDER FROM
MEZZANINE FLOOR TO CATWALK
& CONNECTION TO STRUCTURE
SHALL BE DESIGN & INSTALLED
BY FABRICATOR



TYPICAL GUARD RAIL TO
GUARD POST CONNECTION

1:5



ROOF PLAN

1:100

FACTORED NET UPLIFT = 2.3 kPa
FOR ROOF CLT PANEL & ITS
CONNECTION DESIGN

LEGEND:

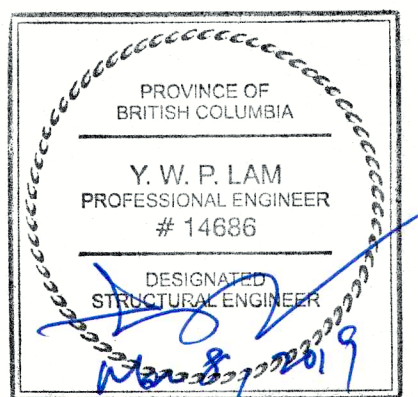
- F DENOTES CEILING FAN SUPPORT HANGER
SEE ARCH. DWG. FOR EXACT LOCATION
SEE DWG. WS402 FOR DETAILS
- * DENOTES ROOF ANCHOR LOCATION

NOTE:

- 1. PROVIDE WOOD SHIM ON
TOP OF PERIMETER G.L. BEAM
FOR ROOF SLOPE

CLT ROOF PANEL SCHEDULE			
PANEL TYPE	CROSSLAM CLT SERIES	CLT GRADE	PANEL THICKNESS (NO. OF PLY)
RP1	87V TRIPLE SPAN	V2.1	87mm (3 PLY)
RP2	87V DOUBLE SPAN	V2.1	87mm (3 PLY)
- DESIGN DIAPHRAGM SHEAR = 16 kN/m			
- REFER TO DWG. WS403 FOR CLT PANEL CONNECTION REQUIREMENTS.			

ROOF BEAM SCHEDULE	
TYPE	SIZE
B1	265x1292 mm D. FIR L-24F-E GLULAM C/W 85mm CAMBER W/ TOP TAPERED FOR ROOF SLOPE
B2	175x494 mm D. FIR L-24F-E GLULAM
B3	175x266 mm D. FIR L-20F-E GLULAM
B4	365x608 mm D. FIR L-24F-EX GLULAM



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4		
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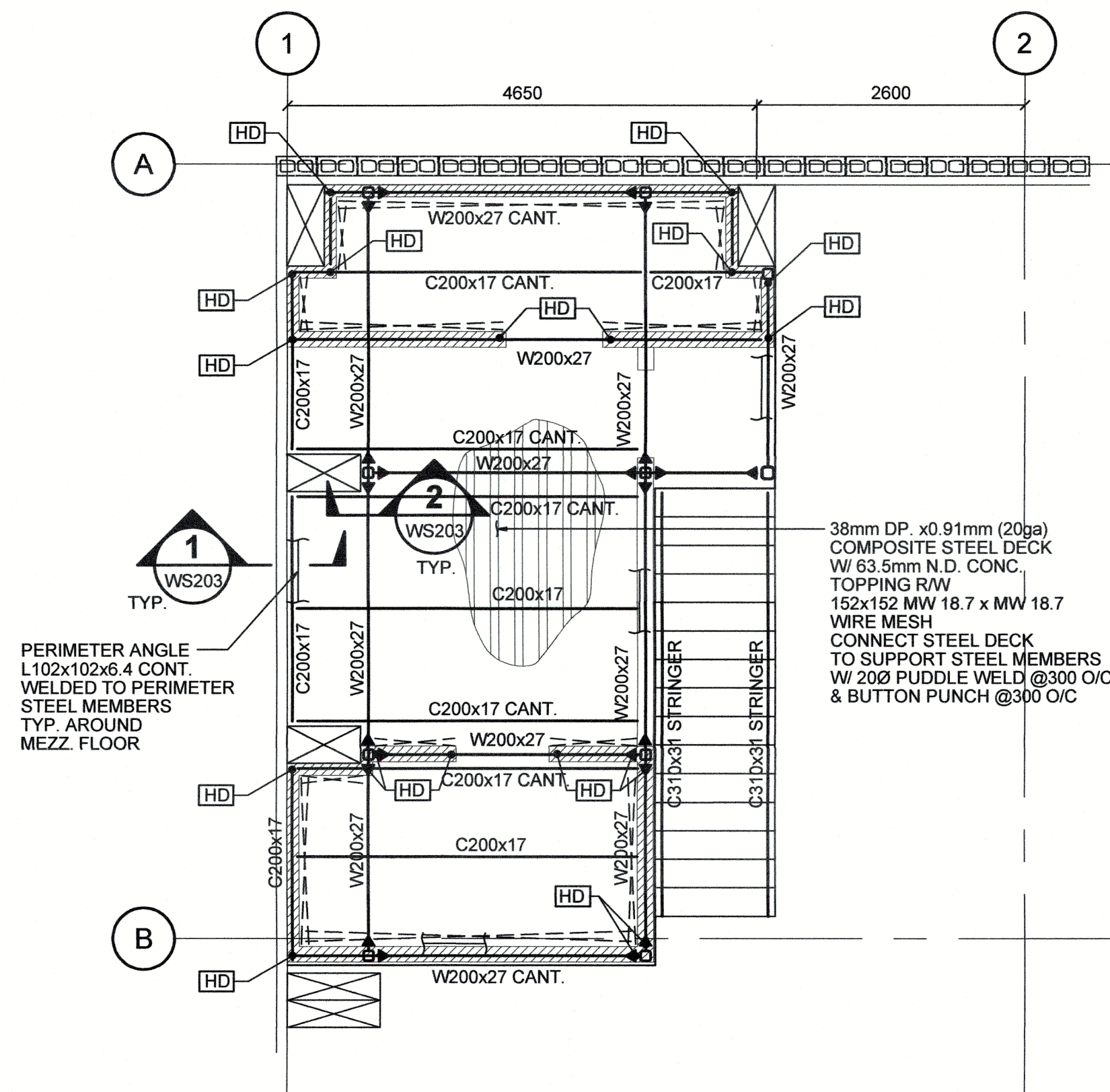
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

Drawing Title/Titre du dessin

MEZZANINE PLANS & DETAILS

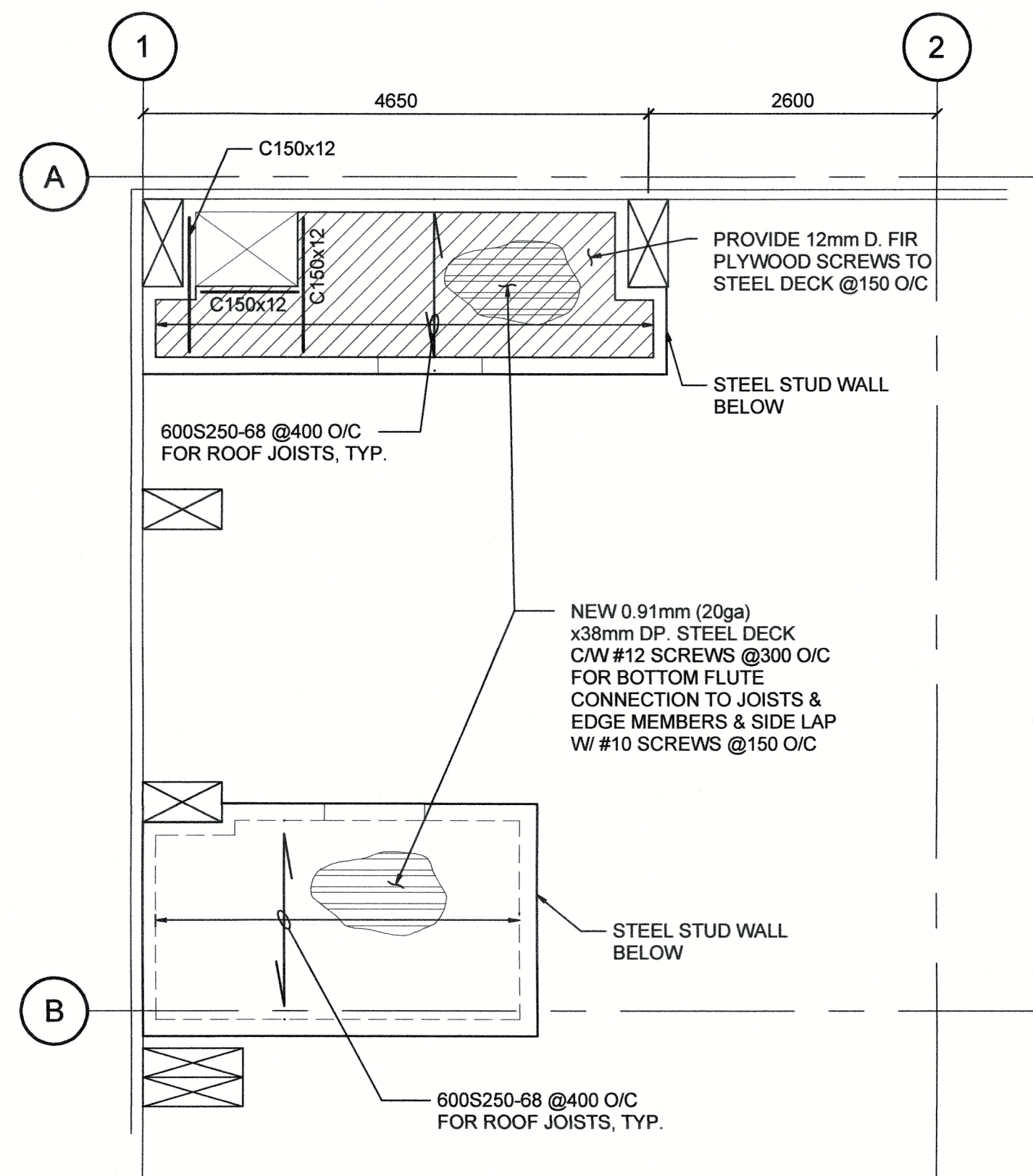
Project No./No. du projet	Sheet/Feuille	Revision no./La Révision no.
R.077596.001	WS203 OF XX	0

12715



MEZZANINE FLOOR PLAN

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MEZZANINE ROOF PLAN

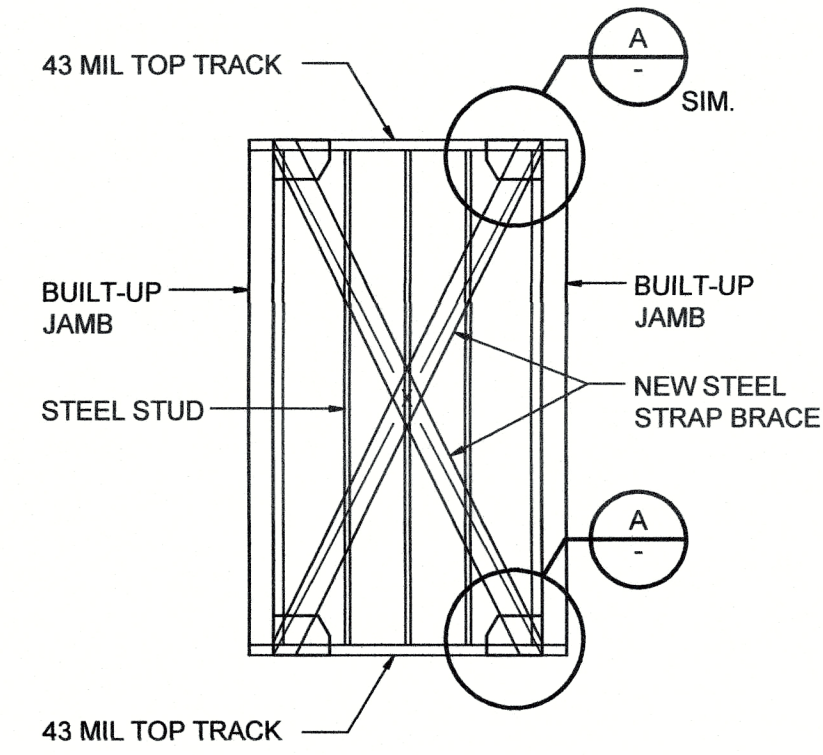
1:50

LEGEND:

— DENOTES MOMENT CONNECTION
W/ FULLY FIXITY & 50% OF MOMENT CAPACITY

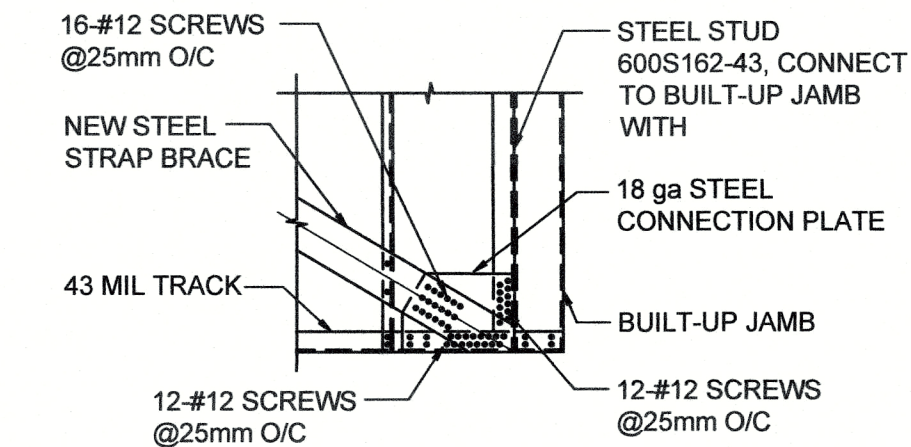
— DENOTES 362S162-33 @400 O.C MIN. STEEL
STUD WALL. C/W 1.21 (18ga) x75 WIDE STEEL
STRAP X-CROSSING
ALSO SEE ARCH. DWGS. FOR 600S162 STUD
WALL LOCATIONS

HD DENOTES SIMPSON HTT4 TENSION
TIES C/W 10 - #12 SCREWS TO STUDS
& 16Ø THRU. BOLTS CONNECTED TO
NEW BEAMS.



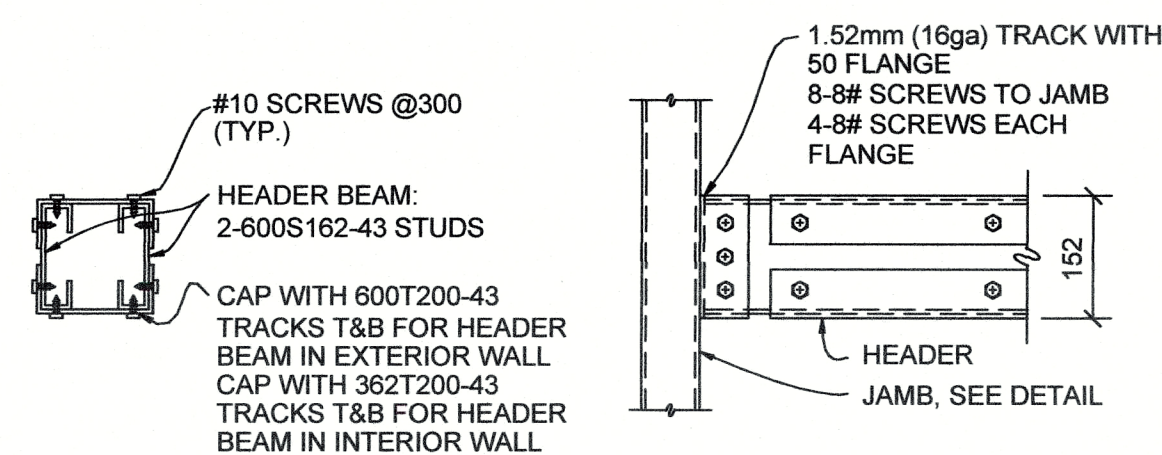
TYPICAL STUD WALL ELEVATION
WITH STEEL STRAP

1:50



DETAIL A

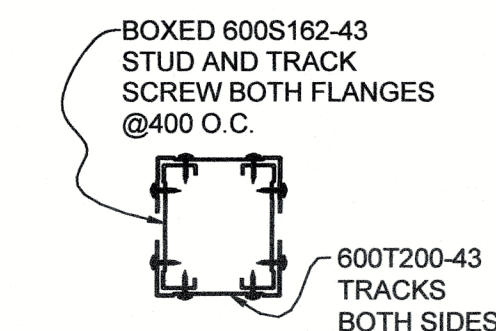
1:25



TYPICAL HEADER BEAM DETAILS
IN LOAD BEARING STUD WALLS

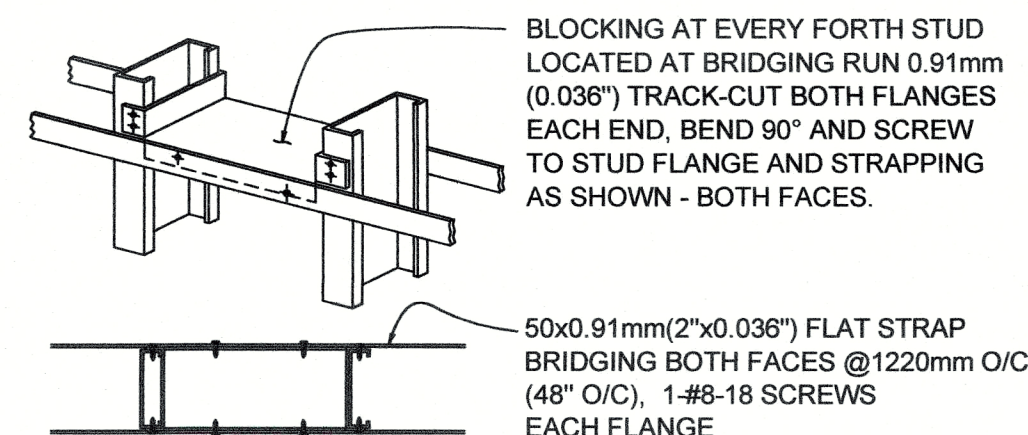
N.T.S.

SEE ARCH. DWG. FOR UNDERSIDE BEAM ELEVATION



TYPICAL JAMB DETAILS AT
EACH WALL CORNER &
EACH SIDE OF WALL OPENING

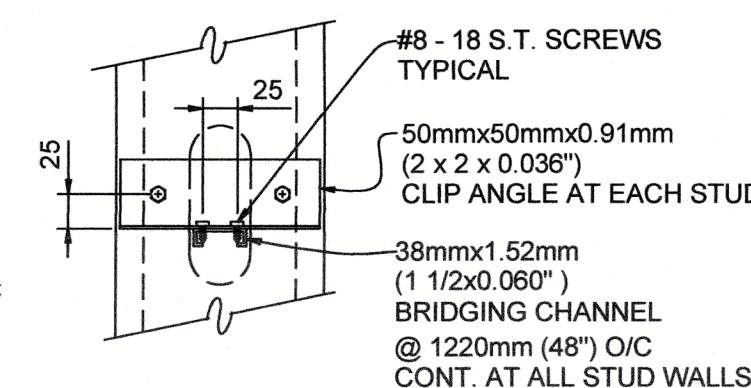
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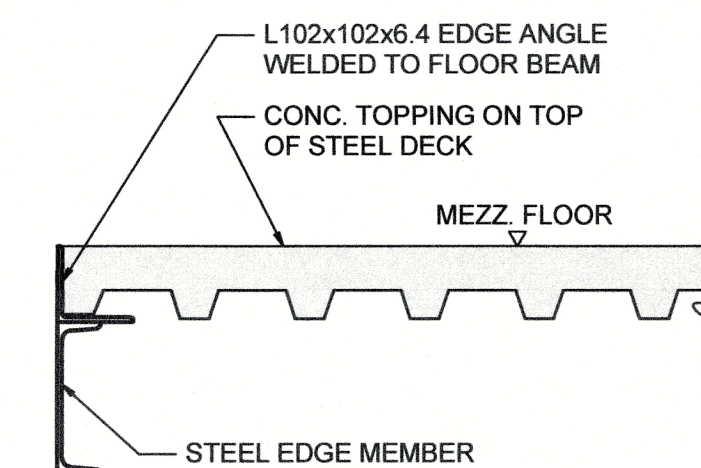
BRIDGING

TYPICAL BRIDGING DETAIL OF STUD WALLS

N.T.S.



