

010000 GENERAL

- CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE 2012, O. REG. 332/12, INCLUDING O. REG. 88/19, AND ANY APPLICABLE ACTS OF AUTHORITY HAVING JURISDICTION.
- READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH THE SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
- BEFORE PROCEEDING WITH WORK, CHECK ALL THE DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND REPORT DISCREPANCIES TO THE CONSULTANT. DO NOT SCALE THE DRAWINGS.
- REFER TO THE ARCHITECTURAL AND OTHER DRAWINGS FOR LOCATIONS AND DIMENSIONING OF OPENINGS AND SLEEVES NOT SHOWN ON THE STRUCTURAL DRAWINGS. ASSUME TYPICAL DETAILS APPLY, HOWEVER, OBTAIN THE CONSULTANT'S PRIOR APPROVAL BEFORE INSTALLING OPENINGS, SLEEVES, ETC. WHICH ARE NOT SHOWN ON STRUCTURAL DRAWINGS.
- SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS OF PITS, BASES, SUMPS, TRENCHES, DEPRESSIONS, GROOVES, CURBS, CHAMFERS AND SLOPES NOT SHOWN ON STRUCTURAL DRAWINGS. ADJUST UNDERSIDE ELEVATIONS OF FOOTINGS AS REQUIRED TO AVOID UNDERMINING THE FOOTINGS AND FOUNDATIONS.
- HORIZONTAL AND VERTICAL DESIGN LOADS ARE NOTED. THEY SHALL NOT BE EXCEEDED DURING CONSTRUCTION.
- TYPICAL STRUCTURAL DETAILS SHALL GOVERN THE WORK. IF DETAILS DIFFER ON THE DRAWINGS, THE MOST STRINGENT SHALL GOVERN.
- CONTRACTOR TO PROVIDE AND BE SOLELY RESPONSIBLE FOR ALL TEMPORARY WORKS.
- THE INFORMATION SHOWN ON STRUCTURAL DRAWINGS PLUS THE REQUIREMENTS OUTLINED IN SPECIFICATIONS REPRESENT THE BUILDING IN ITS FINISHED STATE. CONTRACTOR TO REVIEW THESE REQUIREMENTS AND DETERMINE ALL TEMPORARY WORKS REQUIRED TO COMPLETE THE STRUCTURE PER CONTRACT DOCUMENTS INCLUDING MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, TEMPORARY SHORING AND/OR BRACING, TEMPORARY OPENINGS, EXCAVATION SHORING, ERECTION PROCEDURES, ETC.
- SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS.

010001 DESIGN NOTES

- THE BUILDING IS DESIGNATED AS BELONGING TO THE NORMAL IMPORTANCE CATEGORY, AS DEFINED IN THE OBC 2012.
- ALL REINFORCED CONCRETE ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD A23.3.
- ALL STRUCTURAL STEEL ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CAN/CSA-S16.
- LATERAL FORCES ON STRUCTURAL FRAME
 - THE LATERAL FORCES ARE RESISTED BY THE STEEL BRACED FRAME AND MOMENT FRAME SYSTEMS.
 - THE FRAME IS NOT STABLE UNTIL THE LATERAL LOAD RESISTING SYSTEM IS IN PLACE.
 - WIND:
 - THE DESIGN OF THE STRUCTURE FOR WIND IS BASED ON AN HOURLY WIND PRESSURE OF 0.32 kPa (BASED ON 1/50 YEAR RETURN).
 - EXPOSURE CONDITION: ROUGH TERRAIN.
 - THE IMPORTANCE FACTOR, *I_w*, FOR WIND DESIGN IS 1.0. FOR DEFLECTION ANALYSIS, THE FACTOR IS 0.75.
 - THE DESIGN WIND FORCES HAVE BEEN CALCULATED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 AND WITH THE STATIC PROCEDURE DESCRIBED IN THE USER'S GUIDE - NBC 2010 - STRUCTURAL COMMENTARIES (PART 4).
 - EARTHQUAKE:
 - THE DESIGN OF THE STRUCTURE FOR EARTHQUAKE IS BASED ON:
 - I_e* = 1.0
 - SITE CLASS = D
 - S_a(0.2) = .151
 - S_a(0.5) = .105
 - S_a(1.0) = .063
 - S_a(2.0) = .032
 - PGA = .090
 - R_d = 1.5
 - R_o = 1.3
 - F_a = 1.24
 - F_v = 1.55
 - M_v = 1.0
 - THE SEISMIC HAZARD INDEX FOR THIS SITE IS:
 - I_EF_aS_a(0.2) = 0.24
 - THE STRUCTURE HAS BEEN DESIGNED FOR:
 - N/S DIRECTION
 - BASE SHEAR = 385 kN
 - BASE MOMENT = 2545 kNm
 - E/W DIRECTION
 - BASE SHEAR = 385 kN
 - BASE MOMENT = 2545 kNm
 - THE DESIGN EARTHQUAKE FORCES HAVE BEEN CALCULATED IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012.
 - THE BUILDING'S STRUCTURAL CONFIGURATION IS DESIGNATED AS REGULAR.
- LATERAL FORCES ON FOUNDATION WALLS
 - WALLS RETAINING EARTH ARE DESIGNED TO SAFELY WITHSTAND A HORIZONTAL PRESSURE AT ANY DEPTH (h) GIVEN BY THE EXPRESSION:

$$P = K (\gamma h + q)$$
 WHERE
 - K IS THE LATERAL EARTH PRESSURE COEFFICIENT
 - P IS THE PRESSURE EXERTED HORIZONTALLY
 - h IS THE DEPTH BELOW GRADE
 - γ IS THE UNIT WEIGHT OF SOIL
 - q IS THE SURCHARGE ON THE GROUND SURFACE
 - THE ADDITIONAL SEISMIC PRESSURE CONSIDERED IN CONJUNCTION WITH THE STATIC PRESSURE ABOVE IS GIVEN BY THE EXPRESSION:

$$P = 0.75 k \gamma (H - h)$$
 FOR A NON RIGID WALL

$$P = 0.25 k \gamma H \{ 1 - [(H - 2h)/H]^2 \}$$
 FOR A RIGID WALL
 WHERE
 - k = ## IS THE DESIGN PEAK HORIZONTAL GROUND ACCELERATION COEFFICIENT (F_a X PGA)
 - H IS THE HEIGHT OF GRADE ABOVE THE LOWEST LATERAL RESTRAINT
- FOUNDATION AND OTHER WALLS RETAINING EARTH HAVE BEEN DESIGNED FOR SURCHARGE OF 12 kPa.
- THE WALLS HAVE BEEN DESIGNED ASSUMING THAT THERE IS FREE-DRAINING BACKFILL, OR THAT OTHER PROVISIONS HAVE BEEN MADE, SUCH THAT THE WALLS ARE NOT SUBJECT TO HYDROSTATIC PRESSURE.
- SNOW LOADS ON ROOFS
 - THE ROOFS HAVE BEEN DESIGNED WITH S_s = 3.1 kPa AND S_r = 0.4 kPa.
 - THE IMPORTANCE FACTOR, *I_s*, IS 1.0 FOR ULS AND 0.9 FOR SLS.
 - ADDITIONAL SNOW ACCUMULATIONS ADJACENT TO HIGHER WALLS, ROOFS AND MECHANICAL UNITS ARE INDICATED ON THE DRAWINGS.
- RAINWATER LOADS ON ROOFS
 - THE ROOFS HAVE BEEN DESIGNED FOR NO FLOW.
- WIND UPLIFT OF ROOFS
 - ALL ROOF ELEMENTS INCLUDING JOISTS, METAL DECK, AND THEIR CONNECTIONS TO THE STRUCTURE ARE TO BE DESIGNED FOR UPWARD SUCTION DUE TO WIND. THE NET UPWARD DESIGN PRESSURES ARE SHOWN ON THE KEY PLAN BELOW.
- LIVE AND OTHER LOADS
 - SEE NOTES BELOW FLOOR PLANS.

10. FUTURE EXTENSIONS

- THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE EXTENSIONS.

010004 SUBMITTALS

- GEOMETRY
 - SUBMIT SURVEY RECORDS CONFIRMING THAT THE BUILT GEOMETRY MATCHES THE DESIGN GEOMETRY.
- CONCRETE AND REINFORCEMENT
 - SUBMIT REINFORCING PLACING DRAWINGS AND BAR LISTS FOR REVIEW BY THE CONSULTANT.
 - PROVIDE TEST CYLINDERS IN ACCORDANCE WITH CAN3-A23.1 BUT A MINIMUM OF 3 CYLINDERS FROM EACH LOAD OF CONCRETE, TO BE TESTED; 1 AT 7 DAYS AND 2 AT 28 DAYS.
- STRUCTURAL STEEL
 - DESIGN DETAILS, CONNECTIONS, AND THE LIKE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE FOR THE FORCES SHOWN ON THE DRAWINGS.
 - SUBMIT SKETCHES AND DESIGN CALCULATIONS STAMPED AND SIGNED BY QUALIFIED PROFESSIONAL ENGINEER LICENSED IN PROVINCE OF ONTARIO FOR NON STANDARD CONNECTIONS.
 - SUBMIT SHOP, ERECTION, AND SETTING DRAWINGS FOR REVIEW BY THE CONSULTANT.
 - ENSURE FABRICATOR DRAWINGS SHOWING DESIGNED ASSEMBLIES, COMPONENTS AND CONNECTIONS ARE STAMPED AND SIGNED BY QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
- STEEL JOISTS
 - DESIGN STEEL JOISTS, BRIDGING, AND THE LIKE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE FOR THE FORCES SHOWN ON THE DRAWINGS.
 - SUBMIT SHOP DETAILS AND ERECTION DRAWINGS FOR REVIEW BY THE CONSULTANT.
 - SUBMIT DRAWINGS STAMPED AND SIGNED BY QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
- METAL DECK
 - DESIGN DECK IN CONFORMANCE WITH THE REQUIREMENTS OF CAN/CSA-S136, FOR THE FORCES SHOWN ON THE DRAWINGS.
 - SUBMIT SHOP DRAWINGS STAMPED AND SIGNED BY QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
- LIGHTWEIGHT STEEL FRAMING
 - SUBMIT SHOP AND ERECTION DRAWINGS BEARING THE SEAL OF A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, FOR REVIEW BY THE CONSULTANT.

030000 CONCRETE

- MATERIALS
 - CONCRETE
 - CONFORM TO THE REQUIREMENTS OF CSA STANDARD A23.1 (LATEST VERSION) AND THE FOLLOWING FOR STRENGTH, SLUMP, WATER-TO-CEMENTING MATERIALS CONTENT AND AIR CONTENT.
 - NOMINAL MAXIMUM SIZE OF AGGREGATE SHALL BE 20 mm. USE SMALLER AGGREGATES AS APPROPRIATE IN AREAS OF CONGESTED REINFORCING STEEL OR TO IMPROVE WORKABILITY. MODIFY MIX DESIGNS TO SUIT.
- | CATEGORY | DESCRIPTION | EXPOSUR E CLASS PER A23.1 | CONCRETE STRENGTH f _c (MPa) | MAX. W/C RATIO | AIR CONTENT ¹ | SCOPE |
|----------|---------------------------|---------------------------|--|----------------|--------------------------|---|
| CM 1 | FOUNDATION MIX | | 25 | | 5%-8% | FOOTINGS AND CAPS |
| CM 2 | SLAB ON GRADE MIX | | 25 | | | INTERIOR SLABS ON GRADE |
| CM 5 | TOPPING MIX | | 20 | | | TOPPINGS ON CONCRETE |
| CM 8 | PARKING SLAB AND BEAM MIX | C-1 ² | 35 | 0.40 | 5%-8% | FOUNDATION WALLS ADJACENT TO PAVING; FRAMED SLABS AND BEAMS EXPOSED TO DE-ICING CHEMICALS. |
| CM 9 | PAVING MIX | C-2 | 32 | 0.45 | 5%-8% | EXTERIOR PAVING AND SIDEWALKS |
| CM 13 | EXTERIOR WALL MIX | F-2 | 25 | 0.55 | 4%-7% | FOUNDATION WALLS AND OTHER WALLS EXPOSED TO FREEZE THAW BUT NOT EXPOSED TO DE-ICING CHEMICALS |
| CM 14 | LEAN MIX | | 0.4 max. ³ | | 4-6% (EXTERIOR ONLY) | UNSHRINKABLE FILL |
| CM 15 | SELF CONSOLIDATING MIX | | 30 | | | FOR USE WHERE CONVENTIONAL VIBRATION IS NOT VIABLE |

- WHERE AGGREGATES SMALLER THAN 14 mm ARE USED, INCREASE AIR CONTENT BY 1%
 - REINFORCED CONCRETE EXPOSED TO DE-ICING CHEMICALS TO HAVE DCI CORROSION INHIBITOR @ 1% L_{cu} m. DOSAGE OR APPROVED EQUIVALENT
 - MAX. 25kg CEMENT/ cu. m.
- REINFORCEMENT:
 - CONFORM TO THE REQUIREMENTS OF CSA STANDARD G30 SERIES.
 - REINFORCING BARS SHALL HAVE A MINIMUM YIELD STRENGTH f_y = 400 MPa, AND WELDED WIRE FABRIC SHALL HAVE A MINIMUM YIELD STRENGTH OF f_y = 386 MPa. SUPPLY IN FLAT SHEETS.
 - WHERE WELDING OF REBAR IS INDICATED, WELDABLE GRADE REBAR SHALL BE USED.
 - EXECUTION
 - CONCRETE AND REINFORCEMENT
 - PROVIDE DOWELS TO WALLS AND COLUMNS SIMILAR IN NUMBER, SIZE, AND SPACING TO THE VERTICAL STEEL IN THE WALL OR COLUMN EXCEPT WHEN NOTED OTHERWISE.
 - CONSTRUCTION JOINTS:
 - HORIZONTAL CONSTRUCTION JOINTS SHALL NOT BE MADE IN BEAMS OR JOISTS, UNLESS SHOWN OR REVIEWED BY THE CONSULTANT.
 - VERTICAL CONSTRUCTION JOINTS MAY BE MADE ONLY AT MID-SPAN OF BEAMS, JOISTS, AND SLABS UNLESS OTHERWISE SHOWN OR DIRECTED AND THEIR LOCATION SHALL BE REVIEWED BY THE CONSULTANT.
 - PROVIDE 38x89 KEYS AT CONSTRUCTION JOINTS UNLESS NOTED OTHERWISE.
 - NO SLEEVES TO BE PLACED VERTICALLY OR HORIZONTALLY THROUGH BEAMS WITHOUT BEING REVIEWED BY THE CONSULTANT.
 - NO OPENINGS SHALL BE MADE IN FLAT SLAB COLUMN STRIPS UNLESS SHOWN OR REVIEWED BY THE CONSULTANT.
 - WELDING OF REBAR SHALL BE DONE IN ACCORDANCE WITH CSA W186.
 - CONCRETE COVER TO REINFORCEMENT:
 - CONFORM TO THE REQUIREMENTS OF CSA STANDARD A23.1 (LATEST VERSION) AND THE FOLLOWING FOR COVER TO REINFORCEMENT (mm):
 - NOT EXPOSED (N) AND FOR FIRE RATING:

LOCATION OR MEMBER	FIRE RATING (HOURS)				
	UP TO 1	1.5	2	3	4
BEAMS AND GIRDERS (PRINCIPAL REINFORCEMENT) 35M AND SMALLER	40	40	40	40	50
45M	45	45	45	45	50
55M	55	55	55	55	55
SLABS – 25M AND SMALLER	25	25	25	35	40

30M	30	30	30	35	40
35M	35	35	35	35	40
45M	45	45	45	45	45
55M	55	55	55	55	55
COLUMNS (VERTICAL BARS) – 35M AND SMALLER	40	40	50	50	63
45M	45	45	50	50	63
55M	55	55	55	55	63
WALLS – 25M AND SMALLER	25	40	50	50	63
30M	30	40	50	50	63
35M	35	40	50	50	63
45M	45	45	50	50	63
55M	55	55	55	55	63
STIRRUPS AND TIES			30		

- ADDITIONAL COVER REQUIREMENTS AS APPLICABLE:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH:
 - 35M BARS AND SMALLER: 75mm
 - 45M BARS AND LARGER: 2x THE NOMINAL BAR DIAMETER
 - CONCRETE EXPOSED TO CHLORIDES (C-1, C-3) (DOES NOT INCLUDE CONCRETE PROTECTED BY A WATERPROOFING MEMBRANE):
 - 30M BARS AND SMALLER: 60mm
 - 35M BARS AND LARGER: 2x THE NOMINAL BAR DIAMETER
 - EXPOSED TO EARTH OR WEATHER (F-1, F-2)
 - 25M AND SMALLER: 40mm
 - 30M BARS AND LARGER: 1.5x THE NOMINAL BAR DIAMETER
- PROTECTION
 - PROTECT CONCRETE EXPOSED TO DE-ICING SALTS IN ACCORDANCE WITH THE FOLLOWING TABLE. REFER TO THE SPECIFICATION FOR SPECIFIC REQUIREMENTS FOR PROTECTION.

CATEGORY	DESCRIPTION	SCOPE
CP 0	UNPROTECTED CONCRETE	ALL CONCRETE NOT DESIGNATED AS PROTECTED BELOW.
CP 1	EPOXY COATED REBAR	NONE
CP 2	STAINLESS STEEL REBAR	NONE
CP 3	DCI CORROSION INHIBITOR	ALL CONCRETE EXPOSED TO WEATHER AT GRADE (NOT PROTECTED BY A MEMBRANE) INCLUDING CURBS AND WALLS.
CP 4	CATHODIC PROTECTION	NONE

- WATERSTOPS
 - PROVIDE WATERSTOPS AT ALL CONCRETE JOINTS MORE THAN 600 MM BELOW GRADE.

050000 STRUCTURAL STEEL

- MATERIALS
 - WIDE FLANGE SHAPES - CONFORM TO THE REQUIREMENTS OF ASTM A992/A992M, F_y=345MPa
 - HSS MEMBERS - CONFORM TO THE REQUIREMENTS OF G40.21 350W CLASS C
 - NOTE THAT ASTM A500 IS NOT AN ACCEPTABLE ALTERNATE FOR HSS MEMBERS WITHOUT REVIEW AND RESIZING (INCREASED SECTION SIZE OR WALL THICKNESS) BY THE CONSULTANT.
 - HSS PRODUCED TO ASTM A1085 IS AN ACCEPTABLE ALTERNATE TO CSA G40.21 350W CLASS C.
 - CHANNELS AND ANGLES – CONFORM TO THE REQUIREMENTS OF CSA G40.21 GRADE 350W
 - PIPE - ASTM A53/A53M
 - BOLTS, NUTS AND WASHERS – [ASTM F3125, GRADE A325]¹
 - WELDS- CONFORM WITH CSA W59-03
 - HEADED STUD- CONFORM TO CSA W59 APPENDIX H, WITH TENSILE STRENGTH OF 450MPa AND YIELD STRENGTH OF 350MPa
 - ANCHOR RODS – CONFORM TO THE REQUIREMENTS OF CSA G40.21 GRADE 300W UNLESS NOTED OTHERWISE.
 - ALL OTHER - CONFORM TO THE REQUIREMENTS OF CSA G40.21 GRADE 300W
 - STEEL JOISTS - CONFORM TO CAN/CSA-S16-09
 - METAL DECK: - CONFORM TO THE REQUIREMENTS OF CAN/CSA-S136-07.
 - SHERWIN WILLIAMS B66W1 DTM ACRYLIC PRIMER/FINISH
 - PPG PITT-TECH 90-712 DTM PRIMER/FINISH
 - SHOP PRIMER: PHENOLIC ALKDYD PRIMER
 - DEVGUARD 4360 LOW VOC UNIVERSAL PRIMER
 - SHERWIN WILLIAMS B50 KEM BOND HS UNIVERSAL METAL PRIMER
 - PPG AMERCOAT 185H UNIVERSAL PHENOLIC PRIMER
 - REPAIR PRIMER FOR APPLICATION IN THE FIELD, WATER BASED ACRYLIC:
 - DEVFLEX 4020PF DIRECT TO METAL PRIMER
 - SHERWIN WILLIAMS PRO-CRYL B66-310 SERIES UNIVERSAL PRIMER
 - PPG PITT-TECH PLUS 90-912 SERIES DTM INDUSTRIAL PRIMER
 - PRIMER FOR STEEL TO RECEIVE INTUMESCENT FIREPROOFING. DETERMINED TO BE ACCEPTABLE BASED ON ADHESION AND COMPATIBILITY CHARACTERISTICS UNDER LABORATORY CONDITIONS IN ACCORDANCE WITH ASTM D3359-09a2, METHOD A AND / OR ASTM D4541-09a1, AND APPROVED BY MANUFACTURER OF CONVENTIONAL FIREPROOFING TO BE APPLIED.
 - PRIMER FOR STEEL TO BE GALVANIZED AND RECEIVE A PAINT FINISH:
 - SHERWIN WILLIAMS B71Y1 DTM WASH PRIMER
 - CARBOLINE SANITILE120 HEAVY DUTY BONDING PRIMER
 - PPG PITT-TECH 90-712 SERIES DTM PRIMER
 - COLD GALVANIZING COATING FOR REPAIR OF GALVANIZED SURFACES:
 - ZRC ZERO-VOC GALVANIZING COMPOUND AS MANUFACTURED BY ZRC WORLDWIDE, MARSHFIELD, MA
 - AERVOE INDUSTRIES, INC. 'LOW VOC COLD GALVANIZING COATING 93% ZINC
 - SHEET RUBBER FOR THERMAL SEPARATION AT STEEL CONNECTIONS: AB-563 EPDM, HARDNESS:60±5 SHORE "A" DUROMETER, 3mm THICKNESS UNLESS OTHERWISE INDICATED, AS MANUFACTURED BY AMERICAN BILTRITE OR APPROVED EQUIVALENT. DISTRIBUTED BY ROBCO (MISSISSAUGA) 905-864-8555, GOODALL (OSHAWA) 905-728-1658, OR CHAMBERS AND COOKE (MARKHAM) 905-475-1331.
 - HEAVY DUTY BITUMINOUS COATING WHERE IN CONTACT WITH SOIL: WOHL COATINGS BB-110 OR APPROVED EQUAL.
- EXECUTION
 - PROVIDE A MINIMUM BEARING OF 200 mm FOR ALL STEEL BEAMS BEARING ON MASONRY AND A MINIMUM OF 100 mm ON STRUCTURAL STEEL, UNLESS NOTED OTHERWISE.
 - CENTRE BEARING PLATES UNDER BEAMS, OR AS NOTED.
 - BEARING PLATE DIMENSION GIVEN FIRST INDICATES SIDE PARALLEL TO BEAM WEB.
 - NO STRUCTURAL STEEL SHALL BE CUT WITHOUT THE PERMISSION OF THE CONSULTANT.
 - WHERE COLUMNS ARE STABILIZED BY WALLS PROVIDE COLUMN ANCHORS AT BUTTING WALLS. PROVIDE TEMPORARY BRACING UNTIL WALLS ARE BUILT TIGHT TO COLUMNS.
 - PROVIDE FRAMING AROUND ALL OPENINGS IN METAL DECK AS SPECIFIED. REFER TO TYPICAL DETAIL 0504 FOR DETAILS. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
 - PROVIDE FULL HEIGHT WEB STIFFENERS AT ALL BEAMS BEARING ON COLUMNS AND ALL BEAMS SUPPORTING COLUMNS. WEB STIFFENERS SHALL BE OF THE SAME SIZE AND THICKNESS AS THE COLUMN FLANGES AND SHALL LAP WITH THE FLANGES OF THE SUPPORTING COLUMN.
 - CONNECT BEAMS FOR THE FACTORED REACTIONS INDICATED ON THE DRAWINGS. IF BEAM REACTIONS ARE NOT INDICATED, THE CONNECTIONS SHALL BE DESIGNED FOR ONE-HALF THE TOTAL UNIFORM LOAD CAPACITY OF THE SIMPLE SPAN BEAM FOR THE GIVEN SPAN PRESENTED IN THE CISG HANDBOOK OF STEEL CONSTRUCTION. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS.

