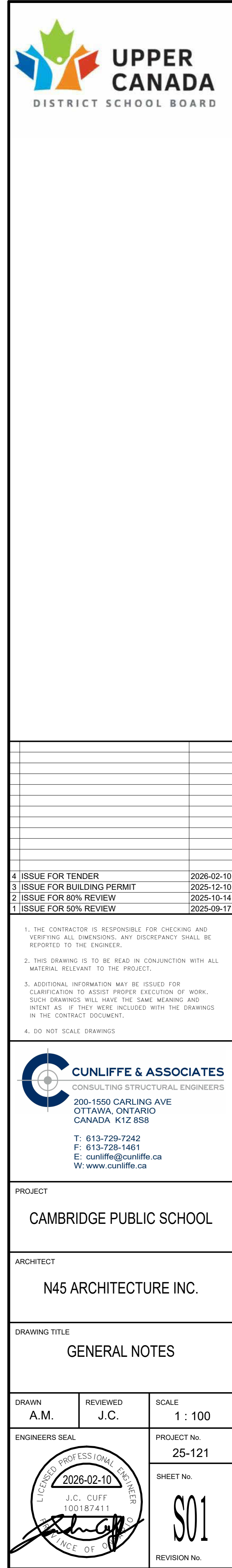


CONSTRUCTION NOTES	
<p>1. CONSTRUCTION REVIEW</p> <ul style="list-style-type: none"> CONTRACTOR ASSUMES COMPLETE RESPONSIBILITY FOR FULL SUPERVISION OF CONSTRUCTION WORK. SITE VISITS AND REVIEWS BY THE DESIGN ENGINEER OR REPRESENTATIVE ARE INTENDED FOR THE PURPOSE OF ASCERTAINING GENERAL CONFORMANCE WITH THE DESIGN CONCEPT. THE SITE REVIEWS DO NOT MEAN THAT THE DESIGN ENGINEER HAS SEEN ALL OF THE CONSTRUCTION OR CONSTRUCTION PROCEDURES. REVIEW OF CONSTRUCTION BY THE DESIGN ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR ERRORS AND OMISSIONS AND FOR MEETING ALL THE REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS. NOTIFY THE DESIGN ENGINEER 24 HOURS IN ADVANCE OF ANY REQUIRED SITE VISITS. THIRD PARTY INSPECTIONS ARE TO BE CARRIED OUT AS PER PROJECT SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR ANY COSTS ASSOCIATED WITH THE REMOVAL OFFINISHES REQUIRED FOR INSPECTIONS OR TESTING THAT IS COVERED BEFORE INSPECTIONS ARE COMPLETED. OBTAIN A PROFESSIONAL GEOTECHNICAL ENGINEER APPROVAL OF THE FOLLOWING ITEMS: <ul style="list-style-type: none"> A. ALL EXCAVATIONS, PRIOR TO CASTING CONCRETE FOR FOUNDATIONS. B. ALL ENGINEERING AND (COMPACTED) BACKFILL AS WORK PROGRESSES C. ALL EARTH SUPPORT SYSTEMS (SHORING/EXCAVATIONS) D. ALL EARTH BANKS E. DEWATERING FOR LOWERING WATER TABLE F. ANY WORK INVOLVING SOIL/ROCK/WATER/GASES ETC., IN SOIL PRIOR TO CASTING CONCRETE OBTAIN ENGINEERS APPROVAL OF PLACEMENT OFREINFORCEMENT STEEL. AT LEAST 75% OF REINFORCEMENT STEEL IN ANY STRUCTURAL MEMBER IS TO BECOMPLETED BEFORE INSPECTION CAN BE COMPLETED. <p>2. SHOP DRAWINGS NOTES</p> <ul style="list-style-type: none"> SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL WORK AND ANY WORK AFFECTING THE STRUCTURE TO THE ARCHITECT. OBTAIN ARCHITECTS AND ENGINEER'S CONSENT BEFORE PROCEEDING WITH THE FABRICATION. EACH OF THE FOLLOWING SHOP DRAWINGS MUST BEAR THE SIGNATURE AND STAMP OF A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE. <ul style="list-style-type: none"> A. PRECAST CONCRETE DRAWINGS B. DRAWINGS FOR ANY TEMPORARY WORK C. DRAWINGS FOR ANY STRUCTURAL PARTS DESIGNED BY THE CONTRACTOR'S FORCES, INCLUDING EXTERIOR BUILDING ENVELOPE. SHOP DRAWINGS MUST BE REVIEWED AND STAMPED REVIEWED BY THE GENERALCONTRACTOR BEFORE ISSUING TO THE ARCHITECT. SHOP DRAWINGS NOT STAMPED BY THE GENERAL CONTRACTOR WILL BE REJECTED. ANY DELAYS IN THE CONSTRUCTION SCHEDULE DUE TO NON-COMPLIANCE WITH THIS REQUIREMENT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. SUBMIT ALL RELEVANT SHOP DRAWINGS FOR THE STRUCTURAL ENGINEERS REVIEW BEFORE FABRICATION. ALL SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER LICENSED WITHIN THE APPROPRIATE JURISDICTION. GENERAL CONTRACTOR AND SUB-TRADES SHALL INCLUDE TIME IN THEIR SCHEDULE FOR PROPER SHOP DRAWING REVIEW BY CONSULTANTS. CONTRACTORS SHALL ALLOW 5 BUSINESS DAYS TIME FOR REVIEW BY THE STRUCTURAL CONSULTANT, IN ADDITION TO TIME REQUIRED BY OTHER PARTIES. SHOP DRAWINGS MUST BE ORIGINAL, AND PRODUCED BY THE RESPECTIVE SUB-TRADES. ANY DRAWINGS SUBMITTED FOR REVIEW WHICH CONTAIN DRAWINGS OR PARTS OF DRAWINGS PRODUCED BY CUNLIFFE & ASSOCIATES WILL BE REJECTED, AND THE CONTRACTOR RESPONSIBLE FOR PRODUCING THE SHOP DRAWINGS SHALL TAKE RESPONSIBILITY FOR ANY RESULTING DELAYS IN CONSTRUCTION. THE SHOP DRAWING REVIEW IS NOT AN APPROVAL PROCESS. CUNLIFFE & ASSOCIATES, WILL REVIEW SHOP DRAWINGS FOR THE SOLE PURPOSE OF ASCERTAINING GENERALCONFORMANCE WITH THE DESIGN CONCEPT SHOWN ON THE STRUCTURAL DRAWINGS. REVIEW OF SHOP DRAWINGS SHALL NOT MEAN THAT CUNLIFFE & ASSOCIATES, APPROVES THE DETAIL DESIGN INHERENT IN THE SHOP DRAWINGS, RESPONSIBILITY FOR WHICH SHALL REMAIN WITH THE CONTRACTOR SUBMITTING SAME. REVIEW BY CUNLIFFE & ASSOCIATES, SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS OR OF THEIR RESPONSIBILITY FOR MEETING ALL REQUIREMENTS OF THE CONSTRUCTION AND CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE CONFIRMED AND COORDINATED AT THE JOB SITE. FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES AND TO TECHNIQUES OF CONSTRUCTION AND INSTALLATION AND FOR COORDINATION OF THE WORK OF ALL SUB-TRADES. 	<p>3. CONSTRUCTION PLANNING & SAFETY</p> <ul style="list-style-type: none"> REQUIREMENTS FOR MECH. EQUIPMENT, AND ANY TRADES OR SERVICES AFFECTING THE STRUCTURE, SHALL BE ESTABLISHED IN CONSULTATION WITH CORRESPONDING MANUFACTURERS OR SUPPLIERS AND THE ARCHITECT. LOCATION OF CONSTRUCTION JOINTS SHALL BE PLANNED IN ADVANCE CUNLIFFE & ASSOCIATES SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION SAFETY, MEANS, TECHNIQUES AND CONSTRUCTION PROCEDURES OR TEMPORARY WORK AS REQUIRED BY THE CONTRACTOR TO BUILD AND COMPLETE THE STRUCTURE IN CONFORMITY WITH CONTRACT DOCUMENTS. ALL SUB CONTRACTORS ARE TO RETAIN AN INDEPENDENT STRUCTURAL ENGINEER TO CARRY OUT THE NECESSARY TECHNIQUES TO BE USED TO BUILD AND COMPLETE THE STRUCTURE ACCORDING TO THE CONTRACT DOCUMENTS AND SAFETY GUIDELINES FROM LOCAL CODES/AUTHORITIES. ALL CONTRACTORS SHALL SUPPLY DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR REVIEW. GENERAL CONTRACTOR IS TO REVIEW ALL BRACING PLANS TO ENSURE THAT THEY ARE COORDINATED & DO NOT INTERFERE WITH SITE ACTIVITIES. FINAL REMOVAL OF ANY TEMPORARY BRACING IS TO BE DONE ONLY WITH THEWRITTEN APPROVAL OF THEIR DESIGN ENGINEER & A SIGN-OFF LETTER PROVIDED TO THE DESIGN TEAM FOR REVIEW. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION STRESSESAND FOR SUFFICIENT TEMPORARY BRACING TO KEEP THE STRUCTURE PLUMB AND IN TRUALIGNMENT AT ALL PHASES OF THE WORK, UNTIL COMPLETION (INCLUDING MASONRY WALLS, FLOOR AND ROOF DECKS, ETC.). ANY BRACING MEMBERS SHOWN ON PLANS ARE THOSE REQUIRED FOR THE FINISHED STRUCTURE, AND MAY NOT BE SUFFICIENT FOR ERECTION PURPOSES. ALL CONSTRUCTION WORK FOR TEMPORARY SHORING AND BRACING OF EXISTING STRUCTURE SHALLBE DONE ONLY AFTER PERMISSION HAS BEEN GRANTED BY THE CONSTRUCTION HEALTH AND SAFETY BRANCH OF THE GOVERNING MINISTRY OF LABOUR. PROTECT EXISTING BUILDINGS, TREES, FENCING, UTILITIES POLES, CABLES, ACTIVE UNDERGROUND SERVICES AND PAVING ON THE SITE OR ANY ADJOINING PROPERTIES FROM DAMAGE. DAMAGE RESULTING FROM THIS CONSTRUCTION WORK SHALL BE MADE GOOD TO THE APPROVAL OF THE ARCHITECT NO COST TO THE OWNER. TRUCKS, CRANES, HOISTS, OR ANY HEAVY EQUIPMENT OR MATERIALS ARE NOT ALLOWED TO ENTER ANY STRUCTURAL FLOOR OR ROOF AREA UNLESS SPECIFICALLY DESIGNED AND DESIGNATED FOR THESE PURPOSES. INSTALL TEMPORARY BARRIERS TO PREVENT ACCIDENTAL OVERLOADING DURING CONSTRUCTION. DESIGN, INSTALL AND MAINTAIN ADEQUATE SHORING SYSTEM AS REQUIRED TO CARRY ANY SUCH TEMPORARY LOADING FROM CONSTRUCTION MATERIALS AND/OR EQUIPMENT. NOTIFY ARCHITECT IMMEDIATELY UPON DISCOVERY OF ANY CONSTRUCTION ERROR, OMISSION, DEFECTIVE WORK, ETC., SO THAT THE MOST ECONOMICAL REMEDIAL MEASURES MAY BE DESIGNED AT THE EARLIEST POSSIBLE TIME. GENERAL CONTRACTOR SHALL NOTIFY MECHANICAL/ELECTRICAL CONTRACTORS THAT SUPPORT AND THE DESIGN OF SUCH SUPPORTS TO CARRY MECHANICAL/ELECTRICAL EQUIPMENT SHALL BE BY THE MECHANICAL/ELECTRICAL CONTRACTORS. OBTAIN STRUCTURAL ENGINEERS APPROVAL TO CONNECT TO EXISTINGNEW MAIN BUILDING STRUCTURE. DESIGN OF SUPPORTS SHALL BE STAMPED BY A QUALIFIED STRUCTURAL ENGINEER RETAINED BY THE MECHANICAL/ELECTRICAL CONTRACTOR.