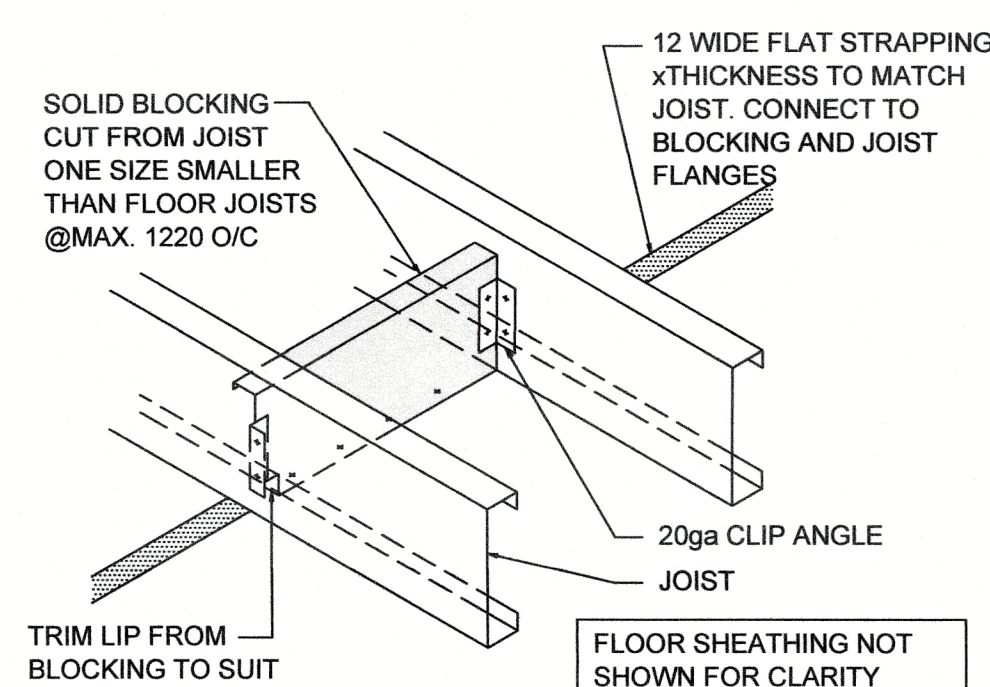
ALTERNATE BRIDGING



SECTION 1

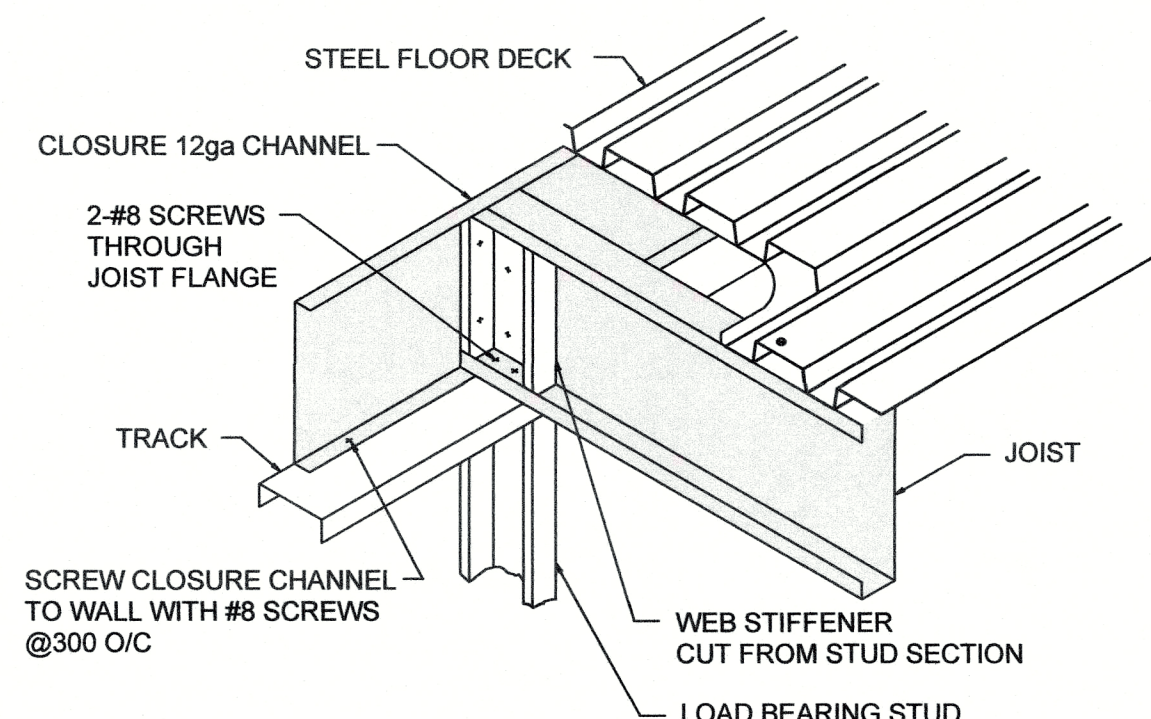
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WS203



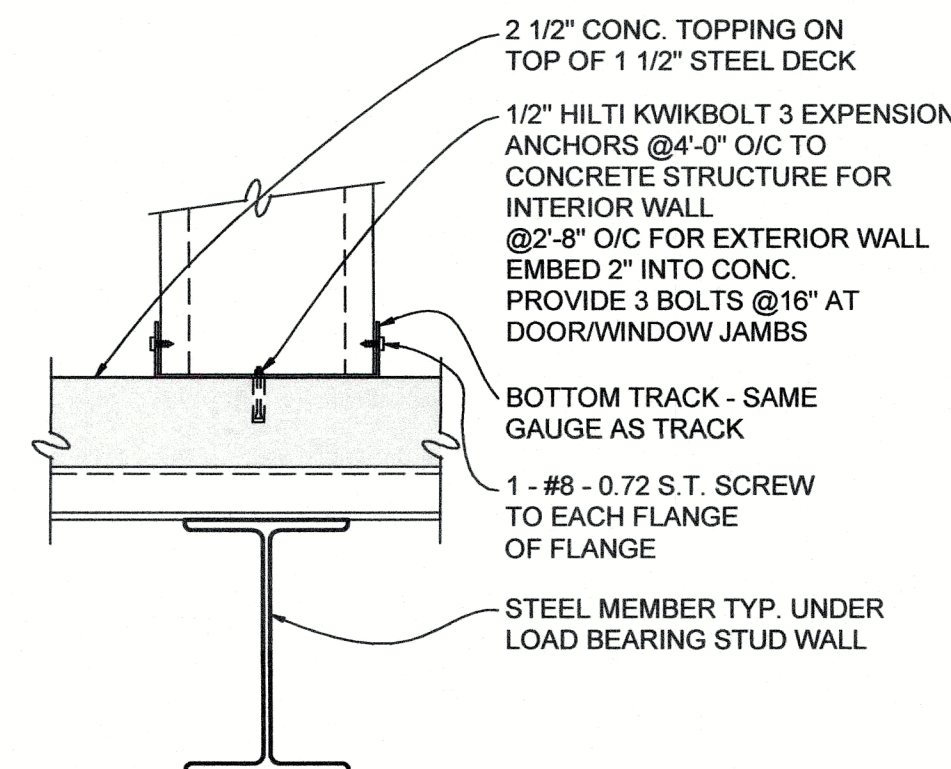
TYPICAL FLOOR JOIST BLOCKING DETAIL

N.T.S.



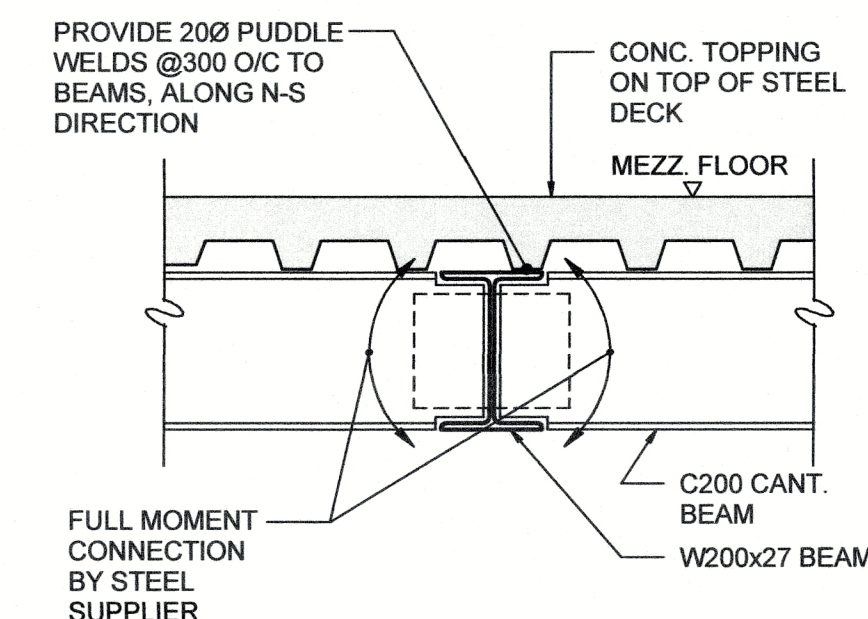
TYPICAL ROOF JOIST SUPPORT DETAIL

N.T.S.



TYPICAL STEEL STUD WALL BASE ANCHOR DETAIL

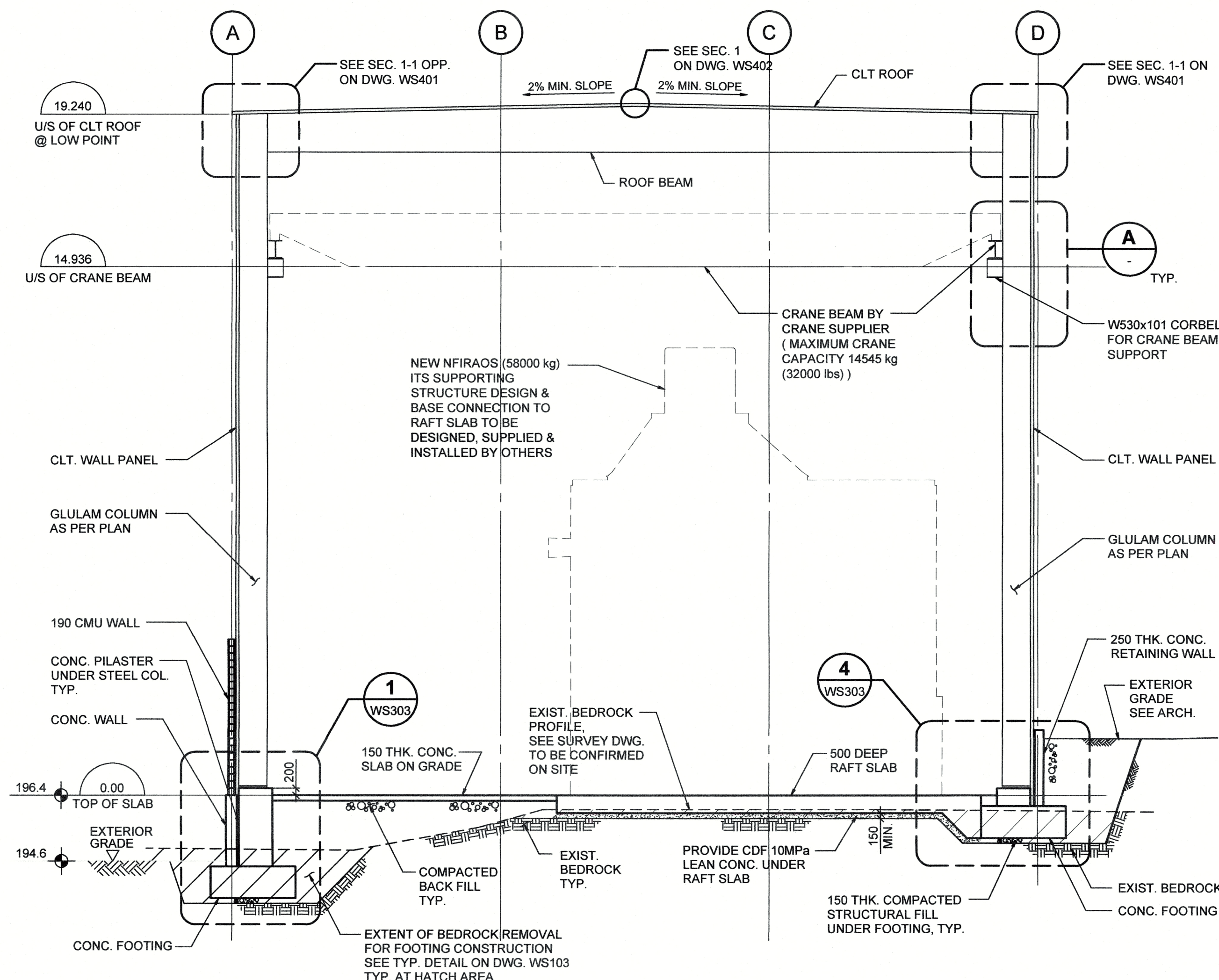
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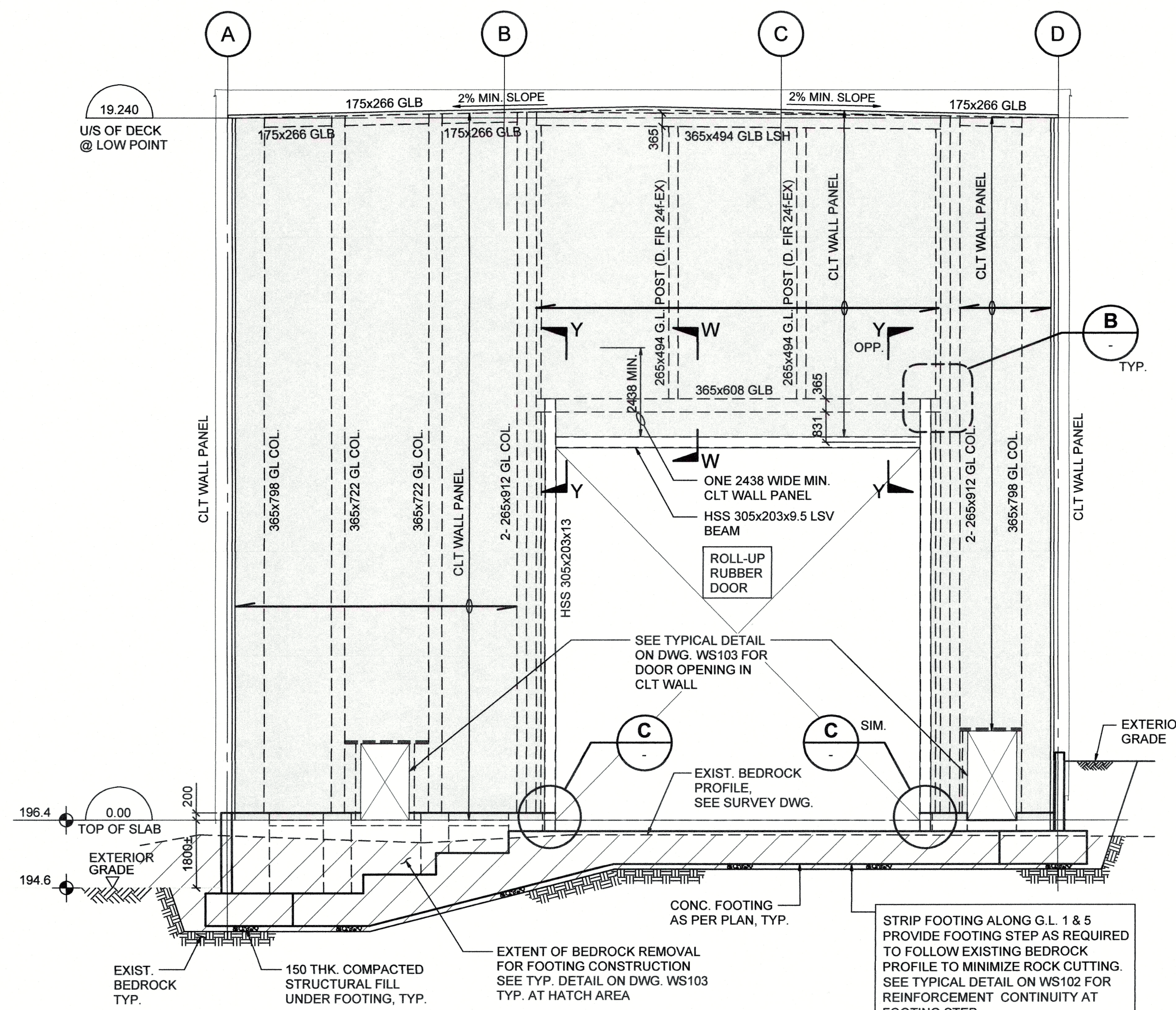
SECTION 2

1:10

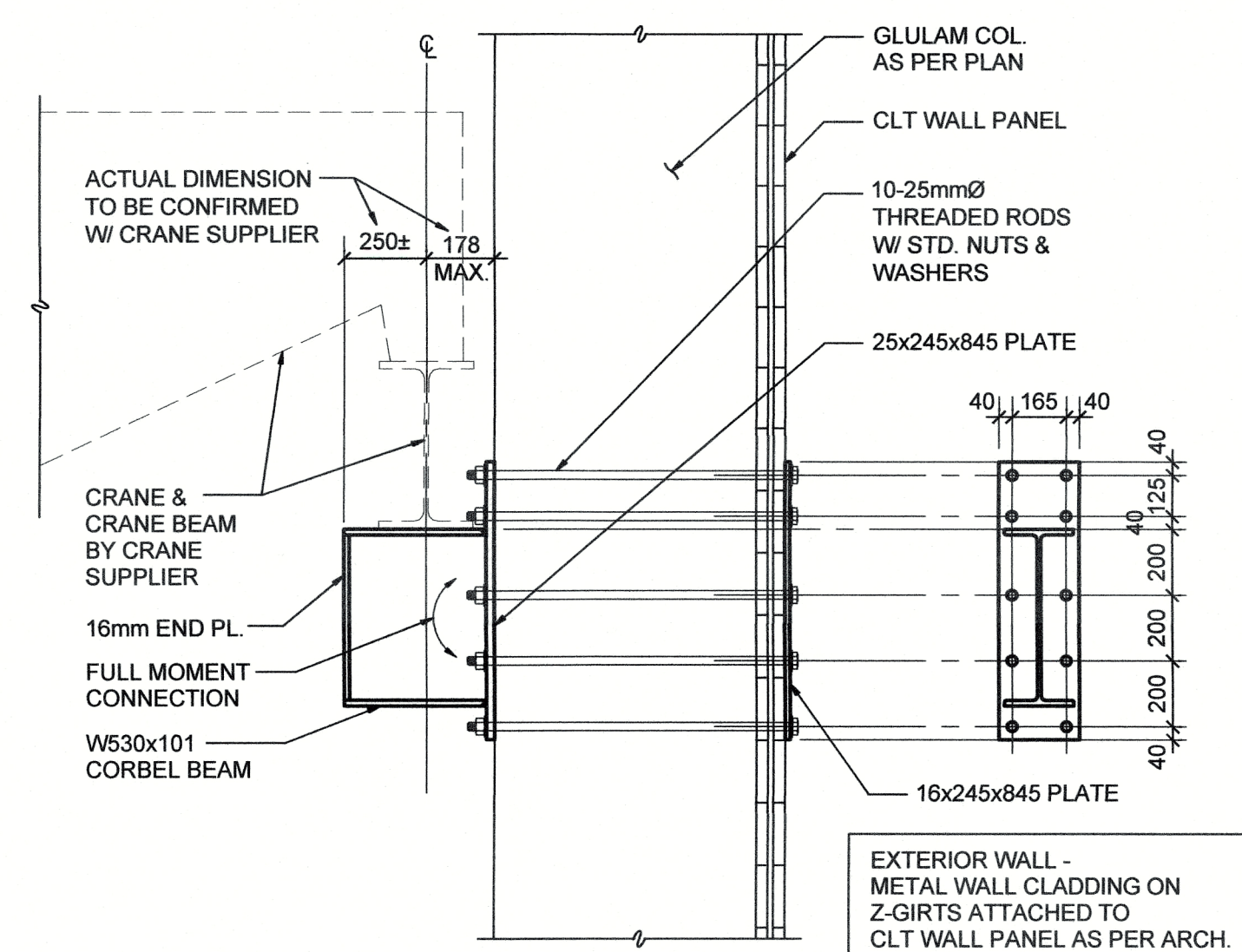
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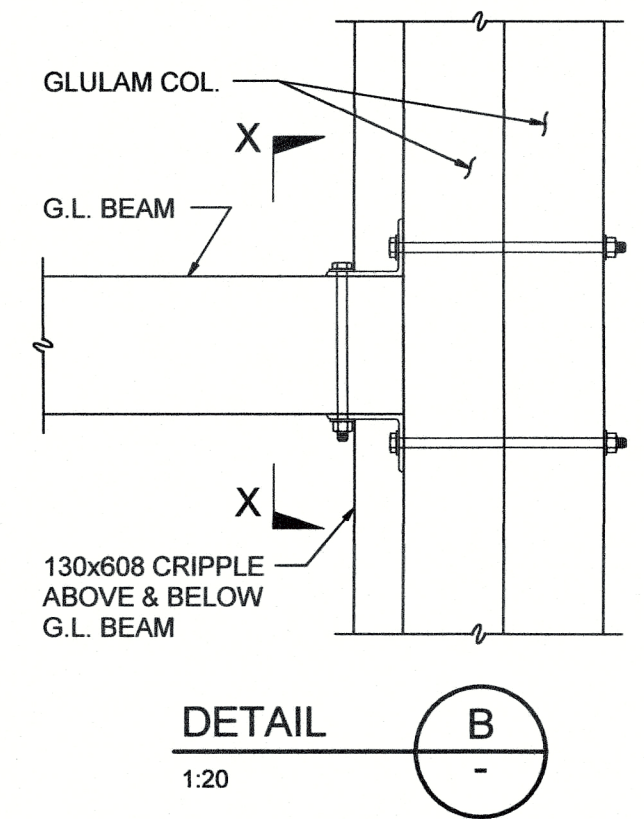
SECTION 1-1
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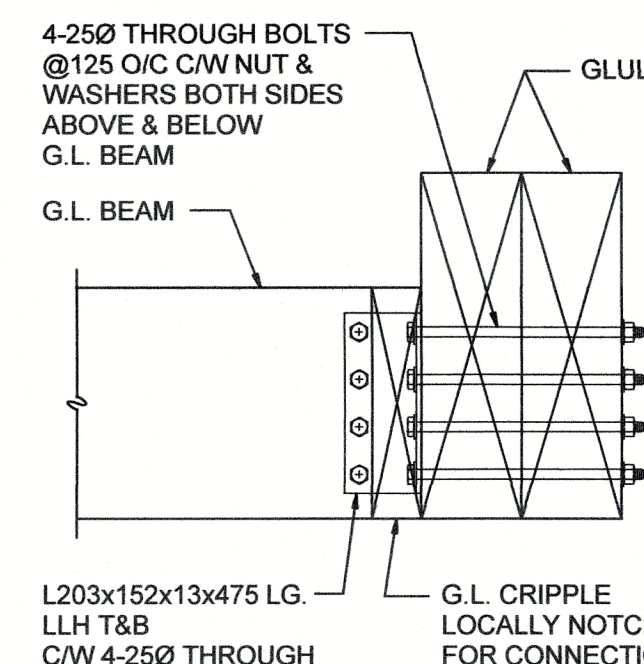
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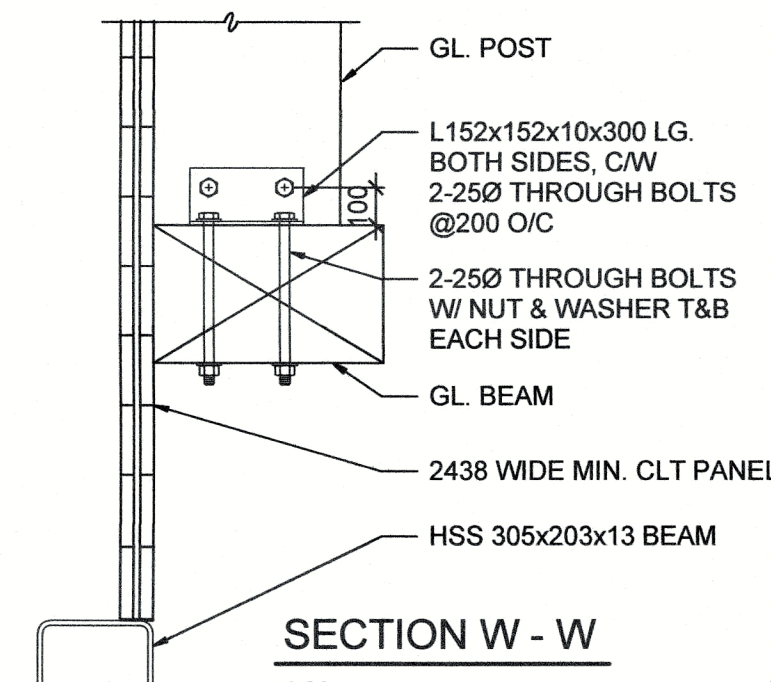
TYP. CORBEL FOR CRANE BEAM SUPPORT DETAIL
1:20