- STEEL SUPPLIER TO DESIGN AND PROVIDE INTERCONNECTION BETWEEN BUILT UP MEMBERS AS NOTED. WHERE NOT NOTED, STEEL SUPPLIER IS TO INTERCONNECT AS REQUIRED TO ENSURE ADEQUATE CAPACITY FOR THE DESIGN FORCES SHOWN OR IMPLIED IN THE DRAWINGS.
- STEEL SUPPLIER TO DESIGN CONNECTIONS OF SINGLE ANGLE MEMBERS FOR THE FORCES SHOWN OR IMPLIED IN THE DRAWINGS, SUCH THAT CONNECTIONS ARE MADE TO THE SAME LEG EACH END BY WELDING OR WITH A MINIMUM OF TWO BOLTS.
- DESIGNATE STEEL AS ARCHITECTURALLY EXPOSED IN ACCORDANCE WITH THE FOLLOWING TABLE. *REFER TO THE SPECIFICATION FOR SPECIFIC REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS). *REFER TO THE CISG GUIDE FOR SPECIFYING ARCHITECTURALLY EXPOSED STRUCTURAL STEEL. AVAILABLE AT www.cisc-icc.ca. IN PARTICULAR, REFER TO TABLE 1 - AESS CATEGORY MATRIX AND ASSOCIATED NOTES.

CATEGORY	DESCRIPTION	SCOPE
SSS	STANDARD STRUCTURAL STEEL	ALL STRUCTURAL STEEL NOT DESIGNATED AS AESS BELOW.
AESS 1	BASIC ELEMENTS	EXPOSED COLUMNS
AESS 2	FEATURE ELEMENTS (VIEWED AT A DISTANCE > 6m)	[SCOPE]

- *THE ARCHITECT SHALL REVIEW THE AESS STEEL IN PLACE AND DETERMINE ACCEPTABILITY BASED ON THE CATEGORY AND VISUAL SAMPLES (IF APPLICABLE). ADVISE THE CONSULTANT THE SCHEDULE OF THE AESS WORK.
- APPLY FIELD PRIMER TO WELDS, BOLTS AND AT LOCATIONS WHERE ORIGINAL PRIMER IS DAMAGED, EXCEPT FOR STEEL WHICH IS TO BE LEFT UNCOATED.
- PRIMERS AND PAINTS USED IN MULTI-COAT SYSTEMS WHERE A FINAL SHOP OR FIELD PAINT FINISH IS TO BE APPLIED SHALL BE SELECTED AND PRE-APPROVED BY THE ARCHITECT BASED ON SURFACE PREPARATION, EXPOSURE CONDITIONS, AND COMPATIBILITY WITH OTHER COATINGS.

053100 STEEL DECKING

- MATERIALS
 - STEEL DECKING PER PLAN AND CONFORMING TO CAN/CSA-S136 AND THE FOLLOWING:
 - CSSBI 10M FOR ROOF DECKING.
 - CSSBI 12M FOR FLOOR DECKING.
 - MINIMUM ZINC COATING OF Z275 FOR EXTERIOR DECKING AND DECKING EXPOSED TO VIEW WITHOUT PAINTED FINISH.
 - MINIMUM ZINC COATING OF Z275 FOR INTERIOR DECKING NOT EXPOSED TO VIEW AND INTERIOR DECKING WITH FIELD APPLIED PAINT SYSTEM.
 - LACEMENT OF EXISTING DECK IS REQUIRED.
- EXECUTION
 - DESIGN DECK IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE.
 - DESIGN AND CONNECT METAL EDGE AND CLOSURE STRIPS, METAL SCREEDS, FLASHINGS AND THE LIKE.
 - DESIGN FRAMING FOR 450mm OR SMALLER OPENINGS IN ROOF DECK, AND 300mm OR SMALLER OPENINGS IN FLOOR DECK. REINFORCE OPENINGS OVER 150mm, AS REQUIRED.
 - PLACE SHEETS IN MINIMUM 3 SPAN LENGTHS. BEAR ENDS MINIMUM 50mm.
 - LAP ENDS OF NON-COMPOSITE DECK UNITS A MINIMUM OF 50mm AND ONLY OVER SUPPORTING MEMBERS.
 - AS A MINIMUM, WELD DECK TO SUPPORTS AND PERIMETER ELEMENTS WITH 20mm PUDDLE WELDS AT MAXIMUM 400mm o/c OR EVERY SECOND FLUTE, WHICHEVER IS LESS.
 - AS A MINIMUM, FASTEN SIDE JOINTS OF DECK UNITS BETWEEN SUPPORTS BY CLINCHING AT 600mm INTERVALS OR WITH 25mm LONG WELDS AT 1000mm INTERVALS.
 - PAINT WELDS AND REPAIR DAMAGED COATING WITH GALVA-COAT COATING.
 - DO THE FOLLOWING WHERE DECKING IS EXPOSED TO VIEW:
 - LAP ENDS OF DECK UNITS ONLY OVER SUPPORTING MEMBERS. NO SEAMS ARE PERMITTED WITHIN SPANS.
 - KEEP DECK FREE OF DIRT, SCALE, FOREIGN MATTER, DENTS OR DEFORMATIONS.
 - KEEP FUSION WELDS WELL WITHIN THE BEARING WIDTH OF SUPPORTING MEMBERS.
 - AVOID WELD DAMAGE TO THE DECK OR ITS SUPPORTS.

310000 FOUNDATIONS

- A SOIL INVESTIGATION HAS BEEN DONE BY REDSTONE ENGINEERING AS REPORTED IN THEIR SOIL REPORT NO. 21R110, DATED JUNE 18, 2021. READ THIS REPORT, AND BE THOROUGHLY FAMILIARIZED WITH ITS FINDINGS.
- FOUND ALL FOOTINGS ON NATURALLY CONSOLIDATED UNDISTURBED SOIL OR ENGINEERED FILL CAPABLE OF SAFELY SUSTAINING AN ULTIMATE BEARING VALUE OF 135 kPa AND AN ALLOWABLE BEARING VALUE OF 90 kPa.
- FOUND FOOTINGS EXPOSED TO FREEZING BELOW THE LEVEL AT WHICH POTENTIAL DAMAGE RESULTING FROM FROST ACTION CAN OCCUR, BUT A MINIMUM OF 1500 mm BELOW FINISHED GRADE IF NOT NOTED TO BE FOUNDED LOWER.
- THE LINE OF SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS OR ALONG FOOTED FOOTINGS SHALL NOT EXCEED A RISE OF 7 IN A RUN OF 10. AT STEPS CONSTRUCT LOWER FOOTINGS PRIOR TO CONSTRUCTING HIGHER FOOTINGS.
- PLACE SLABS ON GRADE ON MATERIAL CAPABLE OF SAFELY SUSTAINING 25kPa WITHOUT SETTLEMENT RELATIVE TO THE BUILDING FOUNDATIONS.
- REFER TO GEOTECHNICAL REPORT FOR SUBGRADE REQUIREMENTS DIRECTLY BELOW SLAB ON GRADE.
- DO NOT PLACE BACKFILL AGAINST WALLS RETAINING EARTH (OTHER THAN CANTILEVER WALLS) UNTIL THE FLOOR CONSTRUCTION AT TOP AND BOTTOM OF THE WALLS IS POURED AND HAS ATTAINED 70% OF ITS SPECIFIED STRENGTH.
- CARRY OUT BACKFILLING AGAINST FOUNDATION WALLS WHERE THERE IS GRADE ON BOTH SIDES IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500 mm DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL.
- PROVIDE FOOTINGS AS PER TYPICAL DETAIL 0306 FOR ALL LOAD BEARING MASONRY WALLS AND ALL NON-LOAD BEARING MASONRY WALLS THICKER THAN 190 mm. ALL NON-LOAD BEARING MASONRY WALLS 190 mm OR LESS SHALL REST ON A THICKENING OF THE SLAB ON GRADE AS PER THE TYPICAL DETAIL OR AS NOTED ON DRAWINGS.

Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.		
Do not scale this drawing.		
ISSUE: REVISED ISSUED FOR TENDER/ ISSUED FOR BUILDING PERMIT		
8	2022/01/31	REVISED ISSUED FOR TENDER/ ISSUED FOR BUILDING PERMIT
7	2021/09/28	ADDENDUM S2
6	2021/09/14	ADDENDUM S1
5	2021/09/09	ISSUED FOR BUILDING PERMIT
4	2021/08/30	ISSUED FOR TENDER
3	2021/08/25	ISSUED FOR TENDER REVIEW
2	2021/08/11	ISSUED FOR COORDINATION
1	2021/07/16	Issued for Class B Costing
MARK	DATE	DESCRIPTION

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PROJECT NAME:
**NEW SAYERS FOOD
 STORE BURLEIGH
 STREET, APSLEY**

PROJECT ADDRESS:
132 Burleigh Street

SEAL:	
DRAWN: DM	CHECKED: IFM
SCALE:	PROJECT NUMBER: 210112

SHEET TITLE:
GENERAL NOTES

S001

Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.

Do not scale this drawing.

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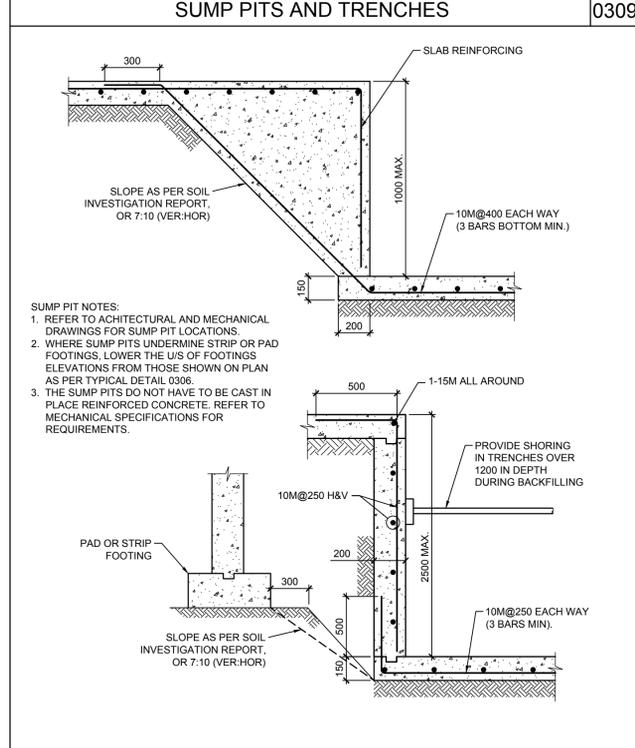
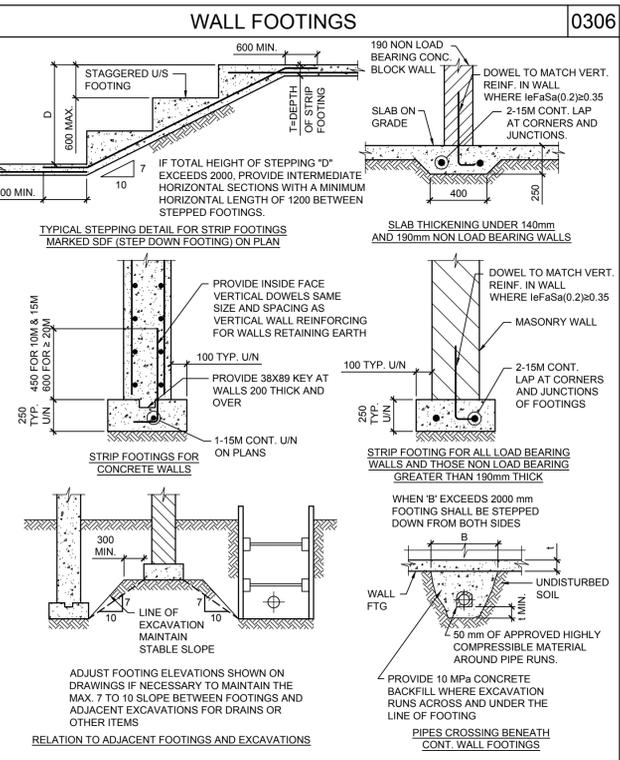
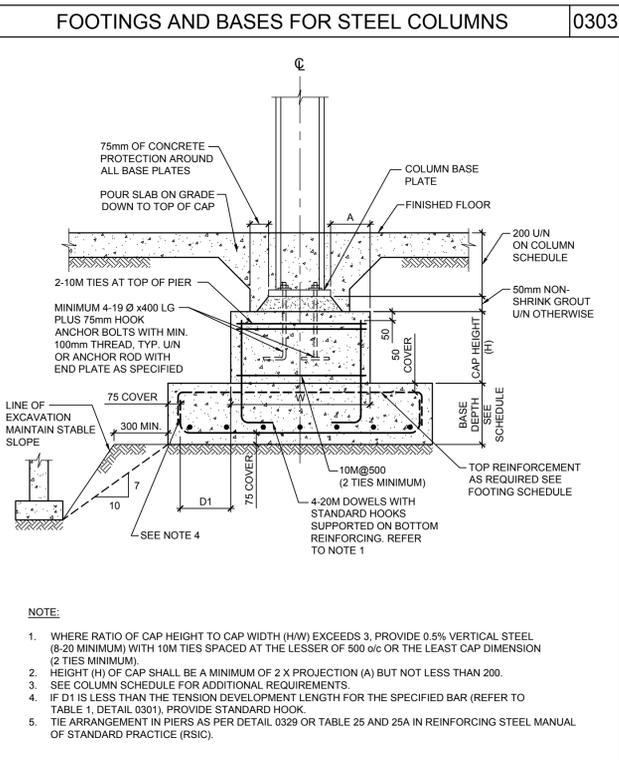
CHECKED:
IFM
PROJECT NUMBER:
210112

SHEET TITLE:
TYPICAL DETAILS

S002

ABBREVIATIONS			0001
A. BOLT = ANCHOR BOLT	GA = GAUGE	R = RADIUS, REACTION	
ADJ = ADJUSTABLE	GALV = GALVANIZED	RAD = RADIUS	
ALT = ALTERNATE	GEN = GENERAL	REF = REFERENCE	
ARCH = ARCHITECTURAL	H. HOR = HORIZONTAL	REINF = REINFORCEMENT	
ASL = ADDITIONAL SNOW LOAD	HEF, H EF = HORIZONTAL EACH FACE	REQ'D = REQUIRED	
@ = AT	HEE = HOOKED EACH END	REV = REVISION, REVISED	
⊕ = BOTTOM	HF = FACTORED HORIZONTAL	R/W, R/W = REINFORCED WITH	
BEW = BOTTOM EACH WAY	HSC = FORCE, KN	SECT = SECTION	
BLL = BOTTOM LOWER LAYER	INT = INTERIOR	SOG = STEP DOWN FOOTING	
BUL = BOTTOM UPPER LAYER	IF = INSIDE FACE	SL = SLAB	
BLDG = BUILDING	INT = INTERIOR	SOG = SLAB ON GRADE	
BM = BEAM	JT = JOINT	SPECS = SPECIFICATIONS	
BPL = BASE OR BEARING PLATE	kN = KILONEWTON	STD = STANDARD	
BSMT = BASEMENT	kN/m = KILONEWTON PER METRE	SO = SQUARE	
c/c, o/c = CENTRE TO CENTRE	kg = KILOGRAM	STRUCT = STRUCTURAL	
C/W = COMPLETE WITH	kN.m = KILONEWTON METRES	T = TOP	
C = EPOXY COATED	kPa = KILOPASCAL	TEW = TOP EACH WAY	
CF = FACTORED COMPRESSIVE FORCE, KN	m = SQUARE METRE	TMF = FACTORED TORSIONAL MOMENT, KNm	
CANT = CANTILEVER	kN/m = KILONEWTON PER METRE	TI = FACTORED TENSION FORCE, KN	
CA = COLUMN ABOVE	kPa = KILOPASCAL	TJ = TIE JOIST	
CB = COLUMN BELOW	LL = LIVE LOAD	TLL = TOP LOWER LAYER	
COL = COLUMN	LG = LONG	TUL = TOP UPPER LAYER	
CONC = CONCRETE	LLV = LONG LEG VERTICAL	TEMP = TEMPERATURE	
CONSTR = CONSTRUCTION	LLH = LONG LEG HORIZONTAL	TYP = TYPICAL	
CJ = CONSTRUCTION JOINT	MAX = MAXIMUM	UL = UPPER LAYER	
CONT = CONTINUOUS	MC, M = MOMENT CONNECTION	UN = UNLESS OTHERWISE NOTED	
DET = DETAIL	MECH = MECHANICAL	U/S = UNDERSIDE	
DIAG = DIAGONAL	MEZZ = MEZZANINE	UF = FACTORED SHEAR FORCE, KN OR	
DIA, Ø = DIAMETER, BAR	MIN = MINIMUM	VF, V EF = FACTORED VERTICAL EACH FACE FORCE, KN	
DIAM, Ø = DIAMETER, BAR	MISC = MISCELLANEOUS	VBR = VERTICAL BRACING	
DIM = DIMENSION	MID = MIDDLE LAYER	VSC = VERTICALLY SLOTTED CONNECTION	
DJ = DOUBLE JOIST	mm = MILLIMETRE	WPL = WALL PLATE	
DO = DITTO	MOM = MOMENT	WWF = WELDED WIRE FABRIC	
DL = DEAD LOAD	M = METRE, METRIC	WWM = WELDED WIRE MESH	
DWG(S) = DRAWING(S)	Mpa = MEGAPASCAL	W/W, w/ = WITH	
DWL(S) = DOWEL(S)	Mix = FACTORED BENDING MOMENT ABOUT X-AXIS, KNm	wd, wl = UNIFORMLY DISTRIBUTED LOADS	
EA = EACH	Mfy = FACTORED BENDING MOMENT ABOUT Y-AXIS, KNm		
EF = EACH FACE	N = NEWTONS		
EW = EACH WAY	NIC = NOT IN CONTRACT		
EL = ELEVATION	NF = NEAR FACE		
ELECT = ELECTRICAL	N-S = NORTH-SOUTH		
ELEV = ELEVATOR	NTS = NOT TO SCALE		
E-W = EAST-WEST	OP = OUTSIDE FACE		
EQ = EQUAL	OWS = OPEN WEB STEEL JOISTS		
EXIST = EXISTING	OPEN = OPENING		
EXP JT = EXPANSION JOINT	PC = PLATE		
EXT = EXTERIOR	PL = PRECAST		
FF = FAR FACE	PROJ = PROJECTION		
FDN = FOUNDATION			
FIN = FINISHED			
FL = FLOOR			
FTG = FOOTING			

REINFORCEMENT DEVELOPMENT LENGTHS							0301
TABLE 1 - TENSION DEVELOPMENT LENGTH (CLASS A)							
BAR SIZE	20MPa	25MPa	30MPa	35MPa	40MPa	45MPa	
10	320	300	300	300	300	300	
15	480	430	390	370	340	320	
20	640	580	530	490	460	430	
25	1010	900	820	760	710	670	
30	1210	1080	990	910	850	800	
35	1410	1260	1150	1060	1000	940	
45	1820	1620	1480	1370	1290	1210	
55	2220	1980	1810	1680	1570	1480	
TOP BAR VALUES ARE 1.3x THE ABOVE LENGTH INDICATED FOR ALL SLABS GREATER THAN 325mm IN THICKNESS							
TABLE 2 - TENSION LAP SPICE (CLASS B)							
BAR SIZE	20MPa	25MPa	30MPa	35MPa	40MPa	45MPa	
10	420	380	340	315	300	300	
15	630	560	510	485	445	420	
20	840	755	690	640	600	560	
25	1315	1170	1070	990	925	870	
30	1575	1405	1290	1180	1105	1040	
35	1840	1640	1495	1405	1300	1220	
45							
55							
LAP SPLICES NOT PERMITTED							
TOP BAR VALUES ARE 1.3x THE ABOVE LENGTH INDICATED FOR ALL SLABS GREATER THAN 325mm IN THICKNESS							
TABLE 3 - COMPRESSION DEVELOPMENT LENGTH (mm)							
BAR SIZE	20MPa	25MPa	30MPa	35MPa	40MPa	45MPa	
10	210	200	200	200	200	200	
15	320	290	290	290	290	290	
20	430	380	380	380	380	380	
25	540	480	480	480	480	480	
30	640	580	580	580	580	580	
35	750	670	670	670	670	670	
45	970	860	860	860	860	860	
55	1180	1060	1060	1060	1060	1060	
FOR 35M OR SMALLER BARS WHERE THE SIDE COVER IS NOT LESS THAN 30mm AND FOR 30M BARS WHERE THE COVER ON THE BAR EXTENSION BEYOND THE HOOK IS NOT LESS THAN 50 mm, LENGTHS MAY BE REDUCED BY A FACTOR OF x0.7.							
TABLE 4 - COMPRESSION LAP SPICE LENGTH (mm)							
BAR SIZE	USUAL CONFINEMENT						
10	300						
15	440						
20	580						
25	730						
30	880						
35	1020						
45M AND 55M BARS SHALL BE SPLICED WITH MECHANICAL CONNECTORS							
TABLE 5 - DEVELOPMENT LENGTH (mm) FOR STANDARD HOOKS							
BAR SIZE	20MPa	25MPa	30MPa	35MPa	40MPa	45MPa	
10	220	200	180	170	160	150	
15	340	300	270	250	240	220	
20	450	400	370	340	320	300	
25	560	500	460	420	400	370	
30	670	600	550	510	470	450	
35	780	700	640	590	550	520	
45	1010	900	820	760	710	670	
55	1230	1100	1000	930	870	820	
REFER TO REINFORCING STEEL MANUAL OF STANDARD PRACTICE FOR MORE INFORMATION.							
TABLE 6 - STANDARD HOOK DIMENSION FOR BLACK REINFORCING							
BAR SIZE	400R OR 500R		400W OR 500W				
BAR SIZE	90° HOOK (mm)	180° HOOK (mm)	90° HOOK (mm)	180° HOOK (mm)	180° HOOK (mm)		
10	180	140	180	130	130		
15	260	180	250	170	170		
20	310	220	300	200	200		
25	400	280	400	280	280		
30	510	400	480	350	350		
35	610	480	590	430	430		
45	790	680	770	630	630		
55	1030	900	1010	850	850		