GENERAL NOTES	
<p>1. ANY DEVIATION FROM THE CONDITIONS SHOWN ON THESE DRAWINGS MUST BE REPORTED TO THE ENGINEER.</p> <p>2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 4 OF THE 2024 O.B.C. ONTARIO REGULATION 203/24</p> <p>3. <u>STANDARDS</u></p> <ul style="list-style-type: none"> CSA STANDARD A23.3-19 DESIGN OF CONCRETE STRUCTURES CSA STANDARD A23.1-19 CONCRETE MATERIALS & METHODS OF CONCRETE CONSTRUCTION CSA-S16-19 LIMIT STATES DESIGNS OF STEEL STRUCTURES CSA STANDARD S304-14 DESIGN OF MASONRY STRUCTURES <p>4. ANY MODIFICATIONS TO EXISTING STRUCTURES ARE TO BE LIMITED TO WORK NOTED ON THESE DRAWINGS. ANY ADDITIONAL OR PROPOSED MODIFICATIONS TO EXISTING STRUCTURES MUST BE APPROVED BY THE ENGINEER</p> <p>5. <u>FOUNDATIONS</u></p> <ul style="list-style-type: none"> ALL FOOTINGS ARE TO BEAR ON COMPACT SILTY SAND / SANDY SILT CONFIRM WITH GEOTECHNICAL REPORT/ ENGINEER ANY REQUIREMENTS FOR MUD SLAB TO PROTECT INSITU SOILS. BEARING CAPACITY USED IN THE FOOTING DESIGN IS ASSUMED TO BE SLs= 70 kPa / ULS=105 kPa BEARING SURFACE IS TO BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE. FOR FURTHER INFORMATION SEE GEOTECHNICAL REPORTNo. OTT-25012995-A0 PREPARED BY EXP. STEP FOOTINGS WHERE INDICATED ON PLAN AT THE RATE OF 1 HORIZONTAL TO 1VERTICAL. <p>6. <u>SLABS ON GRADE</u></p> <ul style="list-style-type: none"> SLABS ON GRADE TO BE REINFORCED WITH 152X152X18.7X18.7 WWM UNLESS NOTED. FOR COMPOSITION & COMPACTION OF FILL SUPPORTING SLABS ON GRADE SEE GEOTECHNICAL REPORT. PROVIDE 12 mm ASPHALT IMPREGNATED FIBREBOARD BETWEEN SLABS ON GRADE & FOUNDATION WALLS OR COLUMNS. SAWCUT SLAB ON GRADE TO (1/4" x SLAB DEPTH) 12 HOURS AFTER CONCRETE PLACEMENT. SPACE SAWCUTS ON A 4500 mm x 4500 mm MAXIMUM GRID. AVOID LONG & NARROW SAWCUT PATTERNS. LOCATE SAWCUTS ALONG COLUMN LINES WHERE POSSIBLE. CONTRACTOR IS TO PROVIDE THE ENGINEER WITH DOCUMENTATION SHOWING PROPOSED SAWCUT LOCATIONS FOR APPROVAL UNLESS SAWCUTS LOCATIONS ARE OTHERWISE/ INDICATED ON THESE DRAWINGS. <p>7. <u>MATERIALS</u></p> <ul style="list-style-type: none"> CONCRETE STRENGTH AT 28 DAYS TO BE AS NOTED ON THESE DRAWINGS AND SPECIFICATIONS. REINFORCING STEEL TO BE DEFORMED GRADE 400W WITH Fy= 400 MPa. HOLLOW STRUCTURAL STEEL SECTIONS TO BE ASTM A500 GRADE C OR G40.21 350W CLASS C. ALL "W", "C", "L" & "WWF" SHAPE STEEL SECTIONS TO BE GRADE G40.21 350W WITH Fy= 350 MPa. ALL OTHER STRUCTURAL STEEL TO BE GRADE G40.21 300W WITH Fy= 300 MPa UNLESS NOTED OTHERWISE. ALL STRUCTURAL STEEL TO RECEIVE 1 SHOP APPLIED COAT OF PRIMER UNLESS NOTED. ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR IS TO BE HOT DIP GALVANIZED UNLESS NOTED. ANCHOR BOLTS TO BE A307. ALL OTHER BOLTS TO BE A325. A325 BOLTS EXPOSED TO EXTERIOR ARE TO BE GALVANIZED U/N. A307 BOLTS EXPOSED TO EXTERIOR ARE TO BE GALVANIZED U/N. CONCRETE BLOCK TO BE H/15/A/M. CONCRETE BLOCK MASONRY MORTAR TO BE 10 MPa TYPE 'S' U/N. CONCRETE BLOCK MASONRY GROUT TO BE 12 MPa "HIGH SLUMP" (200-250 mm SLUMP). WOOD STUDS TO BE SPF NO.2 OR BETTER. ALL PLYWOOD TO BE D. FIR PLYWOOD TO CSA 0121 OR CANADIAN SOFTWOOD PLYWOOD TO 0151. ALL OSB TO MEET CSA 0325. ALL WOOD TO BE DRY SEASONED, WITH A MOISTURE CONTENT LESS THAN 15%. <p>8. <u>CONCRETE COVER</u></p> <ul style="list-style-type: none"> FOOTINGS 75 mm BOTTOM 50 mm SIDES WALLS / BEAMS 40 mm UNLESS NOTED OTHERWISE COLUMNS 40 mm <p>9. <u>REINFORCING STEEL DESIGNATION</u></p> <div> <div>8-20M x 1500 T/B</div> <div> 8 = NUMBER OF BARS 20M = SIZE OF BARS 1500 = LENGTH OF BARS T = BAR LOCATION - TOP B = BAR LOCATION - BOT LENGTH OF BARS DOES NOT INCLUDE HOOKS OR BENDS </div> </div> <p>10. <u>DOWELS</u></p> <p>DOWELS TO FOOTINGS TO BE OF SAME DIAMETER AS THE LOWEST LIFT OF VERTICAL REINFORCING IN COLUMNS, PIERS OR WALLS.</p> <p>11. <u>REINFORCING STEEL SPLICES</u></p> <p>REINFORCING STEEL SPLICES TO BE AS NOTED IN REINFORCING BAR LAP LENGTH TABLE ON S03 U/N.</p> <p>12. <u>OPENINGS</u></p> <ul style="list-style-type: none"> AT OPENINGS IN WALLS PROVIDE 2-20M T & B OF OPENING EXTENDING 600 mm MIN. BEYOND CORNERS OF OPENINGS. FOR ADDITIONAL OPENINGS 300 x 300 OR SMALLER SEE ARCHITECTURAL & MECHANICAL DRAWINGS. REPORT ANY OPENINGS LARGER THAN 300 x 300 NOT SHOWN ON THESE DRAWINGS TO THE ENGINEER. <p>13. <u>LOADS</u></p> <ul style="list-style-type: none"> ALL LOADS & FORCES INDICATED ON THESE DRAWINGS ARE UNFACTORED WORKING LOADS UNLESS NOTED. 	<p>14. <u>CONCRETE BLOCK MASONRY</u></p> <p><u>ALL LOAD BEARING (INTERIOR & EXTERIOR) WALLS & NON-LOAD BEARING (EXTERIOR) WALLS U/N</u></p> <p>140 mm CONCRETE BLOCK: VERT: 1-15M @ 800 o/c (MAX WALL HEIGHT 3000 mm) 1-15M @ 400 o/c (WALL HEIGHT 3000-4200 mm) HORIZ: SL2 @ 200 o/c</p> <p>190 mm CONCRETE BLOCK VERT: 1-15M @ 800 o/c (MAX WALL HEIGHT 4400 mm) 1-15M @ 400 o/c (WALL HEIGHT 4400-5800 mm) HORIZ: XHL2 @ 200 o/c</p> <p>240 mm CONCRETE BLOCK VERT: 1-20M @ 800 o/c (MAX WALL HEIGHT 5400 mm) 1-20M @ 400 o/c (WALL HEIGHT 5400-6800 mm) HORIZ: XHL2 @ 200 o/c</p> <p>290 mm CONCRETE BLOCK VERT: 1-20M @ 600 o/c (MAX WALL HEIGHT 6800 mm) 1-20M @ 400 o/c (WALL HEIGHT 6800-8000 mm) HORIZ: XHL2 @ 200 o/c + 1-20M HORIZ. @ 1800 o/c</p> <p><u>NON-LOAD BEARING INTERIOR WALLS (U/N)</u></p> <p>140 mm CONCRETE BLOCK: VERT: 1-15M @ 800 o/c (MAX WALL HEIGHT 3000 mm) 1-15M @ 400 o/c (WALL HEIGHT 3000-4200 mm) HORIZ: SL2 @ 200 o/c</p> <p>190 mm CONCRETE BLOCK VERT: 1-15M @ 1200 o/c (MAX WALL HEIGHT 4400 mm) 1-15M @ 600 o/c (WALL HEIGHT 4400-5800 mm) HORIZ: XHL2 @ 400 o/c OR SL2 @ 200 o/c</p> <p>240 mm CONCRETE BLOCK VERT: 1-20M @ 1200 o/c (MAX WALL HEIGHT 5000 mm) 1-20M @ 600 o/c (WALL HEIGHT 5000-6800 mm) HORIZ: SL2 @ 200 o/c</p> <p>290 mm CONCRETE BLOCK VERT: 1-20M @ 600 o/c (MAX WALL HEIGHT 6800 mm) 1-20M @ 400 o/c (WALL HEIGHT 6800-8000 mm) HORIZ: SL2 @ 200 o/c</p> <p><u>LEGEND</u></p> <p>S-STANDARD 9 GAUGE LONGITUDINAL & CROSS WIRES XH-EXTRA HEAVY 4.88 mm LONGITUDINAL WIRES 4.88 mm CROSS WIRES L-LADDER TYPE REINFORCEMENT T-TRUSS TYPE REINFORCEMENT 2-2 LONGITUDINAL WIRES</p> <ul style="list-style-type: none"> SEE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR TYING MASONRY TO BACK UP WALLS. EVERY MASONRY CELL WITH REINFORCING IS TO BE FILLED WITH GROUT. ADDITIONAL GROUTING MAY BE NOTED ON SHEAR WALL. BE NOTED ON SHEAR WALL, PIER OR LINTEL SCHEDULE. ALL SECTIONS OF LOAD BEARING MASONRY WALLS WITH ARE 800mm IN LENGTH AND LESS ARE TO HAVE 20M VERTICAL MIN (U/N O ON PIER OR SHEAR WALL SCHEDULE) @200 o/c & XHL2 @200 o/c VERTICALLY, WITH BENDS AS PER PIER DETAIL. GROUT EVERY CELL SOLID. 20M VERTICAL @ 200 o/c & HL2 @ 200 o/c ALL LOAD BEARING CONCRETE BLOCK MASONRY WALLS ARE TO HAVE BOTTOM TWO COURSES (MIN.) FULLY GROUTED AT FOUNDATIONS. SHEAR WALLS - SEE NOTES ON PLANS FOR ADDITIONAL REINFORCING AND GROUTING OTHER THAN INDICATED ABOVE REINFORCE CELLS @ END OF WALLS AT INTERSECTING WALLS & BESIDE OPENINGS AND EACH SIDE OF CONTROL JOINTS. GROUT MASONRY SOLID BELOW BEARING BASE PLATES FOR 500mm MIN. PROVIDE A 2 COURSE (MIN.) CONCRETE BOND BEAM COURSE c/w 1-20M CONT. USING LOW WEB BLOCKS AT THE TOP OF WALLS, ROOF AND AT EACH FLOOR LEVEL U/N. GROUT BOTH COURSES SOLID. ALL EXTERIOR WALLS TO HAVE CONTINUOUS BOND BEAMS AT ALL FLOOR & ROOF LEVELS. CONCRETE BOND BEAMS ARE TO BE CONTINUOUS ACROSS CONTROL JOINTS. PLACE BOND BEAMS AT FLOOR & ROOF LEVEL WITH 20M CONT. BAR BELOW TYPICAL PLATE ELEVATION. SEE SECTIONS FOR ADDITIONAL BOND COURSES. WHERE BOND COURSES ARE INTERRUPTED BY DEEPER BEAMS, TYPICAL JOINTS BOND COURSE IS TO ABOUT BEAM EACH SIDE. PROVIDE 2 COURSE BOND BEAM c/w 1-20M CONT. BELOW BEAM BEARING PLATE AND EXTENDING 800mm EACH SIDE. GROUT 400mm SOLID EACH SIDE OF BEAM BETWEEN HIGH & LOW BOND COURSES. PROVIDE 1-20M CORNER BAR (925 BEND x 925 BEND) AT CONCRETE BOND BEAM COURSES @ BLOCK WALL INTERSECTIONS PROVIDE "CLEAN OUTS" AT BOTTOM OF CELLS TO BE GROUTED TO ENSURE PROPER LAP LENGTH AND THAT CELL IS FILLED SOLIDLY. MAXIMUM GROUT LIFT IS 3 meters. GROUT TO HAVE 250mm SLUMP EMBEDMENT OF MASONRY DOWELS IN CONCRETE STRUCTURE BELOW CONCRETE BLOCK WALLS TO BE AS FOLLOWS: 15M DOWELS = 600 mm EMBEDMENT - 1300 Lg. DOWEL 20M DOWELS = 800 mm EMBEDMENT - 1700 Lg. DOWEL BLOCK CONTROL JOINT SPACED AT 9000 mm. MAXIMUM VENEER CONTROL JOINT SPACED AT 12000 mm MAXIMUM. COORDINATE LOCATION OF JOINTS WITH ARCHITECT & ENGINEER <p>15. <u>LEGEND</u></p> <div> <div>B =</div> <div> BOTTOM B1 = BOTTOM LOWER LAYER B2 = BOTTOM UPPER LAYER BLL = BOTTOM LOWER LAYER BBP1 = BEAM (OR OWS.) BEARING PLATE NUMBER BP1 = BASE PLATE NUMBER BUL = BOTTOM UPPER LAYER C1 = CONCRETE COLUMN NUMBER CONT = CONTINUOUS DP = DEPTH DWL = DOWELS EE = EACH END EF = EACH FACE EL = ELEVATION ES = EACH SIDE EW = EACH WAY F1 = PAD FOOTING NUMBER H = HORIZONTAL (H) = HOOKED BAR MP1 = MASONRY PIER NUMBER O/C = ON CENTER P1 = PIER NUMBER/PILE NUMBER PT = PRESSURE TREATED SC1 = STEEL COLUMN NUMBER T = TOP T1 = TOP UPPER LAYER T2 = TOP LOWER LAYER TLL = TOP LOWER LAYER TUL = TOP UPPER LAYER UN = UNLESS NOTED OTHERWISE V = VERTICAL WF1 = WALL FOOTING NUMBER </div> </div>
<p><u>HILTI PRODUCT INSTALLATION</u></p>	



SEISMIC SYSTEM/LOADING DATA:

MAIN BUILDING

SEISMIC FORCE RESISTING SYSTEM (SFRS)

SFRS: SYSTEM & CONNECTIONS: (2024 OBC CLAUSE 4.1.8.9/4.1.8.10)
LATERAL LOAD RESISTING SYSTEM: (MODERATELY DUCTILE MASONRY SHEARWALLS)
 $R_o = 2.0$
 $R_e = 1.5$
CSA STANDARD: CAN/CSA S304.1-19
APPLICABLE CLAUSE(S): 16.8

SFRS: DIAPHRAGMS & CONNECTIONS: (2024 OBC CLAUSE 4.1.8.15)
CSA STANDARD: CAN/CSA S16-19
APPLICABLE CLAUSE(S): 27.1.2.2
CONFIRMATION: DIAPHRAGM DESIGNED TO LATERAL LOAD CAPACITY OF SFRS

SFRS: SYSTEM FOUNDATIONS: (2024 OBC CLAUSE 4.1.8.16 & CSA A23.3-14 CLAUSE 21.10)
CSA STANDARD: CAN/CSA A23.3-19 ☐ RESTRAINED AGAINST ROTATION ☒ NON CAPACITY PROTECTED
APPLICABLE CLAUSE(S): 21.10.3 ☐ CAPACITY PROTECTED ☒ MAXIMUM OVERTURNING RESISTANCE
CONFIRMATION: FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE LATERAL LOAD CAPACITY OF THE SFRS INCLUDING ALL APPLICABLE AMPLIFICATION FACTORS