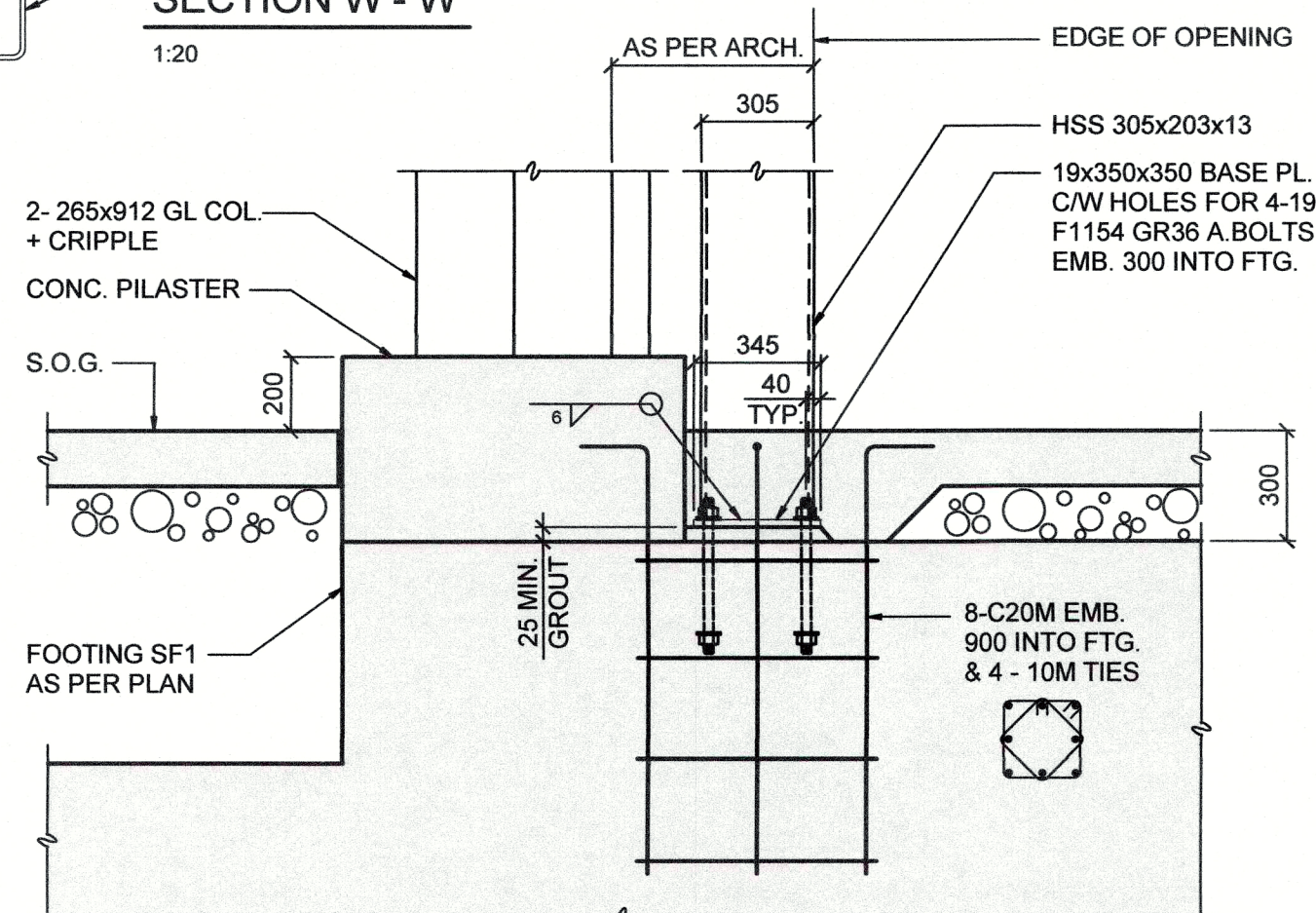
DETAIL B
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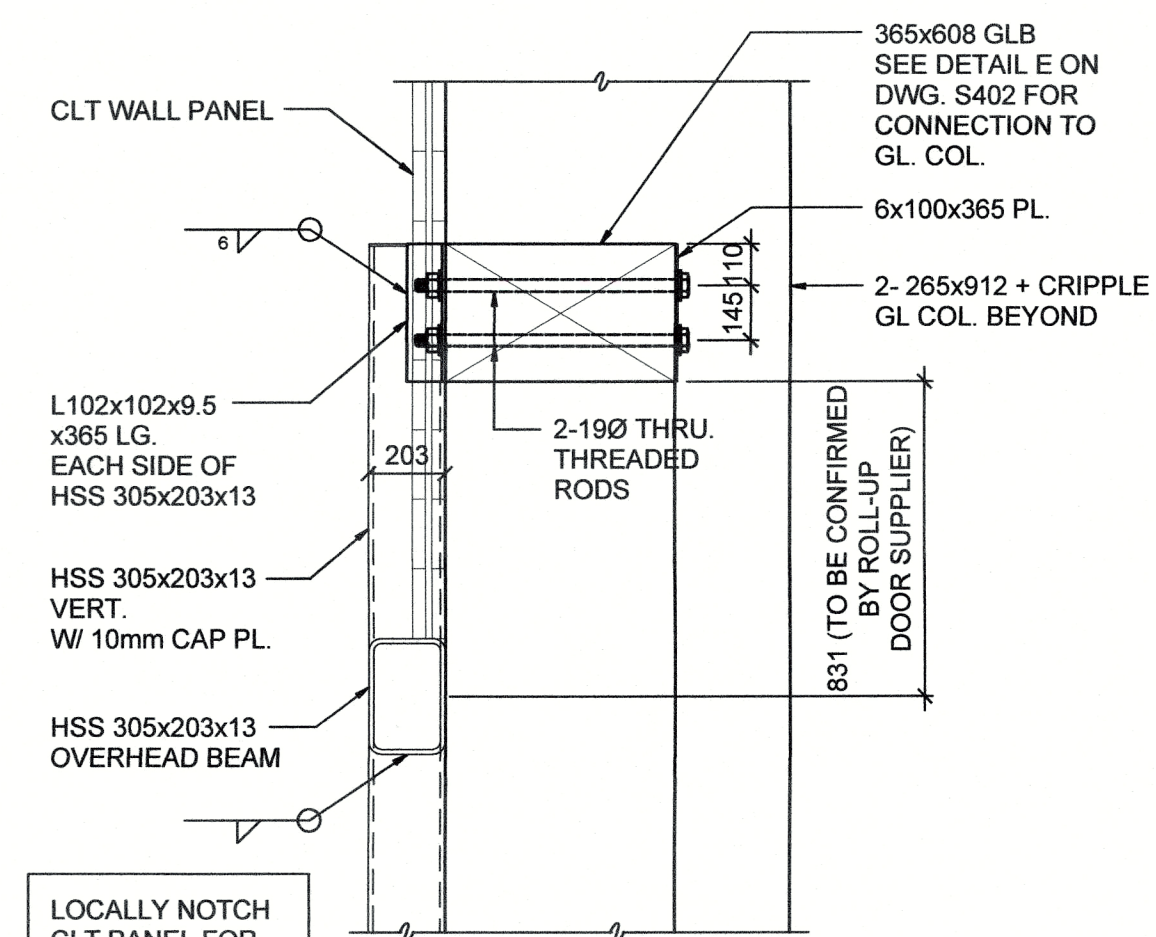
SECTION X-X
1:20



SECTION W-W
1:20



DETAIL C
1:20



SECTION Y-Y
1:20

NOTE:
1. CONFIRM DIMENSION WITH ROLL-UP DOOR SUPPLIER
2. ROLL-UP DOOR FRAME & ITS CONNECTION TO STRUCTURE TO BE DESIGNED, SUPPLIED & INSTALLED BY SUPPLIER.

Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

CHERNOFF THOMPSON ARCHITECTS

CWMM
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PWOSC Project Manager/Administrateur de Projets TPSCC
PATRICK TRUONG

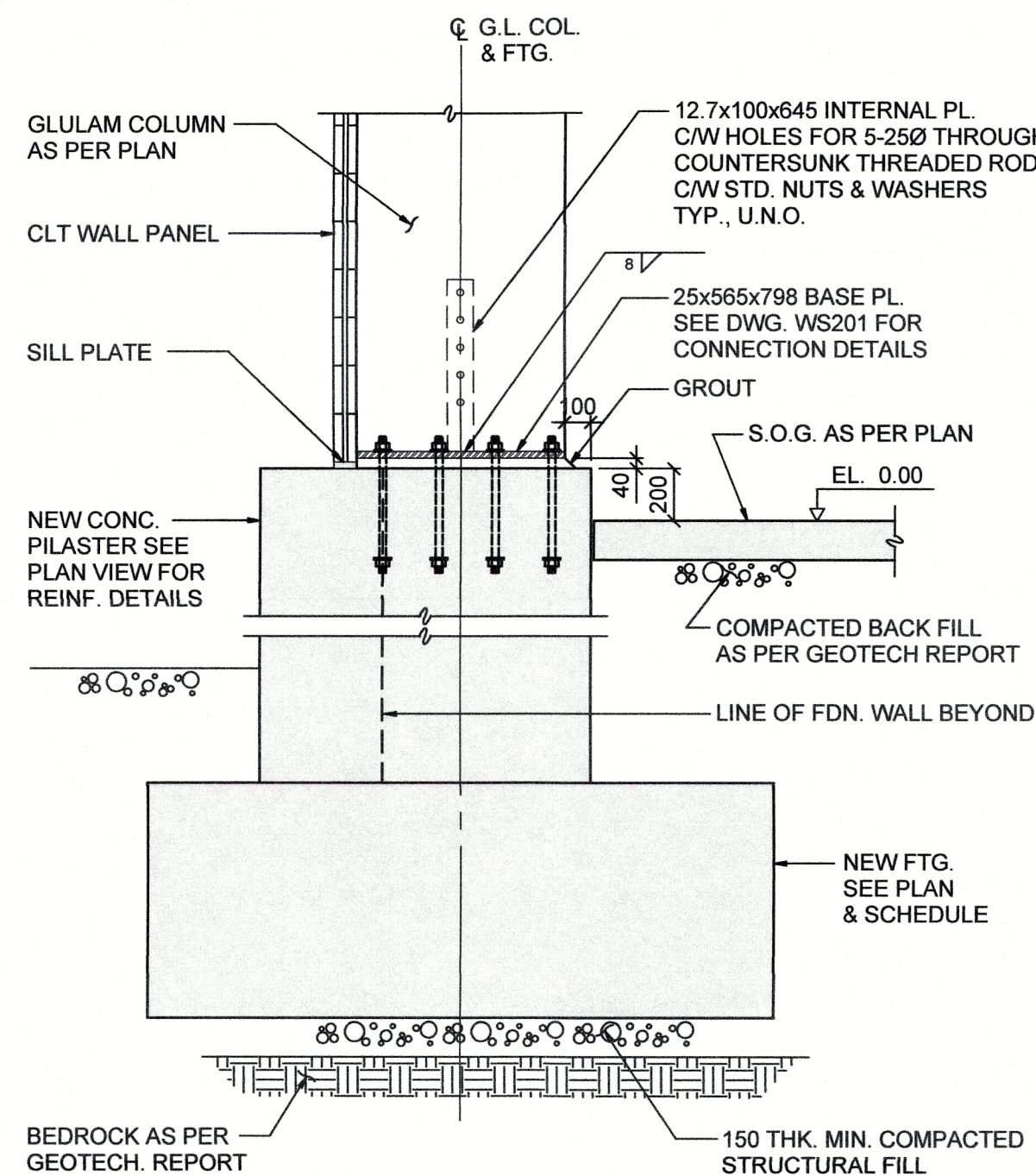
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architecture et de génie, TPSCC
PREETIPAL PAUL

Drawing title/Titre du dessin

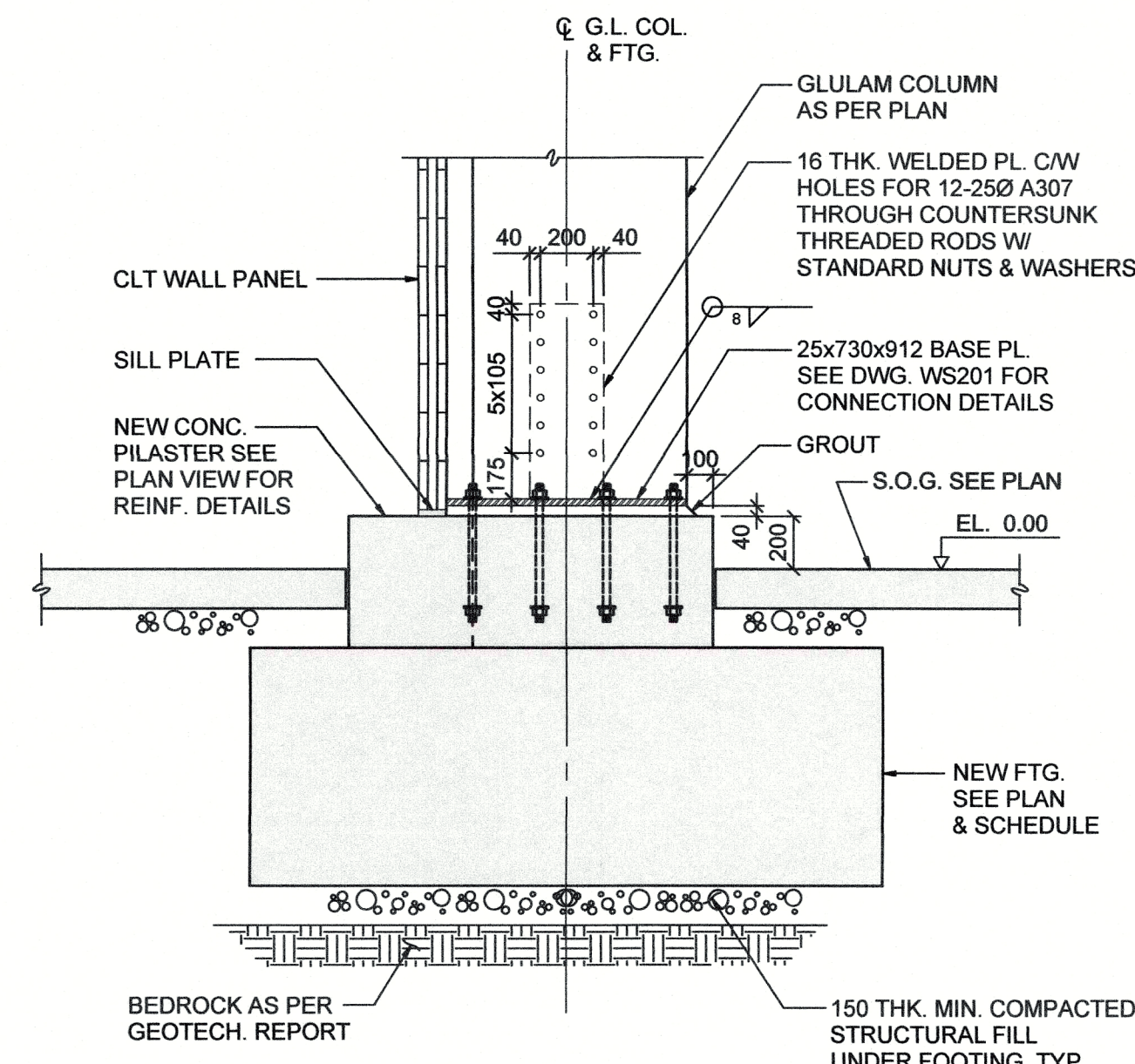
SECTIONS & DETAILS
SHEET 1

Project No./No. du projet R.077596.001	Sheet/Fauille WS301 OF XX	Revision no./Région no. 0
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12715

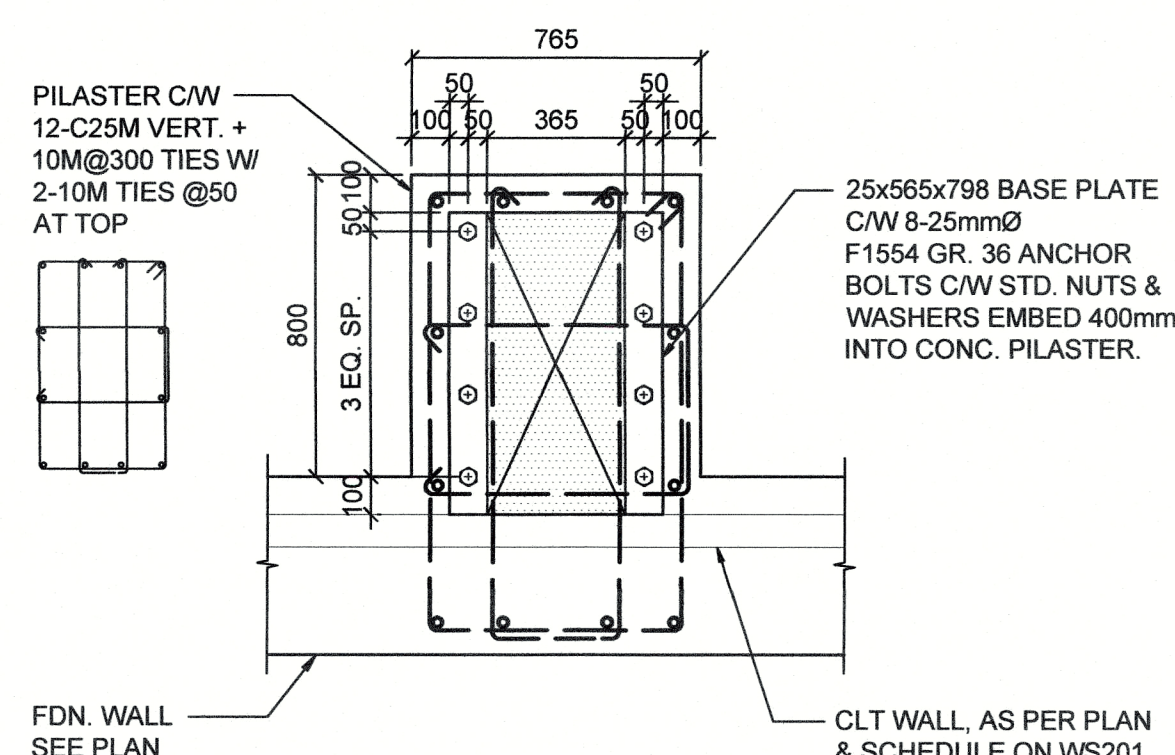


ELEVATION VIEW - COLUMN C1, C2 & C4

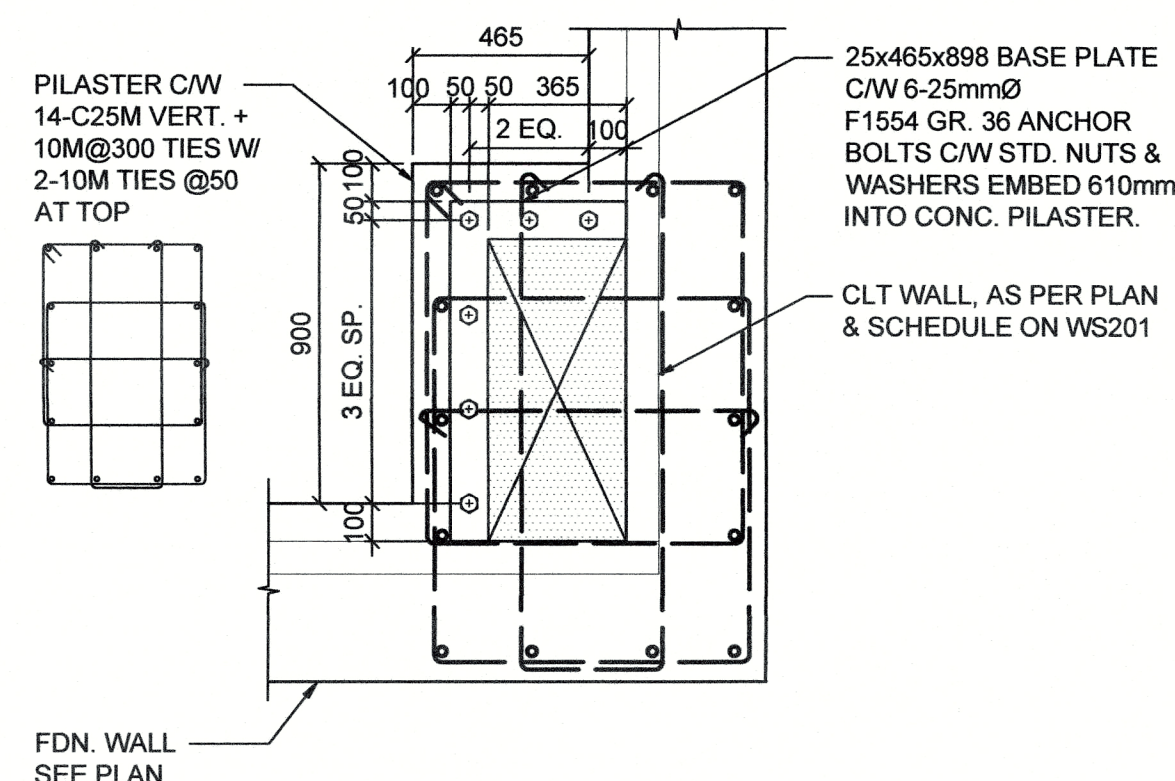


ELEVATION VIEW - COLUMN C2A & C3

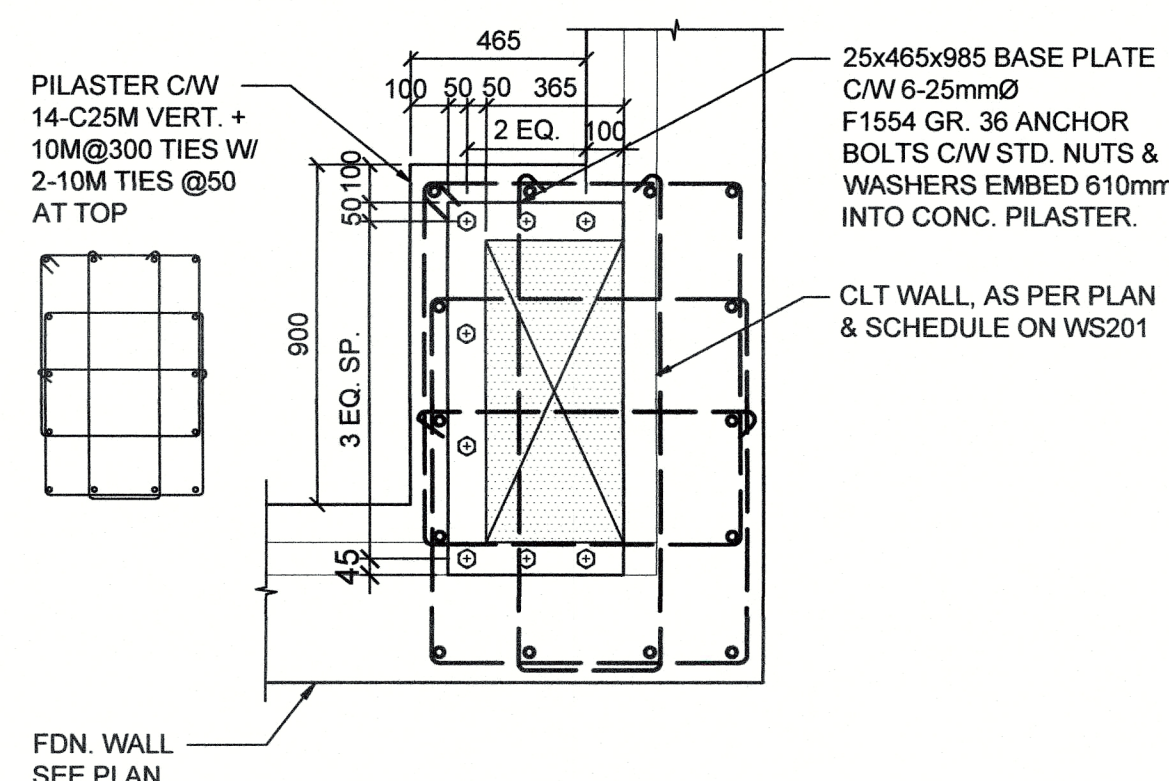
- NOTES:
- REBARS IN FOOTINGS, PILASTER & S.O.G. NOT SHOWN FOR CLARITY.
 - PROVIDE 20mm CHAMFER FOR PILASTER EDGES.