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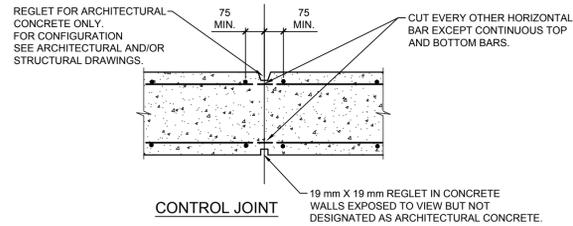
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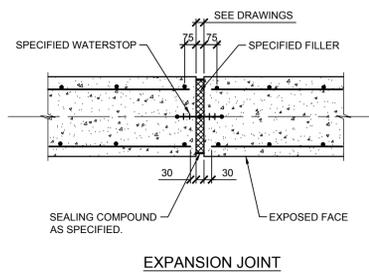
SHEET TITLE:
TYPICAL DETAILS

S003

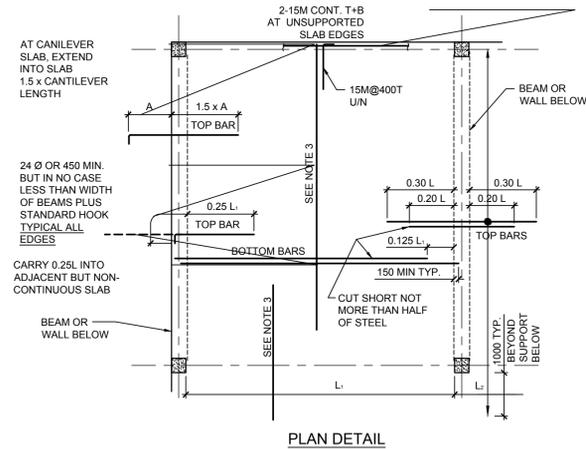
CONTROL AND EXPANSION JOINTS IN CONCRETE WALLS 0315



- NOTES:
- AS A MINIMUM PROVIDE CONTROL JOINTS IN ALL FOUNDATION WALLS AT 6m MAX.
 - PROVIDE CONTROL JOINT AT ALL LOCATIONS MARKED THUS ▲ IN PLAN.
 - DO NOT PLACE CONTROL JOINTS IN SHAFT WALLS (WALLS THAT ARE NOT BRACED BY FLOOR SLABS).
 - DO NOT PLACE CONTROL JOINTS IN BEAMS AND COLUMNS.
 - CONFIRM WITH CONSULTANT LOCATIONS WHERE BARS TO BE CUT ARE LARGER THAN THE REST OF REINFORCING.



ONE-WAY SLABS 0317

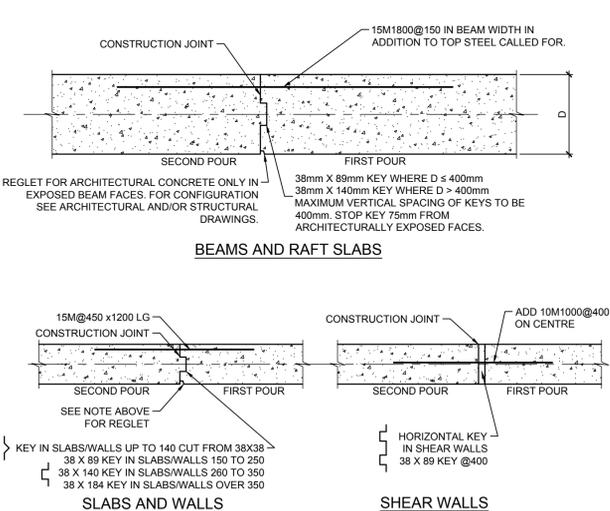


REINFORCING FOR CRACK CONTROL		
SLAB THICKNESS	INTERIOR SLABS As = .002 Ag	SLABS EXPOSED TO WEATHER As = .0025 Ag
75	10 @ 500	10 @ 500
100	10 @ 500	10 @ 400
125	10 @ 400	10 @ 300
150	10 @ 325	15 @ 500
175	15 @ 500	15 @ 450
200	15 @ 500	15 @ 400
225	15 @ 500	15 @ 350
250	15 @ 400	20 @ 500
275	15 @ 350	20 @ 400
300	20 @ 500	20 @ 400

NOTES:

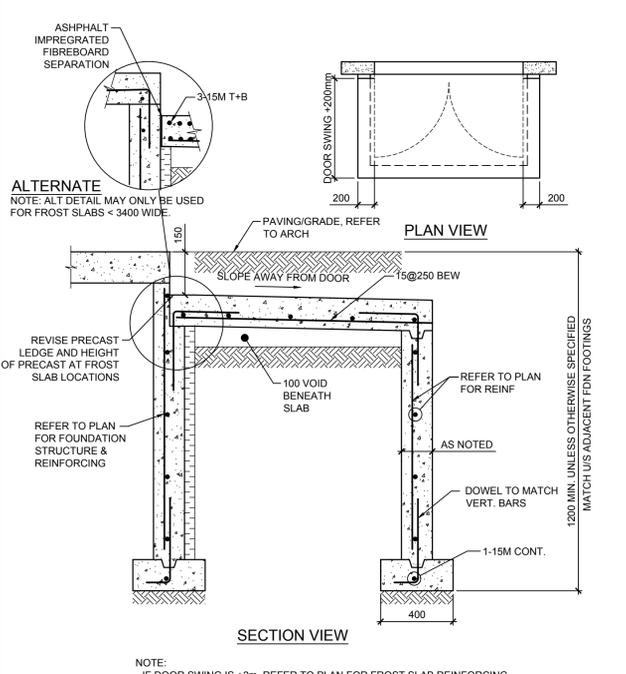
- TOP BARS SHALL BE CARRIED 24 Ø INTO THE SUPPORT OR HOOKED AS SHOWN DOTTED.
- SUPPORT ALL BARS IN ACCORDANCE WITH THE RSIC MANUAL OF STANDARD PRACTICE USING REBAR OR PLASTIC CHAIRS AND BOLSTERS ONLY.
- L IS GREATER OF L AND L.
- IN ALL ONE WAY SLABS PROVIDE TEMPERATURE REINFORCEMENT PERPENDICULAR TO THE SPAN AS PER THE TABLE BELOW, UNLESS OTHERWISE NOTED ON PLAN. LAP TEMPERATURE REINFORCEMENT 24 Ø, BUT NOT LESS THAN 300 mm.

CONCRETE CONSTRUCTION JOINTS 0325

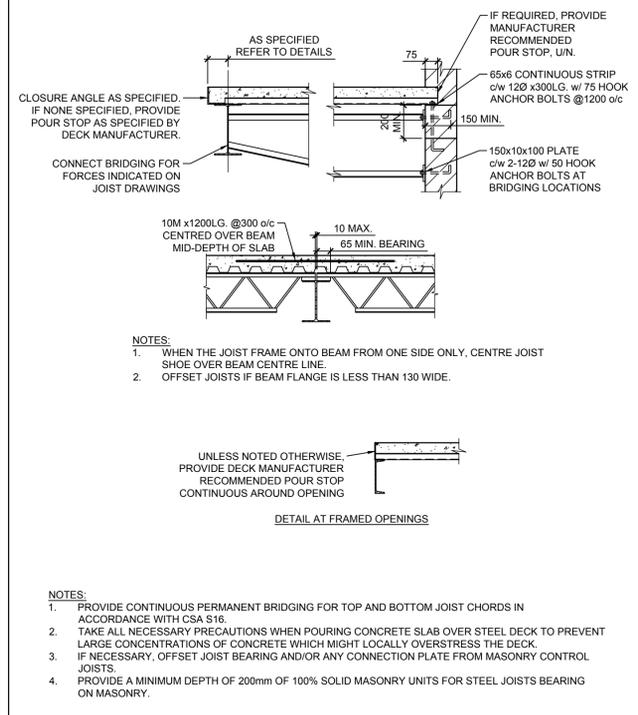


- NOTES:
- SUBMIT CONSTRUCTION JOINT SHOP DRAWINGS FOR REVIEW BY CONSULTANT.
 - EXTEND NORMAL TOP AND BOTTOM REINFORCEMENT THROUGH JOINT FOR FULL LENGTH AS SHOWN ON DRAWINGS, SCHEDULES AND TYPICAL DETAILS.
 - CONSTRUCTION JOINTS TO BE LOCATED AT MIDDLE THIRD OF SPAN.
 - CONSTRUCTION JOINTS IN PAD FOOTINGS, IN SLABS UNDER AND PARALLEL TO WALLS, IN BEAMS AT SUPPORTS OR AT COLUMNS ABOVE ARE NOT PERMITTED, UNLESS APPROVED BY CONSULTANT.

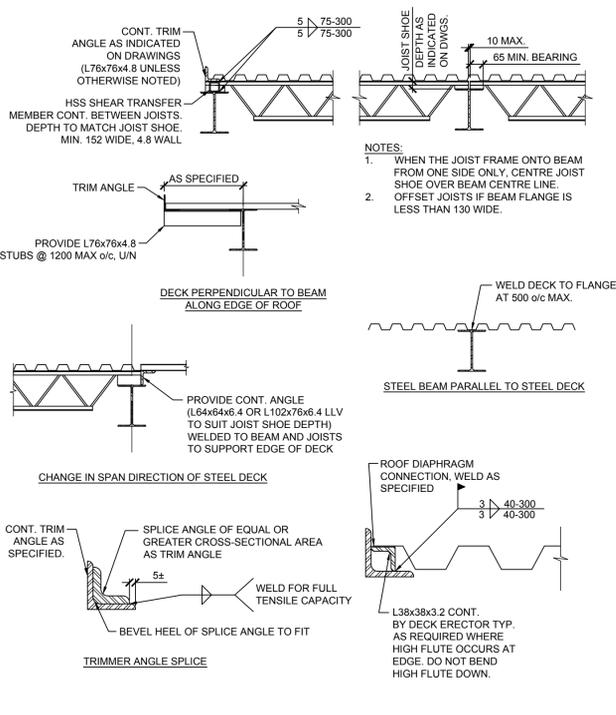
FROST SLABS 0355A



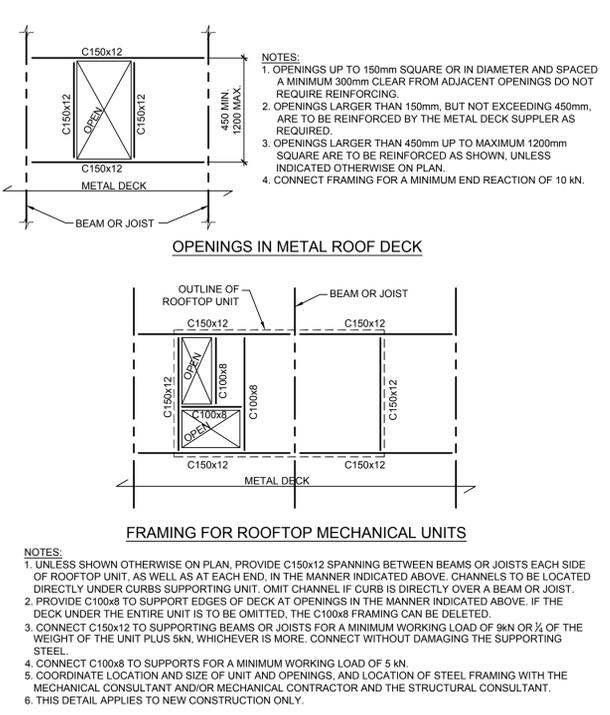
CONCRETE SLAB ON STEEL DECK FRAMING DETAILS 0501



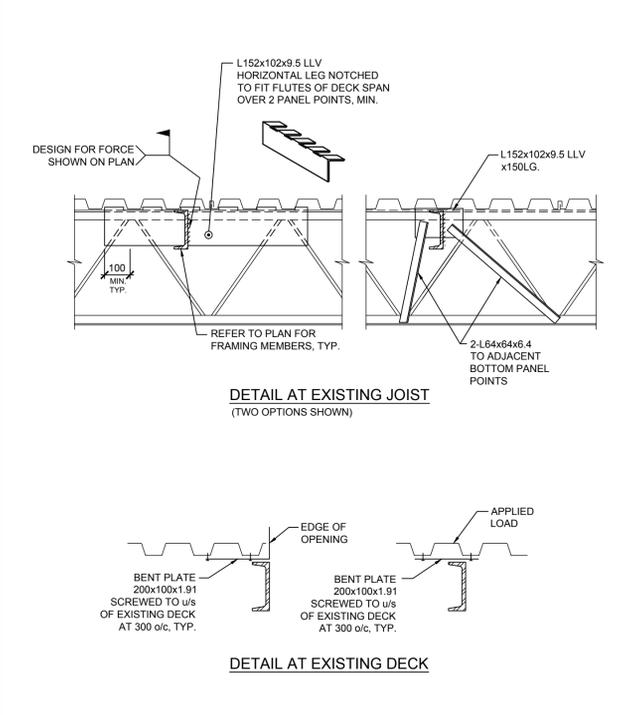
STEEL DECK FRAMING DETAILS 0503



FRAMING FOR ROOFTOP UNITS AND OPENINGS IN DECK 0504



FRAMING ONTO EXISTING STEEL JOISTS AND DECK 0505



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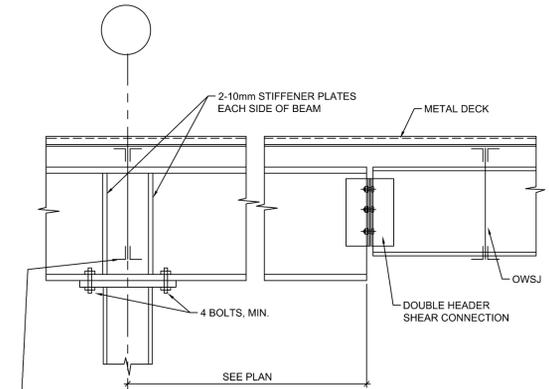
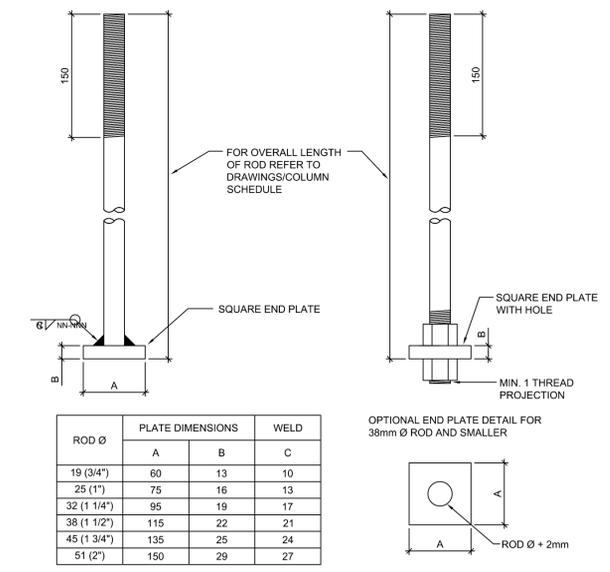
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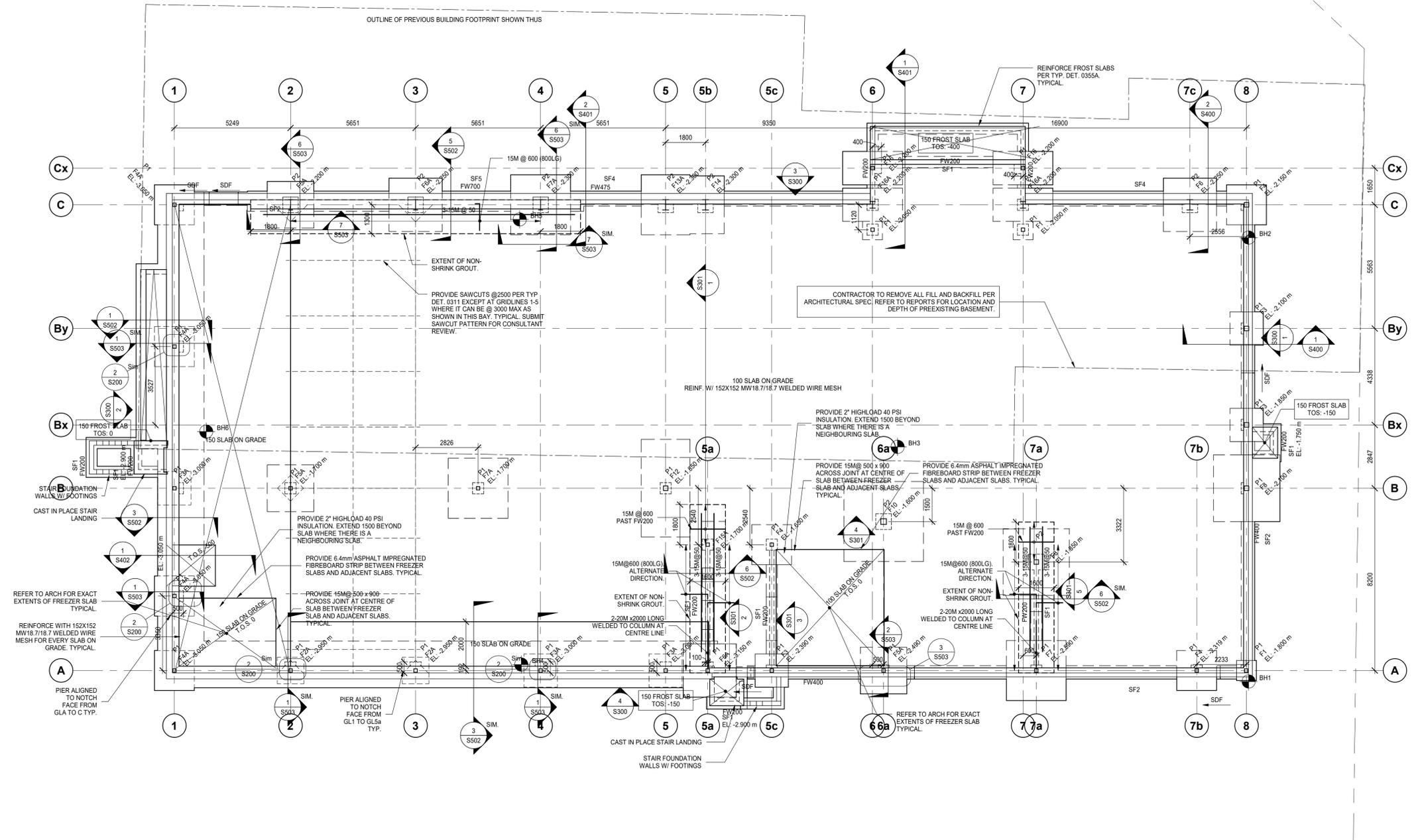
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SHEET TITLE:
TYPICAL DETAILS

S004

CANTILEVERED BEAM CONNECTION	0508	ANCHOR ROD WITH END PLATE	0516																																						
 <p>2-10mm STIFFENER PLATES EACH SIDE OF BEAM</p> <p>METAL DECK</p> <p>DOUBLE HEADER SHEAR CONNECTION</p> <p>OWSJ</p> <p>4 BOLTS, MIN.</p> <p>SEE PLAN</p> <p>CONNECT TOP AND BOTTOM CHORDS OF JOISTS FOR 225kN (UNFACTORED) UNLESS NOTED OTHERWISE. DESIGN JOISTS FOR CONNECTION FORCES</p>		 <p>FOR OVERALL LENGTH OF ROD REFER TO DRAWINGS/COLUMN SCHEDULE</p> <p>SQUARE END PLATE</p> <p>SQUARE END PLATE WITH HOLE</p> <p>MIN. 1 THREAD PROJECTION</p> <p>OPTIONAL END PLATE DETAIL FOR 38mm Ø ROD AND SMALLER</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">ROD Ø</th> <th colspan="3">PLATE DIMENSIONS</th> <th rowspan="2">WELD</th> </tr> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>19 (3/4")</td> <td>60</td> <td>13</td> <td>10</td> <td></td> </tr> <tr> <td>25 (1")</td> <td>75</td> <td>16</td> <td>13</td> <td></td> </tr> <tr> <td>32 (1 1/4")</td> <td>95</td> <td>19</td> <td>17</td> <td></td> </tr> <tr> <td>38 (1 1/2")</td> <td>115</td> <td>22</td> <td>21</td> <td></td> </tr> <tr> <td>45 (1 3/4")</td> <td>135</td> <td>25</td> <td>24</td> <td></td> </tr> <tr> <td>51 (2")</td> <td>150</td> <td>29</td> <td>27</td> <td></td> </tr> </tbody> </table> <p>ROD Ø + 2mm</p> <p>NOTES: 1. WELDING SHALL BE DONE IN ACCORDANCE WITH CSA W59 WITH WELD STRENGTH $X_u=480$ MPa. 2. STEEL ROD AND PLATE SHALL CONFORM TO REQUIREMENTS OF CSA G40.21 GRADE 300W. 3. MINIMUM CONCRETE STRENGTH $f_c=28$MPa.</p>	ROD Ø	PLATE DIMENSIONS			WELD	A	B	C	19 (3/4")	60	13	10		25 (1")	75	16	13		32 (1 1/4")	95	19	17		38 (1 1/2")	115	22	21		45 (1 3/4")	135	25	24		51 (2")	150	29	27		
ROD Ø	PLATE DIMENSIONS			WELD																																					
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1 01 - FOUNDATION PLAN
S100 1:100

NOTES:

- TOP OF SLAB DATUM ELEVATION IS AT GEODETIC ELEVATION 305.82m.
- WHERE CROSSED AND NOTED THE LOCAL DATUM FOR RAISED OR LOWERED AREAS ARE GIVEN RELATIVE TO THE LOWER FLOOR DATUM.
- EXCEPT AS CROSSED AND NOTED TOP OF FINISHED FLOOR IS 0 mm BELOW THE LOWER FLOOR DATUM.
- WHERE CROSSED AND NOTED SLAB DEPRESSIONS OR LOCALLY RAISED AREAS ARE GIVEN RELATIVE TO THE LOWER FLOOR DATUM.
- REFER TO THE GENERAL NOTES FOR DESIGN ULS AND SLS BEARING CAPACITIES.
- BEARING ELEVATIONS (UNDERSIDE OF FOOTING) ARE NOTED ON PLAN. THESE ARE APPROXIMATE AND MUST BE VERIFIED IN THE FIELD BY THE GEOTECHNICAL CONSULTANT.
- FOUND FOOTINGS AT A MINIMUM OF 1500mm BELOW FINISHED GRADE WHERE EXPOSED TO FROST.
- CENTRE ALL FOOTINGS AND CAPS ON THE GRID LINES UNLESS NOTED OTHERWISE.
- BOREHOLE LOCATIONS SHOWN ON PLAN ARE APPROXIMATE. ELEVATIONS OF EXISTING GRADE AND OF NATIVE SOIL ARE INDICATED AT EACH BOREHOLE.
- THE SITE CONTAINS BURIED TOPSOIL AND/OR FILL MATERIAL UNSUITABLE TO SUPPORT THE PROPOSED STRUCTURE. THE ELEVATIONS OF NATIVE SOIL AT BOREHOLES INDICATE COMPETENT SOIL UPON WHICH FOOTINGS MAY BE FOUNDED OR UPON WHICH ENGINEERED FILL MAY BE PLACED TO RAISE THE SUB-GRADE TO A SUITABLE FOUNDING ELEVATION. REFER TO THE GEOTECHNICAL REPORT FOR DETAILED SOIL INFORMATION.
- PROVIDE CONTROL JOINTS IN ALL FOUNDATION WALLS AS PER DETAIL 0315. COORDINATE CONTROL JOINT LOCATIONS WITH ARCHITECTURAL.