SEISMIC IMPORTANCE FACTOR: (2024 OBC CLAUSE 4.1.8.5)

$I_E = 1.3$

SITE INFORMATION: 2123 RTE 500 W, EMBRUN, ONTARIO

SITE DESIGNATION: THE NOTED SITE DESIGNATION FOR SEISMIC SITE RESPONSE AND SHEAR WAVE VELOCITY PARAMETERS INDICATED ARE AS REPORTED IN THE GEOTECHNICAL REPORT NO. **OTT-25012995-A0** PREPARED BY EXP. REFER TO THE NOTED GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
CONFIRMATION: LOCAL SOILS NOT SUSCEPTIBLE TO LIQUEFACTION
 $V_{S30} = ?$; X_V ☐ X_{T90} ☐ X_A ☐ X_B ☐ X_C ☐ X_D ☐ X_E ☒ X_F ☐

PGA(X_i): 0.45

PGV(X_i): 0.46

RESPONSE SPECTRUM DATA:

5% DAMPED SPECTRAL RESPONSE ACCELERATION VALUES: (2020 NATIONAL BUILDING CODE OF CANADA SEISMIC HAZARD TOOL)

2%/50 YRS PROBABILITY OF EXCEEDANCE:

$S_a(0.2/X_i) = 0.740$
 $S_a(0.5/X_i) = 0.652$
 $S_a(1.0/X_i) = 0.390$
 $S_a(2.0/X_i) = 0.188$
 $S_a(5.0/X_i) = 0.053$
 $S_a(10.0/X_i) = 0.016$

10%/50 YRS PROBABILITY OF EXCEEDANCE:

$S_a(0.2/X_i) = 0.356$
 $S_a(0.5/X_i) = 0.303$
 $S_a(1.0/X_i) = 0.164$
 $S_a(2.0/X_i) = 0.072$
 $S_a(5.0/X_i) = 0.017$
 $S_a(10.0/X_i) = 0.0051$

DESIGN SPECTRAL RESPONSE ACCELERATION VALUES (DSRAV): (2024 OBC TABLE 4.1.8.4.C)

2%/50 YRS PROBABILITY OF EXCEEDANCE:

☒ CLASS X_E :

$S(0.0) = 0.740$
 $S(0.2) = 0.740$
 $S(0.5) = 0.652$
 $S(1.0) = 0.390$
 $S(2.0) = 0.188$
 $S(5.0) = 0.053$
 $S(10.0) = 0.016$

10%/50 YRS PROBABILITY OF EXCEEDANCE:

☒ CLASS X_E :

$S(0.0) = 0.356$
 $S(0.2) = 0.356$
 $S(0.5) = 0.303$
 $S(1.0) = 0.164$
 $S(2.0) = 0.072$
 $S(5.0) = 0.017$
 $S(10.0) = 0.0051$

SEISMIC CATEGORY: (2024 OBC TABLE 4.1.8.5-B):

$I_E S_a(0.2) = 0.962$ } SC1 ☐ SC2 ☐ SC3 ☐ SC4 ☒

$I_E S_a(1.0) = 0.507$ }

PERIOD DATA:

STATIC PERIOD: (2024 OBC CLAUSE 4.1.8.11(3))

$h_n = 3.50$ m
 $T_a(STATIC)_{NS} = 0.128$ sec
 $T_a(STATIC)_{EW} = 0.128$ sec

MODAL PERIOD: (2024 OBC CLAUSE 4.1.8.11(3) AND 4.1.8.3(8))

$T_a(MODAL)_{NS} = 0.139$ sec
 $T_a(MODAL)_{EW} = 0.101$ sec
 T_a MAX NS = 0.256 , T_a MAX EW = 0.256

DESIGN PERIODS/MODE & MOMENT FACTORS: (2024 NBCC CLAUSE (4.1.8.11(6)))

$S(0.2) = 14.0$
 $S(5.0)$

$T_a(DESIGN)_{NS} = 0.139$ sec $M_v = 1.00$ $J = 1.00$
 $T_a(DESIGN)_{EW} = 0.101$ sec $M_v = 1.00$ $J = 1.00$

DESIGN FUNDAMENTAL PERIOD BASED DSRAV:

$S(T_a)_{NS} = 0.74$
 $S(T_a)_{EW} = 0.74$

NOTE: LINEAR INTERPOLATION USED TO DETERMINE $S(T_a)_{NS/EW}$

IRREGULARITY REVIEW (2024 OBC CLAUSE 4.1.8.6)

- | | | |
|------------------------------------|------------------------------|--|
| 1. VERTICAL STIFFNESS: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 2. WEIGHT: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 3. VERTICAL GEOMETRIC: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 4. IN PLANE DISCONTINUITY: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 5. OUT OF PLANE: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 6. WEAK STOREY: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 7. TORSIONAL: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| $B_{NS} = 1.45$
$B_{EW} = 1.65$ | | |
| 8. NON-ORTHOGONAL: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 9. GRAVITY INDUCED LATERAL DEMAND: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |
| 10. SLOPED COLUMN IRREGULARITY: | <input type="checkbox"/> YES | <input checked="" type="checkbox"/> NO |

CONCLUSION: BUILDING IS ☒ REGULAR ☐ IRREGULAR
DYNAMIC ANALYSIS: ☐ REQUIRED ☒ NOT REQUIRED
DYNAMIC PROCEDURE METHOD: ☒ MODAL RESPONSE SPECTRUM ☐ NUMERICAL INTEGRATION TIME HISTORY ☐ N/A

TORSIONAL ECCENTRICITY:

☐ $\pm 0.10 D_{nx}$ (4.1.8.11(10a)), $B \leq 1.7$ EQUIV. STATIC FORCE PROCEDURE)
☐ $\pm 0.10 D_{nx}$ (4.1.8.12(4a)), $B \geq 1.7$
☒ $\pm 0.05 D_{nx}$ (4.1.8.12(4b)), $B < 1.7$, 3-D DYNAMIC ANALYSIS)

DEFLECTION & STRUCTURAL SEPARATION:

MAX. INVERSTOREY DRIFT: $\Delta_{MAX} = 12$ mm ☒ THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2024 OBC
☐ SEPARATION: $\sqrt{\frac{\sum \Delta_i^2}{\sum \Delta_i^2}} = N/A$
☐ N/A

STATIC MAXIMUM/MINIMUM VALUES:

NORTH-SOUTH: (\uparrow)

BASE SHEARS/MOMENTS: (2024 OBC CLAUSE 4.1.8.11)

$V_{static} = S(T_a)M_o I_E W / (R_d R_o) = 3210$ kN $W = 10\,000$ kN
 $V_{min} = S(4.0)M_o I_E W / (R_d R_o) = 425$ kN $W = 10\,000$ kN
 $V_{max} = S(0.5)I_E W / (R_d R_o) = 2830$ kN $W = 10\,000$ kN

EAST-WEST: (\leftrightarrow)

BASE SHEARS/MOMENTS: (2024 OBC CLAUSE 4.1.8.11)

$V_{static} = S(T_a)M_o I_E W / (R_d R_o) = 3210$ kN $W = 10\,000$ kN
 $V_{min} = S(4.0)M_o I_E W / (R_d R_o) = 425$ kN $W = 10\,000$ kN
 $V_{max} = S(0.5)I_E W / (R_d R_o) = 2830$ kN $W = 10\,000$ kN

ADDITIONAL PERFORMANCE REQUIREMENTS: (2024 OBC CLAUSE 4.1.8.23(3))

DESIGN PERIODS/MODE & MOMENT FACTORS: (2024 OBC CLAUSE 4.1.8.6)

$S(0.2) = 20.9$
 $S(5.0)$

$T_a(DESIGN)_{NS} = 0.128$ $M_v = 1.00$ $J = 0.99$
 $T_a(DESIGN)_{EW} = 0.128$ $M_v = 1.00$ $J = 0.99$

DESIGN FUNDAMENTAL PERIOD BASED DSRAV:

$S(T_a)_{NS} = 0.336$

$S(T_a)_{EW} = 0.336$

STATIC MAXIMUM/MINIMUM VALUES:

NORTH-SOUTH: (\uparrow)

BASE SHEARS/MOMENTS: (2024 OBC CLAUSE 4.1.8.11)

$V_{static} = S(T_a)M_o I_E W / (R_d R_o) = 1550$ kN $W = 10\,000$ kN
 $V_{min} = S(4.0)M_o I_E W / (R_d R_o) = 155$ kN $W = 10\,000$ kN
 $V_{max} = S(0.5)I_E W / (R_d R_o) = 1320$ kN $W = 10\,000$ kN

EAST-WEST: (\leftrightarrow)

BASE SHEARS/MOMENTS: (2024 OBC CLAUSE 4.1.8.11)

$V_{static} = S(T_a)M_o I_E W / (R_d R_o) = 1550$ kN $W = 10\,000$ kN
 $V_{min} = S(4.0)M_o I_E W / (R_d R_o) = 155$ kN $W = 10\,000$ kN
 $V_{max} = S(0.5)I_E W / (R_d R_o) = 1320$ kN $W = 10\,000$ kN

SEISMIC LOADS

STATIC LOADS	DYNAMIC		DESIGN LOADS
NORTH-SOUTH: (↑)			
$V_d = 2820$ kN $W = 10\,000$ kN $M_d = 9900$ kNm	$V_e = 7680$ kN $V_{ed} = 6760$ kN	$\frac{2S(0.2)}{3S(T_d)} = 0.67 \leq 1.0$ <input type="checkbox"/>	$V_d = 2260$ kN $M_d = 7940$ kNm
		OR	(OBC 4.1.8.12(6))
		$\frac{S(0.5)}{S(T_d)} = 0.88 \leq 1.0$ <input checked="" type="checkbox"/>	
	$V_d = 2250$ kN		(OBC 4.1.8.12(7))
	$V_d = 2260$ kN <small>final</small>	$V_d = 0.8V_{st}$ <input checked="" type="checkbox"/> $0.8V_{st} < V_{d_{final}} \leq 1.0V_{st}$ <input type="checkbox"/> $V_d = 1.0V_{st}$ <input type="checkbox"/> $V_{d_{final}} \geq 1.0V_{st}$ <input type="checkbox"/>	(OBC 4.1.8.12(8)) (OBC 4.1.8.12(9))
EAST-WEST: (↔)			
$V_d = 2820$ kN $W = 10\,000$ kN $M_d = 9900$ kNm	$V_e = 6800$ kN $V_{ed} = 5980$ kN	$\frac{2S(0.2)}{3S(T_d)} = 0.67 \leq 1.0$ <input type="checkbox"/>	$V_d = 2260$ kN $M_d = 7940$ kNm
		OR	(OBC 4.1.8.12(6))
		$\frac{S(0.5)}{S(T_d)} = 0.88 \leq 1.0$ <input checked="" type="checkbox"/>	
	$V_d = 2000$ kN		(OBC 4.1.8.12(7))
	$V_d = 2260$ kN <small>final</small>	$V_d = 0.8V_{st}$ <input checked="" type="checkbox"/> $0.8V_{st} < V_{d_{final}} \leq 1.0V_{st}$ <input type="checkbox"/> $V_d = 1.0V_{st}$ <input type="checkbox"/> $V_{d_{final}} \geq 1.0V_{st}$ <input type="checkbox"/>	(OBC 4.1.8.12(8)) (OBC 4.1.8.12(9))
NOTES:			
1) <u>DYNAMIC LOAD SCALING FACTOR</u>			
$S.F. = g \cdot \frac{I_E}{R_d R_o} = 0.433$ g			
2) DESIGN LOAD SHEAR VALUES ARE BASED ON THE EVALUATION OF V_e AND V_{ed} IN ACCORDANCE WITH 4.1.8.12 (5),(6),(7),(8), AND (9) OF THE 2024 OBC LOADS INDICATED SHOW THE DESIGN BASE SHEAR AND CORRESPONDING OVERTURNING MOMENT.			

WIND UPLIFT (2024 OBC 4.1.7.6, FIG 4.1.7.6.C)

$P_{NET} = 1.4 (P_s - P_i) - 0.9 D$
 $P_s = I_w q C_e C_p C_g$ $P_i = 1.4 P_{w,NET} - 0.9 P_d$
 $P_i = I_w q C_e C_p C_g$ $P_{w,NET} = P_s - P_i$
 $z = 1.40$ m $P_{w,NET}$ INTERIOR = 1.05 kPa
 $C_p C_g$ (INTERIOR) = 0.5 \rightarrow -1.80 $P_{w,NET}$ PERIMETER = 1.35 kPa
 $C_p C_g$ (PERIMETER) = 0.5 \rightarrow -2.50
 $C_{pi} = -0.45 \rightarrow 0.3$
 $C_{gi} = 2.0$

DESIGN SNOW LOAD PARAMETERS

OTTAWA, ONTARIO, CANADA
 $S = I_s [S_e (C_e C_g C_p C_g) + S_i]$
 $S_e = 2.4$ kPa
 $S_i = 0.4$ kPa
 $I_s = 1.15$ FOR SCHOOLS
 $S = 1.15 [2.4 (0.8 \times 1.0 \times 1.0 \times 1.0) + 0.4]$
 $S = 2.67$ kPa

WIND

(2024 OBC 4.1.7.6, FIG 4.1.7.6.A)

$h = 3.50$ m
 $P = I_w q C_e C_i C_p C_g$
 $q = 0.41$ kPa
 I_w (uls) = 1.15 I_w (sls) = 0.75
 $C_e = 0.9$
 $C_t = 1.0$ (OPEN TERRAIN)
 $C_p C_g = 1.3$ OR 1.95

N.S (\uparrow) E.W (\leftrightarrow) UNITS

VBASE	180	87	kN
MBASE	635	302	kN.m

NORTH FOR THE PURPOSES OF THIS DATA IS AT THE TOP SIDE OF ALL PLANS IN THIS SET OF DRAWINGS

4	ISSUE FOR TENDER	2026-02-10
3	ISSUE FOR BUILDING PERMIT	2025-12-10
2	ISSUE FOR 80% REVIEW	2025-10-14
1	ISSUE FOR 50% REVIEW	2025-09-17

- THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.
- ADDITIONAL INFORMATION MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENT.
- DO NOT SCALE DRAWINGS

PROJECT

CAMBRIDGE PUBLIC SCHOOL

ARCHITECT

N45 ARCHITECTURE INC.