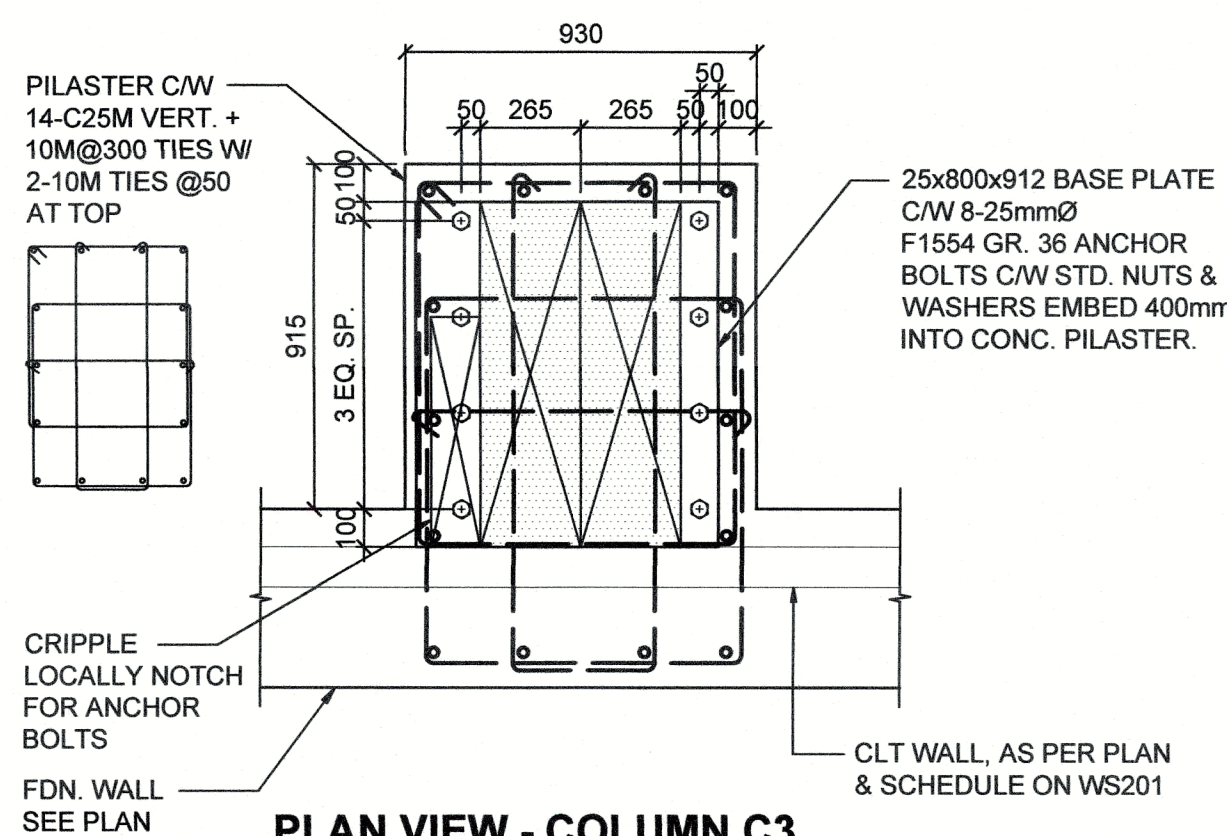
PLAN VIEW - COLUMN C1



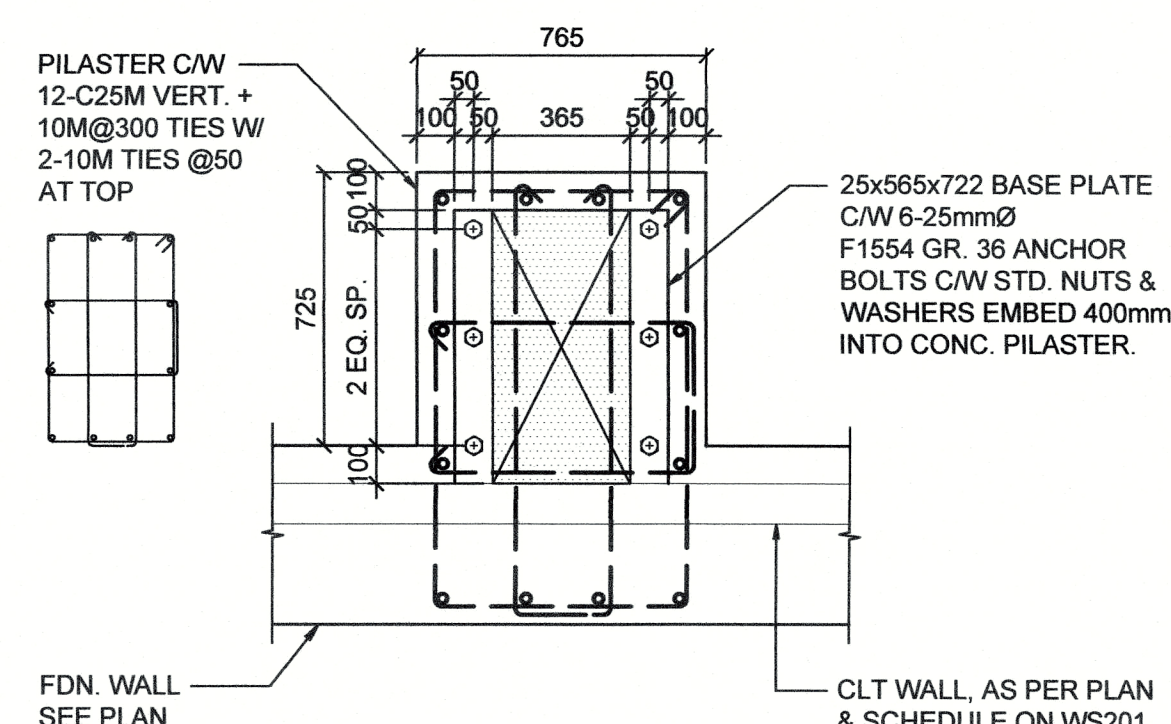
PLAN VIEW - COLUMN C2



PLAN VIEW - COLUMN C2A



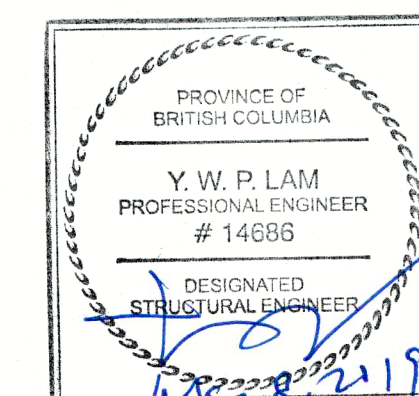
PLAN VIEW - COLUMN C3



PLAN VIEW - COLUMN C4

GLULAM COLUMN BASE DETAIL

- NOTES:
- EXTEND PILASTER VERT. BARS TO FTG. BOTTOM W/ 90° HOOK.
 - EXTEND FDN. WALL HORIZ. BARS CONT. THROUGH PILASTERS.



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Project title/Titre du projet
5071 WEST SAANICH ROAD
VICTORIA, BC, CANADA

NRC HERZBERG
ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY

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PL / SZ

Drawn by/Dessiné par
MC

PWGSC Project Manager/Administrateur de Projets TPSGC
PATRICK TRUONG

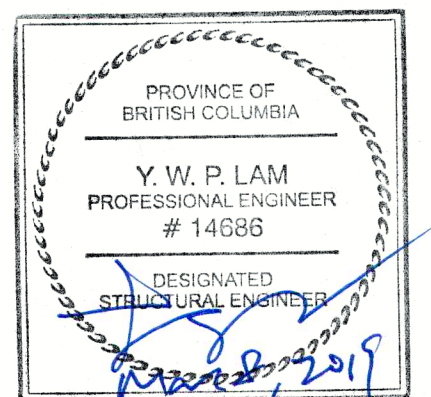
Regional Manager, Architectural and Engineering Services
Gestionnaire régional, Services d'architecture et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

SECTIONS & DETAILS
SHEET 2

Project No./No. du projet	Sheet/Fauille	Revision no./La Révision no.
R.077596.001	WS302 OF XX	0

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PATRICK TRUONG

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Gestionnaire régional, Services d'architecture et de génie, TPSGC
PREETPAL PAUL

Drawing title/Titre du dessin

SECTIONS & DETAILS
SHEET 3

Project No./No. du projet

R.077596.001

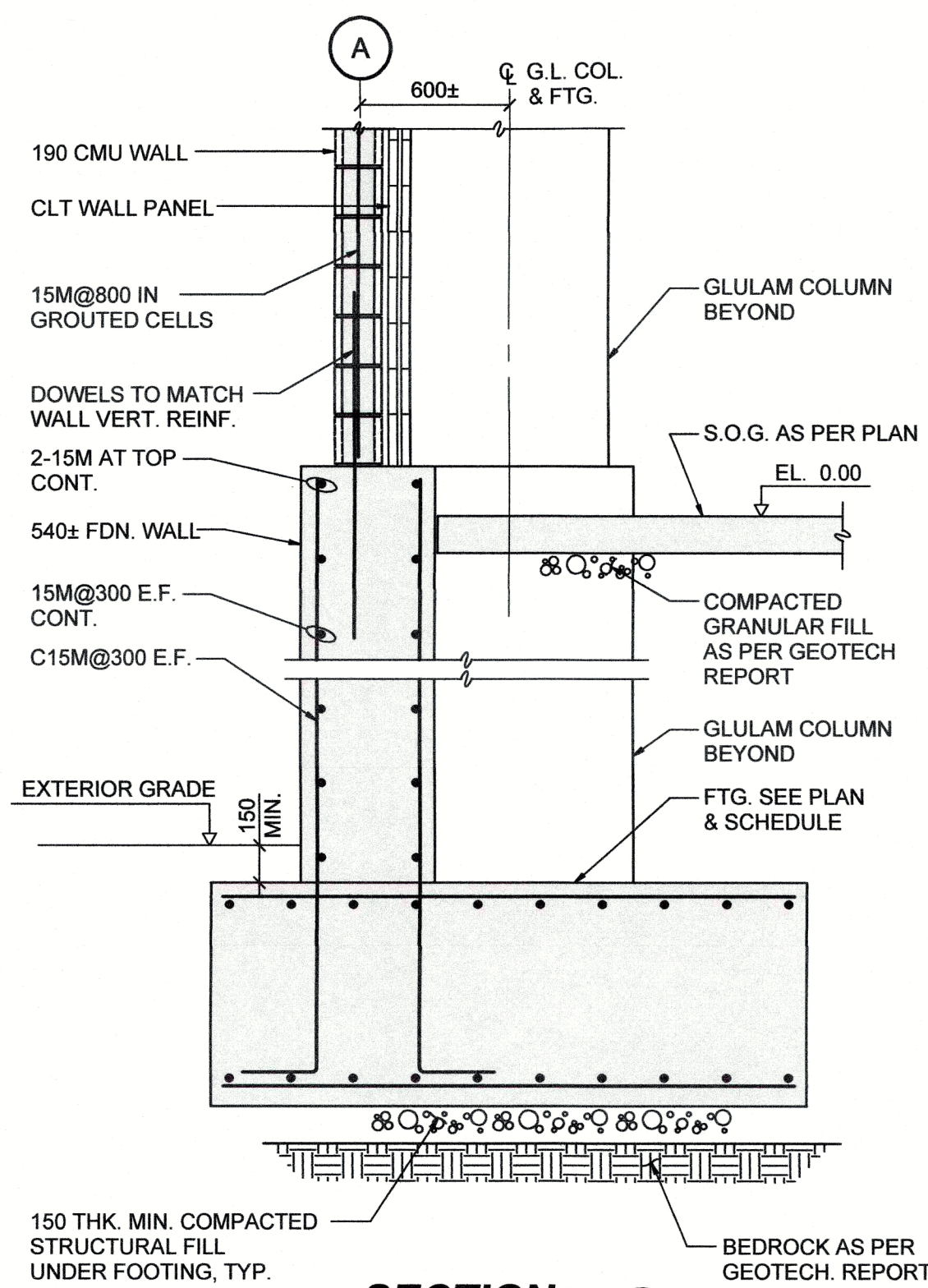
Sheet/Fauille

WS303

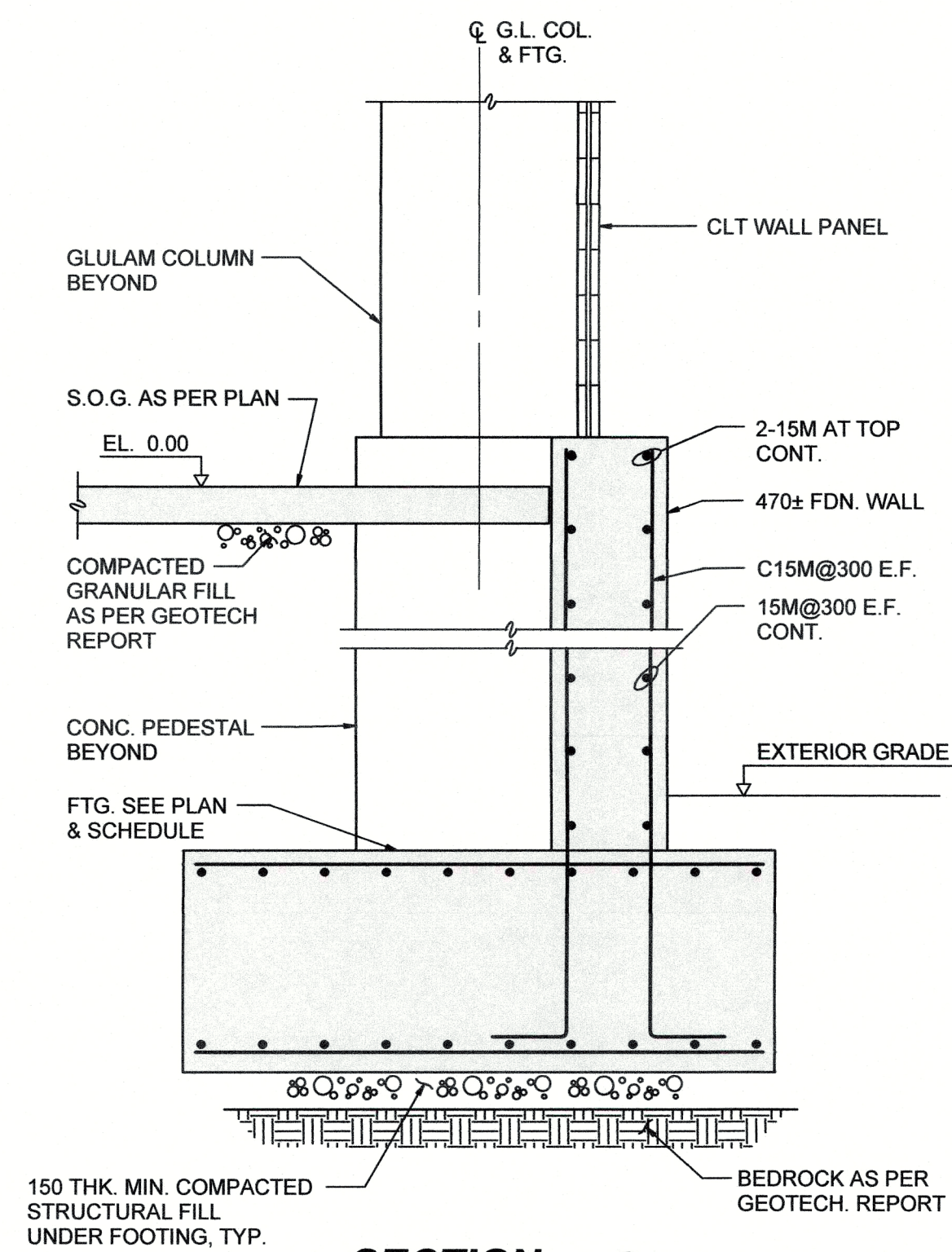
Revision no./La Révision no.