FOUNDATION SCHEDULE					
MARK	DIMENSIONS (mm)			REINFORCEMENT	REMARKS
	LENGTH	WIDTH	DEPTH		
F1	900	900	300	3-15M BEW	
F2A	1200	1200	300	4-15M BEW, 4-15M TEW	
F3	1500	1500	350	6-15M BEW	
F3A	1500	1500	350	6-15M BEW, 6-15M TEW	
F4	1800	1800	400	6-20M BEW	
F4A	1800	1800	400	6-20M BEW, 6-15M TEW	
F5A	2100	2100	450	9-20M BEW, 9-15M TEW	
F6	2400	2400	500	12-20M BEW	
F6A	2400	2400	500	12-20M BEW, 12-15M TEW	
F7	2700	2700	550	10-25M BEW	
F7A	2700	2700	550	10-25M BEW, 10-15M TEW	
F8	3000	3000	600	12-25M BEW	
F10	3600	3600	600	16-25M BEW	
F12	4400	2200	700	14-25M BEW	
F13A	2700	2200	550	8-25M BEW, 8-15M TEW	
F14	2600	1700	550	12-20M BEW	
F15A	2100	1600	550	8-20M BEW, 8-15M TEW	
F16	1500	2700	450	9-20M BEW	
F16A	1500	2700	450	9-20M BEW, 9-15M TEW	
SF1	500	250		SEE TYPICAL DETAIL 0306	
SF2	600	250		SEE TYPICAL DETAIL 0306	
SF4	675	250		SEE TYPICAL DETAIL 0306	
SF5	15202	900	250	SEE TYPICAL DETAIL 0306	

CONCRETE PIER SCHEDULE					
MARK	DIMENSION		REINFORCEMENT - VERTICAL	REINFORCEMENT - TIE	REMARKS
	DEPTH	WIDTH			
P1	500	500	8-20M	15M@300	
P2	700	700	8-25M	15M@300	

FOUNDATION WALL SCHEDULE				
MARK	THICKNESS (mm)	HORIZ. REINF.	VERT. REINF.	REMARKS
FW400	400	15M@500 HEF	15M@500 HEF	15M@500 HF, 15M@500 VIF FOR NOTCH
FW475	475	15M@400 HEF	15M@400 VEF	15M@400 HF, 15M@400 VIF FOR NOTCH
FW700	700	3 LAYERS- 15M @ 200 H	3 LAYERS- 15M @ 200 V	SEE 5/S502

Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.

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PROJECT NAME:
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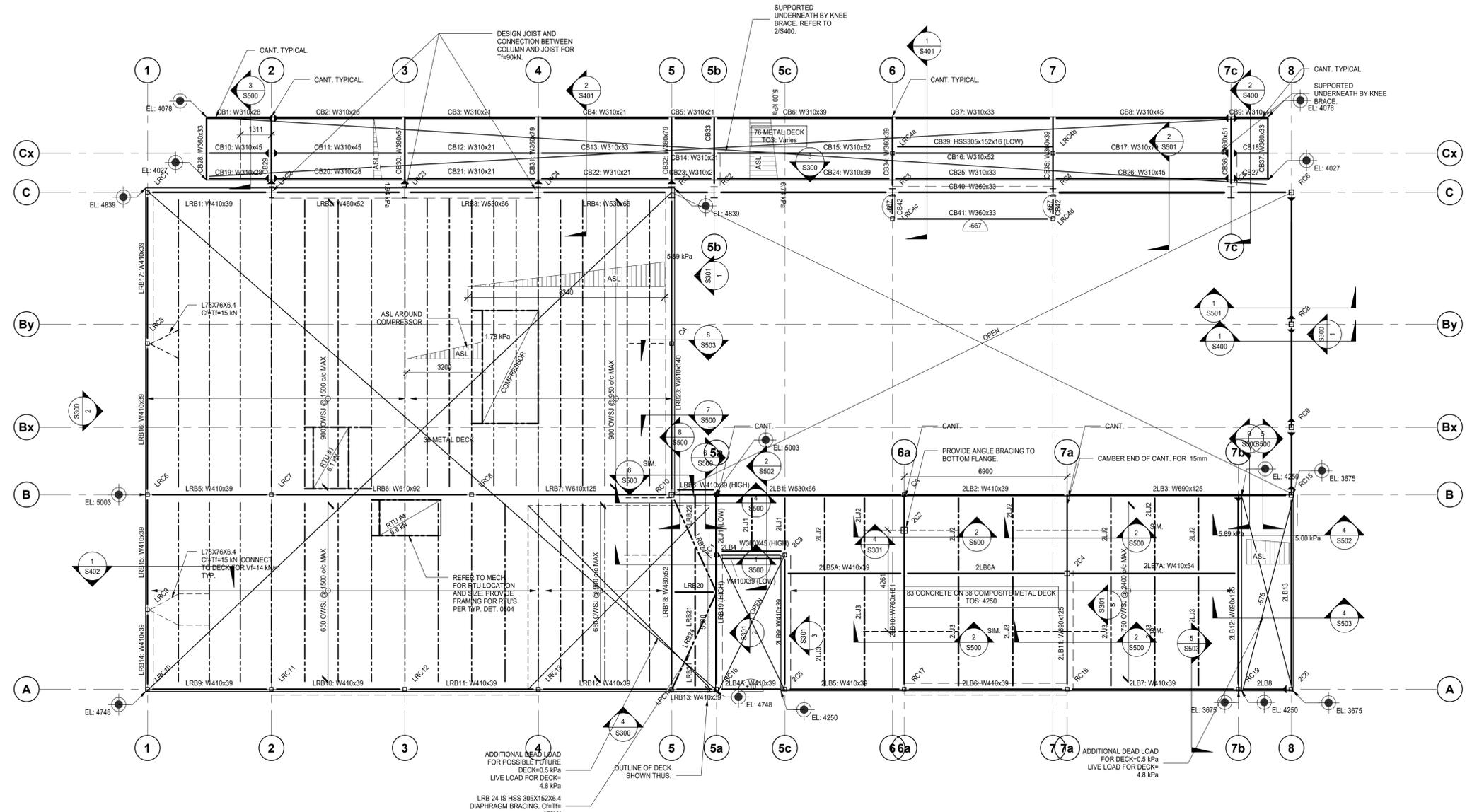
PROJECT ADDRESS:
132 Burleigh Street

SEAL:

DRAWN: DM	CHECKED: IFM
SCALE: As indicated	PROJECT NUMBER: 210112

SHEET TITLE:
FOUNDATION PLAN

S100



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PROJECT NAME:
NEW SAYERS FOOD STORE BURLEIGH STREET, APSLEY

PROJECT ADDRESS:
132 Burleigh Street

SEAL:

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SCALE: As indicated

CHECKED: IFM
PROJECT NUMBER: 210112

SHEET TITLE:
SECOND & LOW ROOF FRAMING PLAN

S101

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PROJECT NAME:
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STREET, APSLEY**

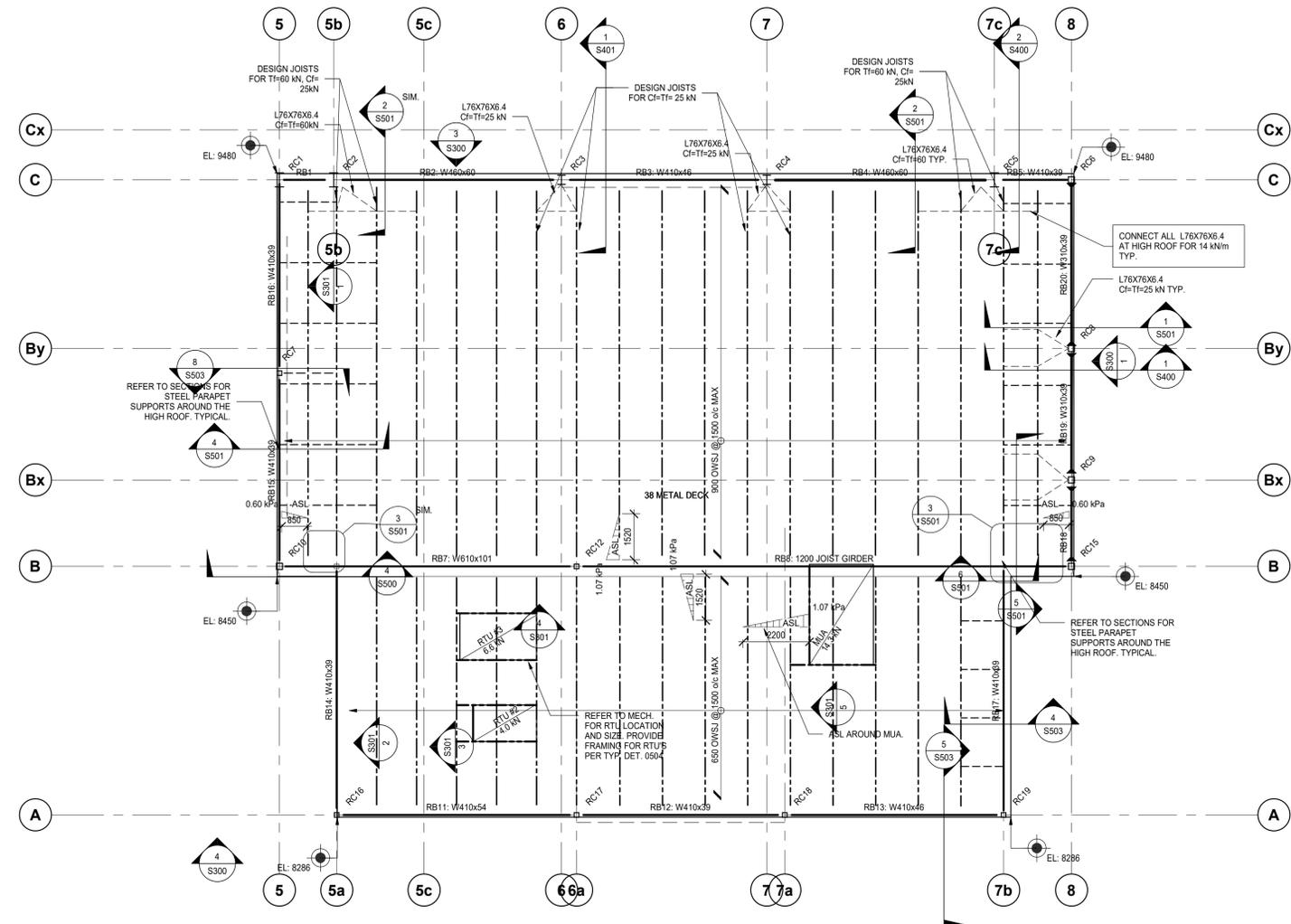
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SEAL:

DRAWN: DM	CHECKED: IFM
SCALE: As indicated	PROJECT NUMBER: 210112

SHEET TITLE:
**HIGH ROOF FRAMING
PLAN**

S102



1 03 - HIGH ROOF FRAMING PLAN
S102 1:100

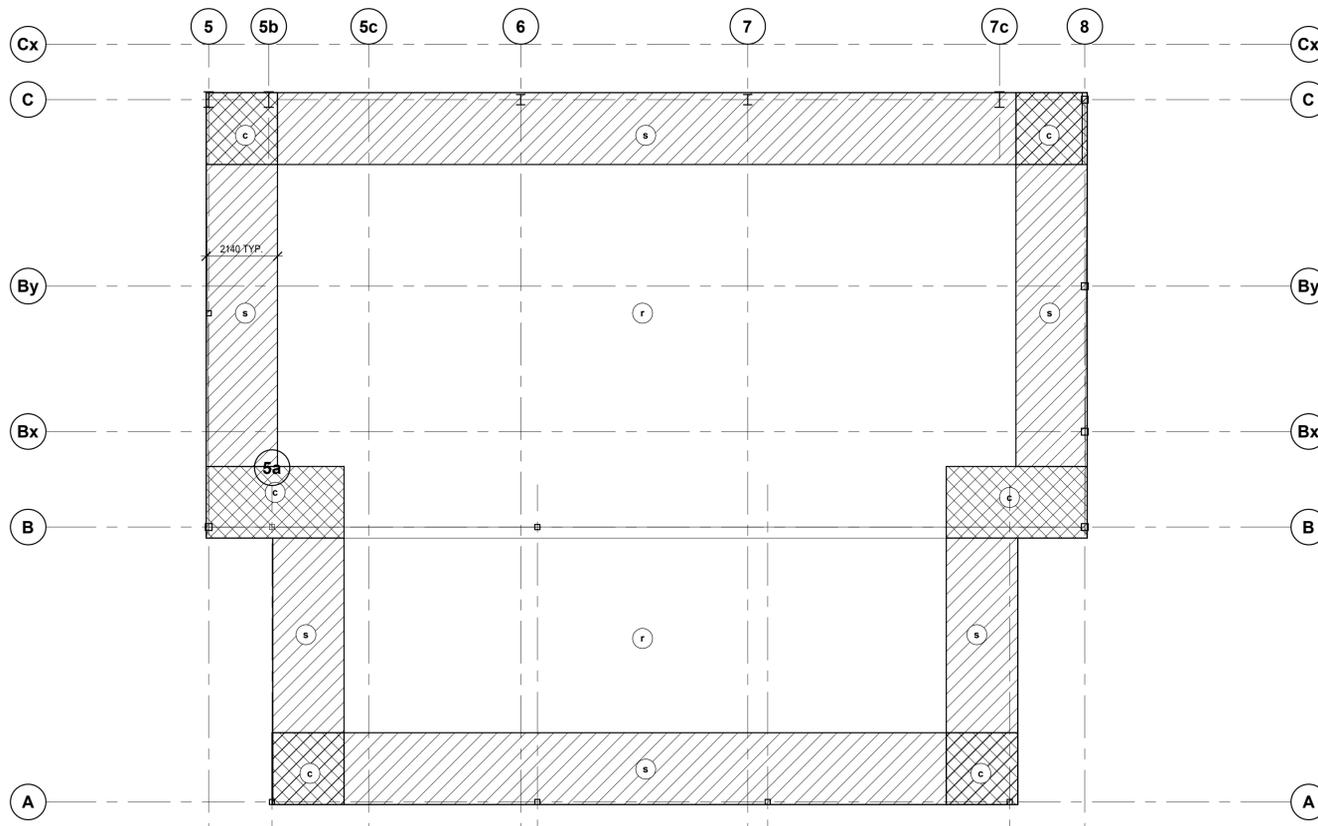
NOTES:

- ROOF DATUM IS FROM THE GROUND FLOOR DATUM AS NOTED IN SPOT ELEVATIONS. THE ROOF DATUM REPRESENTS THE UNDERSIDE OF METAL DECK AT CORNERS. THE ROOF SLOPES. REFER TO ARCHITECTURAL DRAWINGS FOR THE SLOPES.
- TOP OF STEEL BEAMS ARE 102 mm BELOW THE UNDERSIDE OF ROOF DECK UNLESS NOTED THUS. WHERE NOTED, THE DIMENSION IS RELATIVE TO THE ROOF DATUM.
- SUPERIMPOSED LOADS USED IN THE DESIGN:
SNOW + RAIN LOAD: 2.88 kPa (PLUS SNOW ACCUMULATION SHOWN ON PLAN)
DEAD:
ROOFING: 0.60 kPa
SUSPENDED: 0.25 kPa
- SELF WEIGHT OF STRUCTURE USED IN THE DESIGN:
METAL DECK: 0.15 kPa
FRAMING: 0.35 kPa

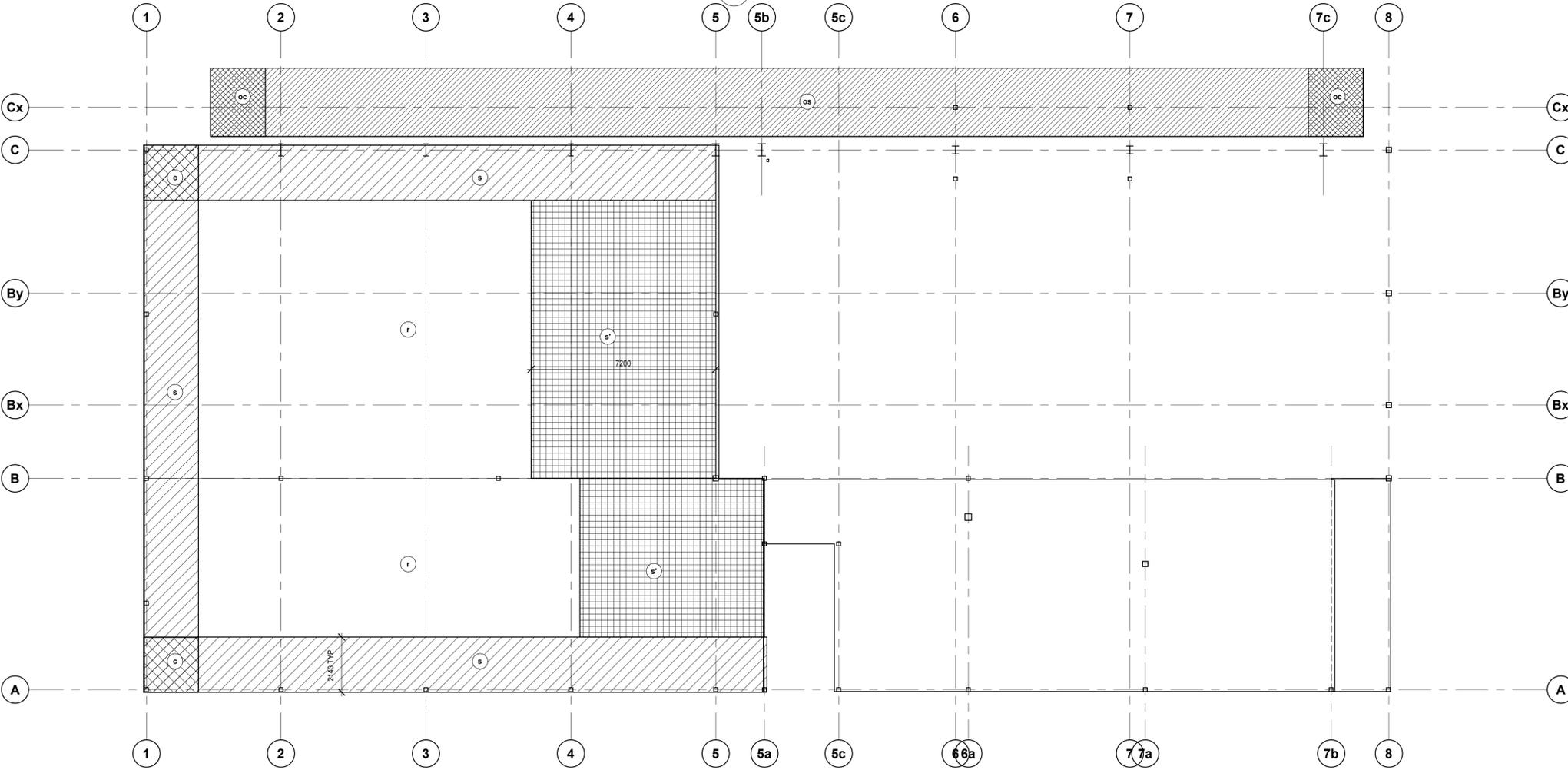
STEEL BEAM SCHEDULE - HIGH ROOF				
MARK	SIZE	REACTIONS		REMARKS
		LEFT END	RIGHT END	
RB1	W410x39	45 kN	45 kN	Cf=15 kN Tf=15 kN
RB2	W460x60	160 kN	160 kN	Cf=45 kN Tf=45 kN
RB3	W410x46	145 kN	145 kN	Cf=75 kN Tf=75 kN
RB4	W460x60	160 kN	160 kN	Cf=50 kN Tf=50 kN
RB5	W410x39	60 kN	60 kN	Cf=15 kN Tf=15 kN
RB7	W610x101	300 kN	355 kN	
RB8	1200 JOIST GIRDER	585 kN	545 kN	
RB11	W410x54	120 kN	130 kN	Cf=40 kN Tf=40 kN
RB12	W410x39	95 kN	95 kN	Cf=70 kN Tf=70 kN
RB13	W410x46	140 kN	115 kN	Cf=35 kN Tf=35 kN
RB14	W410x39	35 kN	35 kN	Cf=30 kN Tf=30 kN
RB15	W410x39	35 kN	35 kN	Cf=95 kN Tf=95 kN
RB16	W410x39	35 kN	35 kN	Cf=55 kN Tf=55 kN
RB17	W410x39	50 kN	50 kN	Cf=40 kN Tf=40 kN
RB18	W310x39	30 kN	30 kN	M(L)=40 kN-m M(R)=40 kN-m Cf=40 kN Tf=40 kN
RB19	W310x39	30 kN	30 kN	M(L)=25 kN-m M(R)=25 kN-m Cf=40 kN Tf=40 kN
RB20	W310x39	30 kN	30 kN	M(L)=30 kN-m M(R)=30 kN-m Cf=40 kN Tf=40 kN

STEEL BEAM SCHEDULE NOTES:

- LEFT AND RIGHT ENDS OF BEAMS ARE DEFINED BY THE ORIENTATION OF THE BEAM MARK ON PLAN.
- REACTIONS GIVEN ARE FACTORED FORCES. REACTIONS WITHIN BRACKETS DENOTE FACTORED UPLIFT FORCES.
- DESIGN CONNECTIONS FOR AXIAL COMPRESSION (C), AXIAL TENSION (T), STRONG-AXIS MOMENT (M), TORSIONAL MOMENT (Tm) OR OUT OF PLANE HORIZONTAL FORCE (H) SHOWN IN THE REMARKS COLUMN, IN ADDITION TO THE VERTICAL SHEAR PROVIDED IN THE REACTION COLUMN. THE (L) OR (R) SHOWN NEXT TO THE FORCE INDICATE THE LEFT OR RIGHT END, RESPECTIVELY.
- CAMBERS ARE IN mm. WHERE NO CAMBER IS INDICATED, REFER TO THE SPECIFICATION AND CSA S16.