DRAWING TITLE

SEISMIC DATA

DRAWN A.M.	REVIEWED J.C.	SCALE 1 : 100
ENGINEERS SEAL 		PROJECT No. 25-121
		SHEET No. S02
		REVISION No.

CONCRETE BLOCK MASONRY WALLS REINFORCING BAR LAP LENGTH TABLE						
REINFORCING BAR LAP LENGTH (mm)						
HJR	10M	15M	20M	25M	30M	
300	525	750	925	1450	1725	

FOR SPECIAL CONDITIONS MULTIPLY THE VALUES LISTED ABOVE BY THE FOLLOWING FACTORS:

1. EPOXY COATED REINFORCING (X 1.5)
2. HORIZONTAL REINFORCING WITH >300 mm GROUT BELOW (X 1.3)
3. FOR CONDITIONS 1 & 2 OCCURRING SIMULTANEOUSLY (X 1.7)

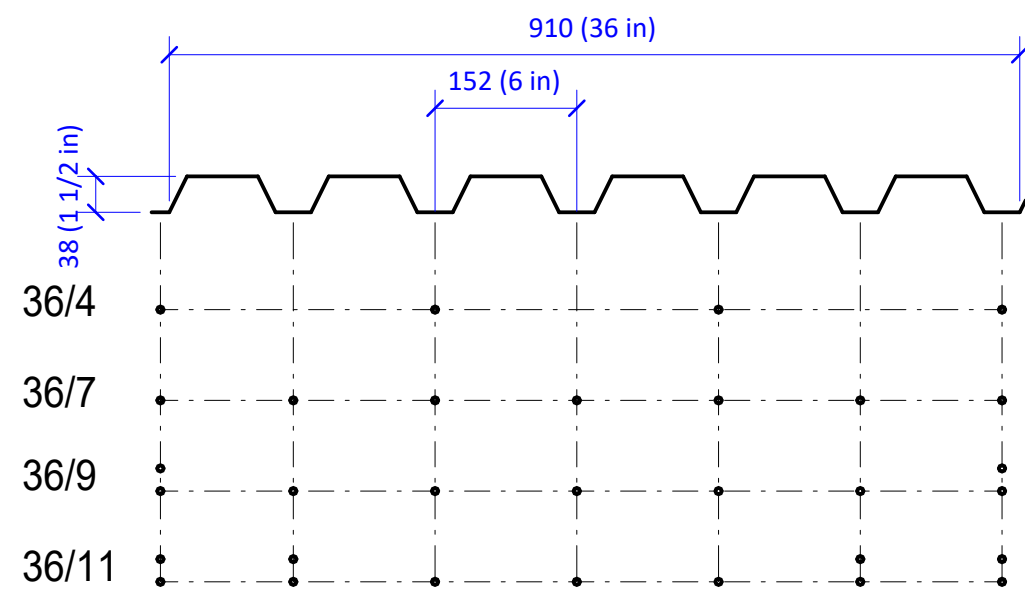
MASONRY LINTEL SCHEDULE LOAD BEARING WALLS LINTEL NOT SHOWN ON PLAN	
190, 240 OR 290 WD REINF'D CONC BLOCK	
SPAN	MASONRY LINTEL
0 - 400 mm	GROUT 200 mm ALL AROUND OPENING
400 - 1000 mm	400 DP 1-15M BOT CONT
1001 - 1500	600 DP 1-20M TOP & BOT CONT
1501 - 2000	800 DP 1-20M TOP & BOT CONT

FOOTING SCHEDULE		
MARK	SIZE	REINF'G
WF1	800x250 DP	3-15M T & B CONT.
WF2	1400x250 DP	7-15M TUL & BLL CONT. 15M x 1300 TLL & BUL @ 225 (H)
WF3	2000x250 DP	9-20M TUL & BLL CONT. 20M x 1900 TLL & BUL @ 225 (H)

LOAD BEARING MASONRY LINTEL SCHEDULE			
MARK	SIZE	REINFG	BEARING
ML1	190 X 590 DP	1-20M T & B	200 mm
ML2	190 X 590 DP	1-20M TOP 1-25M BOT. 1-10M HAIRPIN VERTICAL TIE @ 200 O/C	200 mm

BEAM BEARING PLATE SCHEDULE		
MARK	SIZE	ANCHORS
BBP1	180x300x16 THK PLATE	2-15M x 400 LG. WELDABLE REBAR
BBP2	180x600x25 THK PLATE	3-15M x 400 LG. WELDABLE REBAR
BBP3	180x400x25 THK PLATE	2-15M x 800 LG. VERT + 1-20M x 800 LG HORIZ. WELDABLE REBAR
BBP4	180x12 THK CONT. PLATE	1-15M x 400 LG. @ 600 O/C WELDABLE REBAR
BBP5	130x 400 x 19 THK	2-15M X 400 LG WELDABLE REBAR

REINFORCING BAR LAP LENGTH TABLE						
CONCRETE STRENGTH (MPa)	REINFORCING BAR LAP LENGTH (mm)					
	10M	15M	20M	25M	30M	35M
20	475	700	850	1325	1575	1875
25	425	600	750	1200	1400	1675
30	400	550	675	1100	1275	1525
35	375	525	625	1000	1200	1425
40	350	475	600	950	1125	1325
45	325	450	550	900	1050	1250



TYPICAL FASTENER PATTERNS @ SUPPORT
FOR 38 THK STEEL DECK

**ZONE 1 :
STEEL DECK ROOFS NOTES(PART A & PART B)
(SEE PLAN ALSO)**



1. 38 x 0.91 OVERLAPPING (CANAM OR EQUIVALENT)
2. HILTI S-SLO11M HHW FASTENERS IN SIDE LAPS @ 150 o/c
3. 36" FASTENER PATTERN (SEE ABOVE)
4. HILTI X-HSN24 FASTENERS TO SUPPORTING MEMBERS
5. FASTENER SPACING AROUND PERIMETER & OPENINGS TO BE 150 o/c
6. BECK 32 PAN MINIMUM

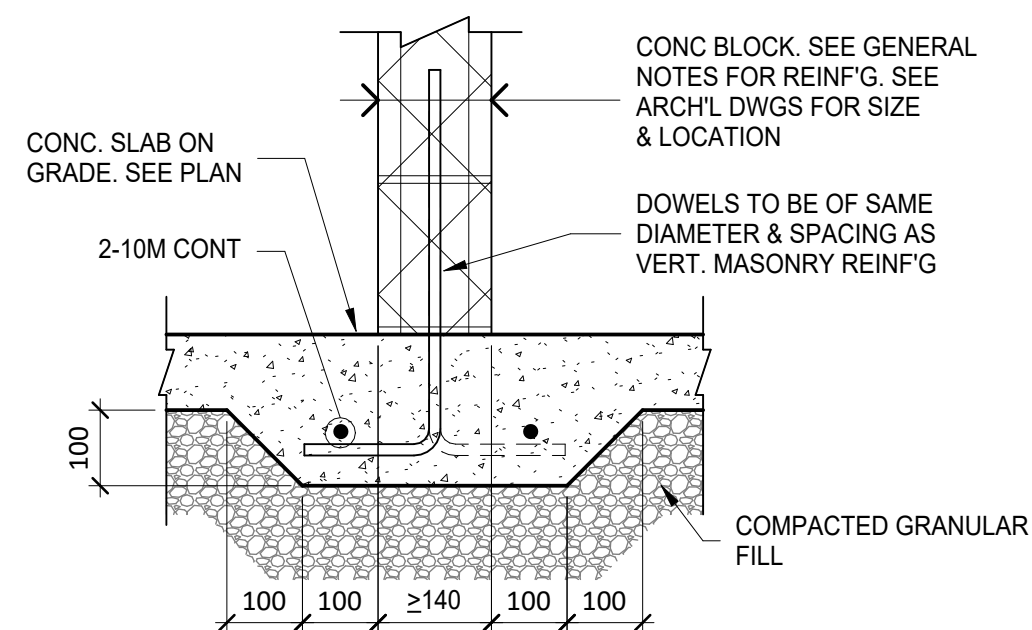
STEEL DECK (S) IS TO BE USED FOR SUPPORT OF ARCH.
MECH. OR ELEC'T. ITEMS. USE STEEL STRUCTURE FOR SUPPORT.

ZONE 2 :
STEEL DECK ROOFS NOTES(PART A & PART B)
(SEE PLAN ALSO)

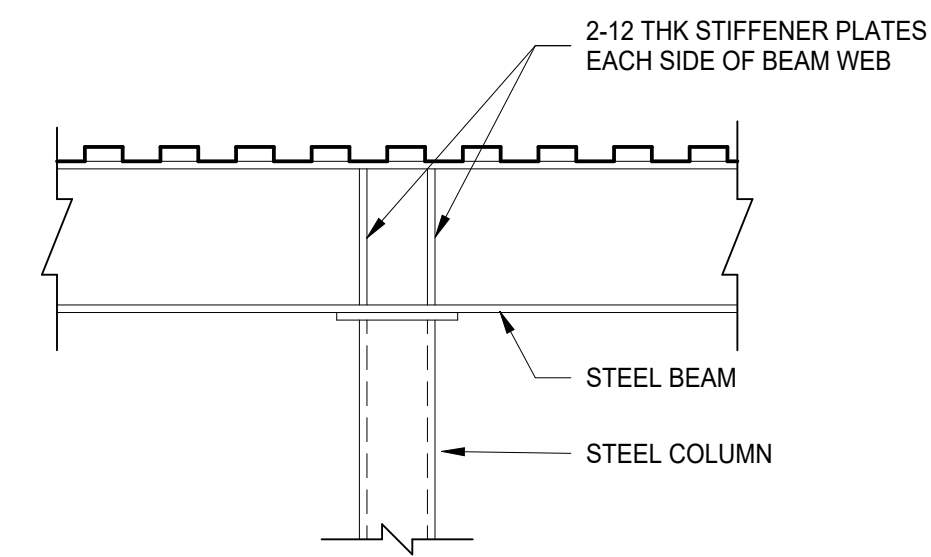
1. 38 x 91 OVERLAPPING (CANAM OR EQUIVALENT)
2. H.I.T.S-SCLO11M HHWF FASTENERS IN SIDE LAPS @ 100/c
3. 5611 FASTENER PATTERN (SEE ABOVE)
4. H.I.T.I X-HSN24 FASTENERS TO SUPPORTING MEMBERS
5. FASTENER SPACING AROUND PERIMETER & OPENINGS TO BE 100/c
6. DECK BE 3 PAN MINIMUM
7. DECK IS NOT TO BE USED FOR SUPPORT OF ARCH.
MECH. OR ELEC.T. ITEMS. USE STEEL STRUCTURE FOR SUPPORT.

[illegible]

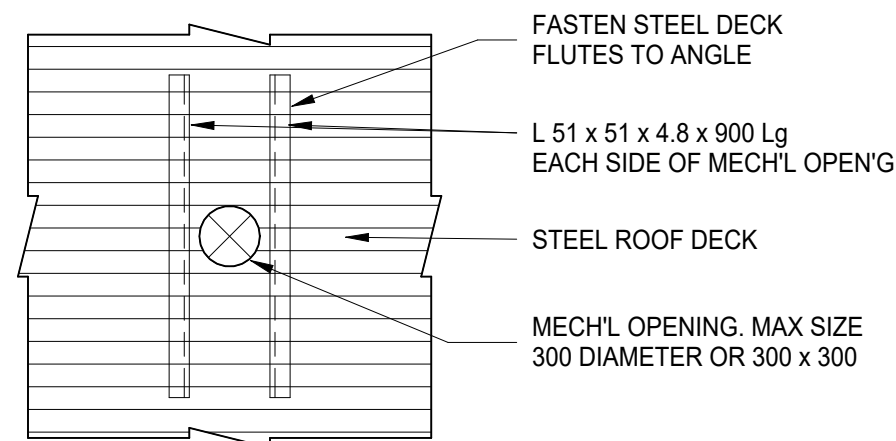
<p>1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS, ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER.</p> <p>2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT.</p> <p>3. ADDITIONAL INFORMATION MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK, SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENT.</p> <p>4. DO NOT SCALE DRAWINGS</p>		
 <p>CUNLIFFE & ASSOCIATES CONSULTING STRUCTURAL ENGINEERS</p> <p>200-1550 CARLING AVE OTTAWA, ONTARIO CANADA K1Z 8S8</p> <p>T: 613-729-7242 F: 613-729-1461 E: cunliffe@cunliffe.ca W: www.cunliffe.ca</p>		
PROJECT		
CAMBRIDGE PUBLIC SCHOOL		
ARCHITECT		
N45 ARCHITECTURE INC.		
DRAWING TITLE		
SCHEDULES		
DRAWN	REVIEWED	SCALE
A.M.	J.C.	As indicated
ENGINEERS SEAL		PROJECT No.
		25-121
		SHEET No.
		S03
		REVISION No.