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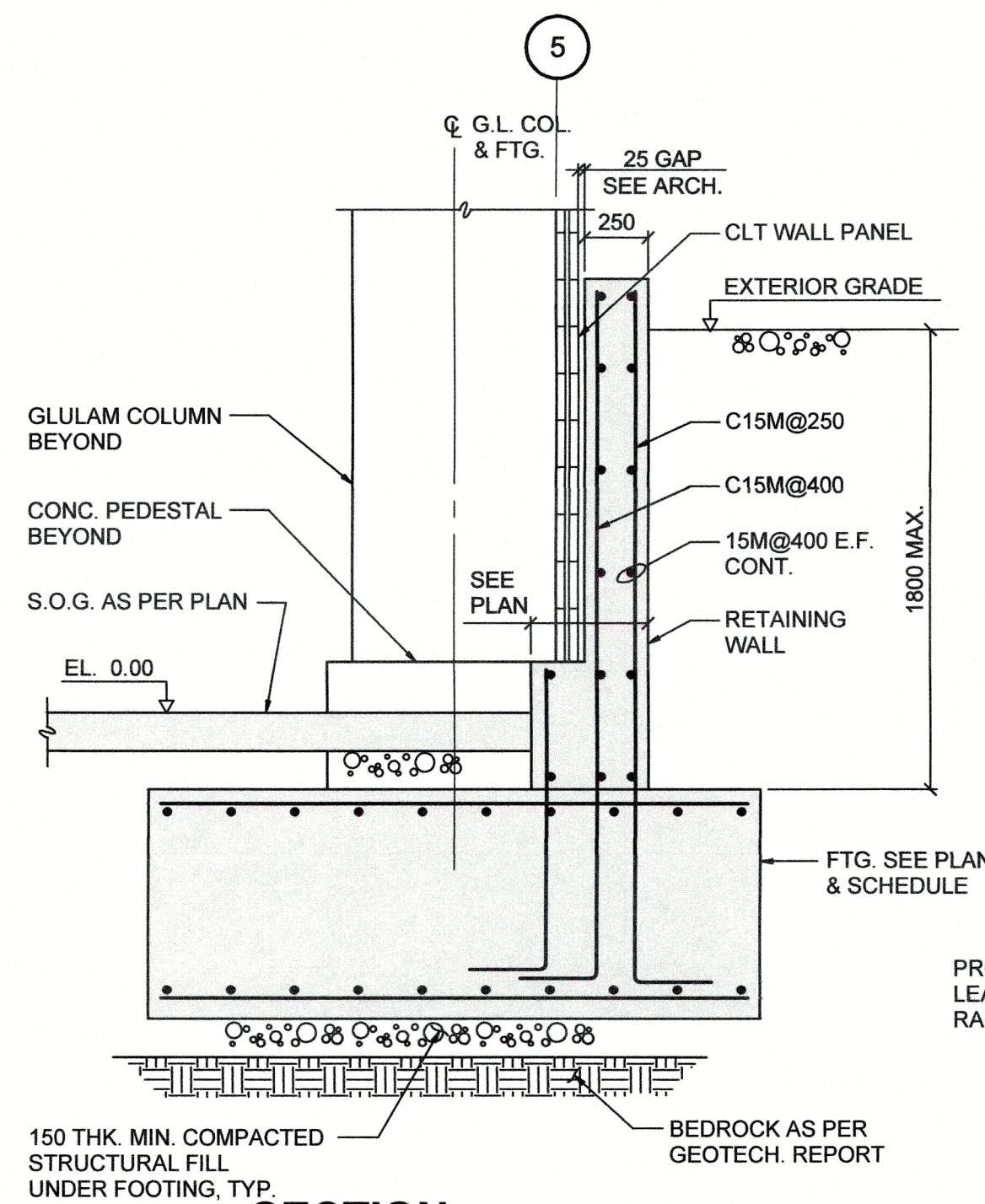
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SECTION 1
1:25 WS201

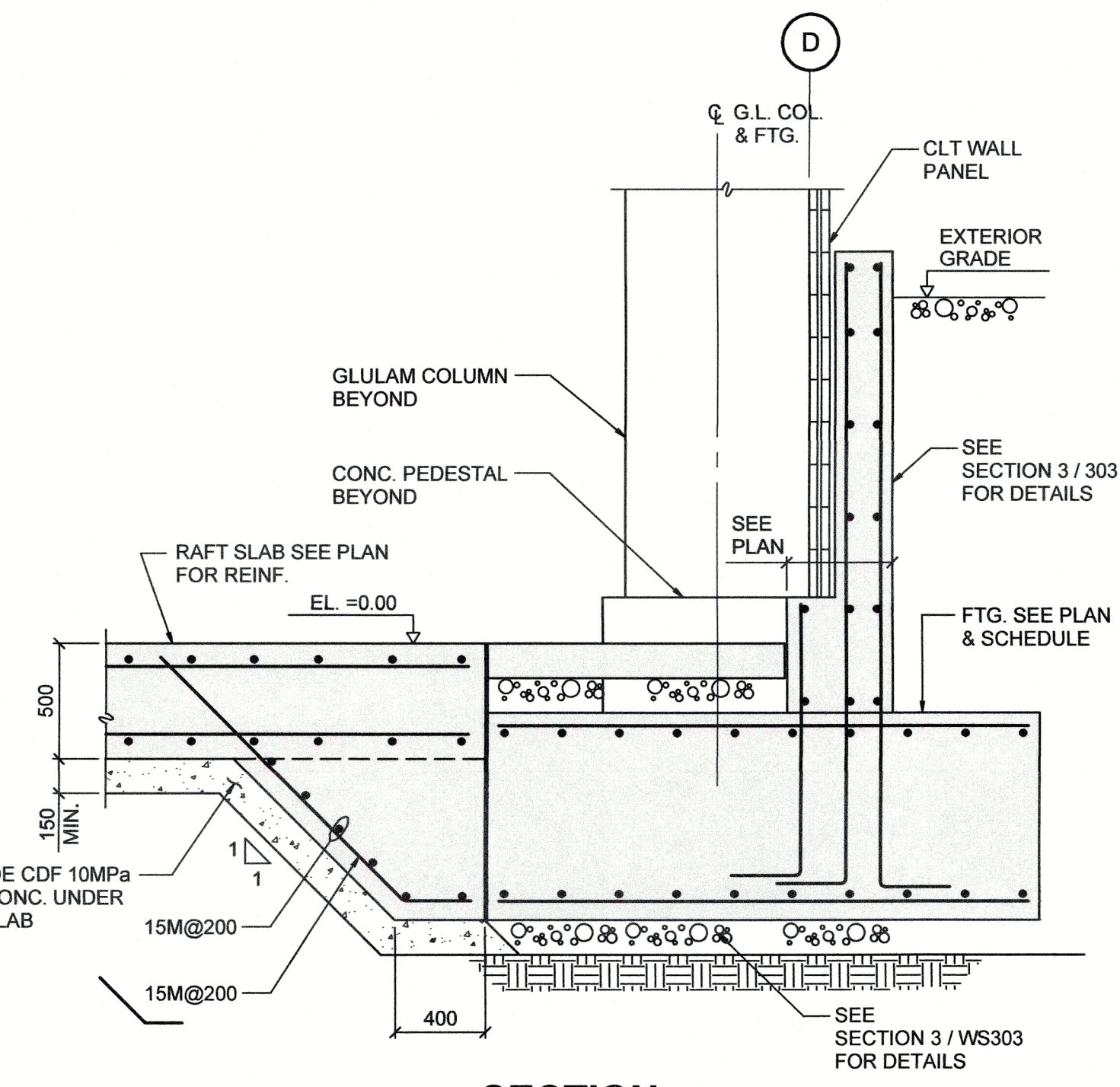


SECTION 2
1:25 WS201

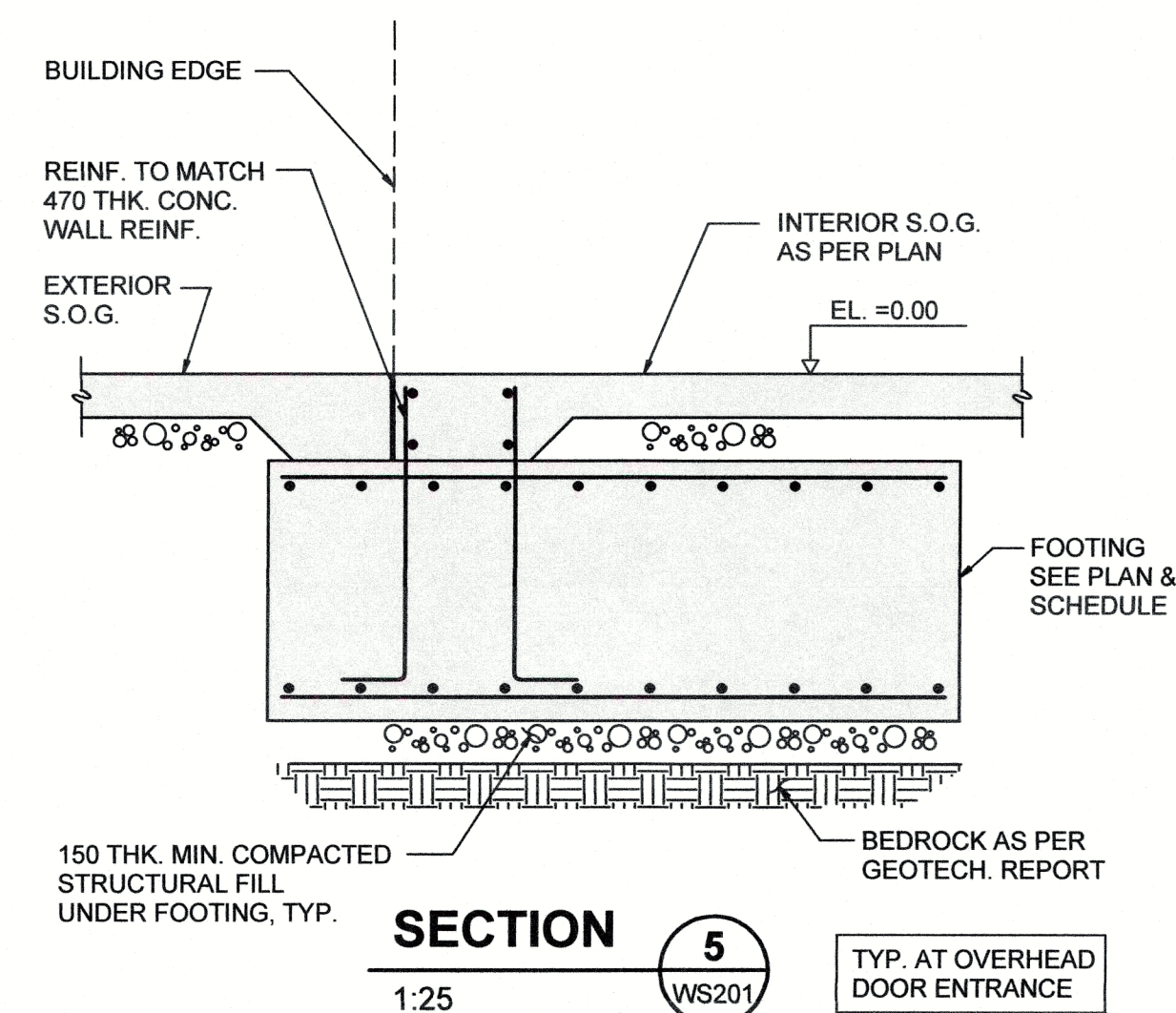


SECTION 3
1:25 WS201 WS201

CONTRACTOR SHOULD COMPLETE THE CLT WALL PANEL INSTALLATION PRIOR TO CONSTRUCTION OF RETAINING WALL

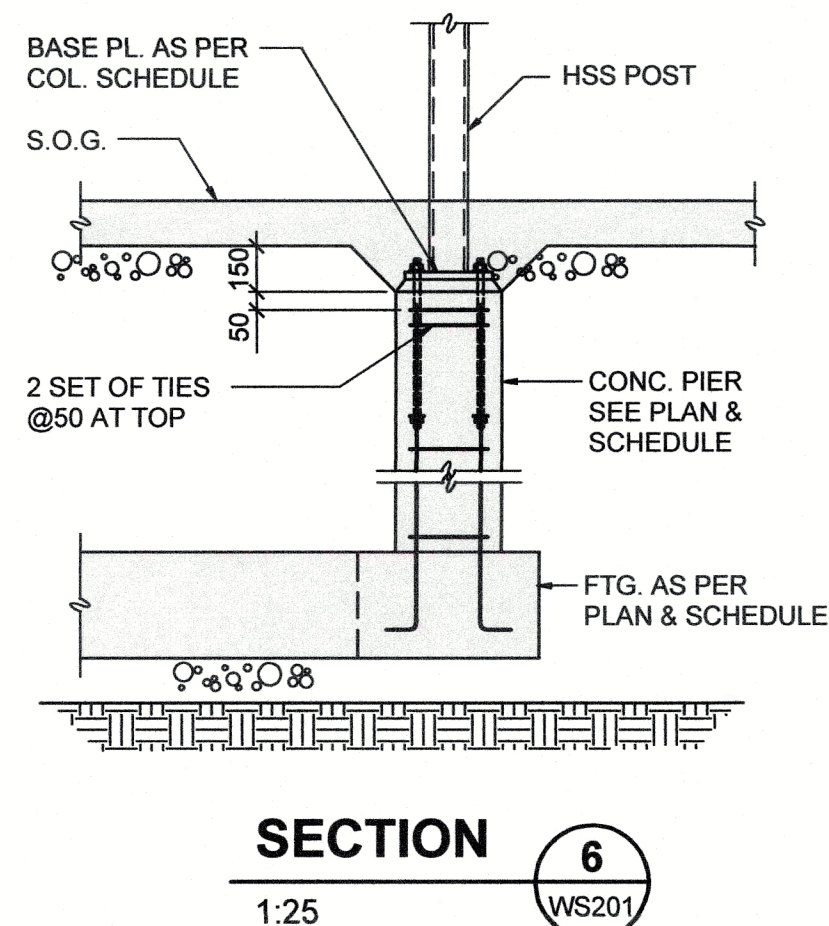


SECTION 4
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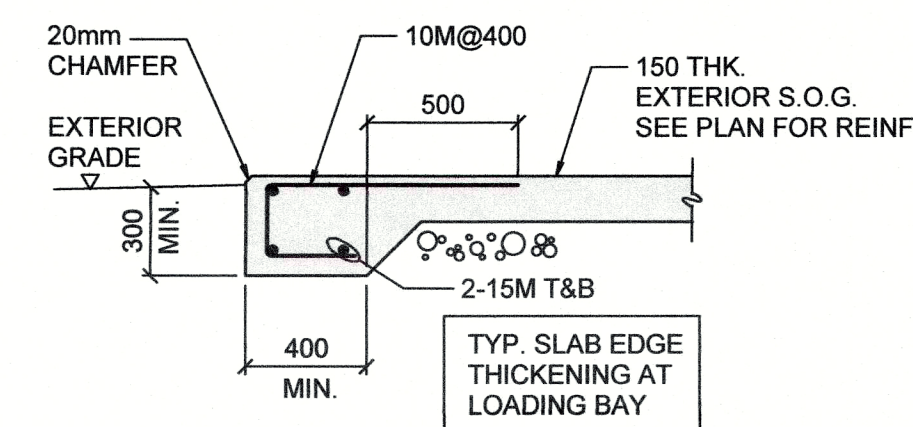


SECTION 5
1:25 WS201

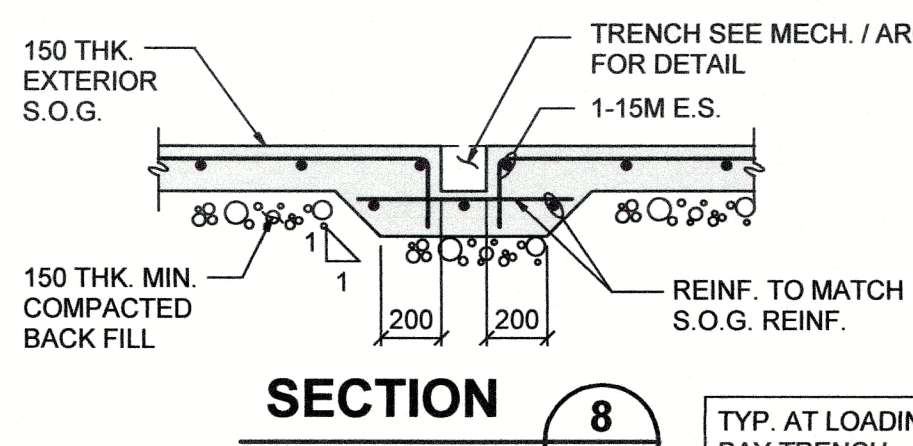
TYP. AT OVERHEAD DOOR ENTRANCE



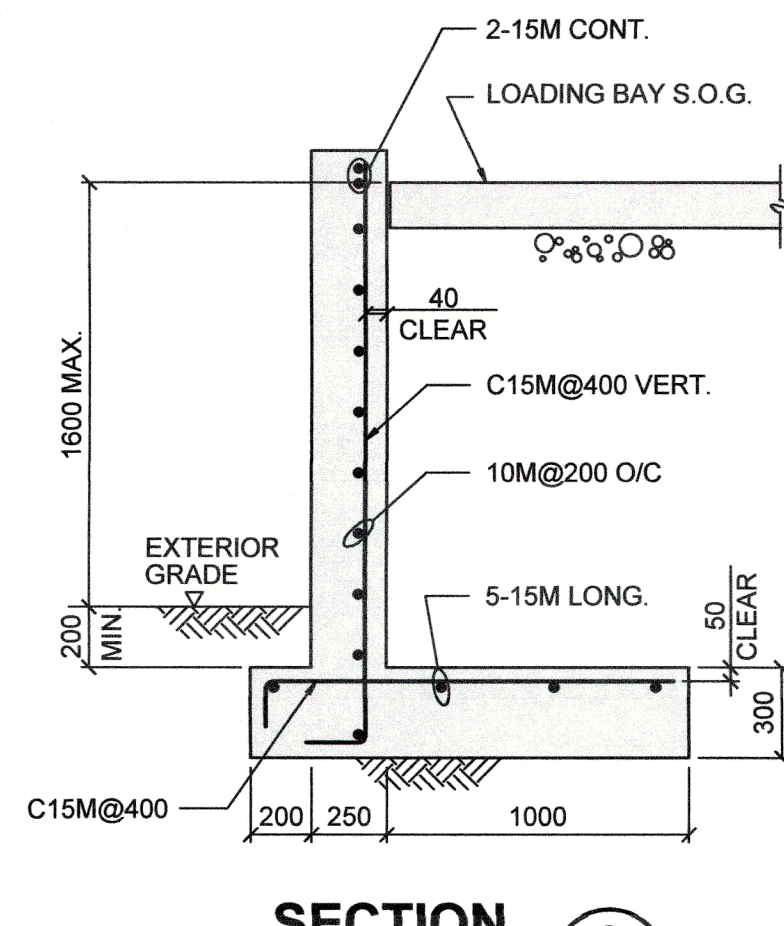
SECTION 6
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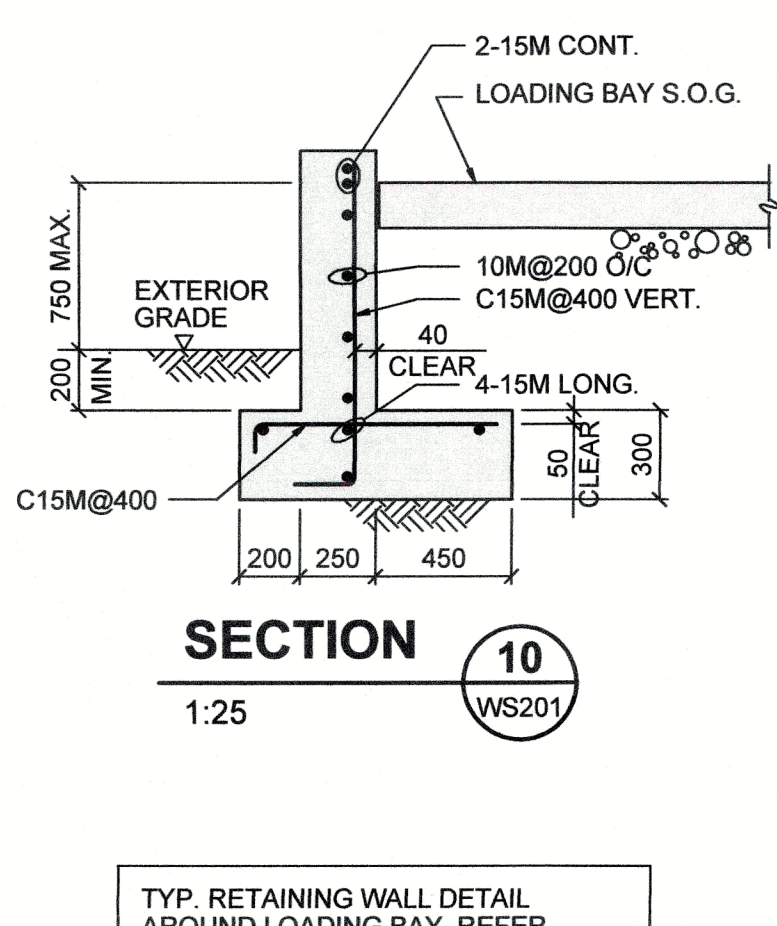
SECTION 7
1:25 WS201