1 WIND UPLIFT - HIGH ROOF
S103 1:100



2 WIND UPLIFT - LOW ROOF
S103 1:100

WIND UPLIFT DIAGRAM

- NOTES:
- PRESSURES SHOWN ARE UNFACTORED DESIGN UPLIFT PRESSURES IN kPa FOR THE DESIGN OF JOISTS AND METAL DECK AND THEIR CONNECTIONS.
 - UPLIFT PRESSURES SHOWN HAVE BEEN REDUCED FOR THE EFFECT OF DEAD LOADS.
 - PRESSURES ARE INCLUSIVE OF INTERNAL PRESSURE.

NET UPLIFT PRESSURES (kPa):						
ZONE	r	s	c	s'	os	oc
JOISTS	0.31	0.47	0.55	0.38	0.54	1.03
DECK	0.40	0.53	1.18	0.45	0.56	1.05

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PROJECT ADDRESS:
132 Burleigh Street

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SHEET TITLE:
WIND UPLIFT DIAGRAMS

S103

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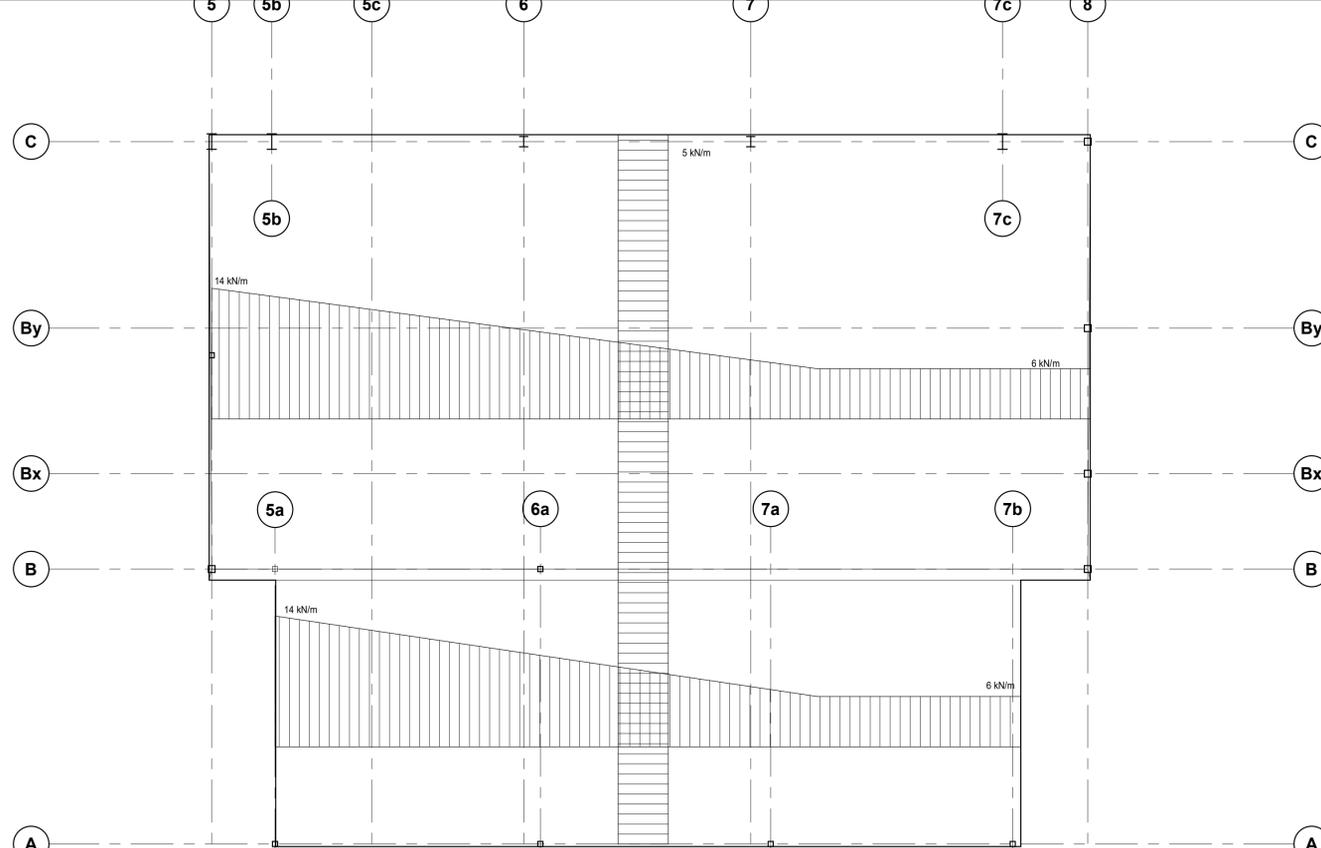
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SCALE: As indicated	PROJECT NUMBER: 210112

SHEET TITLE:
**SHEAR FORCE
DIAGRAMS**

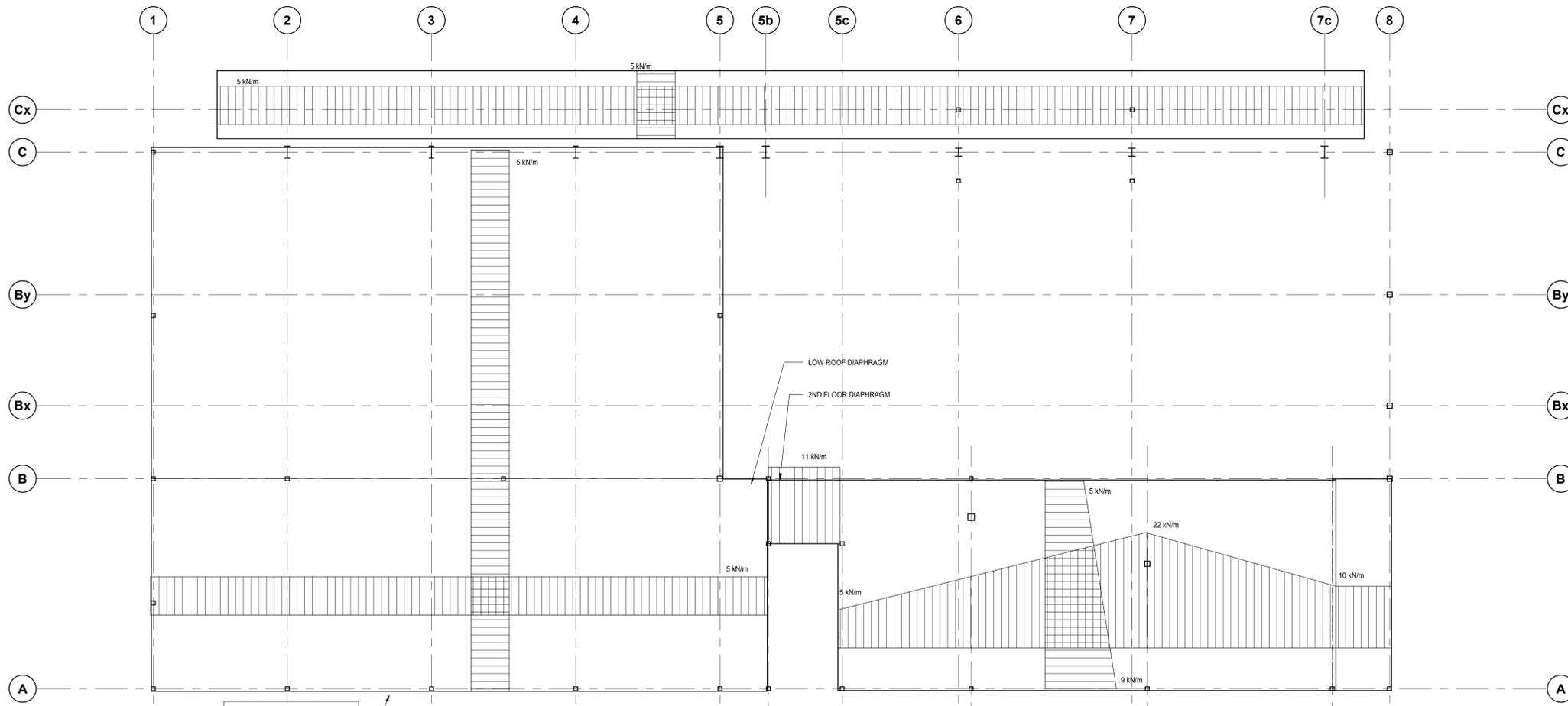
S104

ROOF SHEAR FORCE DIAGRAM

- NOTES:
1. SHEAR FORCES SHOWN ARE FACTORED (ULS DESIGN FORCES IN kN/m FOR THE DESIGN OF METAL DECK AND ASSOCIATED CONNECTIONS).
2. MECHANICAL FASTENERS HAVE BEEN ASSUMED WITH AN $Rd/Ro = 1.95$. IF WELDED CONNECTIONS ARE TO BE USED, THE FACTORED FORCES MUST BE INCREASED 1.5 TIMES BASED ON AN $Rd/Ro = 1.3$.



1 SHEAR FORCE - HIGH ROOF
S104 1:100



2 SHEAR FORCE - SECOND AND LOW ROOF
S104 1:100

MINIMUM SUPPORT PATTERN OF 36/9 FOR FASTENING FOR LOW ROOF DECK

COLUMN SCHEDULE																				
HIGH PARAPET																				HIGH PARAPET
10000																				10000
LOW PARAPET																				LOW PARAPET
5500 LEVEL 2																				5500 LEVEL 2
4250																				4250
GROUND LEVEL																				GROUND LEVEL
0																				0
UIS FOOTINGS																				UIS FOOTINGS
-1500																				-1500
COLUMN LOCATIONS	LRC10	LRC9	LRC11	LRC12	LRC13	LRC14	RC16	2C5	RC17	RC18	RC19	2C6	LRC6	LRC7	LRC8	RC10	RC20	2C1	2C3	RC12

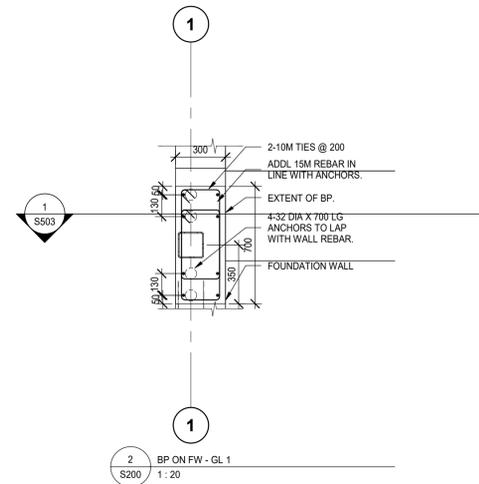
COLUMN SCHEDULE																				
HIGH PARAPET																				HIGH PARAPET
10000																				10000
LOW PARAPET																				LOW PARAPET
5500 LEVEL 2																				5500 LEVEL 2
4250																				4250
GROUND LEVEL																				GROUND LEVEL
0																				0
UIS FOOTINGS																				UIS FOOTINGS
-1500																				-1500
COLUMN LOCATIONS	2C2	2C4	RC15	LRC1	LRC2	LRC3	LRC4	RC1	RC2	RC3	LRC4c	RC4	LRC4d	RC5	RC6	RC9	LRC5	RC7	RC8	LRC4a

COLUMN SCHEDULE	
HIGH PARAPET	HIGH PARAPET
10000	10000
LOW PARAPET	LOW PARAPET
5500 LEVEL 2	5500 LEVEL 2
4250	4250
GROUND LEVEL	GROUND LEVEL
0	0
UIS FOOTINGS	UIS FOOTINGS
-1500	-1500
	LRC4b

STEEL COLUMN SCHEDULE

NOTES:

- WHERE NOTED WITH AN ASTERISK (*) PROVIDE HEADED ANCHOR RODS; REFER TO TYPICAL DETAIL 0516. NOTE: PROVIDE 6.4mm PLATE WASHERS FOR ALL ANCHOR BOLTS LARGER THAN 25mm DIA. WITH HOLE TOLERANCE OF 1.6mm. WELD TO BASEPLATE AND ANCHOR BOLT FOR CAPACITY ONCE STEEL IS ERECTED AND PLUMB.
- CENTRE COLUMNS, CAPS AND FOOTINGS ON GRIDS UNLESS NOTED OTHERWISE.
- COLUMNS AND PIERS ARE ORIENTED AS SHOWN ON PLAN.
- COLUMN FORCES INDICATED ARE FACTORED IN KN AND BENDING MOMENTS (IF APPLICABLE) ARE FACTORED IN KN-m, UNLESS NOTED OTHERWISE.
- UPLIFT (TENSION) FORCES ARE PRESENTED IN BRACKETS BESIDE THE ASSOCIATED COMPRESSION FORCE, IF APPLICABLE. UPLIFT FORCES ARE FACTORED IN KN UNLESS NOTED OTHERWISE.
- WHERE MOMENTS OR SHEAR FORCES ARE PRESENTED SINGULARLY, THE MOMENT/SHEAR FORCE IS IN THE STRONG DIRECTION. IF THE COLUMN IS SQUARE, THE MOMENT/SHEAR FORCE IS IN BOTH DIRECTIONS UNLESS NOTED OTHERWISE.
- WHERE MOMENTS OR SHEARS ARE PRESENTED ABOUT TWO AXES, THE FIRST MOMENT/SHEAR FORCE IS IN THE STRONG DIRECTION AND THE SECOND IN THE WEAK DIRECTION. IF THE COLUMN IS SQUARE, THE FIRST MOMENT/SHEAR FORCE IS PARALLEL TO THE NORTH-SOUTH DIRECTION.
- REFER TO TYPICAL DETAIL 0303 UNLESS NOTED OTHERWISE.
- PROVIDE 4-19 DIAM. HOOKED ANCHOR BOLTS AS PER TYPICAL DETAIL 0303 UNLESS NOTED OTHERWISE.
- WHERE HEADED ANCHOR RODS ARE SPECIFIED REFER TO TYPICAL DETAIL 0516.



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SHEET TITLE:
COLUMN SCHEDULE