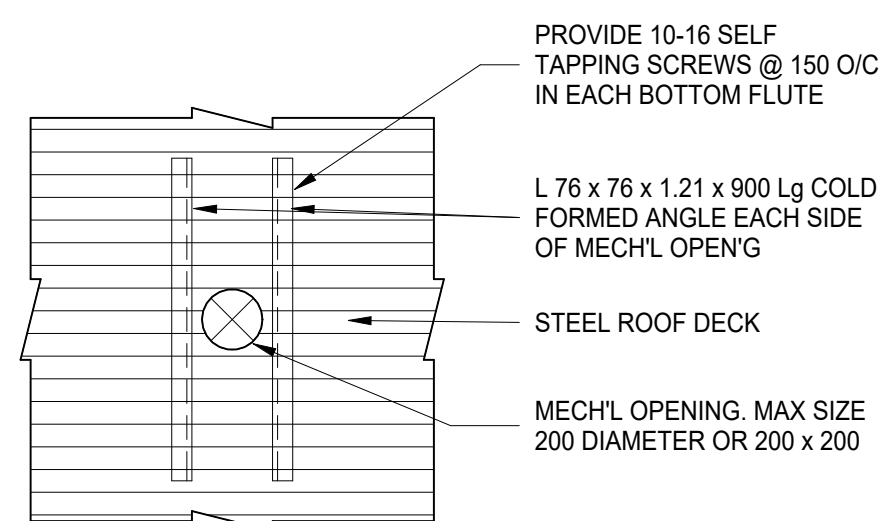
**TYPICAL SLAB ON GRADE THICKENING DETAIL
BELOW NON-LOAD BEARING CONC.
BLOCK MASONRY WALL**



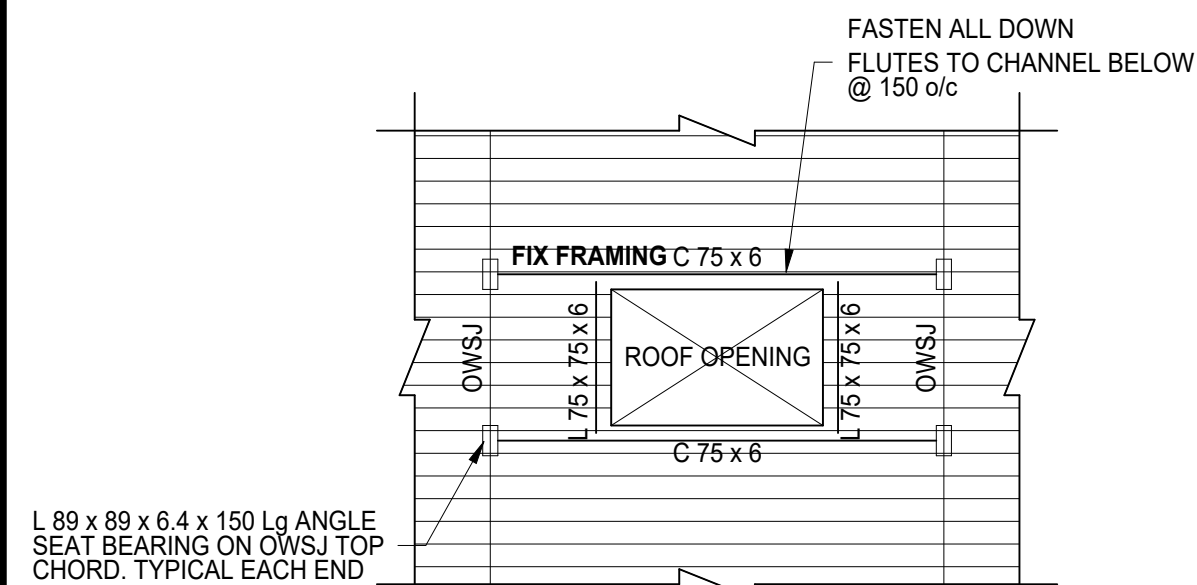
CANTILEVERED OR MULTI-SPAN BEAM DETAIL



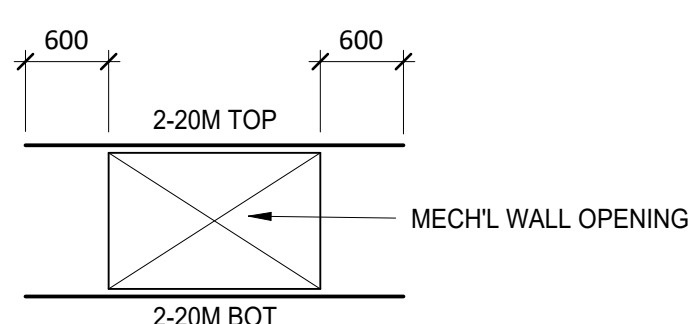
PLAN DETAIL - MECHANICAL OPENINGS
(FOR OPENINGS MORE THAN 200 mm Ø OR 300 x 300)



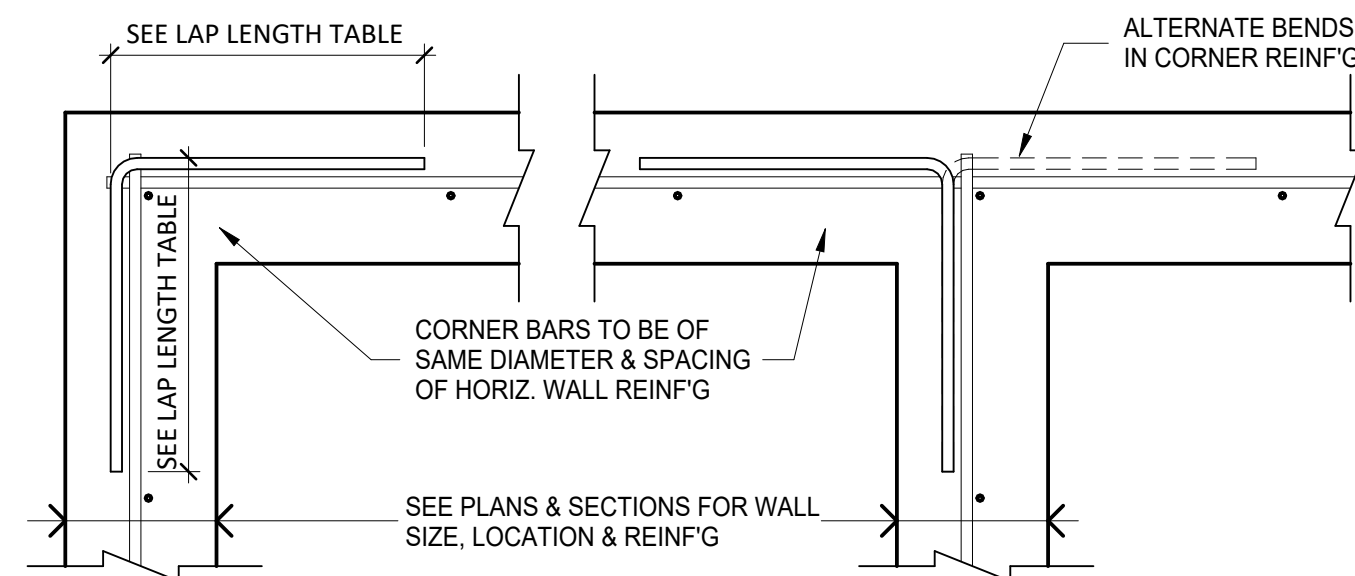
PLAN DETAIL - MECHANICAL OPENINGS
(FOR OPENINGS LESS THAN 200 mm Ø OR 200 x 200)



**TYPICAL DETAIL- ADDITIONAL
FRAMING AT ROOF OPENINGS**
(WITH UNIT OPENINGS THROUGH ROOF)

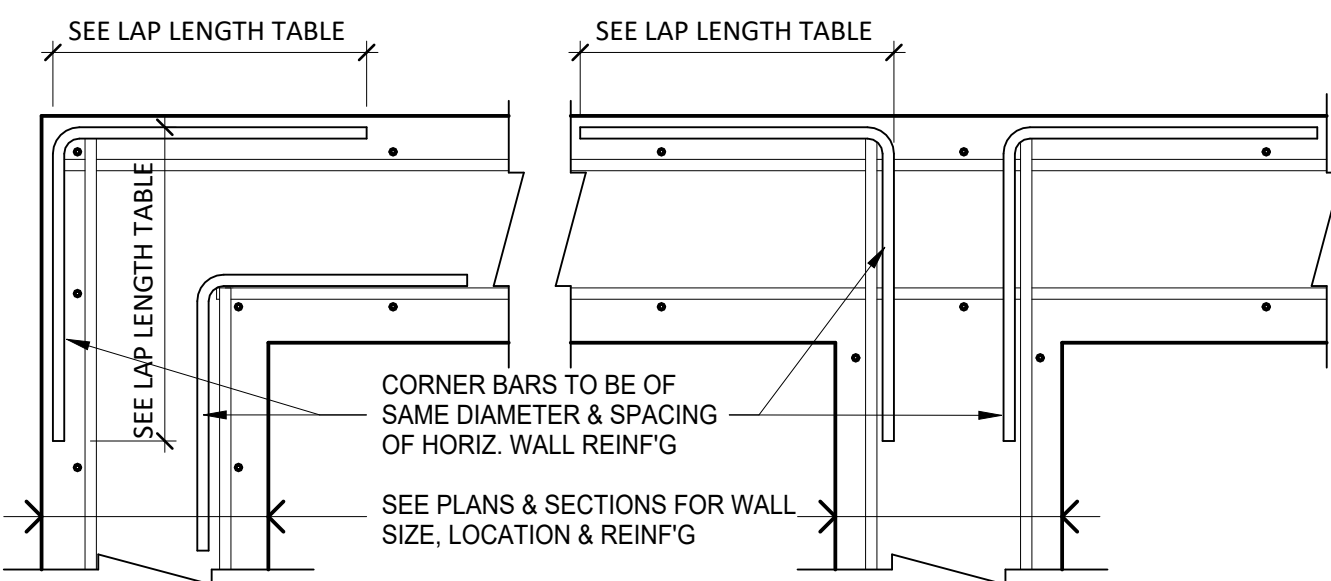


TYPICAL DETAIL AT CONCRETE WALL OPENING U/N



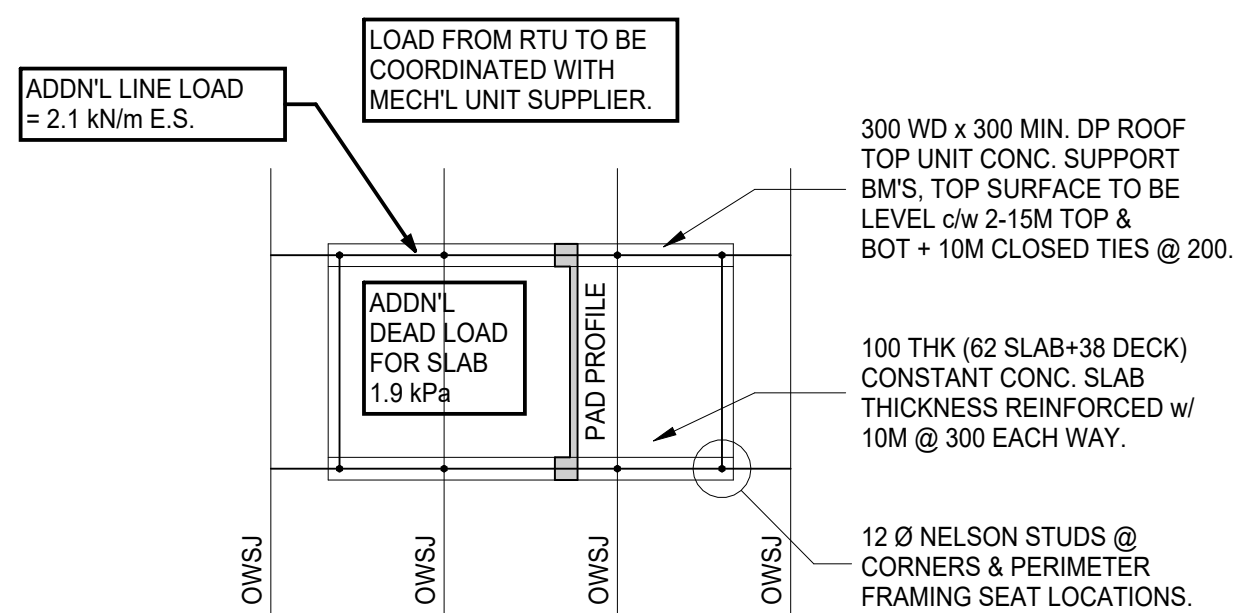
TYPICAL WALL INTERSECTION REINFORCEMENT

CONCRETE WALLS WITH 1 SHEET OF REINFORCING (WALL THICKNESS LESS THAN 215 mm)
NOT APPLICABLE TO SHEARWALLS. SEE SHEARWALL ELEVATION DRAWINGS