SECTION 8
1:25 WS201

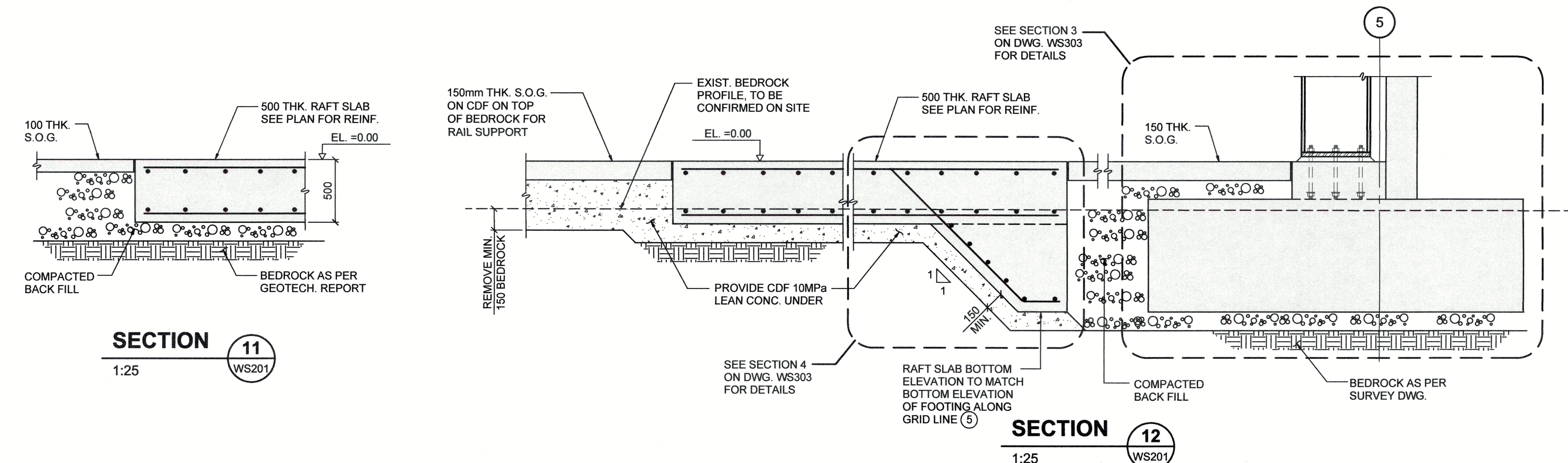


SECTION 9
1:25 WS201



SECTION 10
1:25 WS201

TYP. RETAINING WALL DETAIL AROUND LOADING BAY, REFER TO MECH. / ARCH. DWG. FOR DRAINAGE AROUND RETAINING WALL

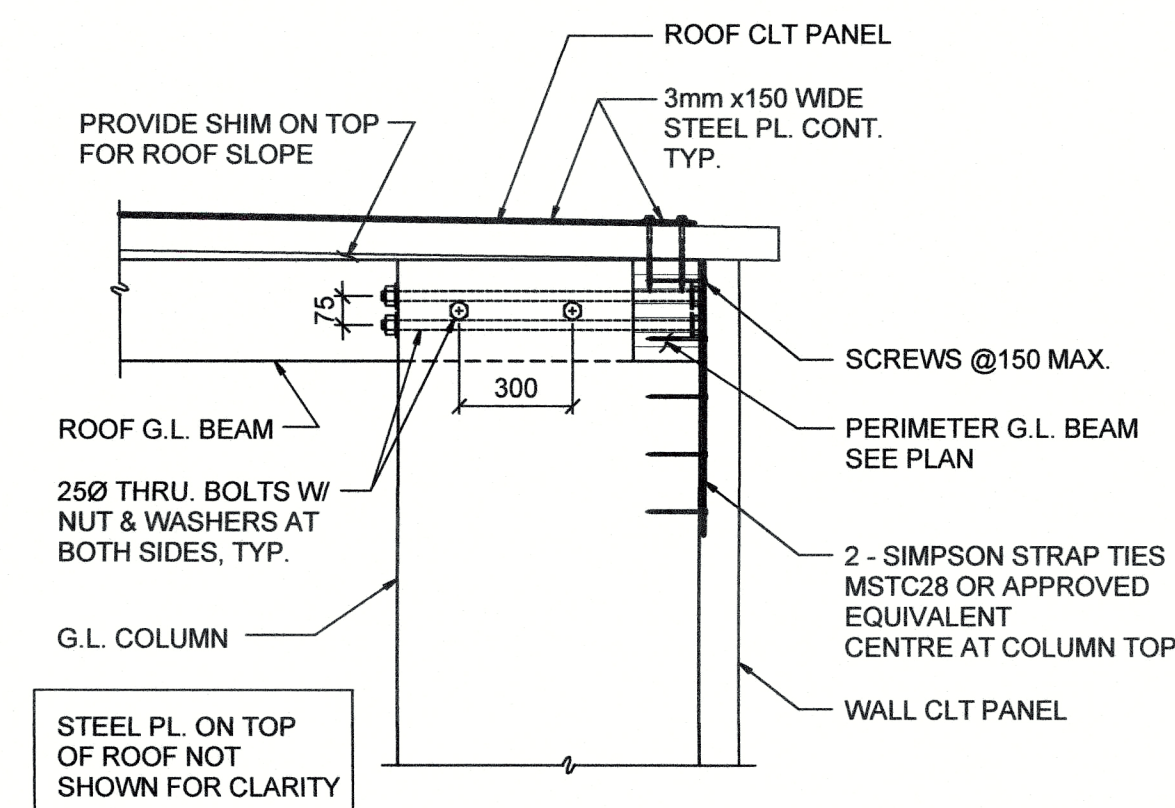
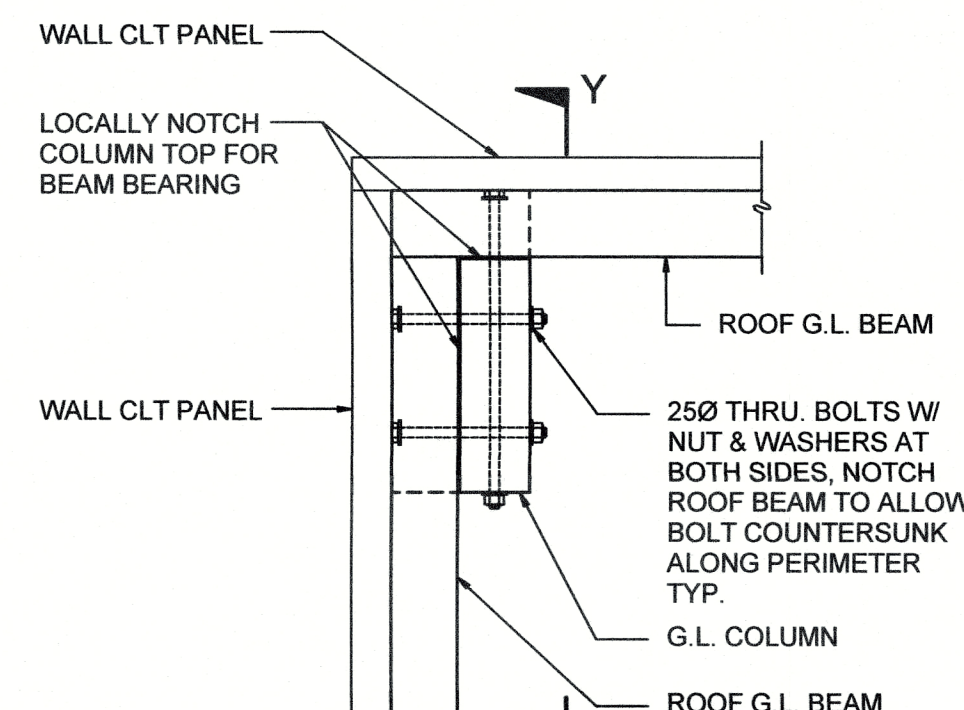
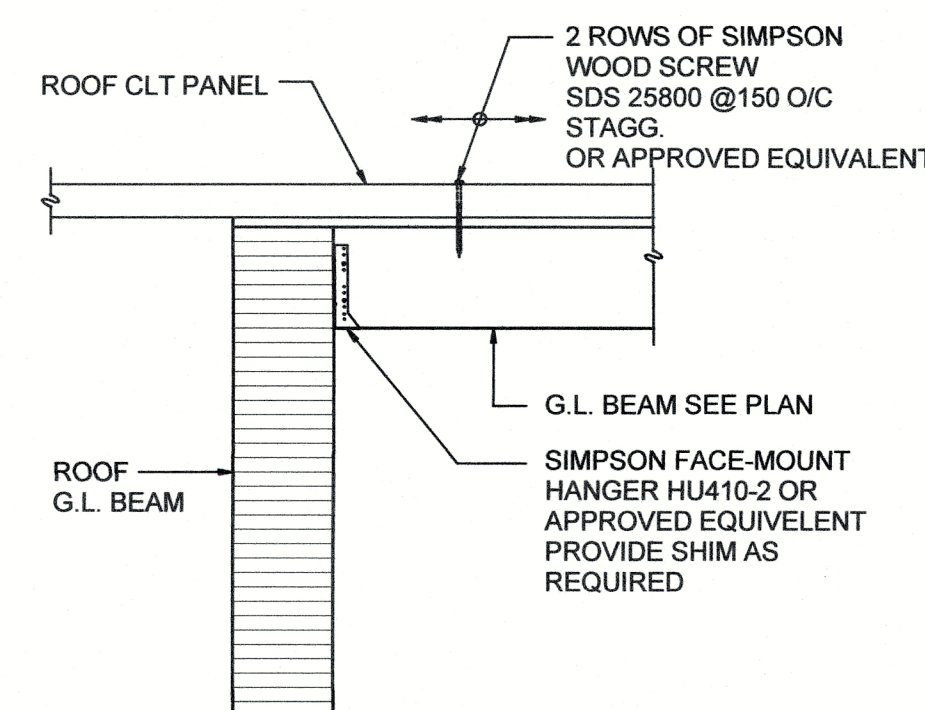
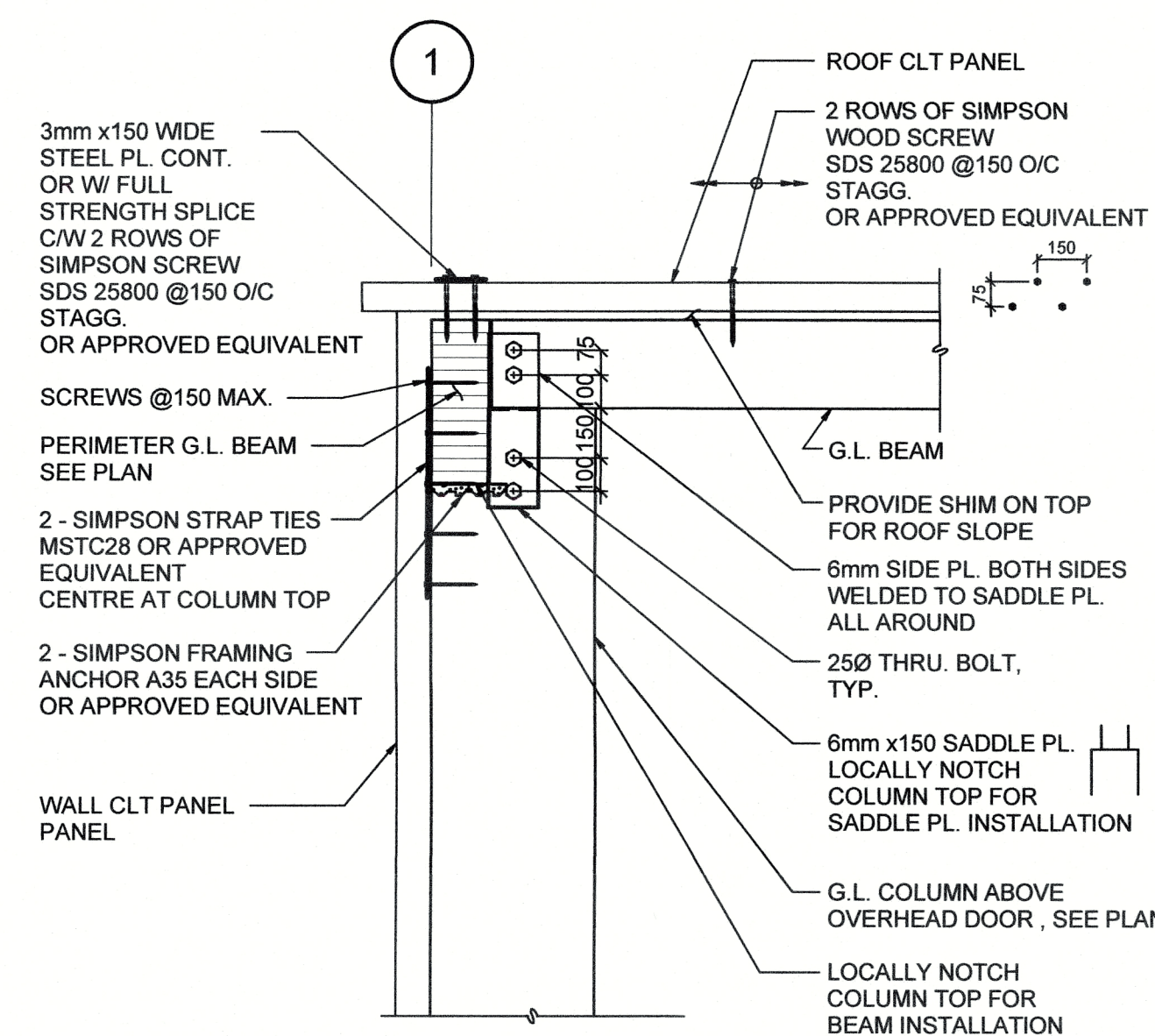
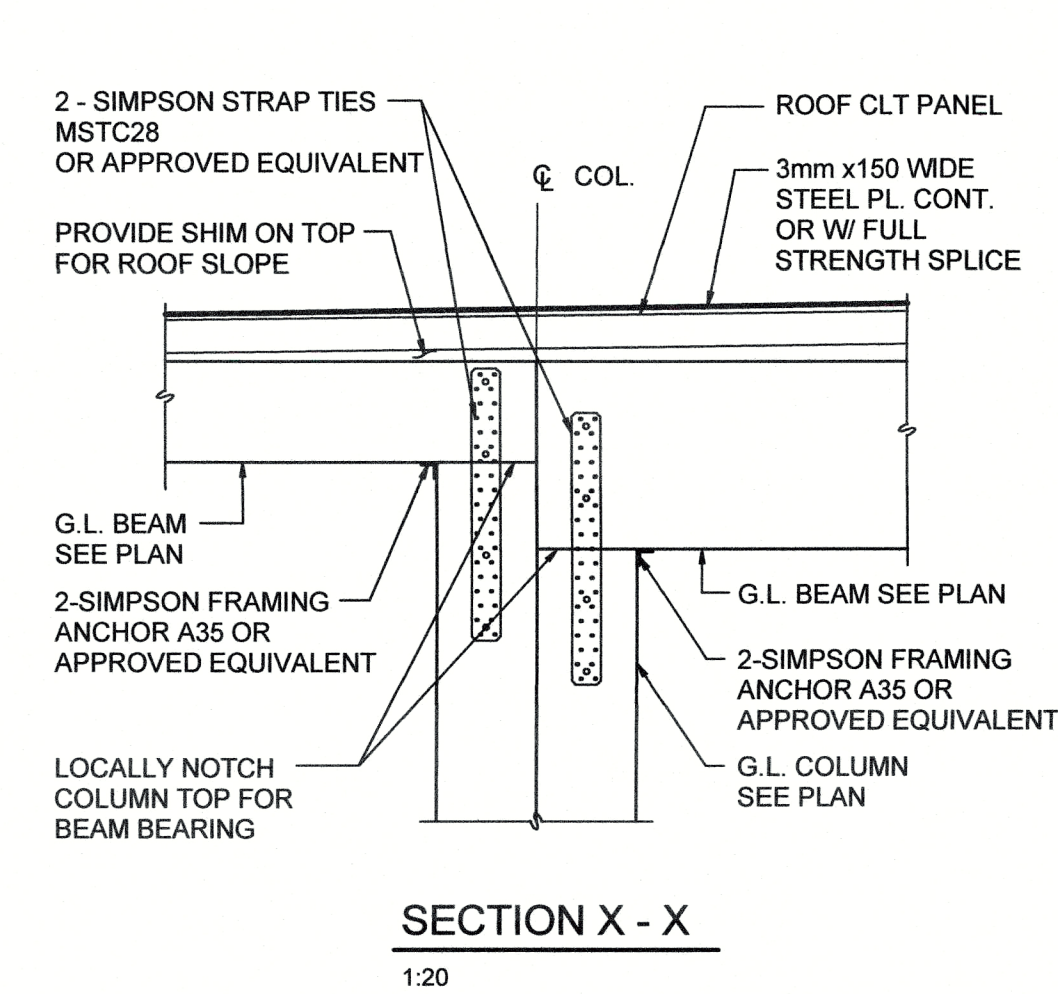
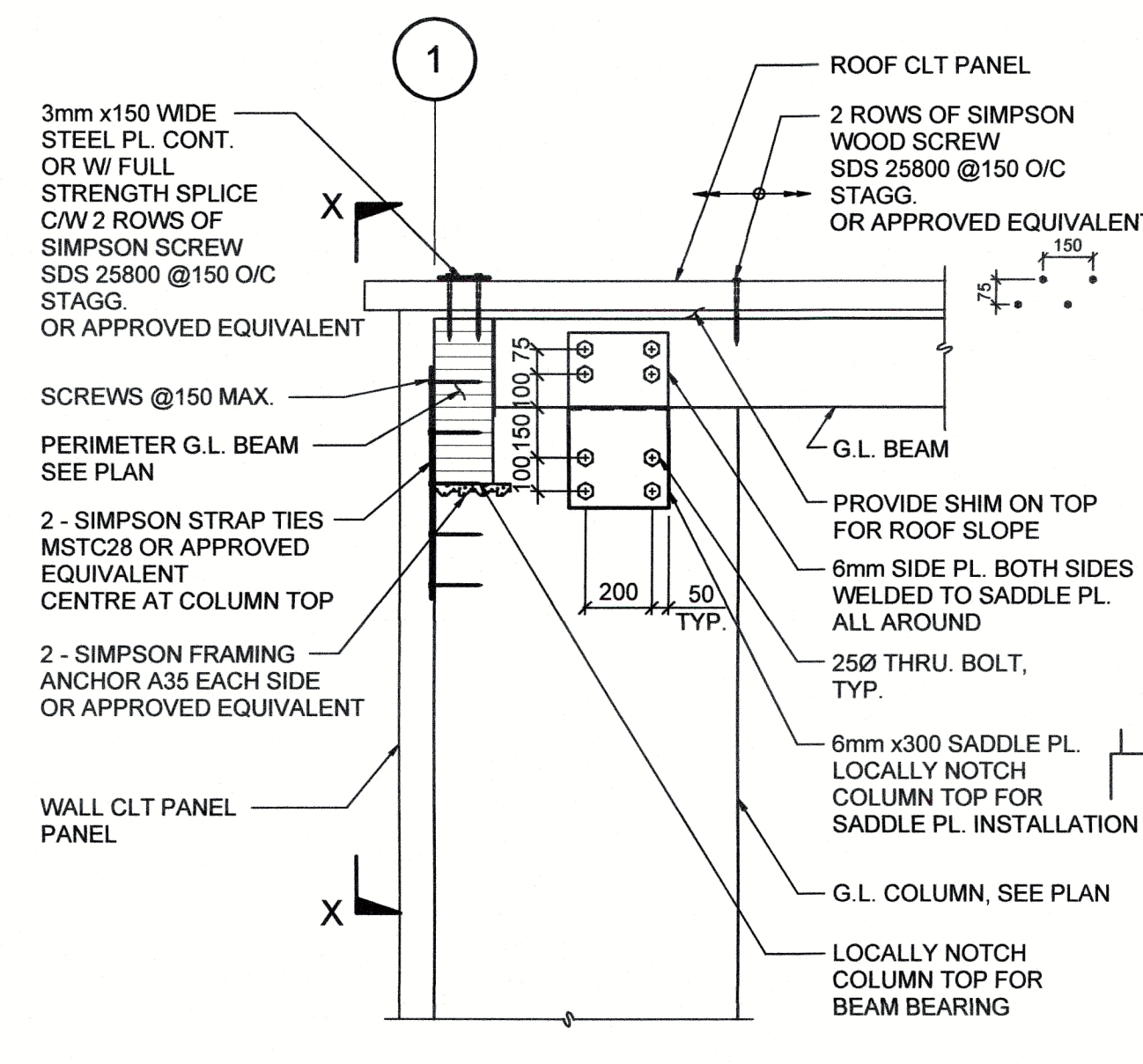
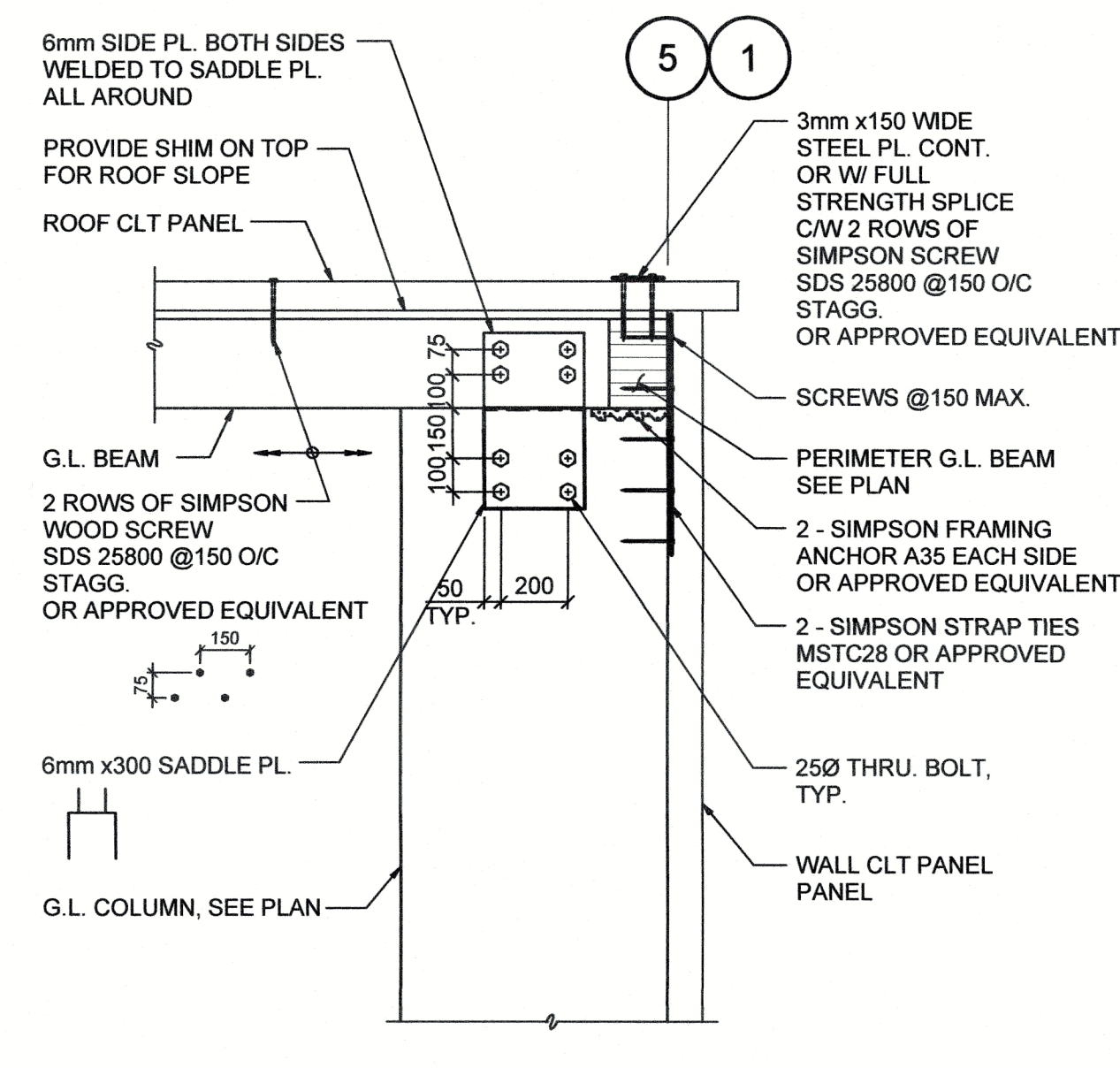
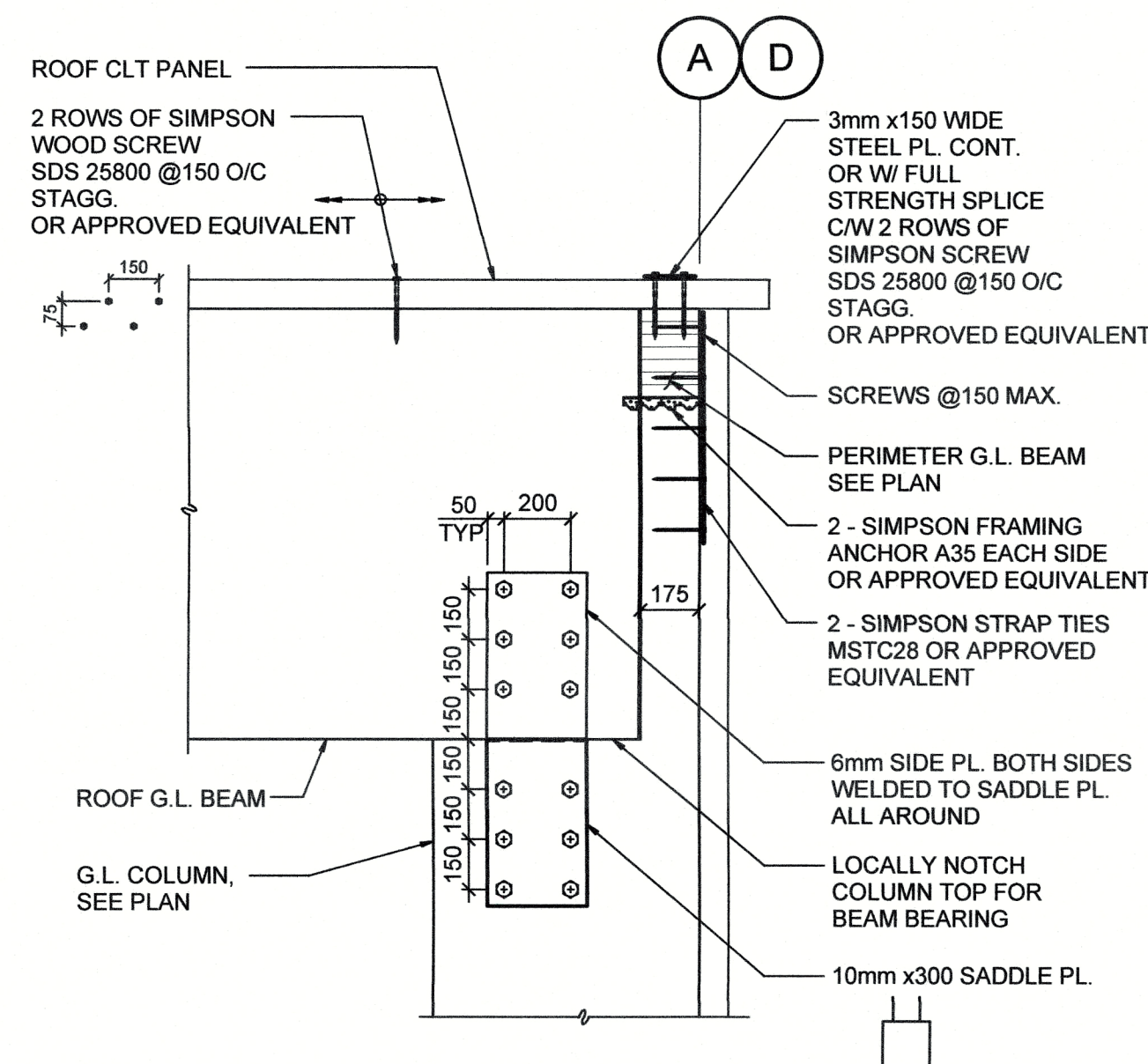