S200

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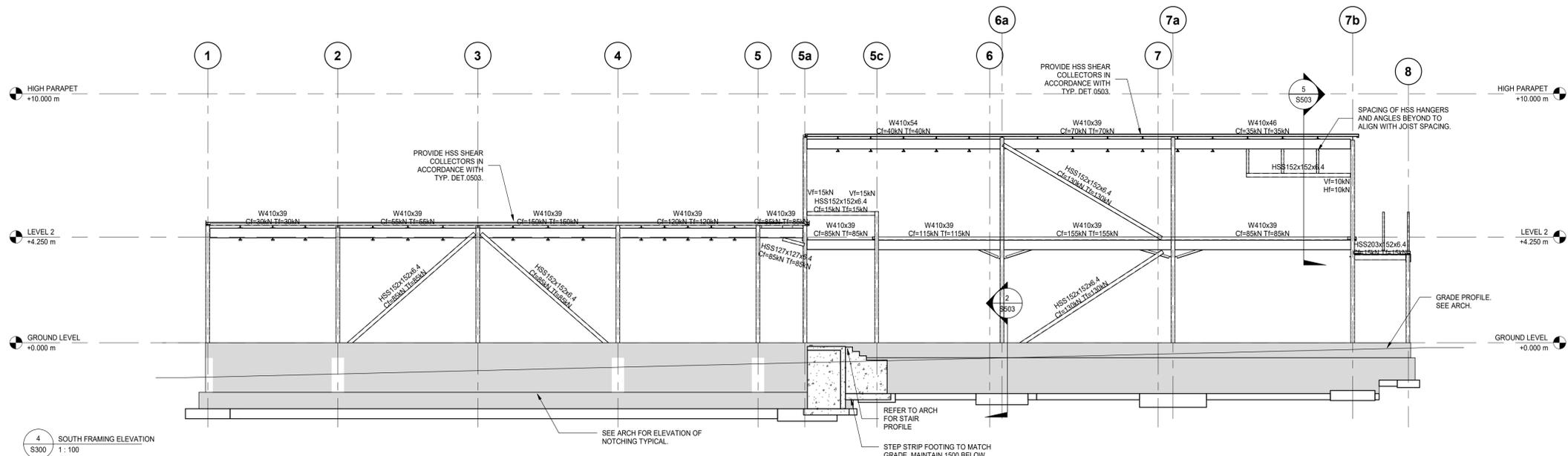
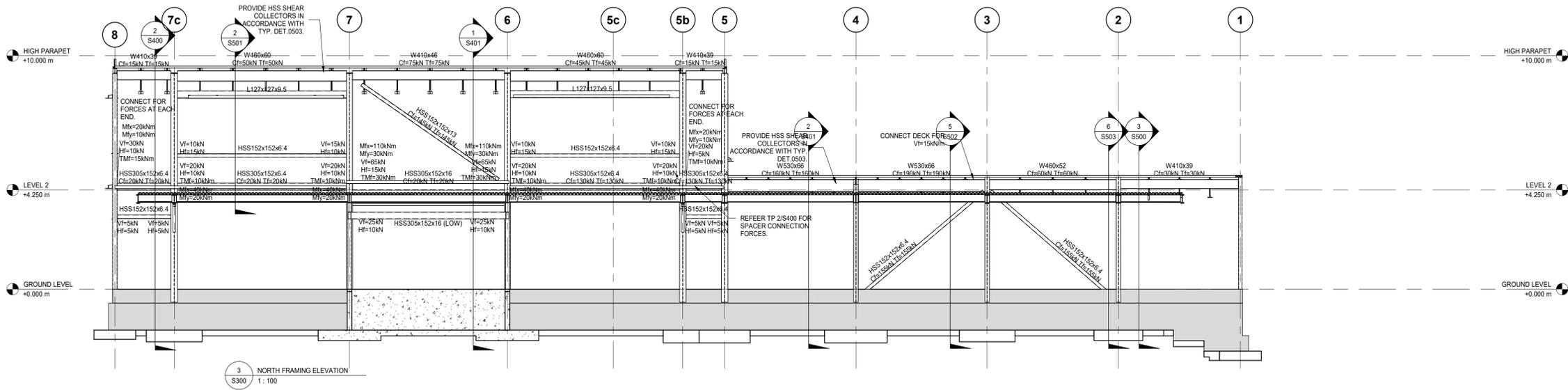
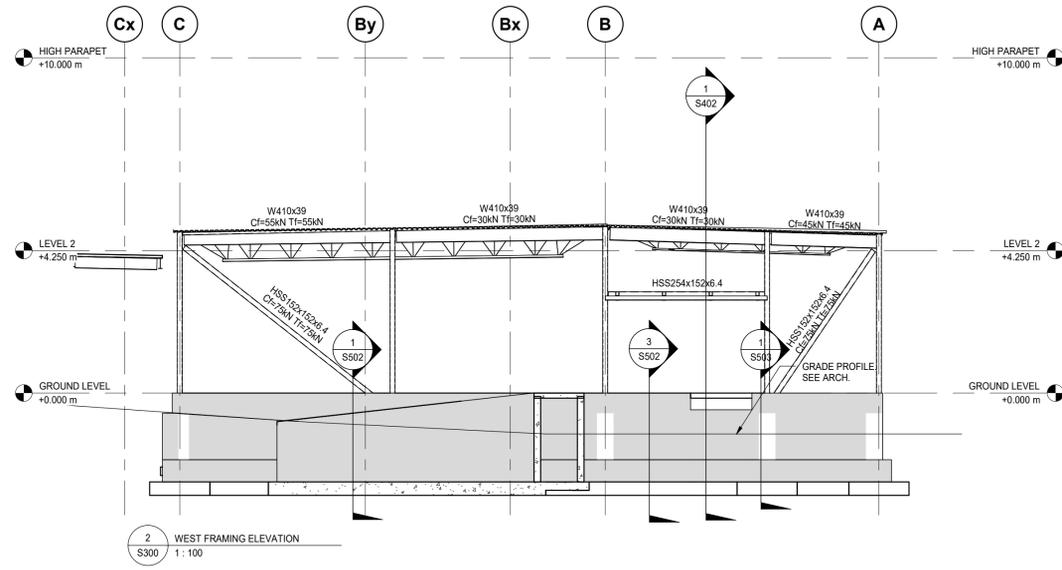
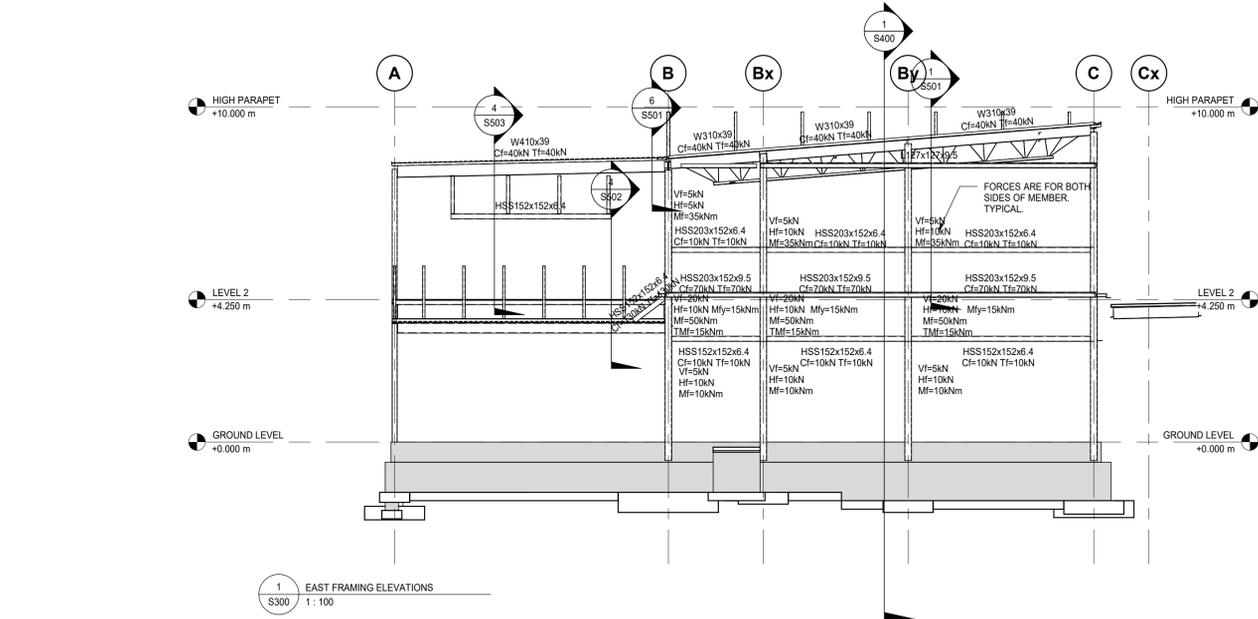
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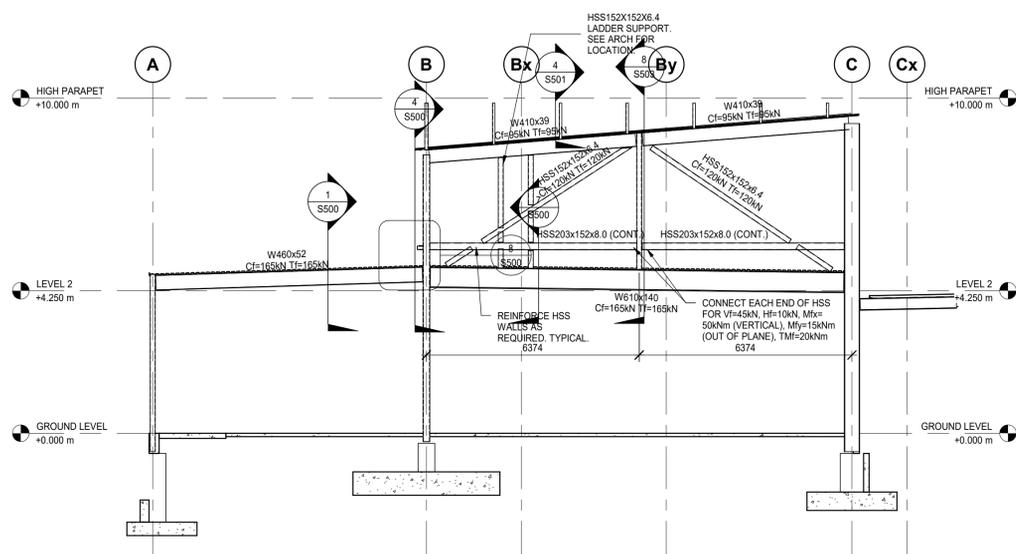
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PROJECT NUMBER:
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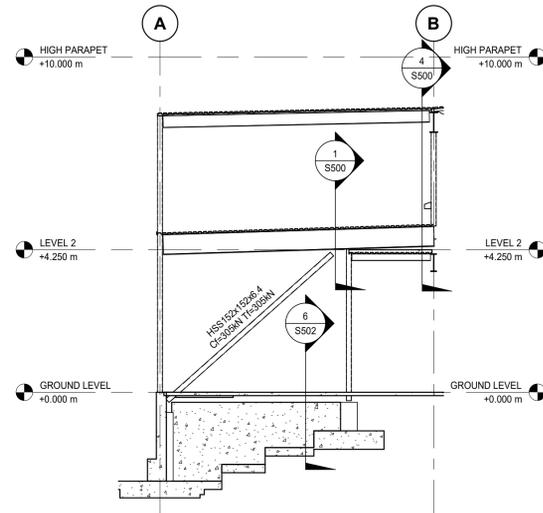
SHEET TITLE:
FRAMING ELEVATIONS

S300

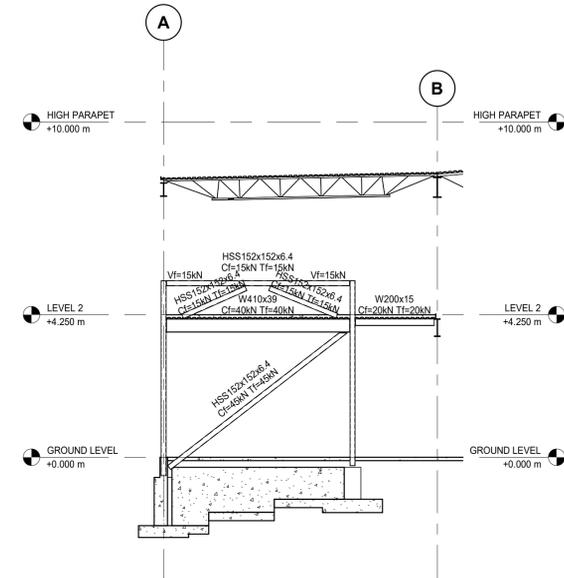




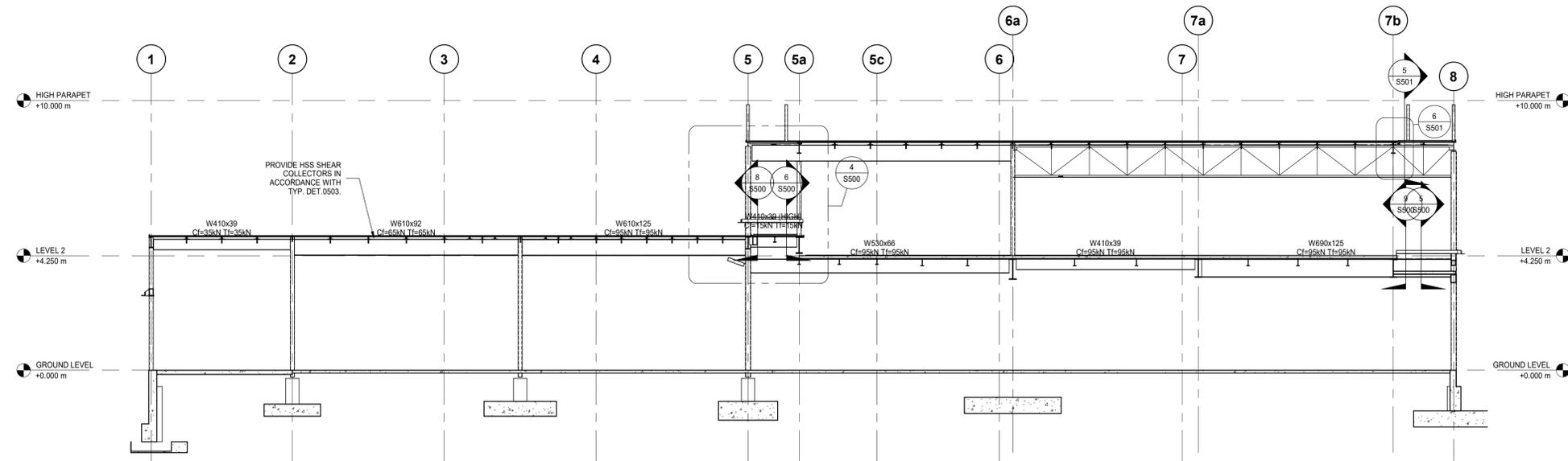
1 HIGH ROOF BRACING
S301 1:100



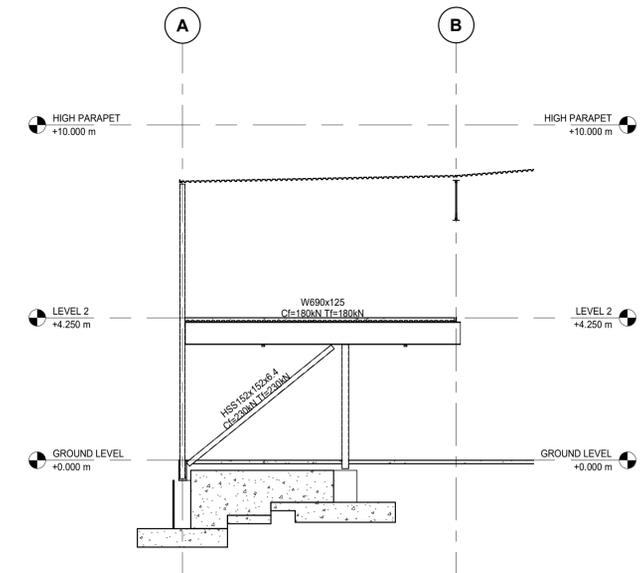
2 FRAMING BRACING NEAR GL 5a
S301 1:100



3 FRAMING BRACING ON GL 5b
S301 1:100



4 LINE B
S301 1:100



5 BRACING NEAR GL 7
S301 1:100

Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.

Do not scale this drawing.

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3	2021/08/25	ISSUED FOR TENDER REVIEW
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PROJECT NAME:
**NEW SAYERS FOOD
STORE BURLEIGH
STREET, APSLEY**

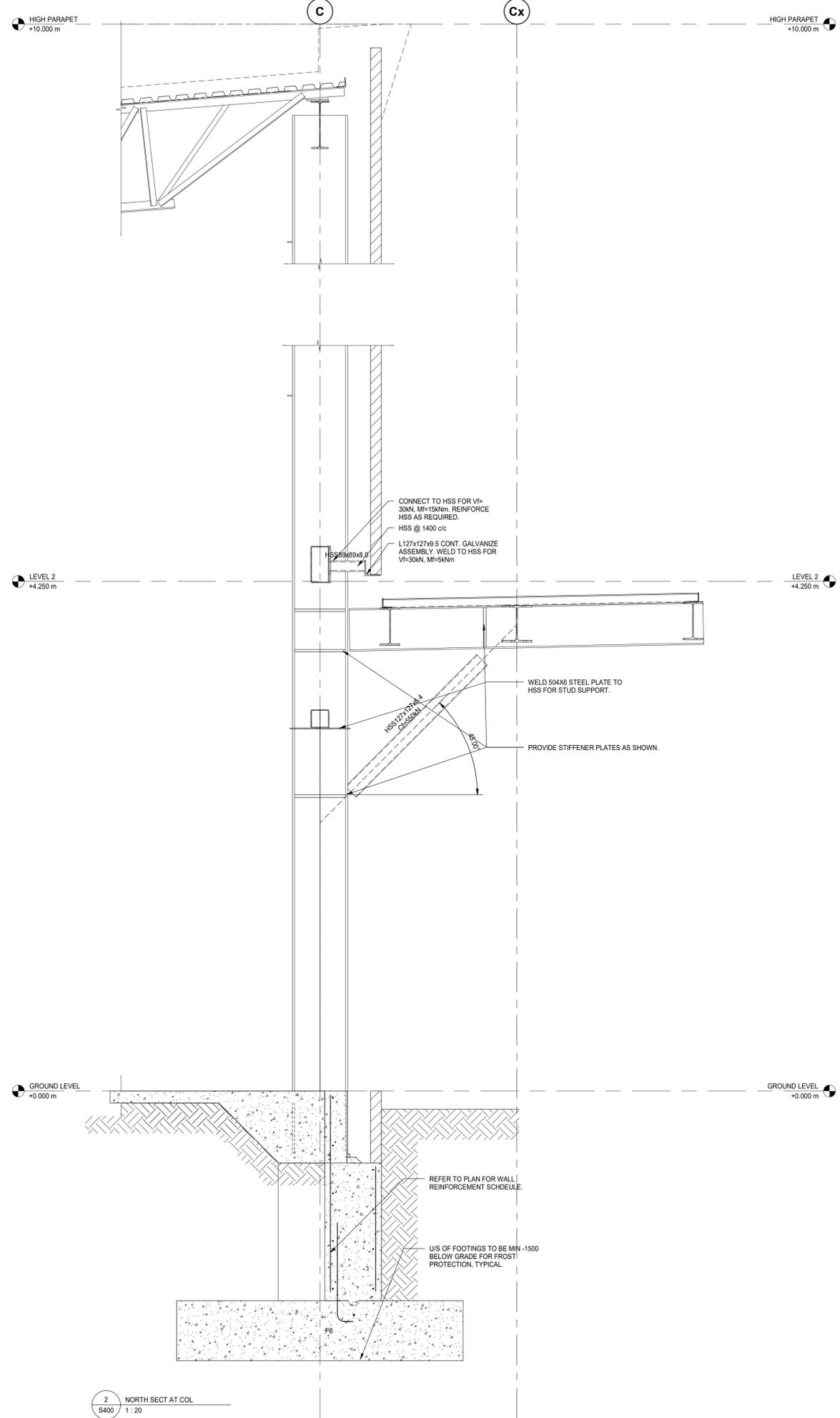
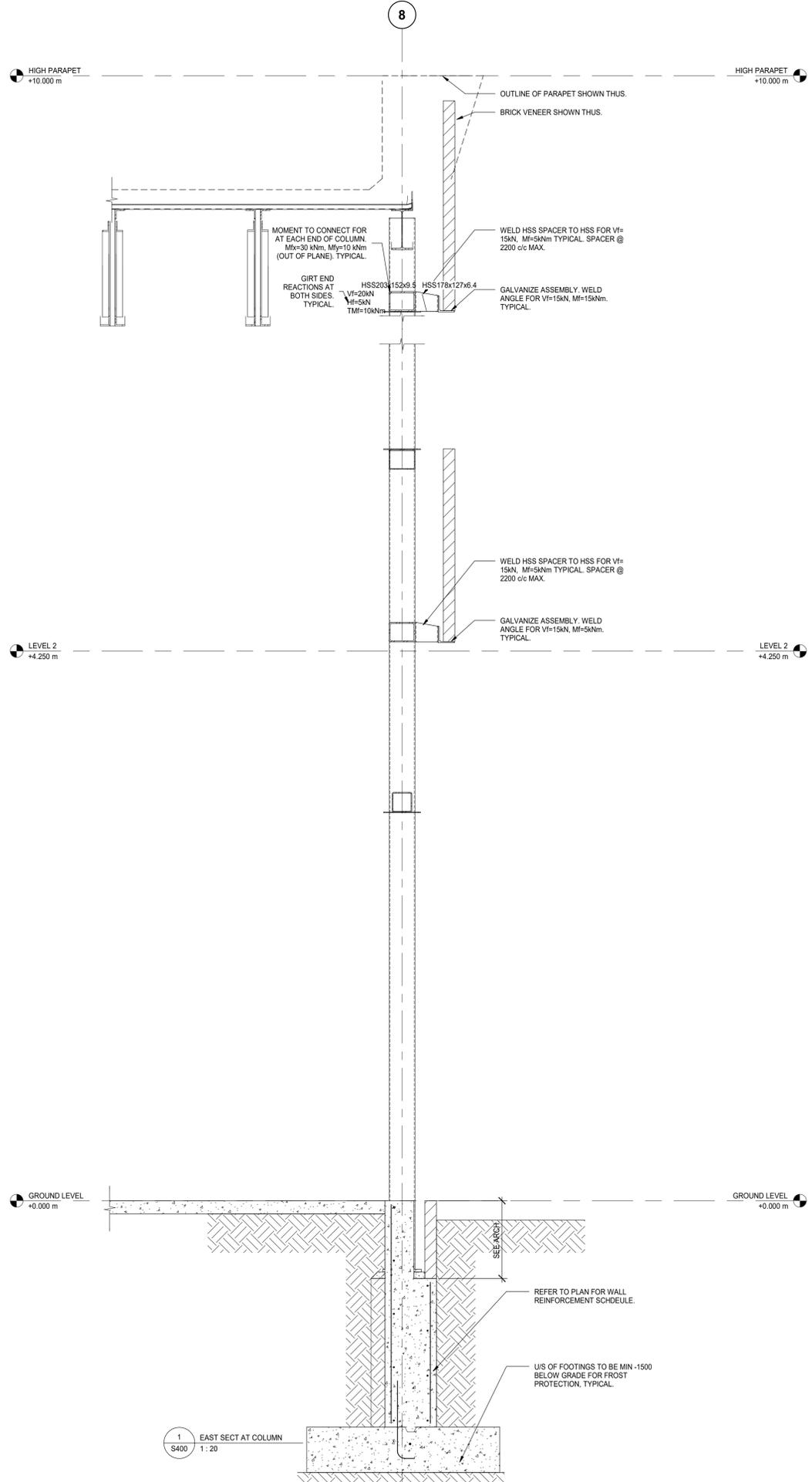
PROJECT ADDRESS:
132 Burleigh Street

SEAL:

DRAWN:
DM
SCALE:
1 : 100
CHECKED:
IFM
PROJECT NUMBER:
210112

SHEET TITLE:
FRAMING ELEVATIONS

S301



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PROJECT NAME:
NEW SAYERS FOOD STORE BURLEIGH STREET, APSLEY

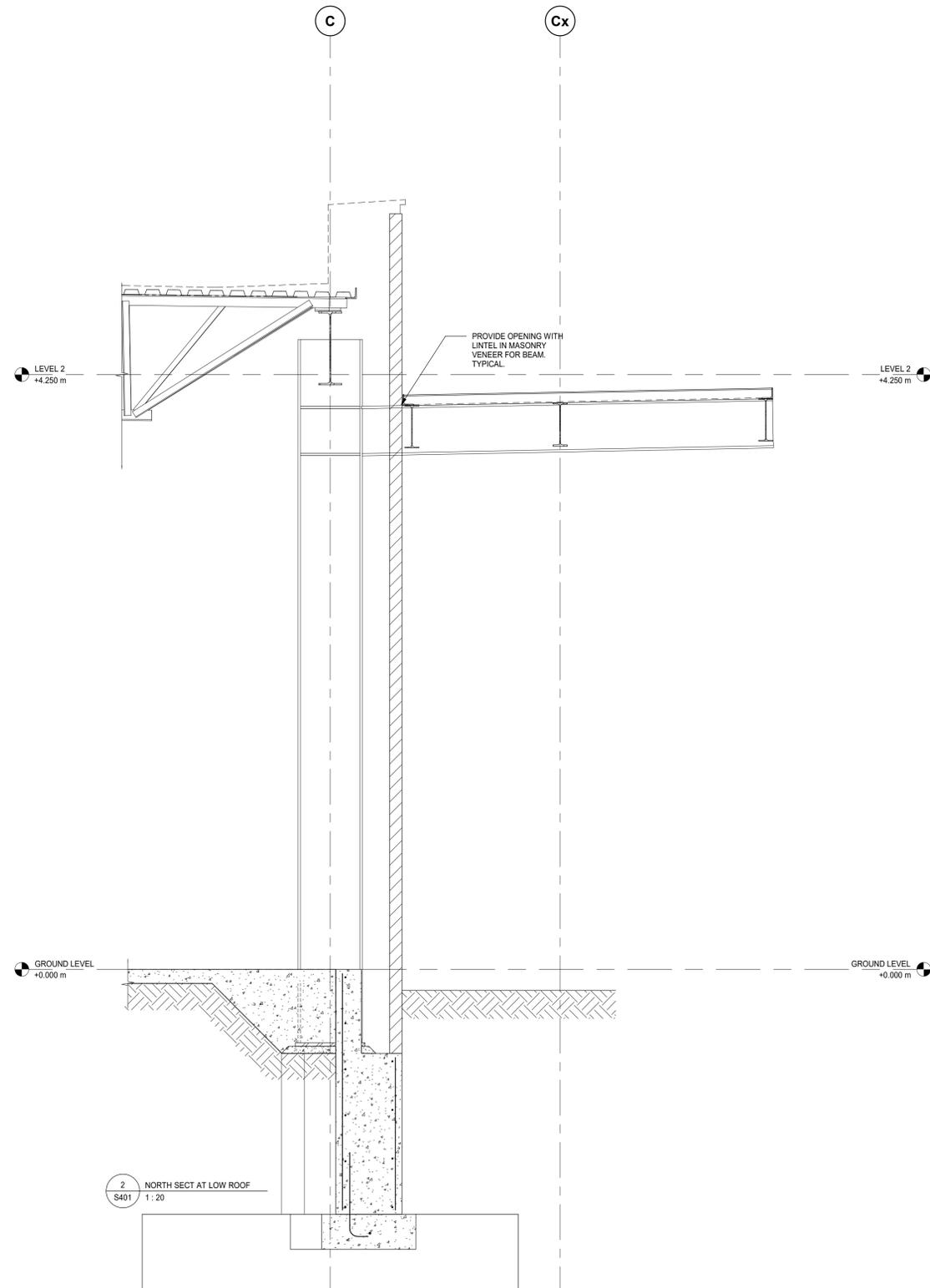
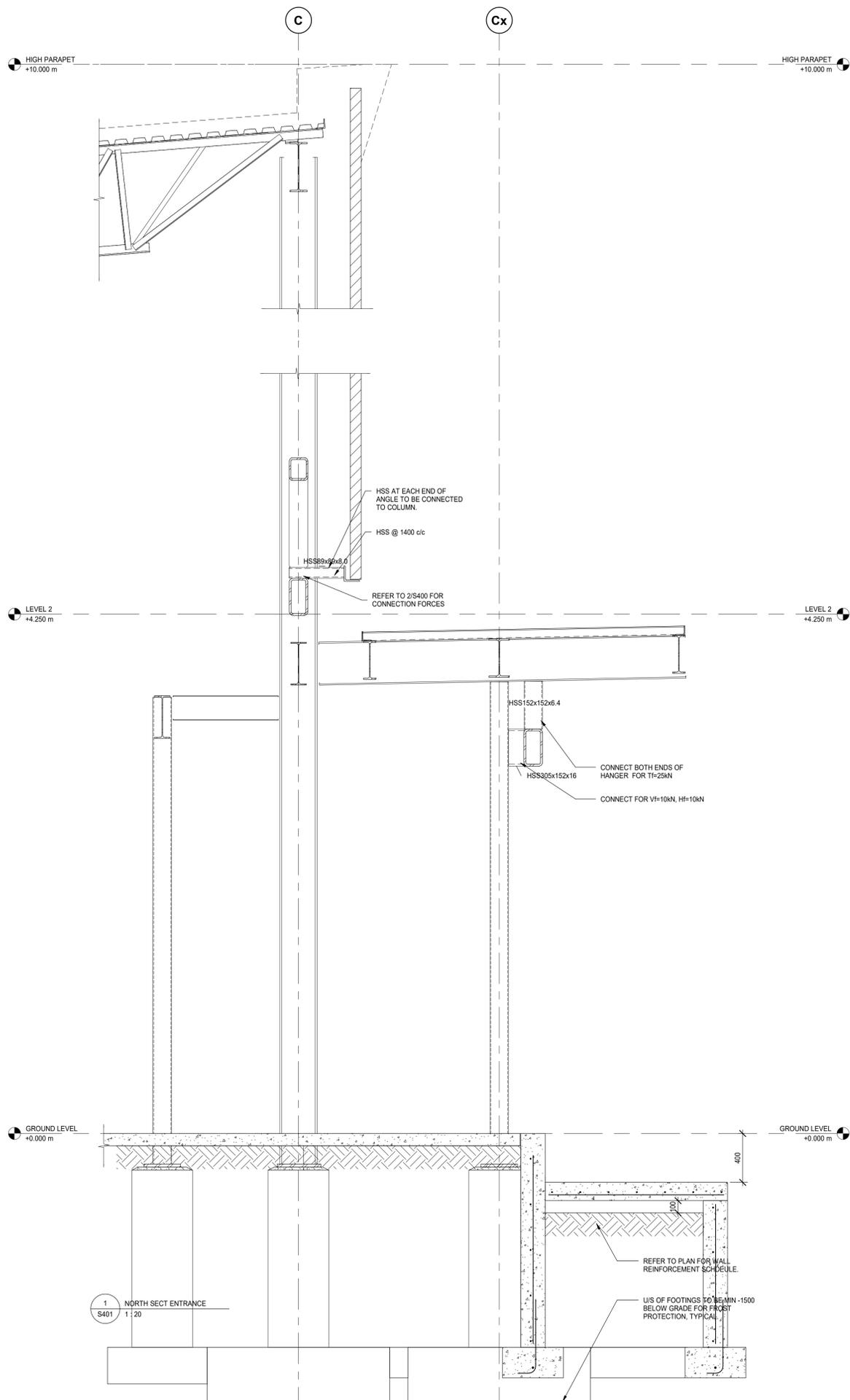
PROJECT ADDRESS:
132 Burleigh Street

SEAL:

DRAWN: DM	CHECKED: IFM
SCALE: 1 : 20	PROJECT NUMBER: 210112

SHEET TITLE:
BUILDING SECTIONS

S400



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PROJECT NAME:
NEW SAYERS FOOD STORE BURLEIGH STREET, APSLEY

PROJECT ADDRESS:
132 Burleigh Street

SEAL:

DRAWN: Author	CHECKED: Checker
SCALE: 1 : 20	PROJECT NUMBER: 210112

SHEET TITLE:
BUILDING SECTIONS

S401

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PROJECT NAME:
**NEW SAYERS FOOD
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STREET, APSLEY**

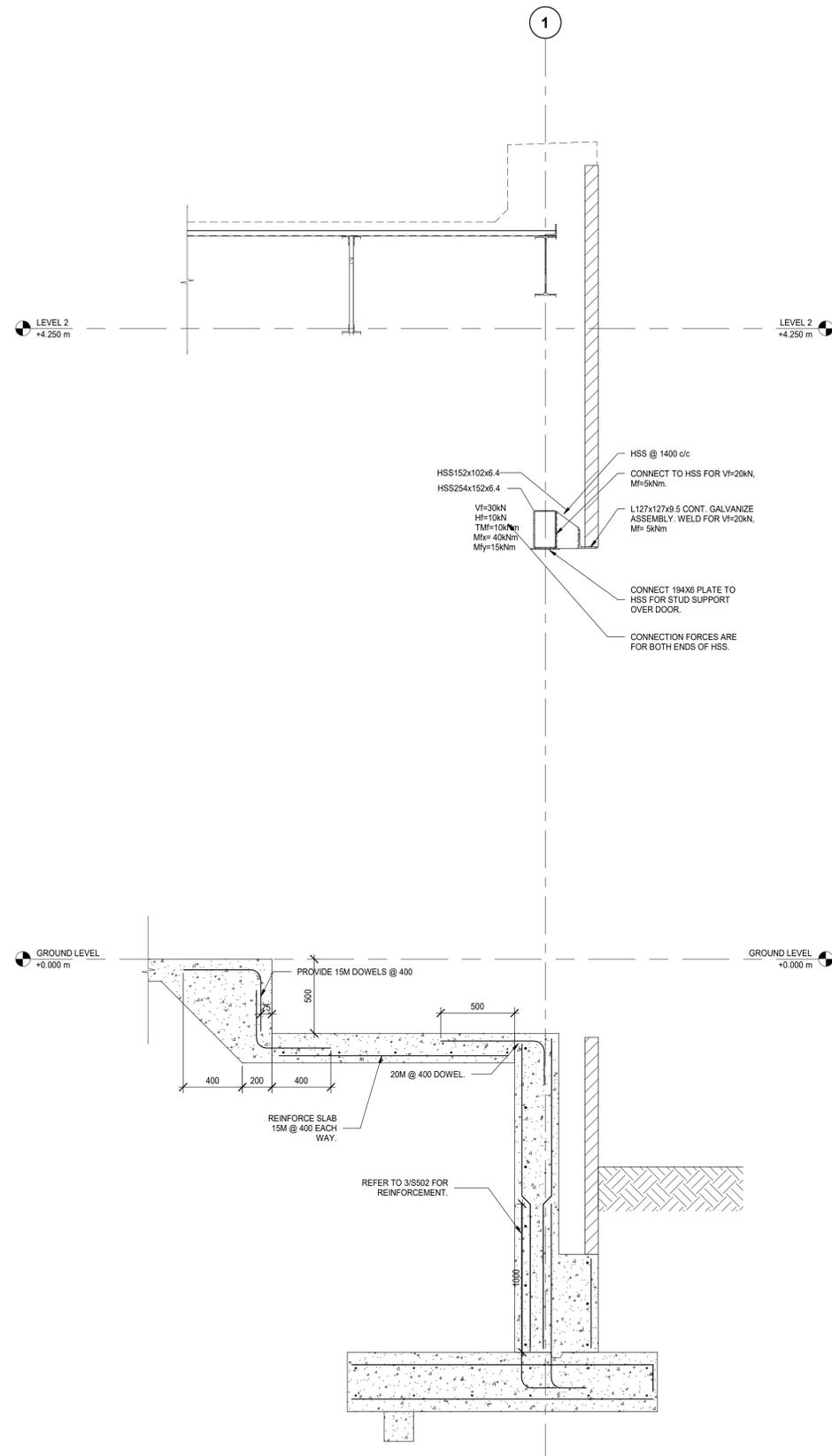
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SEAL:

DRAWN: DM	CHECKED: IFM
SCALE: 1 : 20	PROJECT NUMBER: 210112

SHEET TITLE:
BUILDING SECTIONS

S402



Contractor must check and verify all dimensions on the job, and report any discrepancies to the Architect before proceeding with the work.

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PROJECT NAME:
**NEW SAYERS FOOD
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STREET, APSLEY**

PROJECT ADDRESS:
132 Burleigh Street

SEAL:

DRAWN:
DM

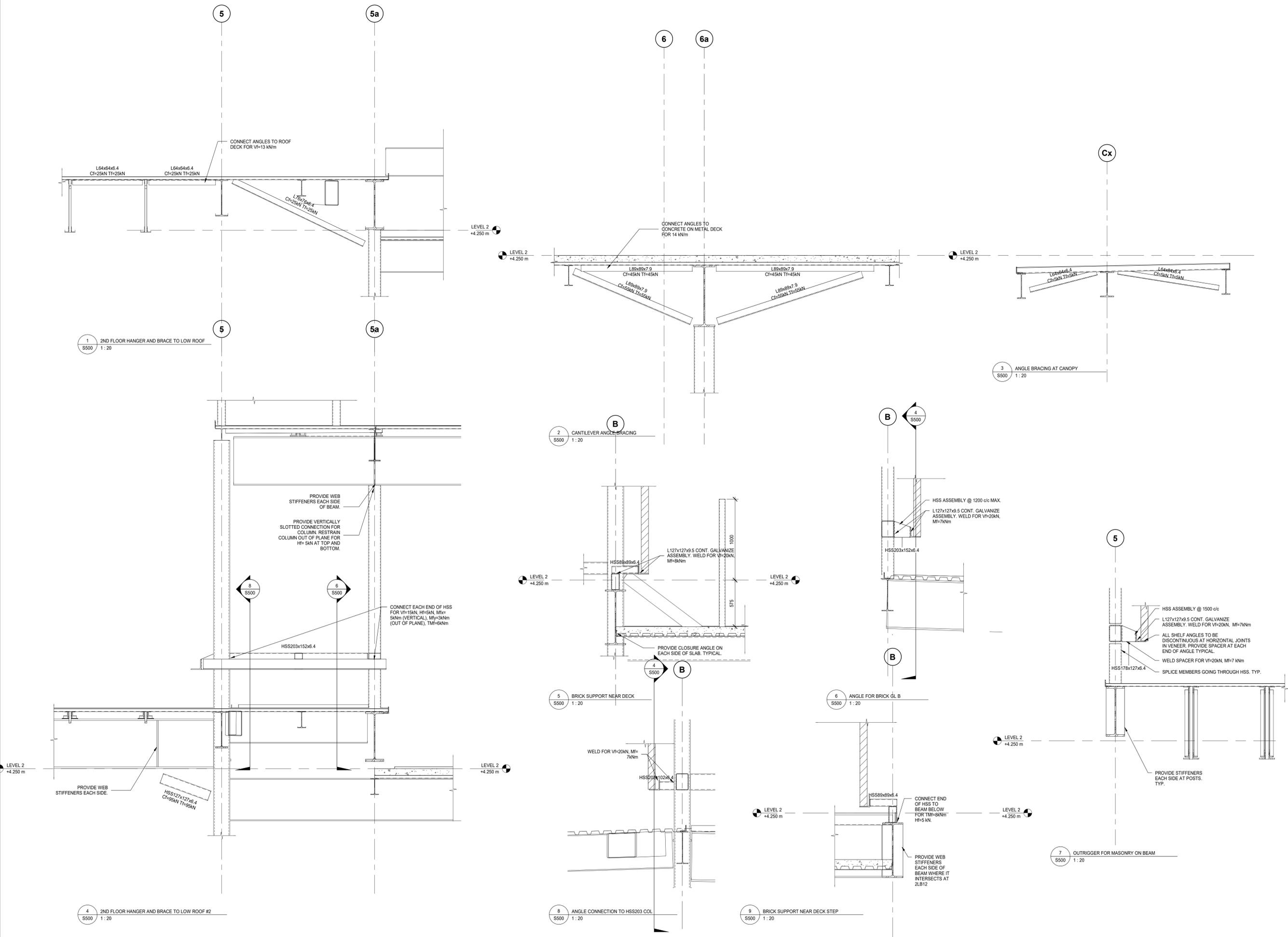
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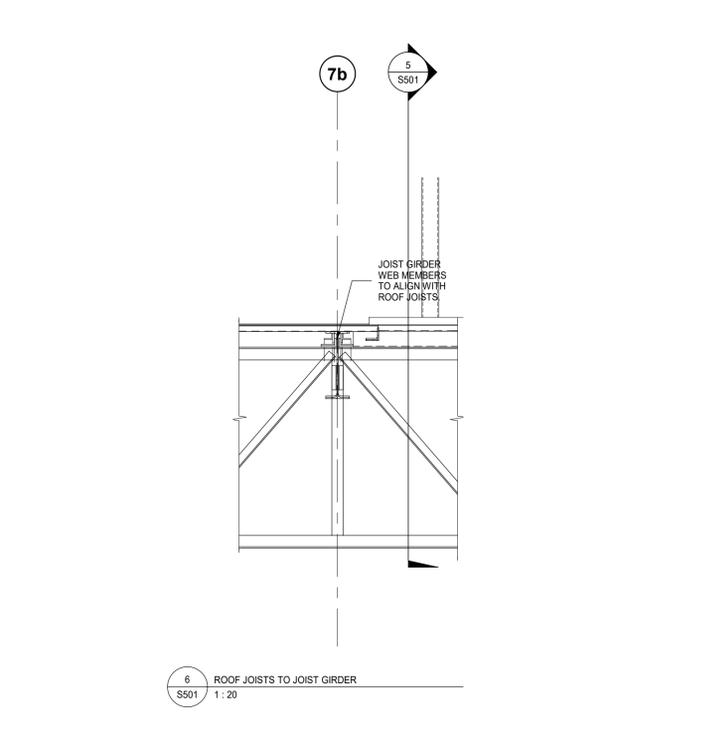
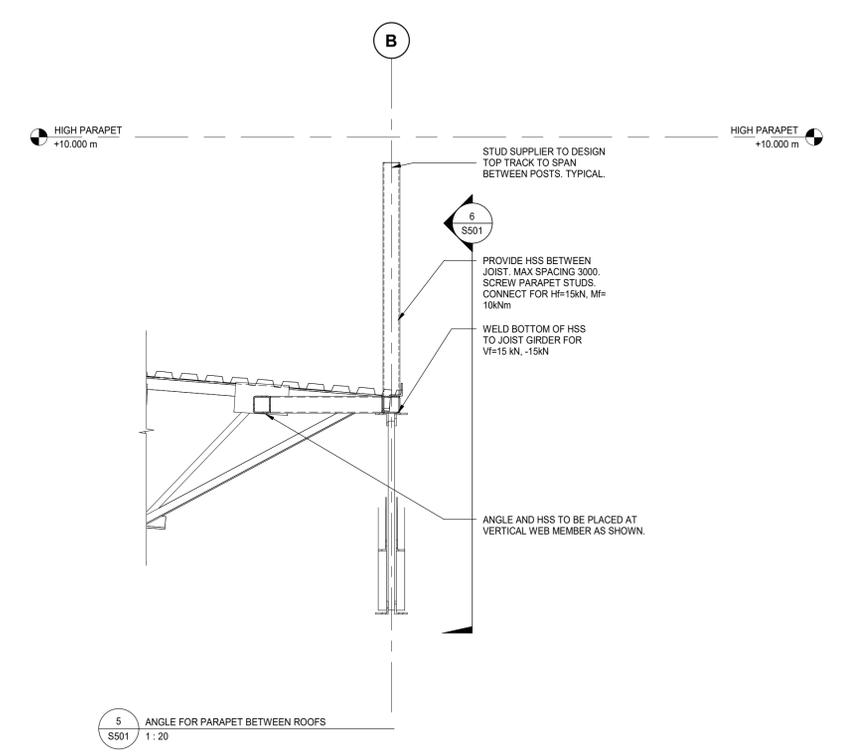
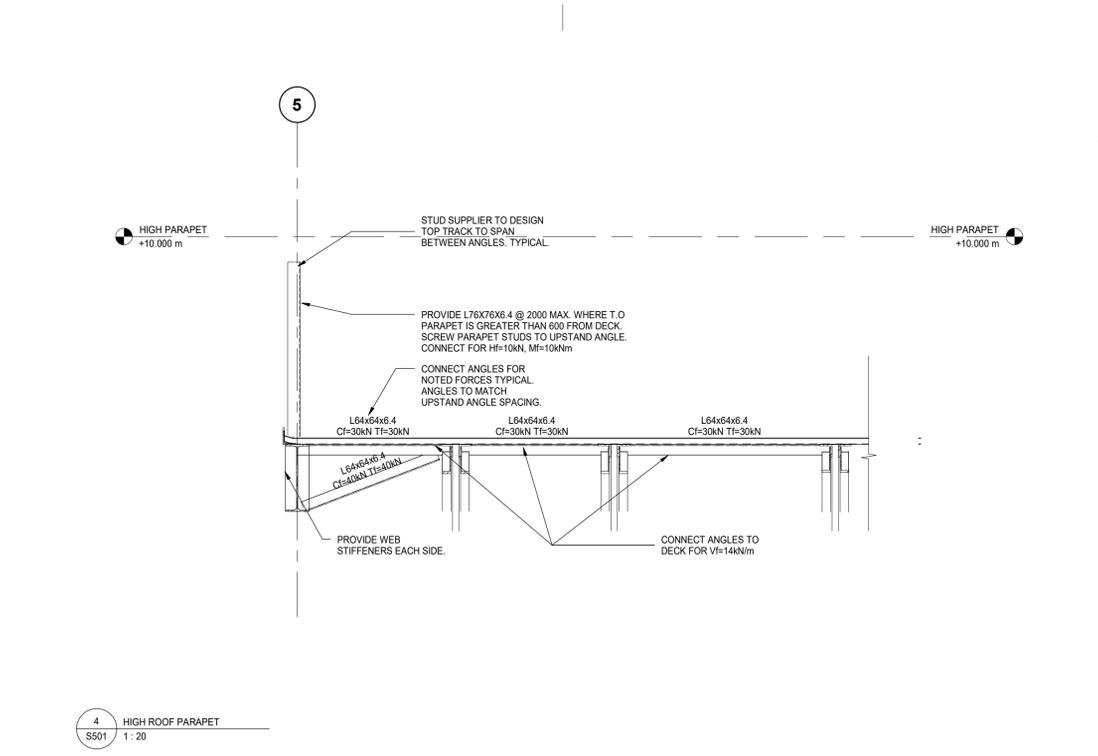
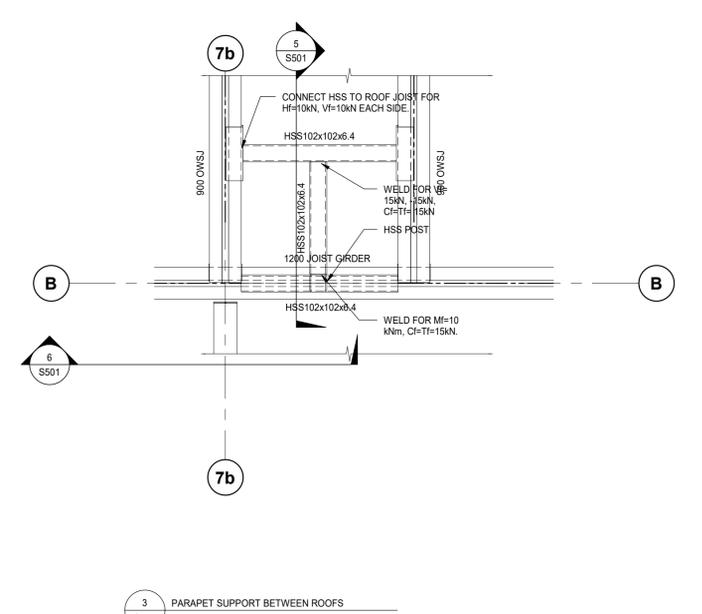
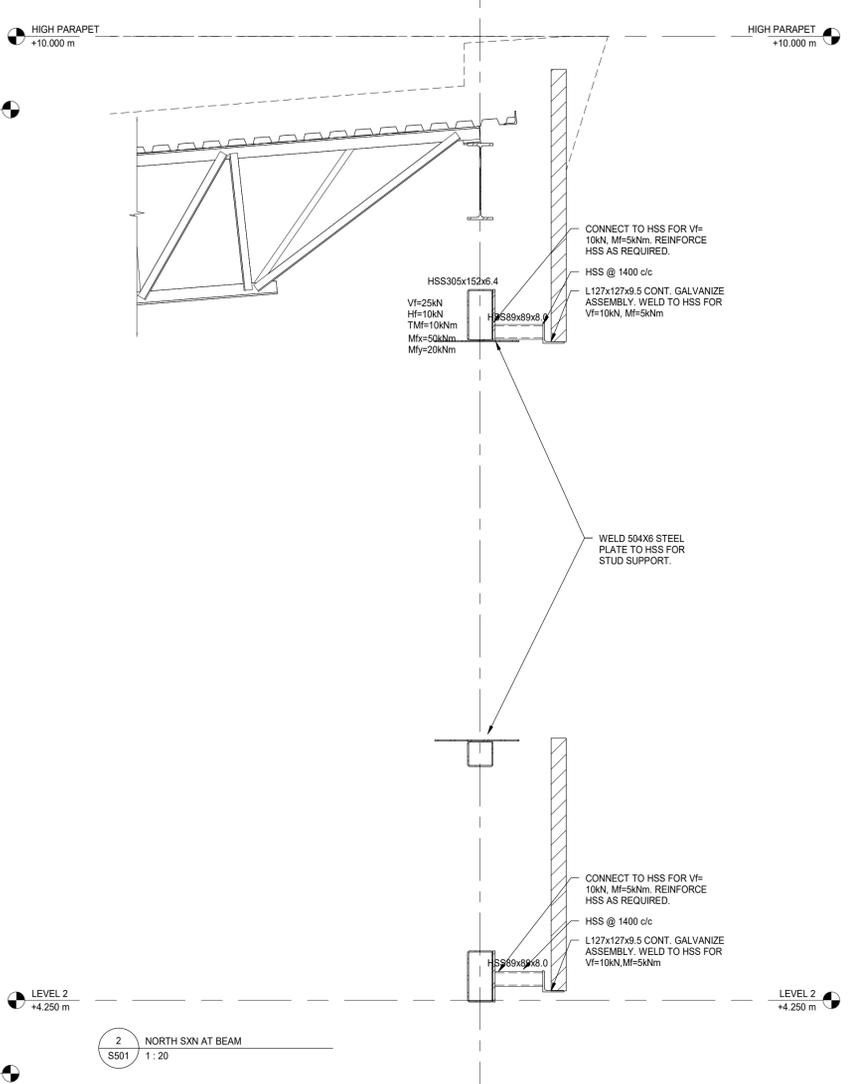
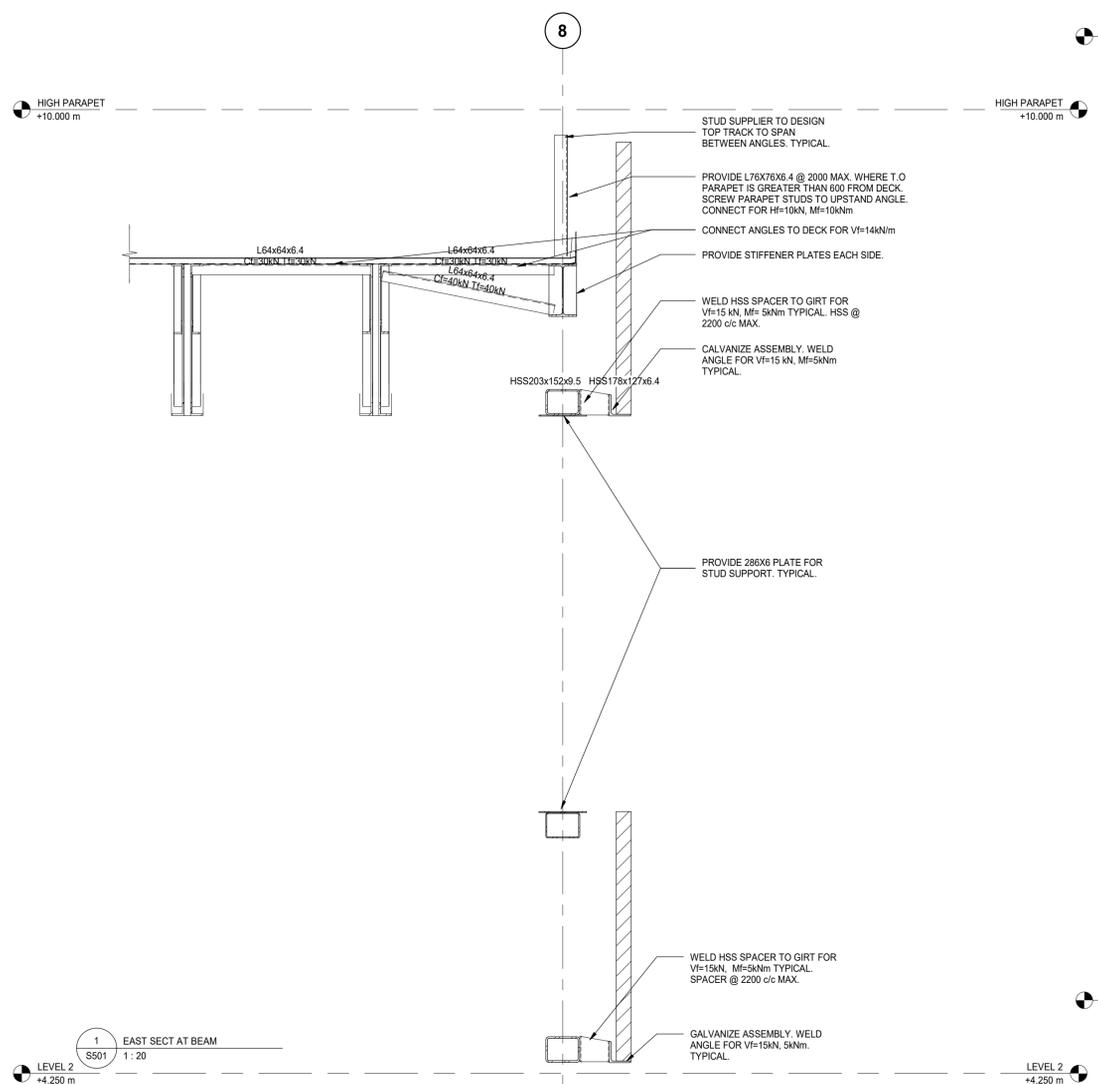
SCALE:
1 : 20