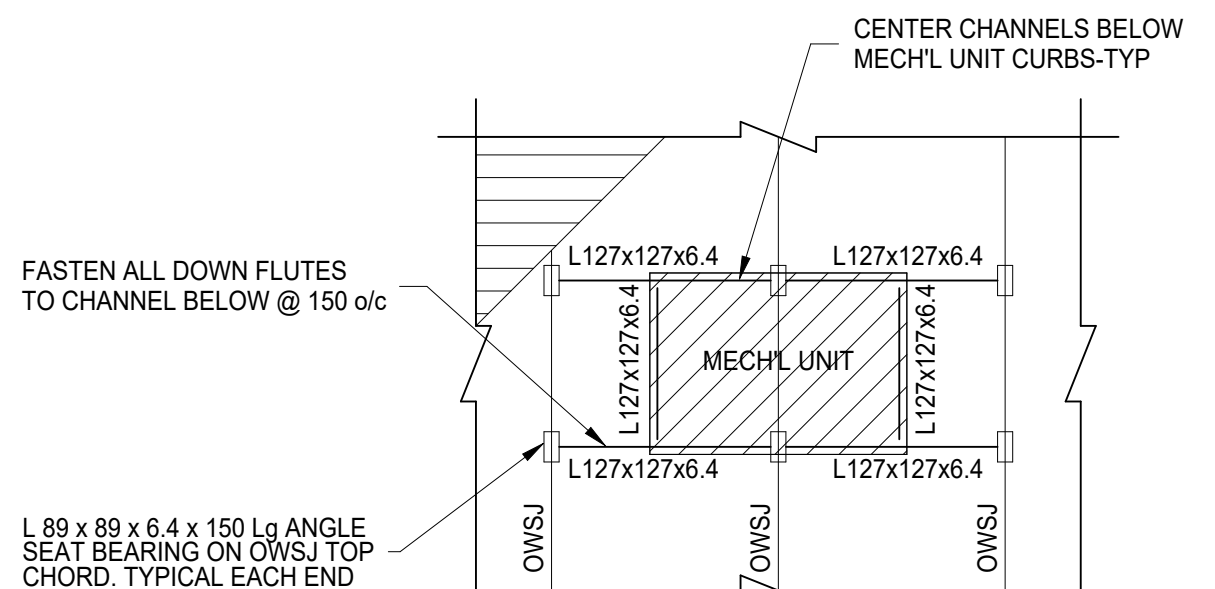


TYPICAL WALL INTERSECTION REINFORCEMENT

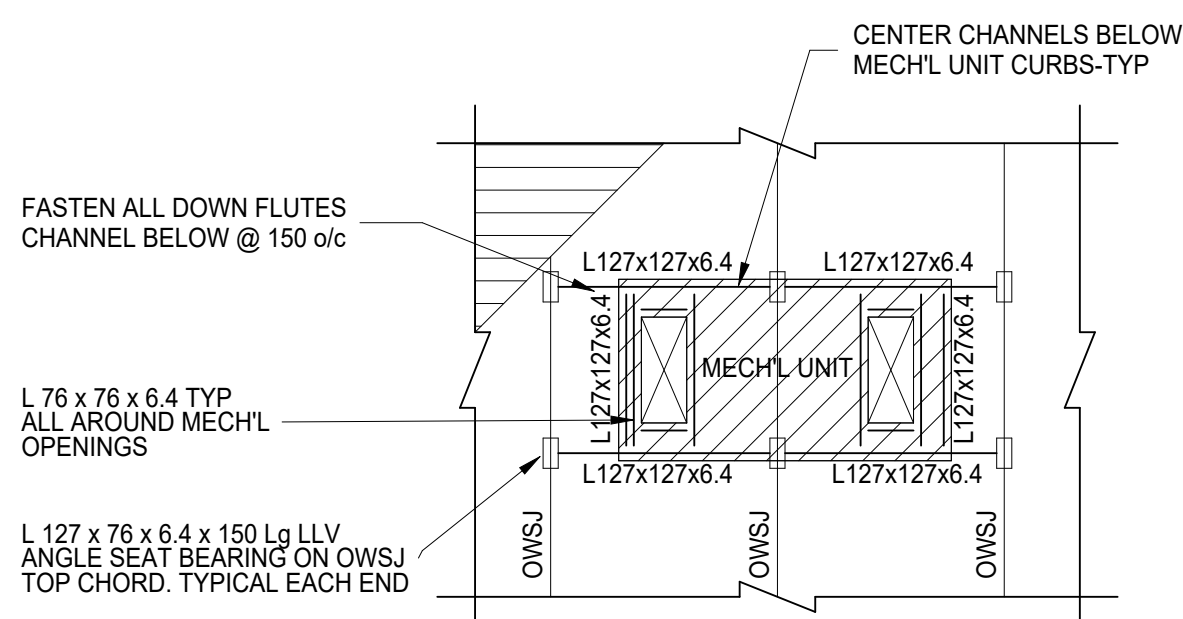
CONCRETE WALLS WITH 2 SHEETS OF REINFORCING (WALL THICKNESS GREATER THAN 215 mm)
NOT APPLICABLE TO SHEARWALLS. SEE SHEARWALL ELEVATION DRAWINGS.