SECTION 11
1:25 WS201

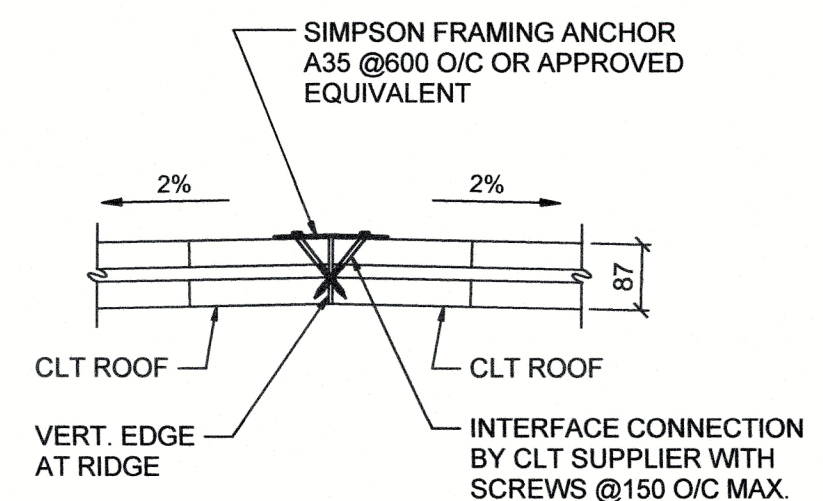
SECTION 12
1:25 WS201

NOTES:

1. REFER TO DWG. WS201 FOR BASE PREPARATION UNDER FOOTING & SLAB ON GRADE.
3. REFER TO DWG. WS302 FOR COL. BASE DETAIL.
5. REFER TO DWG. WS403 FOR CLT WALL PANEL BASE CONNECTION DESIGN REQUIREMENTS.
7. PROVIDE 20mm CHAMFER FOR FOUNDATION WALL TOP ALONG EDGES.



NOTE:
WALL & ROOF CLT PANEL CONNECTION TO STRUCTURAL MEMBERS NOT SHOWN IN THE SECTIONS / DETAILS FOR CLARITY. REFER TO NOTES ON DWG. WS403 FOR WALL & ROOF CLT CONNECTION DESIGN REQUIREMENTS



REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

CHERNOFF THOMPSON ARCHITECTS

CWMM CONSULTING ENGINEERS LTD.

PROVINCE OF BRITISH COLUMBIA
Y. W. P. LAM
PROFESSIONAL ENGINEER
14986
DESIGNATED STRUCTURAL ENGINEER

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ASTRONOMY AND ASTROPHYSICS
ATP INTEGRATION FACILITY**

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MC

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PATRICK TRUONG

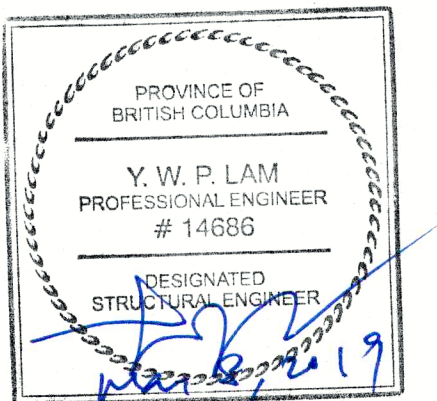
Regional Manager, Architectural and Engineering Services
Gestionnaire régional, Services d'architecture et de génie, TPSGC
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Sheet/Feuille
WS401
OF XX

Revision no./La Révision no.
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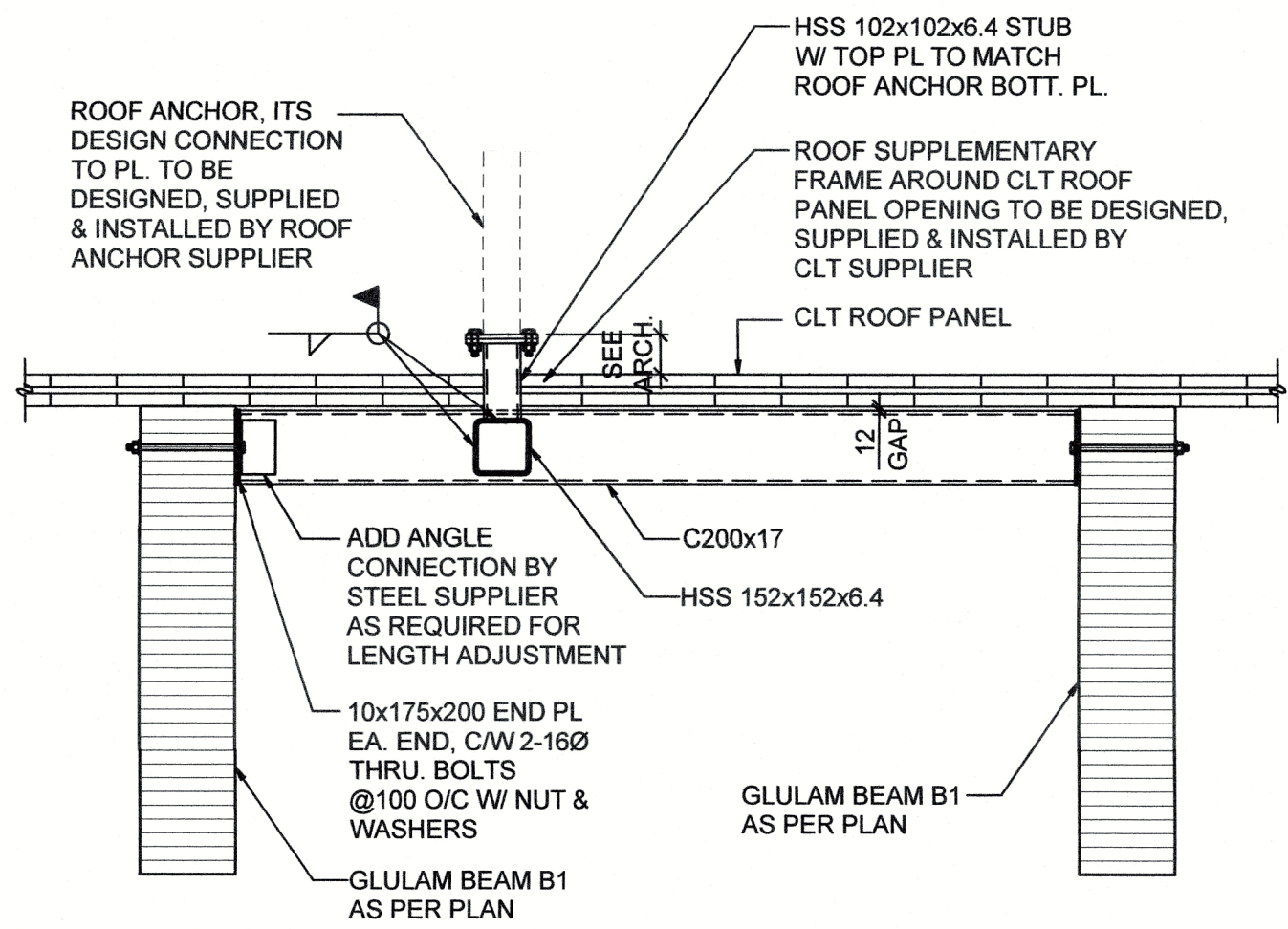
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Gestionnaire régionale, Services d'architectural et de génie, TPSGC
PREETIPAL PAUL

Drawing title/Titre du dessin

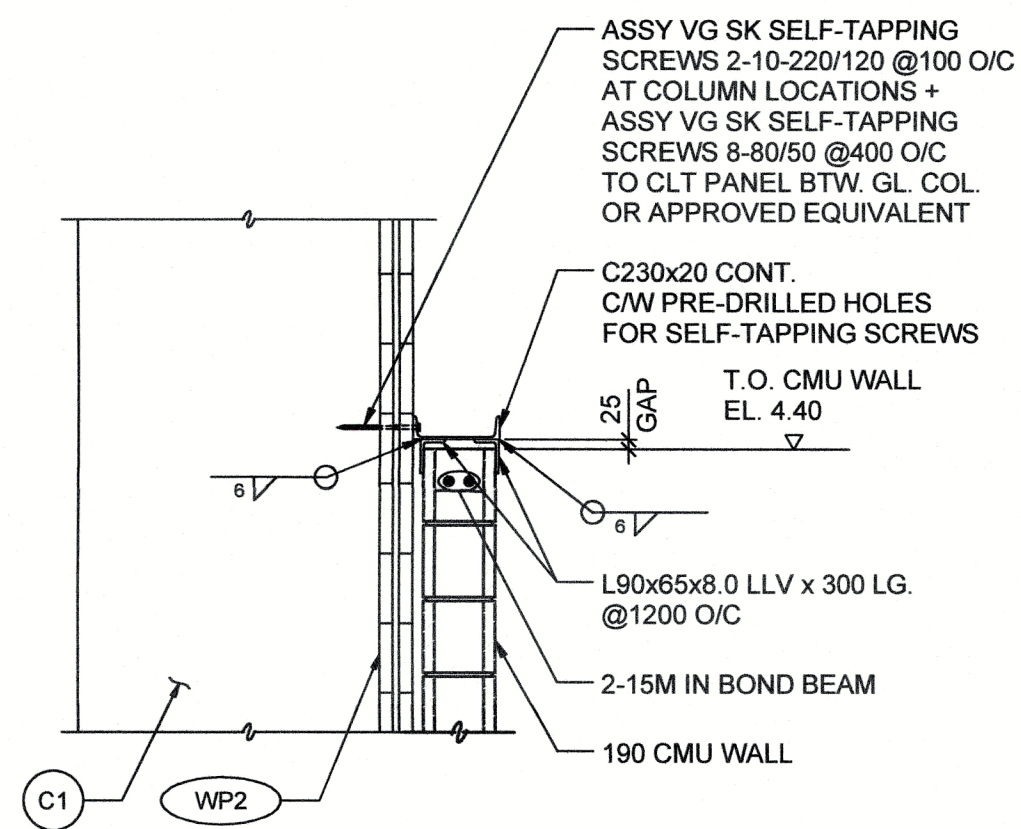
SECTIONS & DETAILS
SHEET 5

Project No./No. du projet R.077596.001	Sheet/Fauille WS402 OF XX	Revision no./La Révision no. 0
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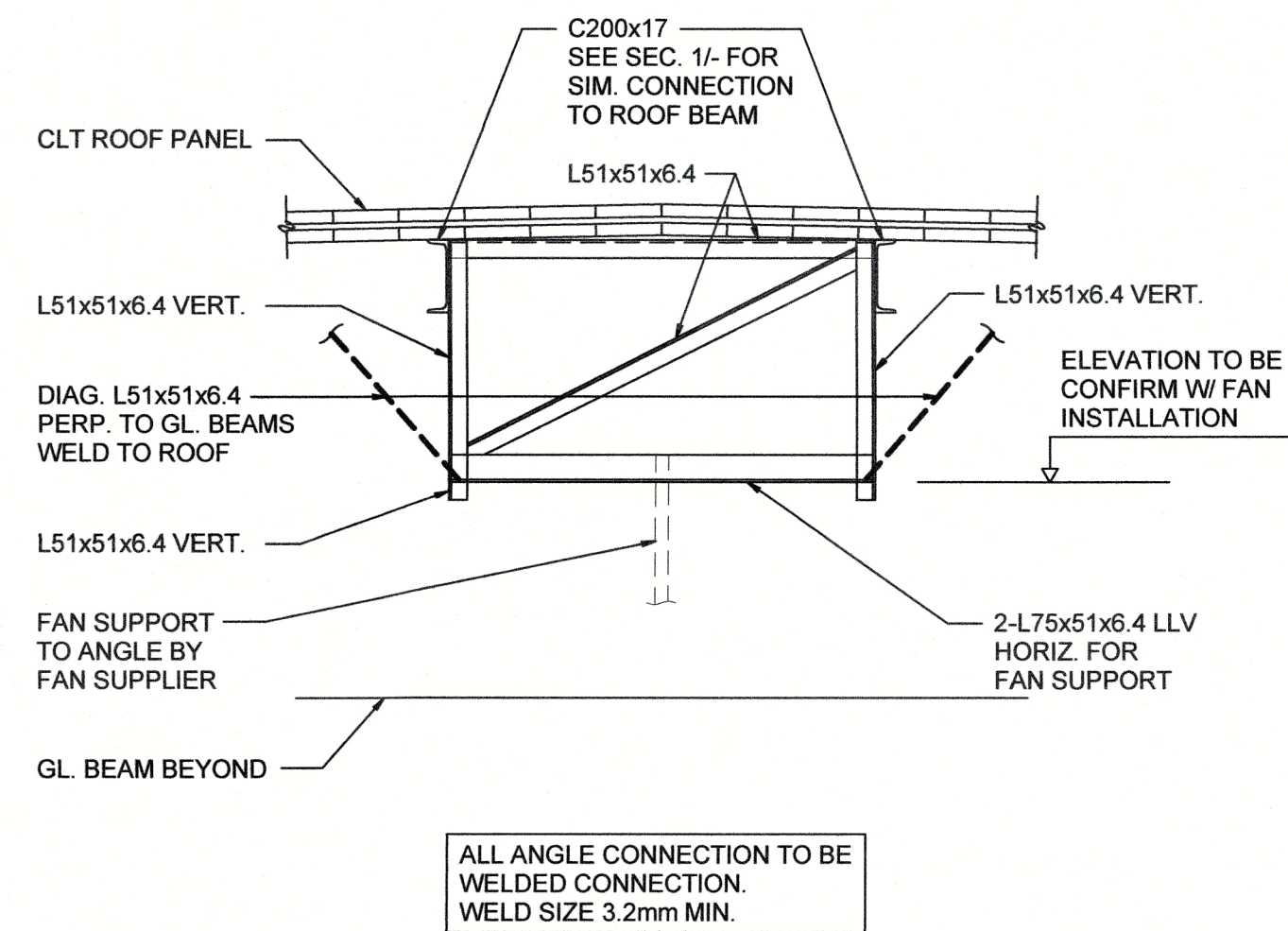
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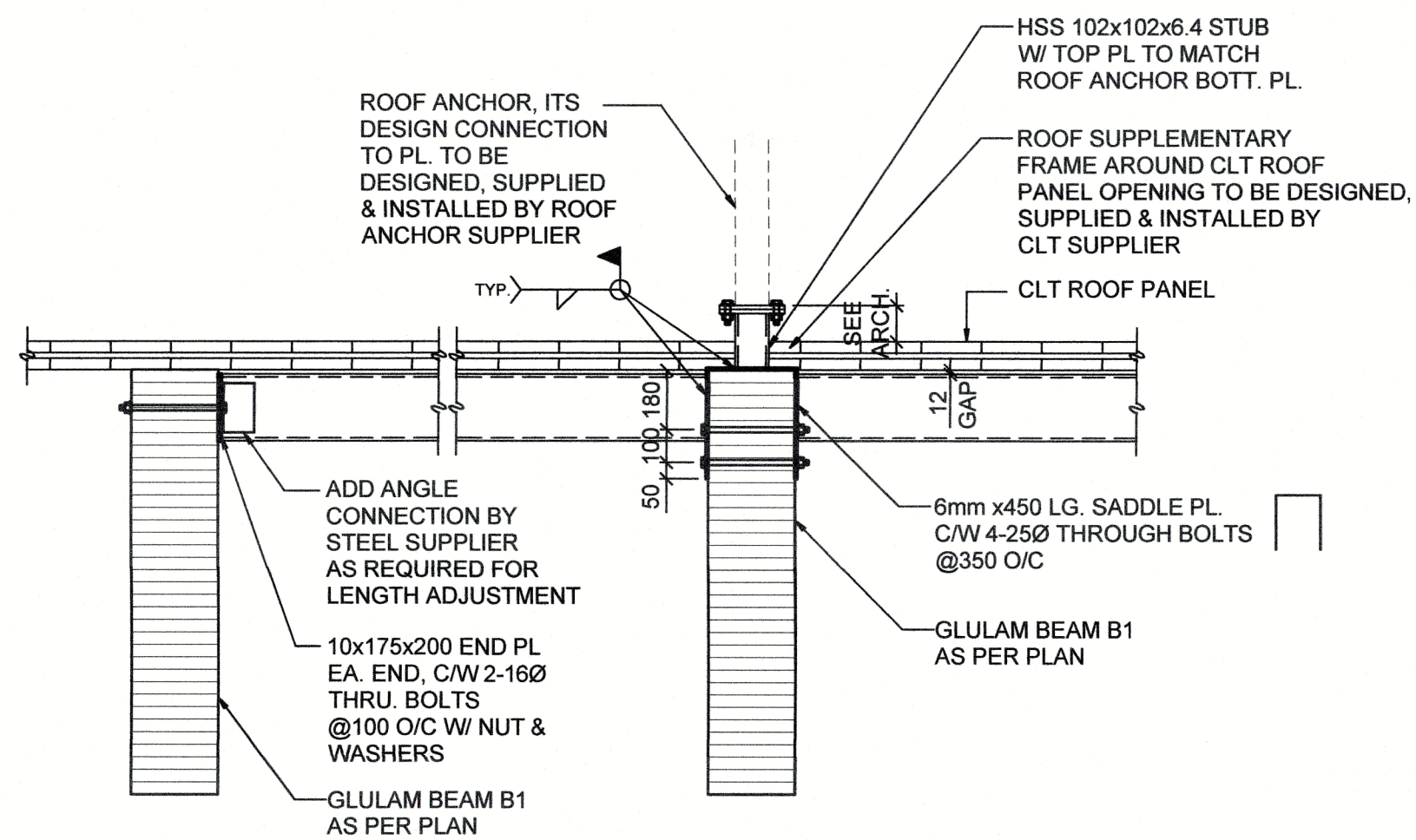
TYPICAL ROOF ANCHOR SUPPORT DETAIL 1
1:20 WS202



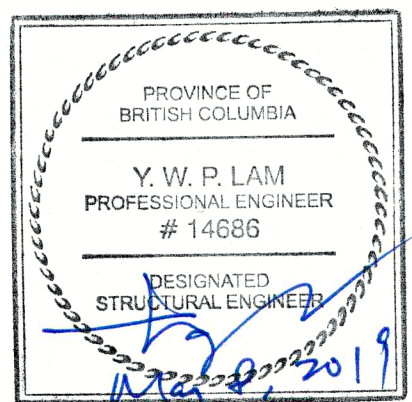
NON-LOAD-BEARING MASONRY
WALL TOP RESTRAINT DETAIL
1:20



TYPICAL ROOF FAN SUPPORT DETAIL
1:20



SECTION 2
1:20 WS202



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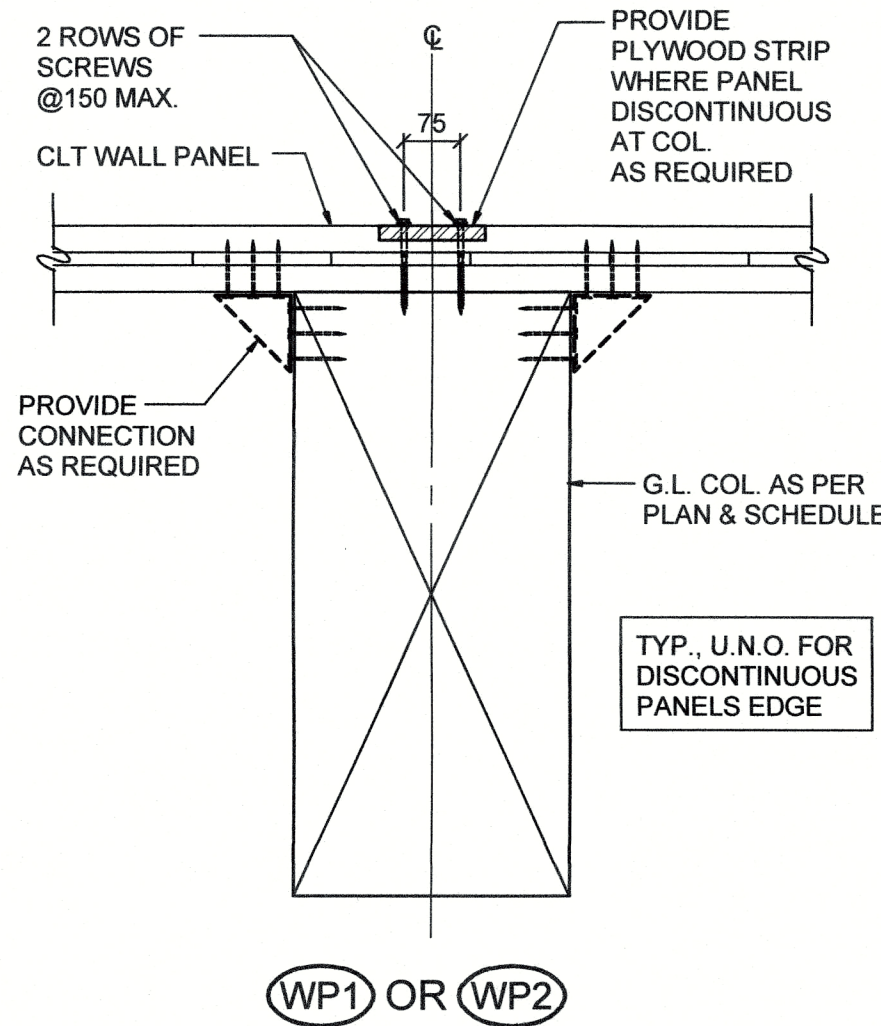
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 PATRICK TRUONG
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 Gestionnaire régional, Services d'architecture et de génie, TPSGC
 PREETPAL PAUL
 Drawing title/Titre du dessin