PROJECT NUMBER:
210112

SHEET TITLE:
DETAILED SECTIONS

S500





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PROJECT NAME:
NEW SAYERS FOOD STORE BURLEIGH STREET, APSLEY

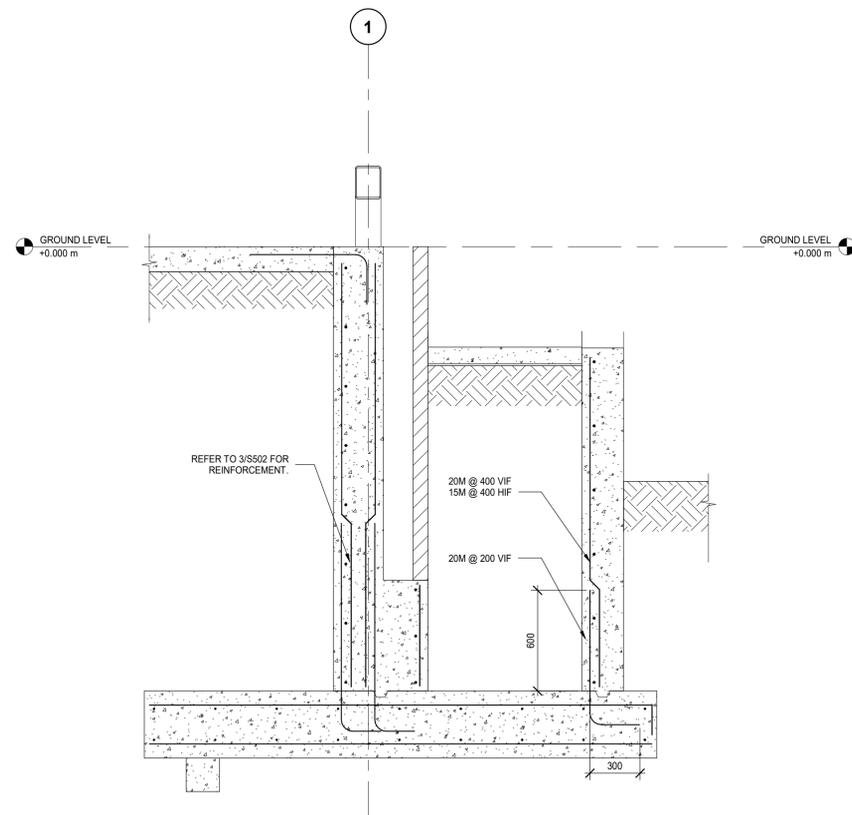
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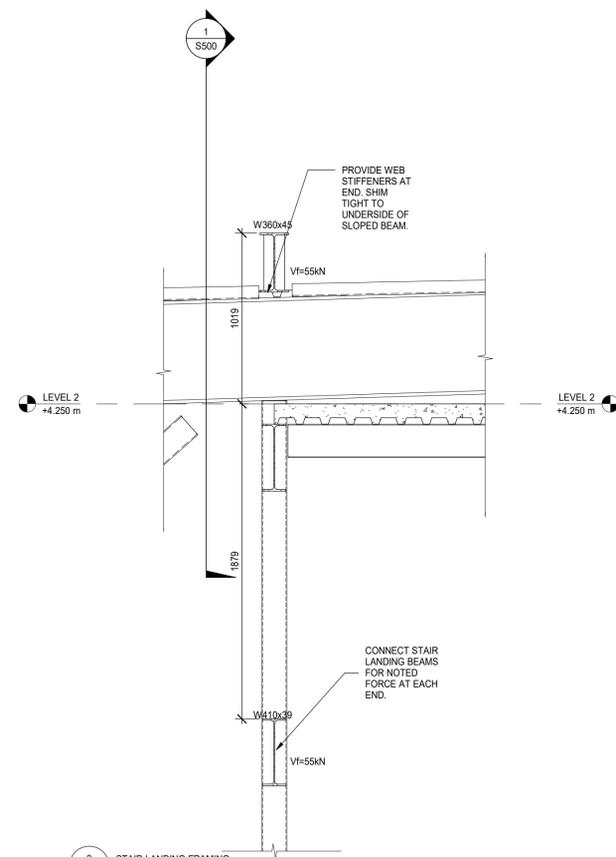
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SCALE: 1 : 20	PROJECT NUMBER: 210112

SHEET TITLE:
DETAILED SECTIONS

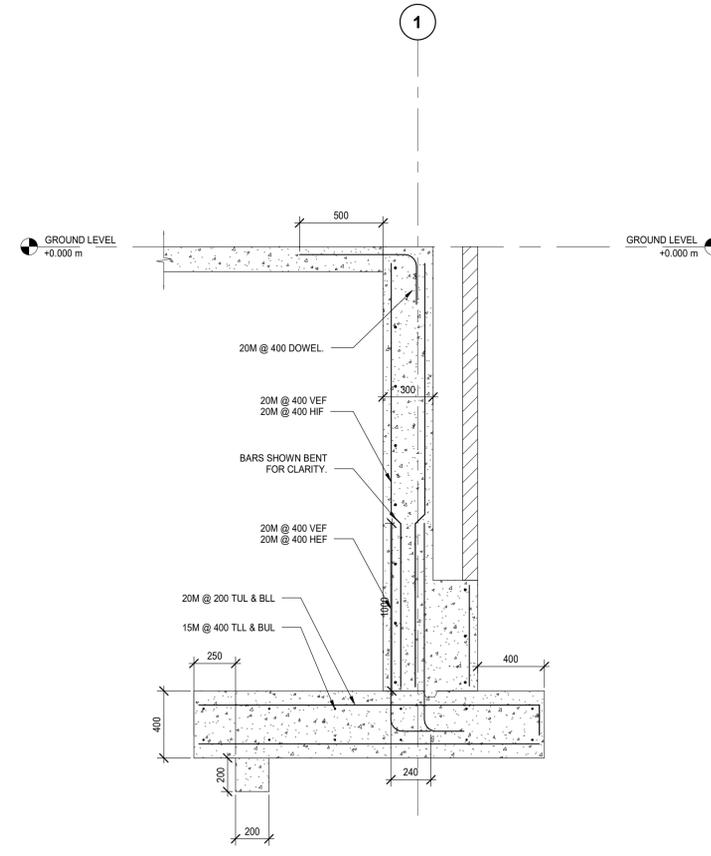
S501



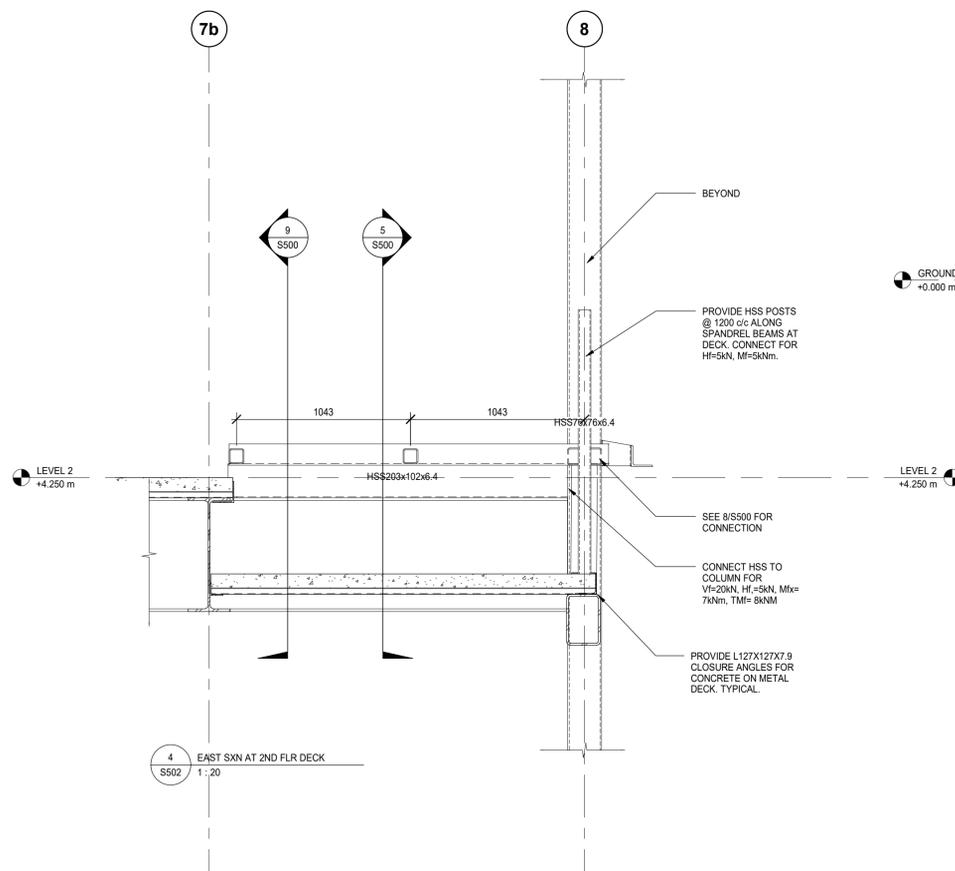
1 RETAINING WALLS AT RAMP
S502 1:20



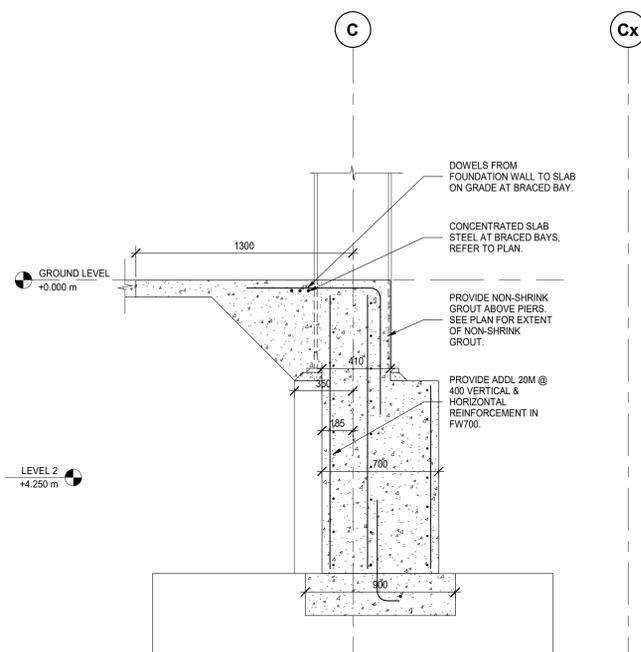
2 STAIR LANDING FRAMING
S502 1:20



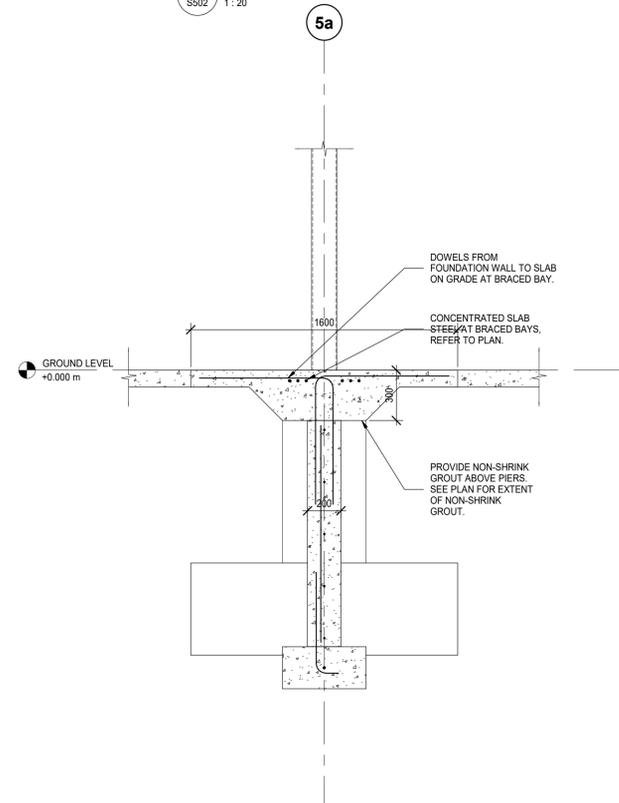
3 RETAINING WALL
S502 1:20



4 EAST SXN AT 2ND FLR DECK
S502 1:20



5 GL C BRACED BAY WALL SECT
S502 1:20



6 INTERIOR BRACED BAY WALL SECT.
S502 1:20

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PROJECT NAME:
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STREET, APSLEY**

PROJECT ADDRESS:
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SCALE:
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SHEET TITLE:
DETAILED SECTIONS

S502

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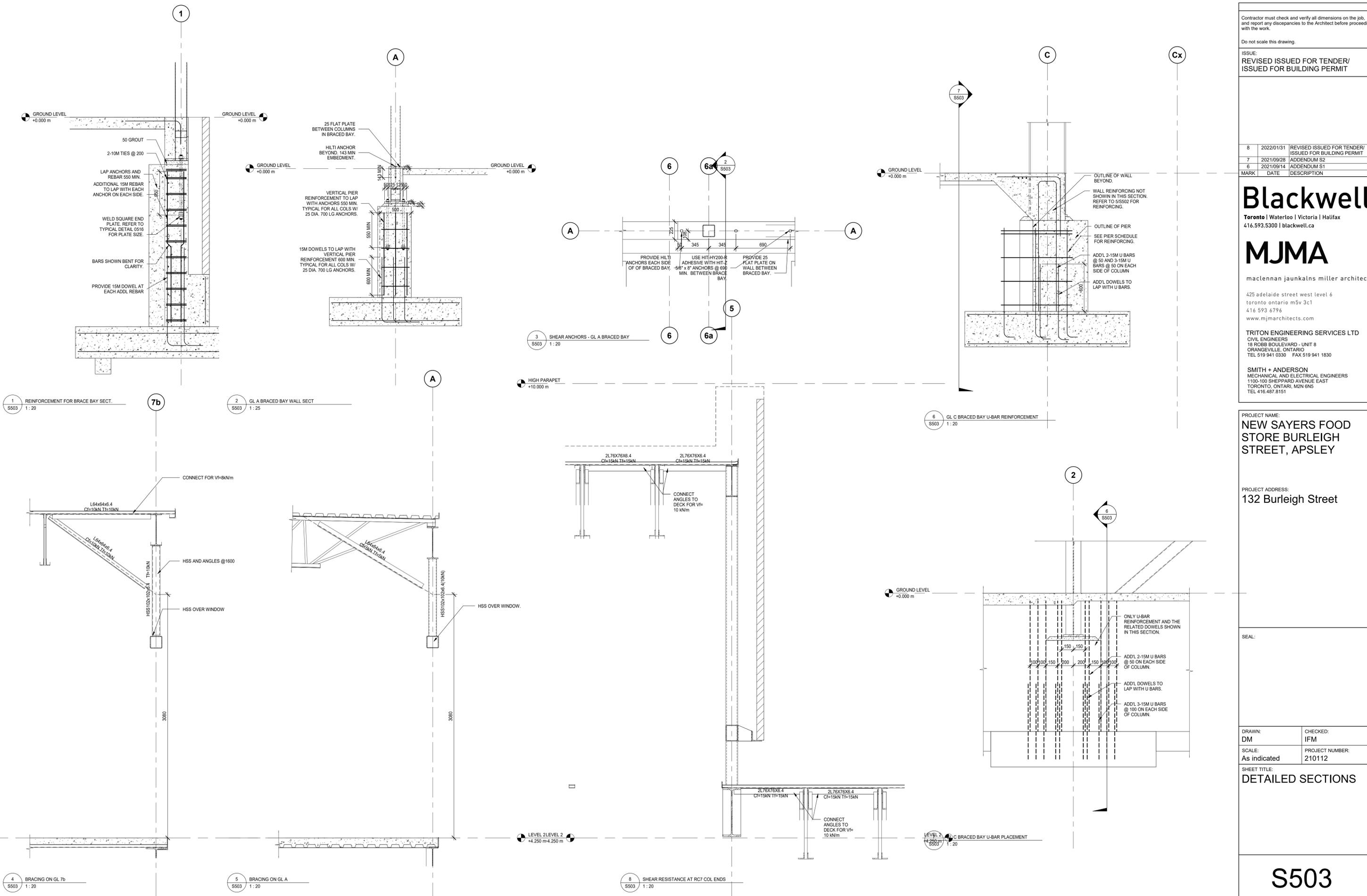
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DRAWN: DM	CHECKED: IFM
SCALE: As indicated	PROJECT NUMBER: 210112

SHEET TITLE:
DETAILED SECTIONS

S503



1 REINFORCEMENT FOR BRACE BAY SECT.
S503 1:20

2 GL A BRACED BAY WALL SECT
S503 1:25

3 SHEAR ANCHORS - GL A BRACED BAY
S503 1:20

4 BRACING ON GL 7b
S503 1:20

5 BRACING ON GL A
S503 1:20

8 SHEAR RESISTANCE AT RC7 COL ENDS
S503 1:20

6 GL C BRACED BAY U-BAR REINFORCEMENT
S503 1:20

7 C BRACED BAY U-BAR PLACEMENT
S503 1:20