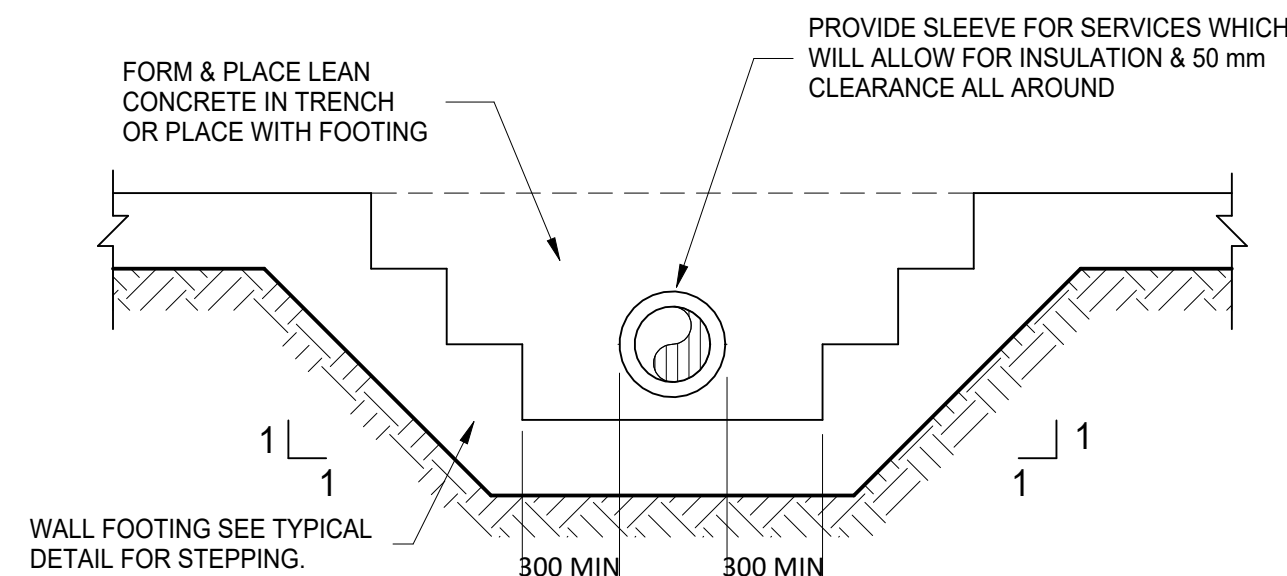
**TYPICAL SCHEMATIC DETAIL- CONCRETE PAD
BELOW ROOFTOP MECH'L UNITS**



**TYPICAL DETAIL- ADDITIONAL
FRAMING AT ROOFTOP MECH'L UNITS**
(NO UNIT OPENINGS THROUGH ROOF)

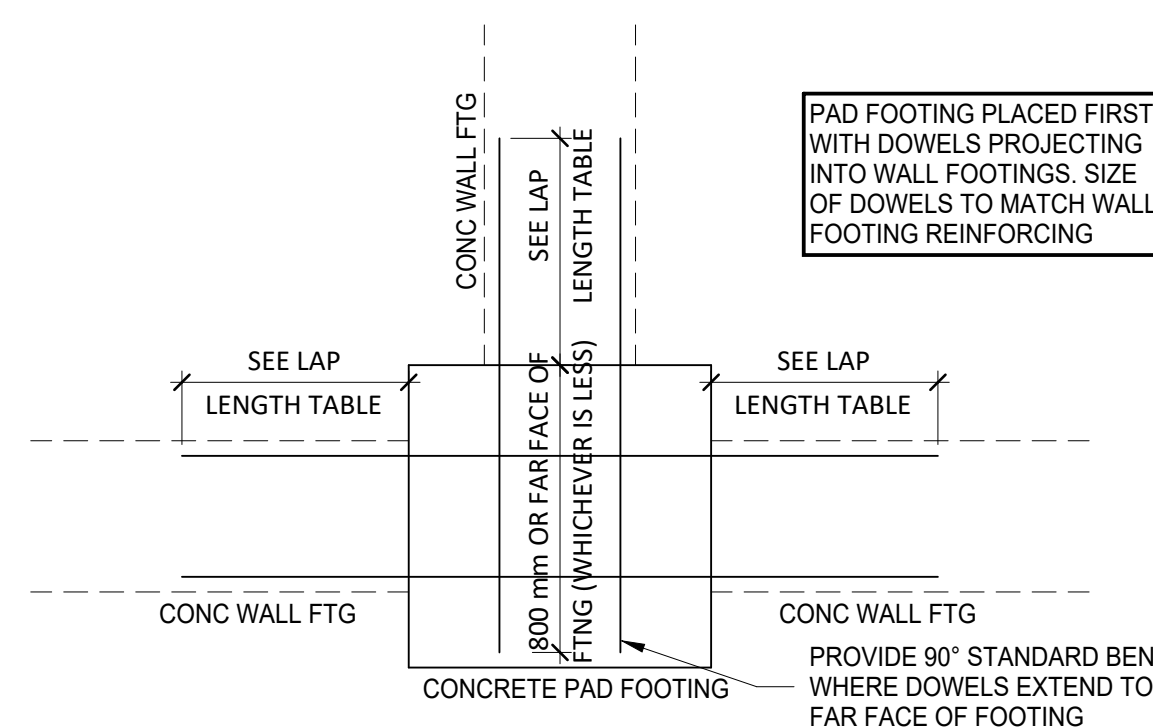


**TYPICAL DETAIL- ADDITIONAL
FRAMING AT ROOFTOP MECH'L UNITS**

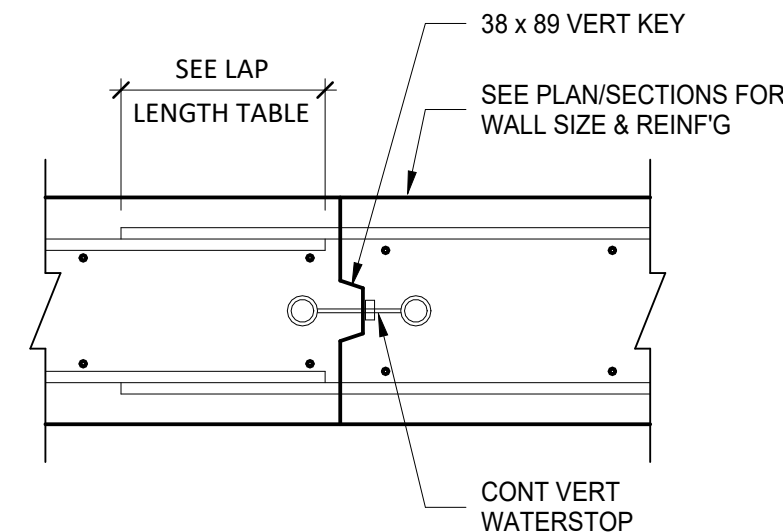


DETAIL-FOUNDATION AT UNDERGROUND SERVICE ENTRY

SEE PLANS AND MECHANICAL FOR LOCATION

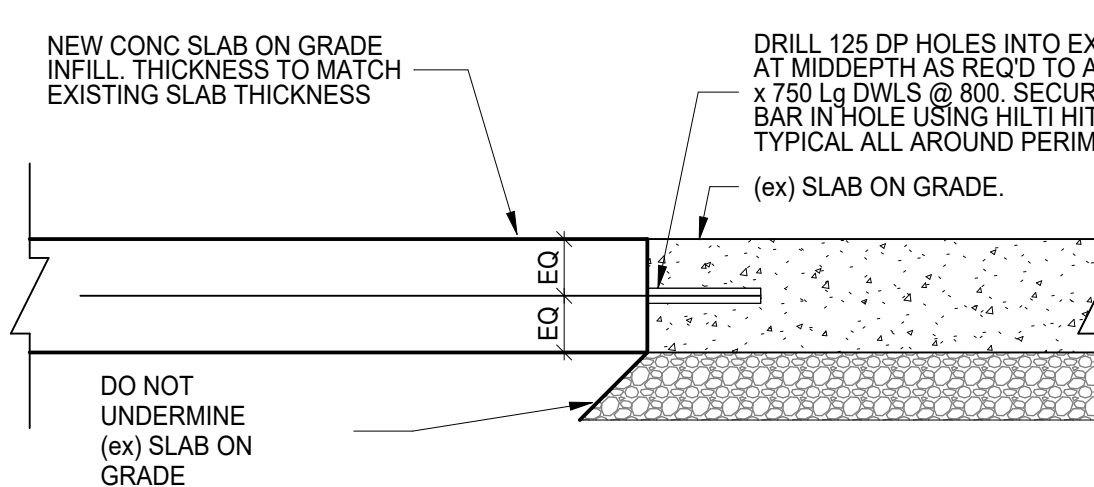


**PLAN DETAIL AT INTERSECTION OF
PAD FOOTING & WALL FOOTINGS**

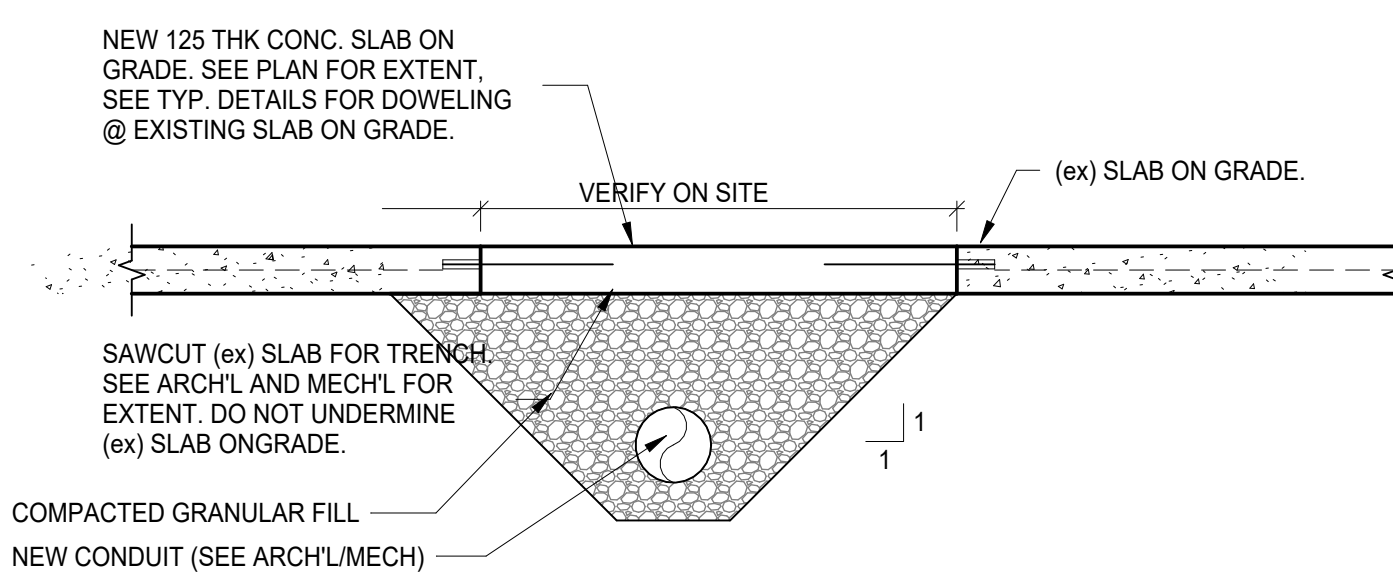


TYPICAL WALL CONSTRUCTION JOINT DETAIL

MAXIMUM SPACING OF CONSTRUCTION JOINTS TO BE 20 meters

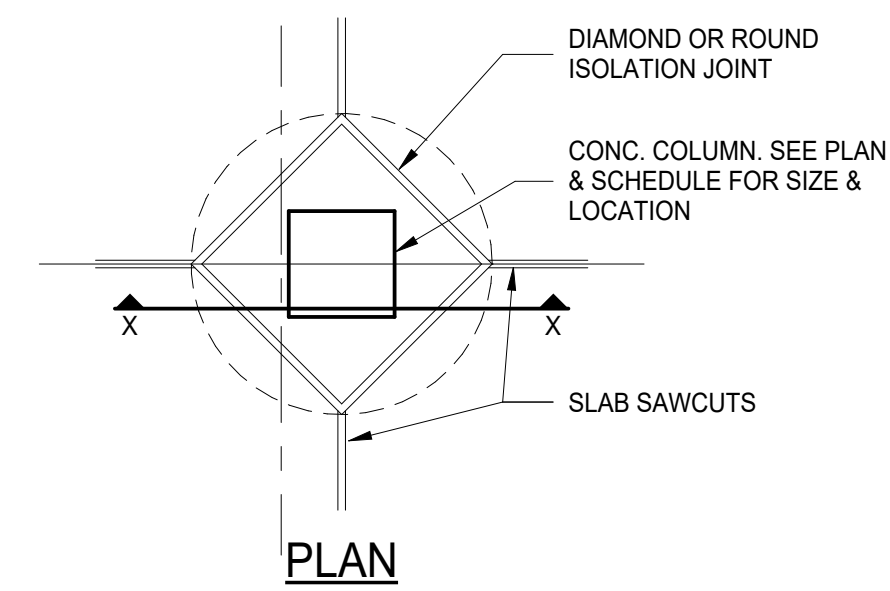


TYP. DETAIL- EXISTING SLAB ON GRADE INFILL

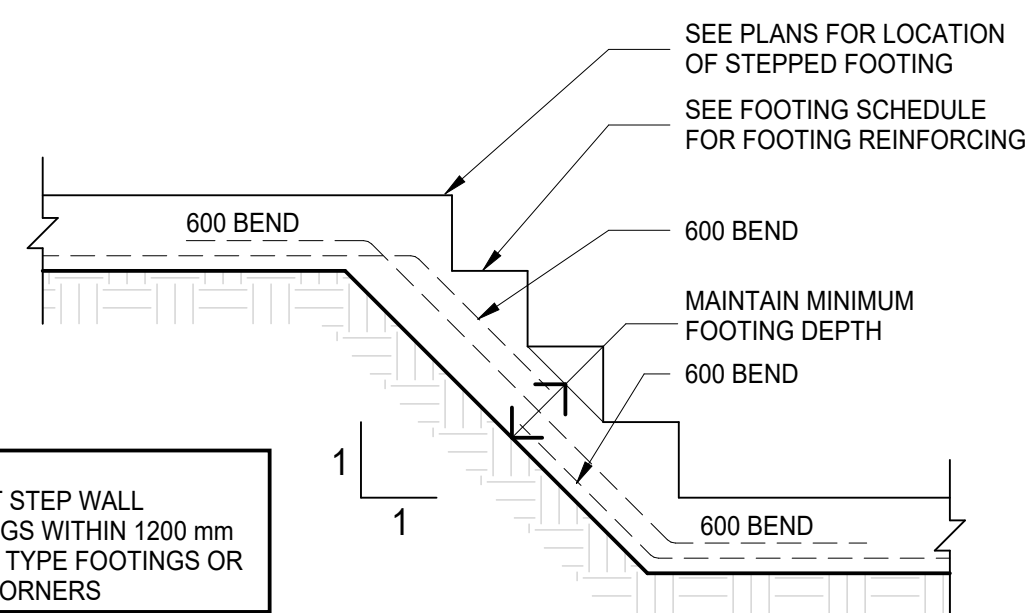


TYPICAL DETAIL AT NEW PIPE LOCATIONS

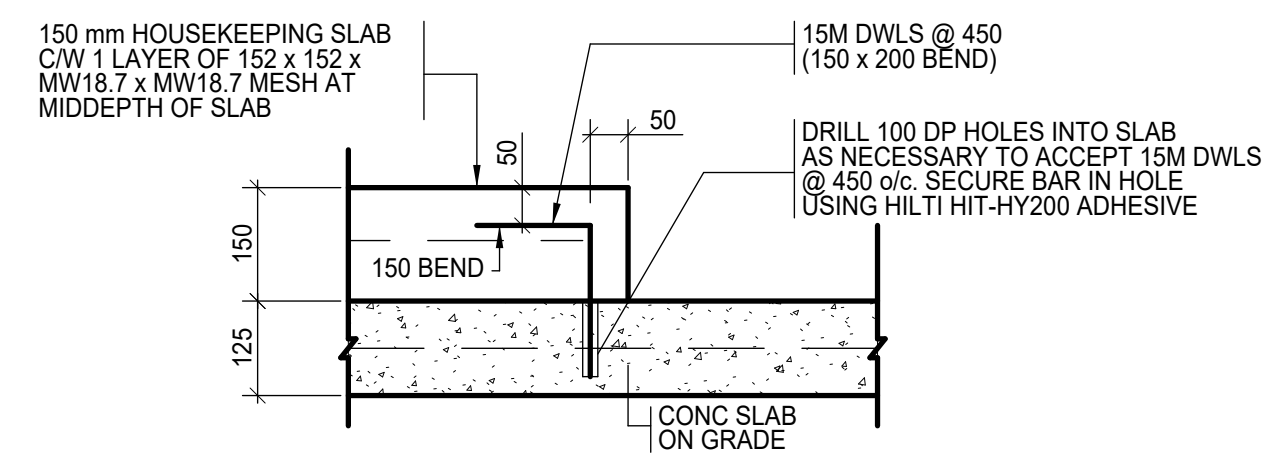
COORDINATE LOCATIONS WITH MECHANICAL AND ARCHITECTURAL DRAWINGS



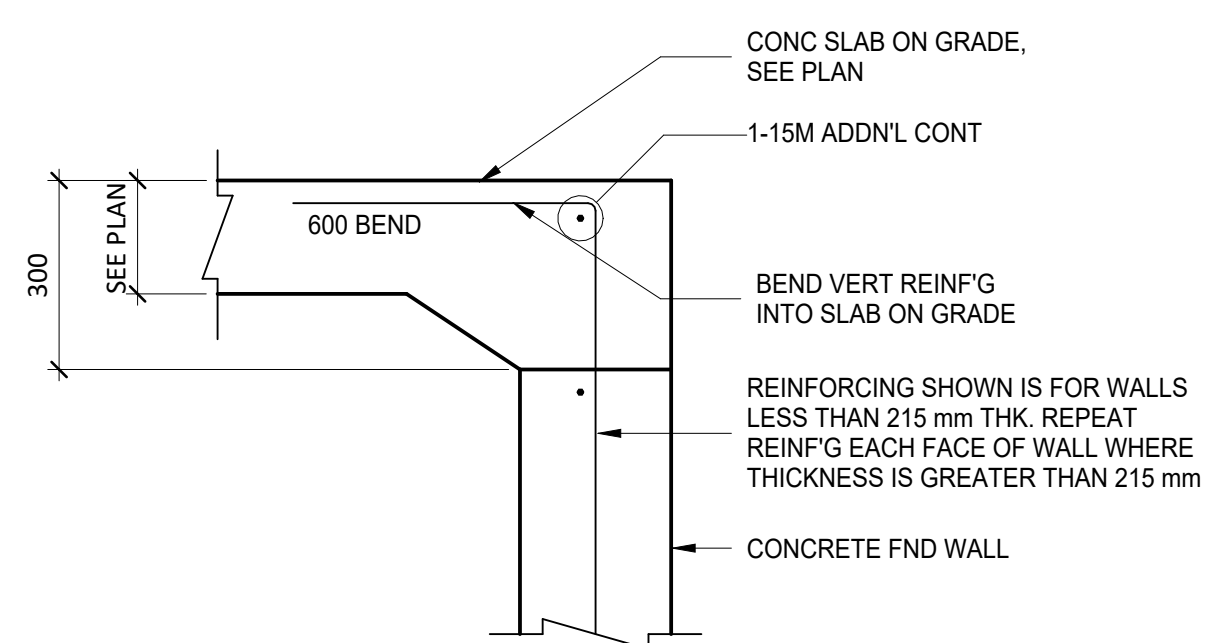
**PLAN & SECTION AT COLUMN ISOLATION
JOINTS IN SLAB-ON-GRADE**



TYPICAL STEPPED WALL FOOTING DETAIL



TYPICAL HOUSEKEEPING PAD DETAIL ON SLAB ON GRADE
COORDINATE LOCATION & DIMENSIONS WITH MECHANICAL DRAWINGS



DETAIL - SLAB THICKENING AT DOOR
UNLESS DETAILED OTHERWISE ON DRAWINGS

4	ISSUE FOR TENDER	2026-02-10
3	ISSUE FOR BUILDING PERMIT	2025-12-10
2	ISSUE FOR 80% REVIEW	2025-10-14
1	ISSUE FOR 50% REVIEW	2025-09-17

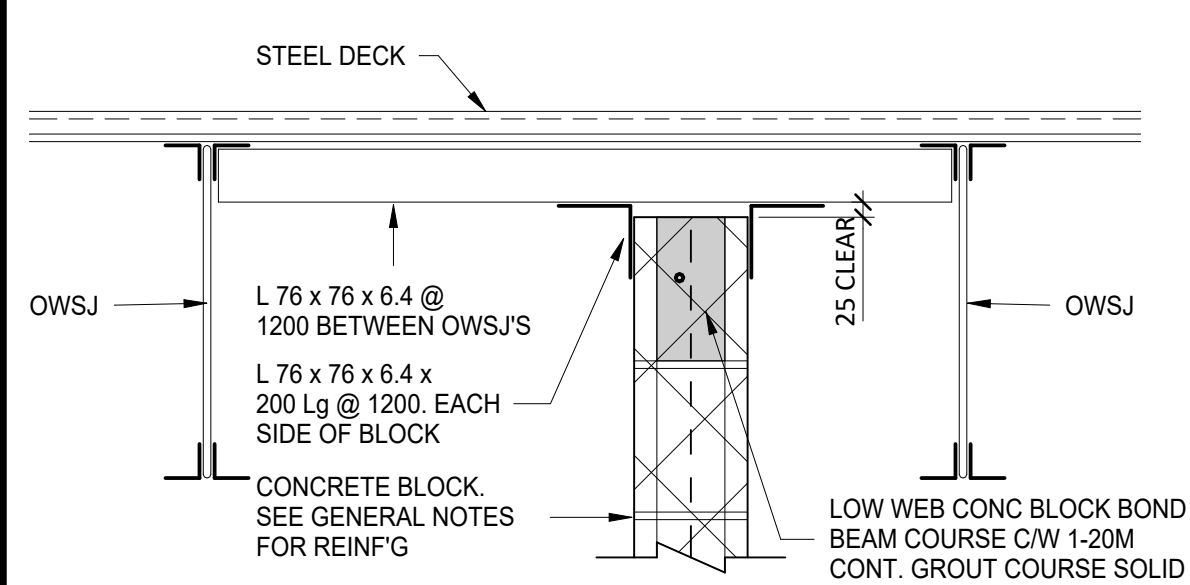
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4. DO NOT SCALE DRAWINGS

PROJECT
CAMBRIDGE PUBLIC SCHOOL

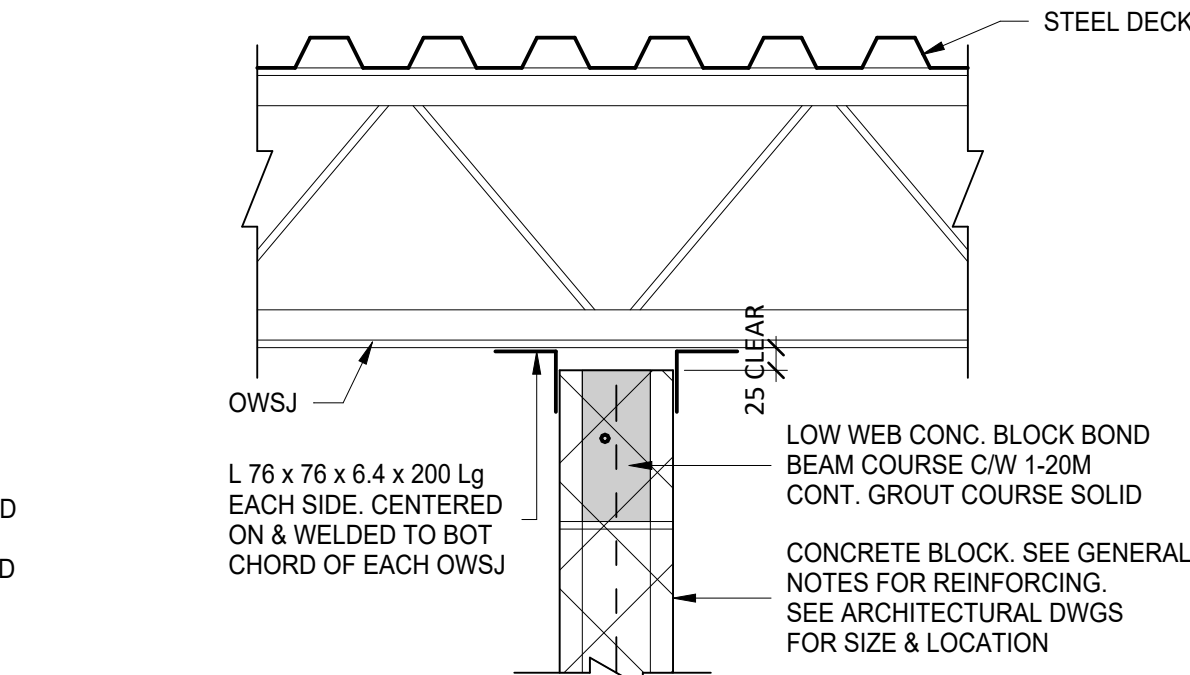
ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
TYPICAL DETAILS