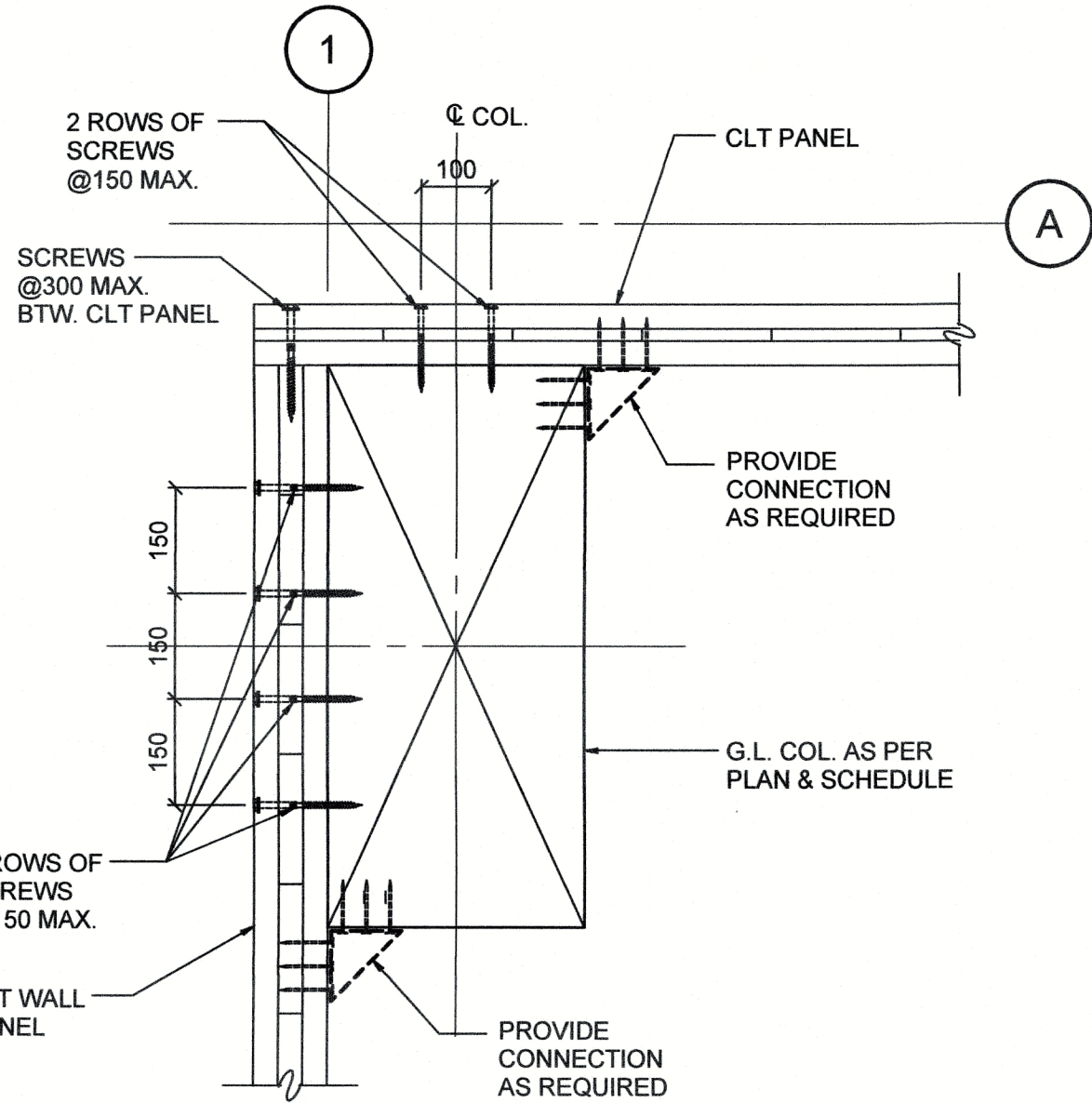
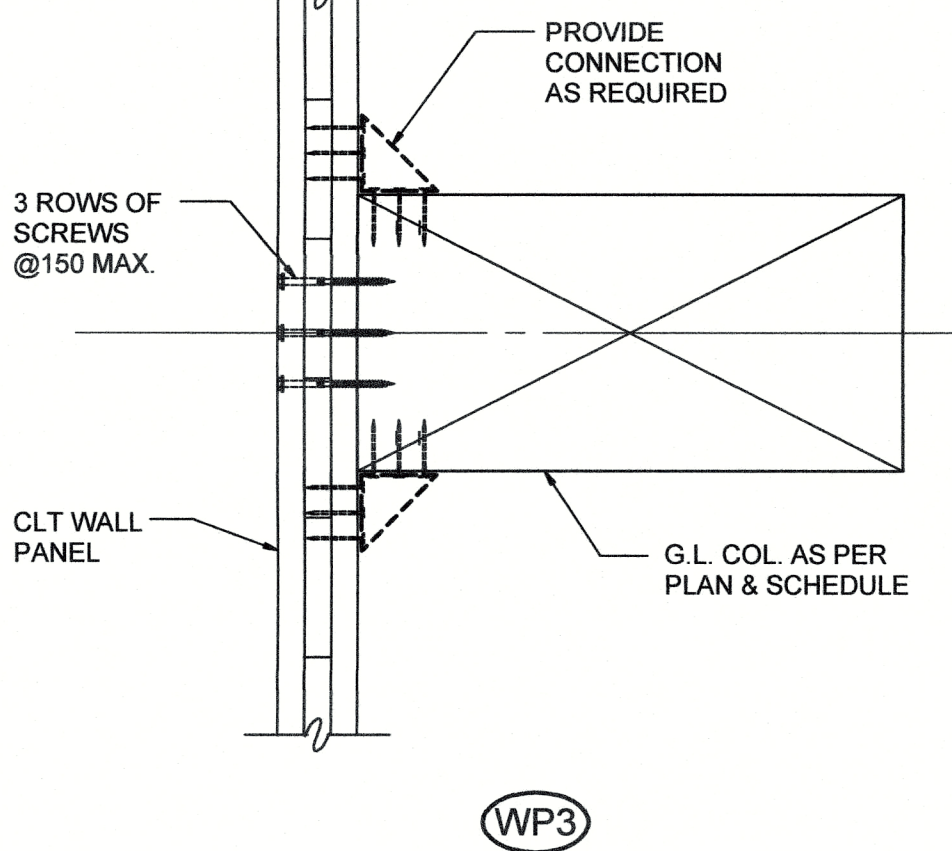
CLT PANEL CONNECTION REQUIREMENTS

Project No./No. du projet	Sheet/Feuille	Revision no./Révision no.
R.077596.001	WS403 OF XX	0

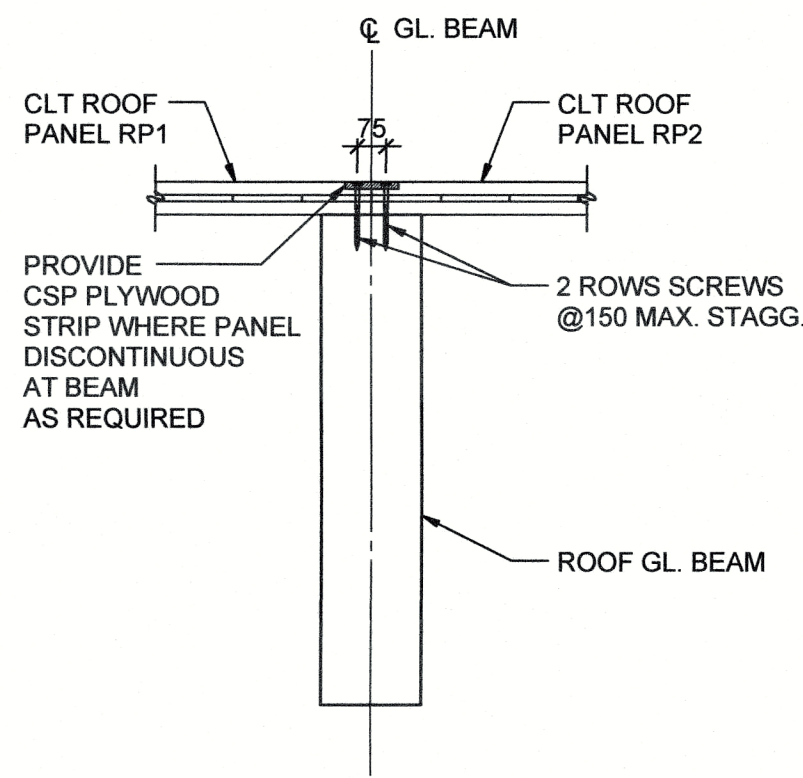
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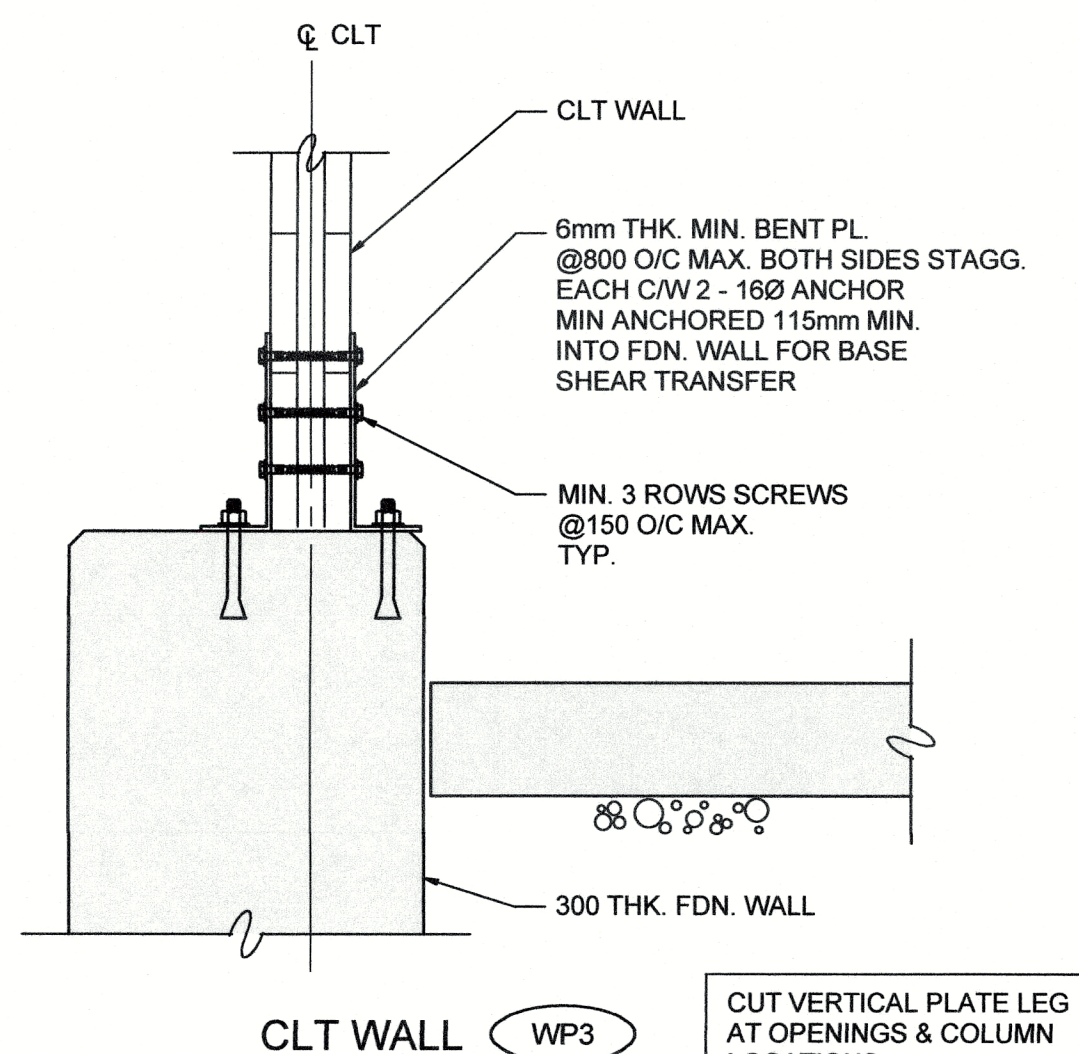
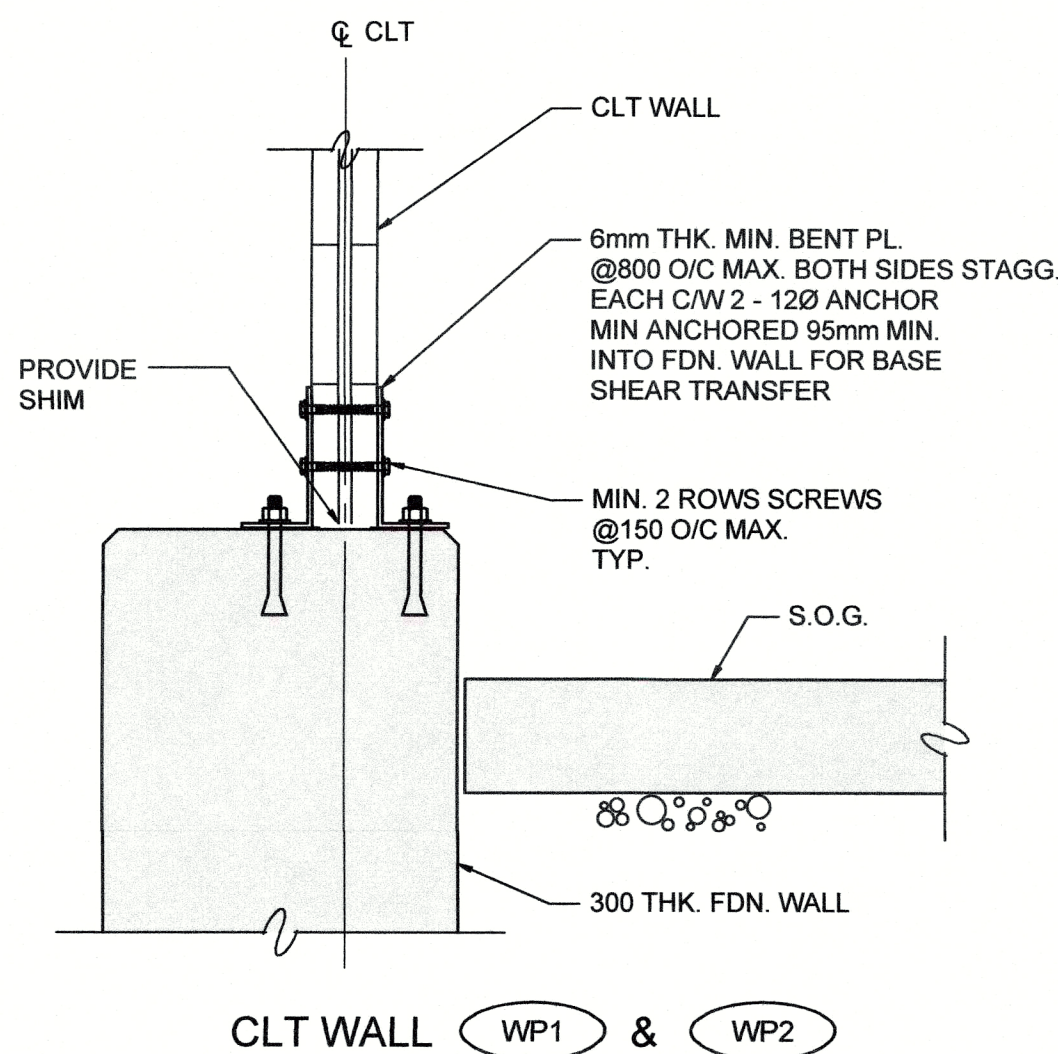
TYPICAL CLT WALL PANEL TO GLULAM COLUMN DETAIL
 1:10



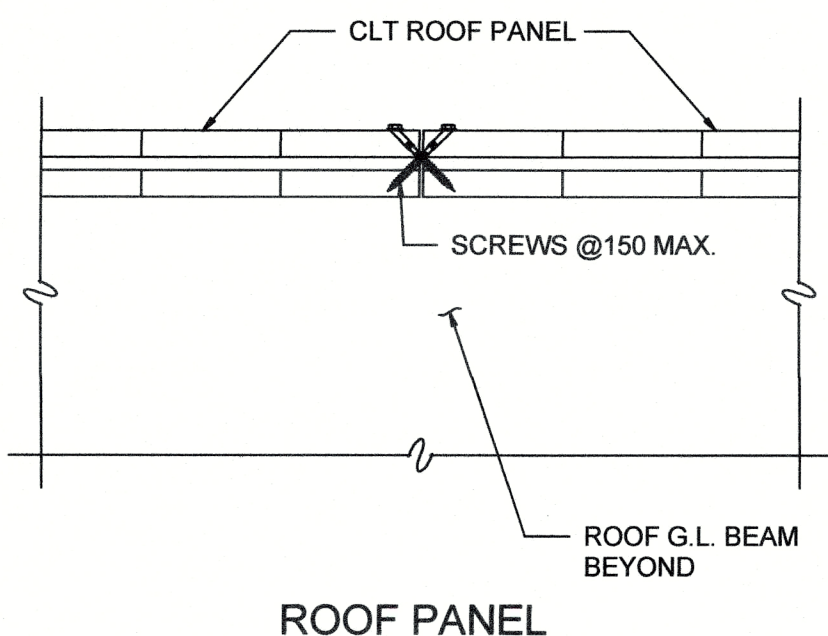
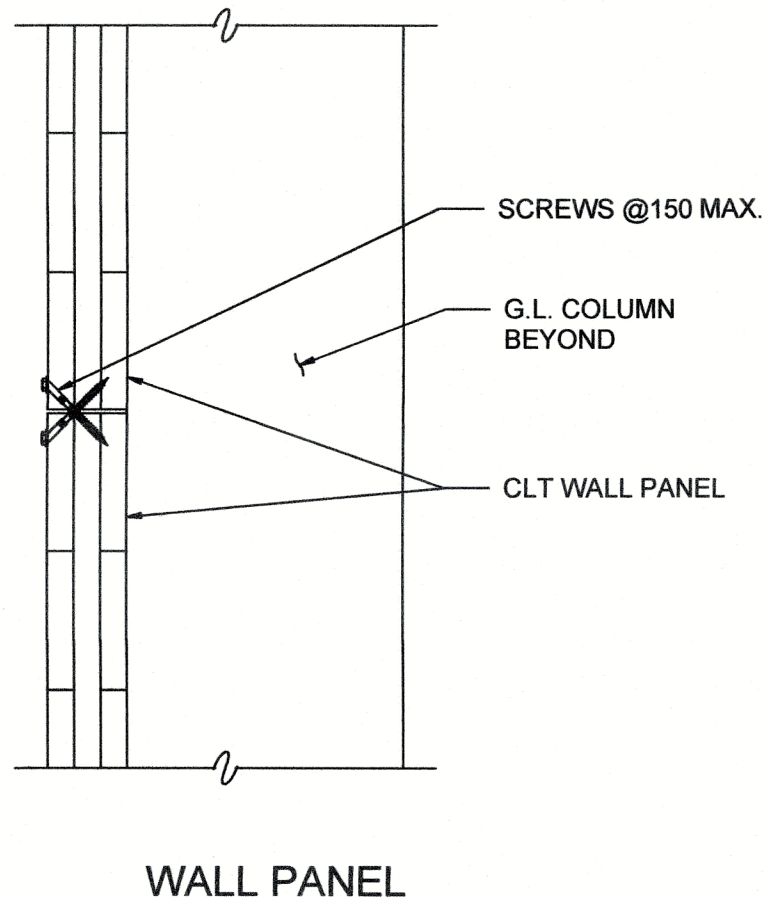
TYPICAL CLT WALL PANELS TO CORNER GLULAM COLUMN CONNECTION DETAIL
 1:10



TYPICAL CLT ROOF PANEL TO GLULAM BEAM CONNECTION DETAIL
 1:20



CLT WALL PANEL BASE CONNECTION DETAIL
 1:10



TYPICAL JOINT DETAILS FOR CLT PANEL
 1:10

- NOTES:**
1. WALL & ROOF CLT PANEL INCLUDING INTERFACE CONNECTION ALONG JOINTS & ITS CONNECTION TO STRUCTURAL MEMBERS TO BE DESIGNED, SUPPLIED & INSTALLED BY CLT SUPPLIER FOR GRAVITY LOAD, DESIGN IN-PLANE SHEAR (WALL DESIGN SHEAR & ROOF DIAPHRAGM DESIGN SHEAR), WIND LOADS INCLUDING UPLIFT AS SHOWN ON DWGS. WITH THE SPECIFIED LOAD COMBINATION AS PER NBCC 2015.
 2. THE CONNECTION SHOWN ON THE SECTIONS & DETAILS IS A MINIMUM REQUIREMENT.