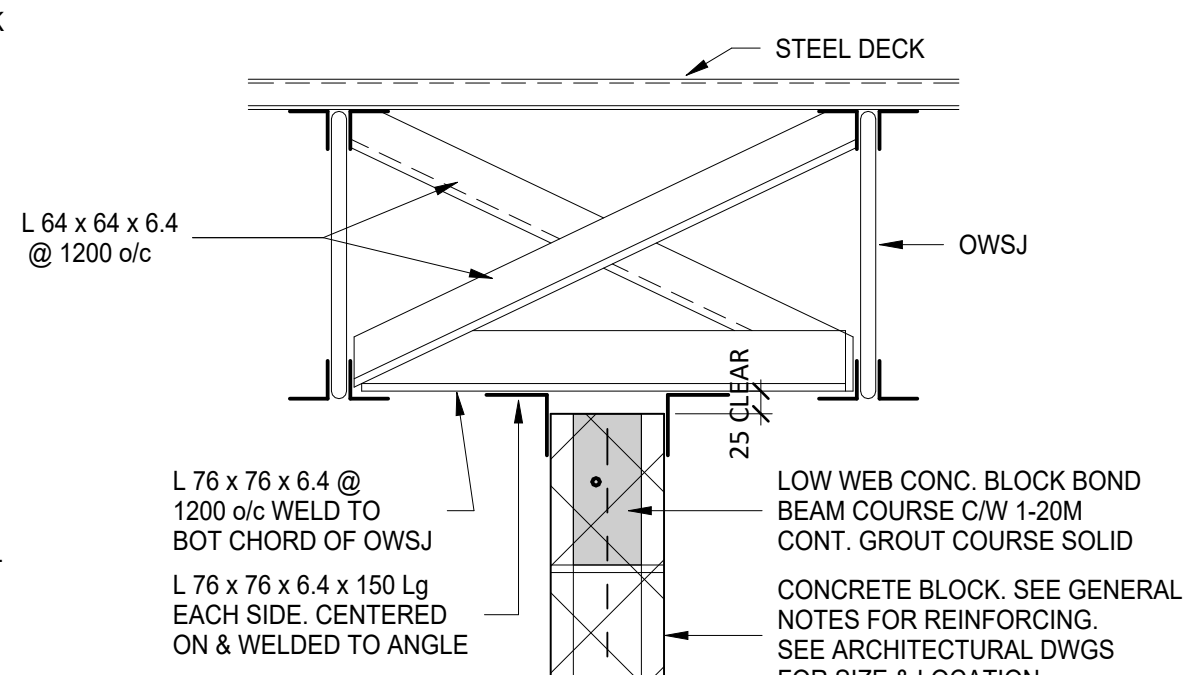
DRAWN A.M.	REVIEWED J.C.	SCALE 1 : 100
ENGINEERS SEAL 	PROJECT No. 25-121	SHEET No. S04
		REVISION No.



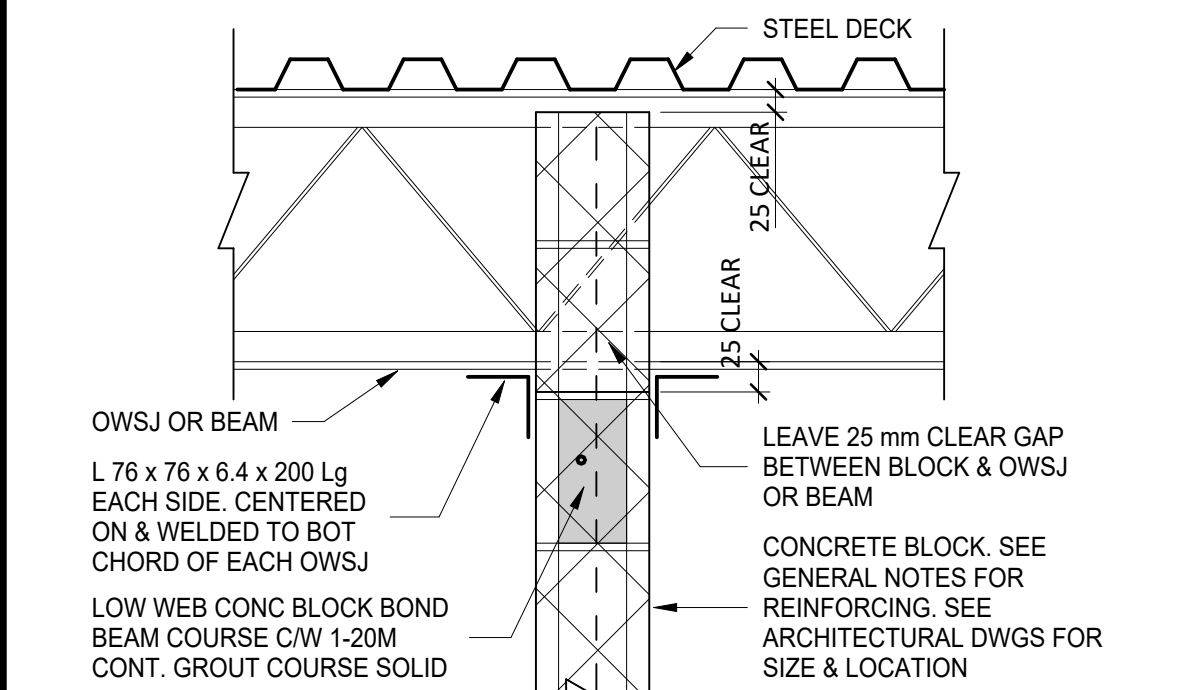
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL PARALLEL TO OWSJ**



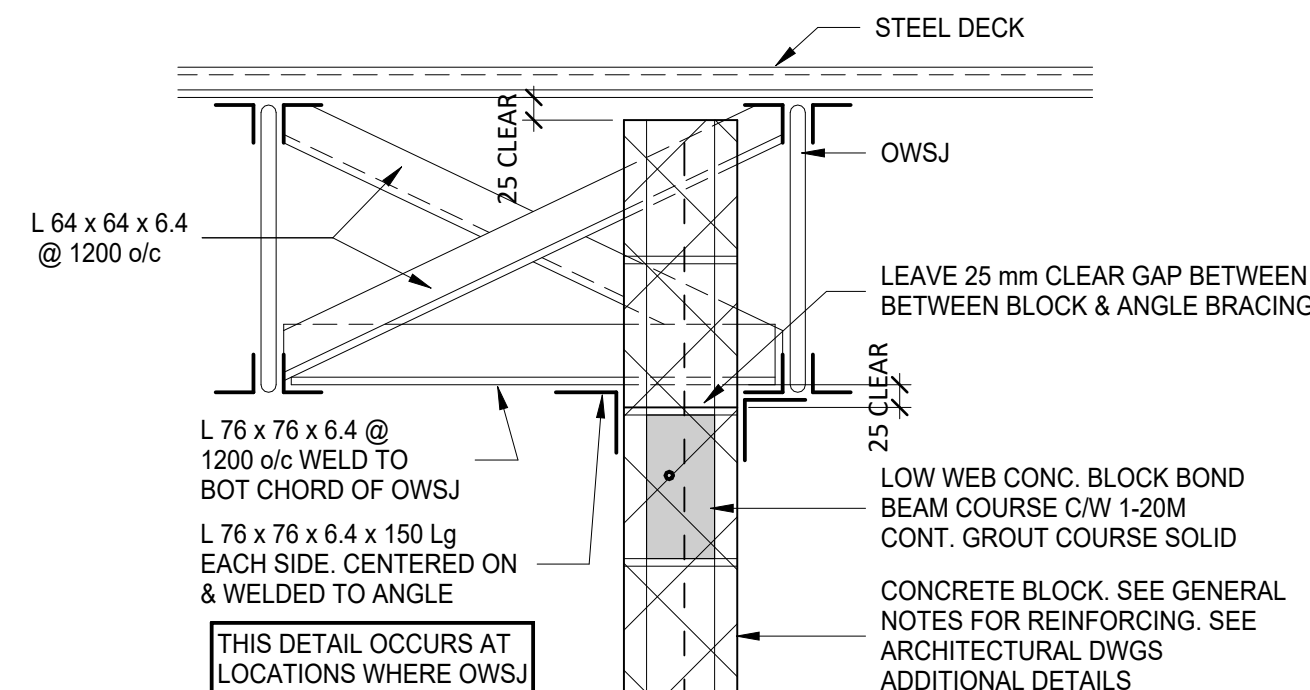
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL PERPENDICULAR TO OWSJ
(WALL BELOW BOTTOM CORD)**



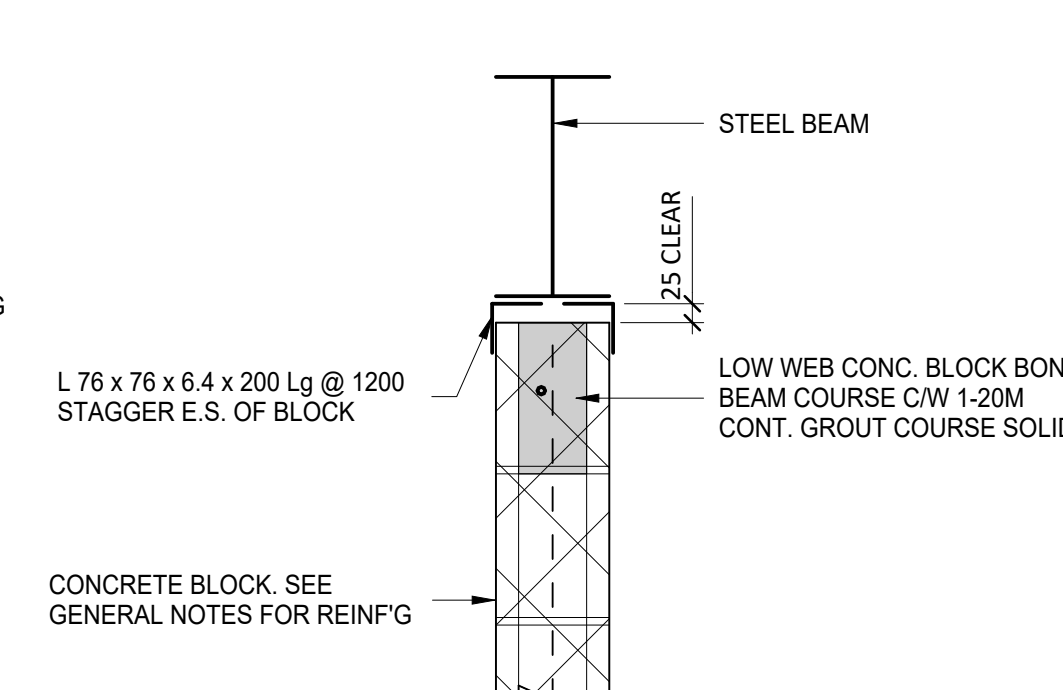
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL PARALLEL TO OWSJ
(WALL BELOW BOTTOM CORD)**



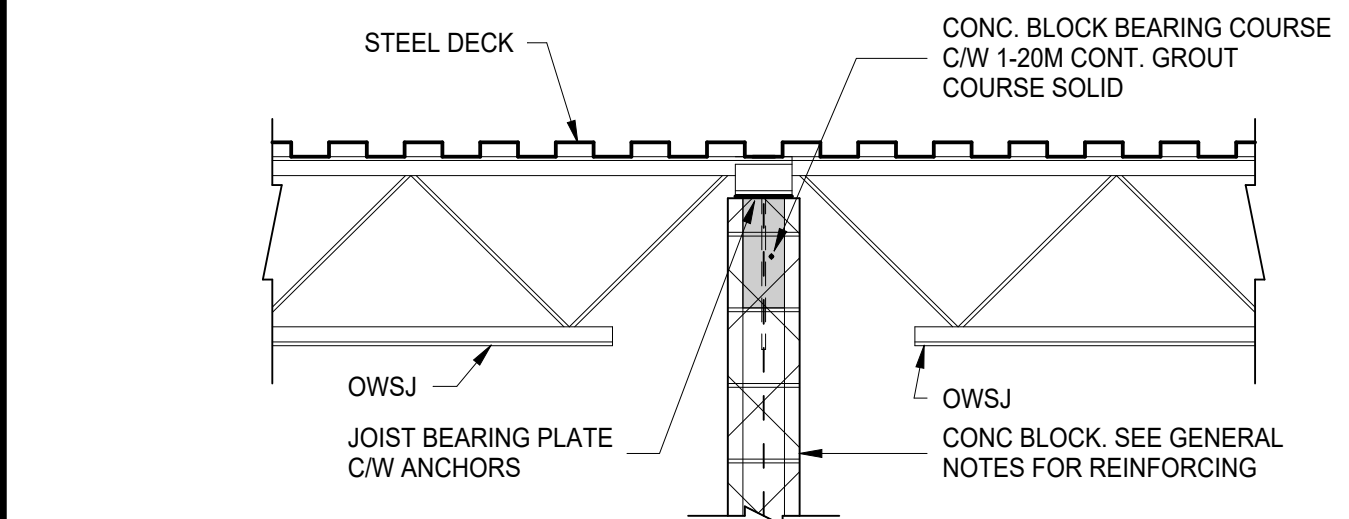
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL PERPENDICULAR TO OWSJ**



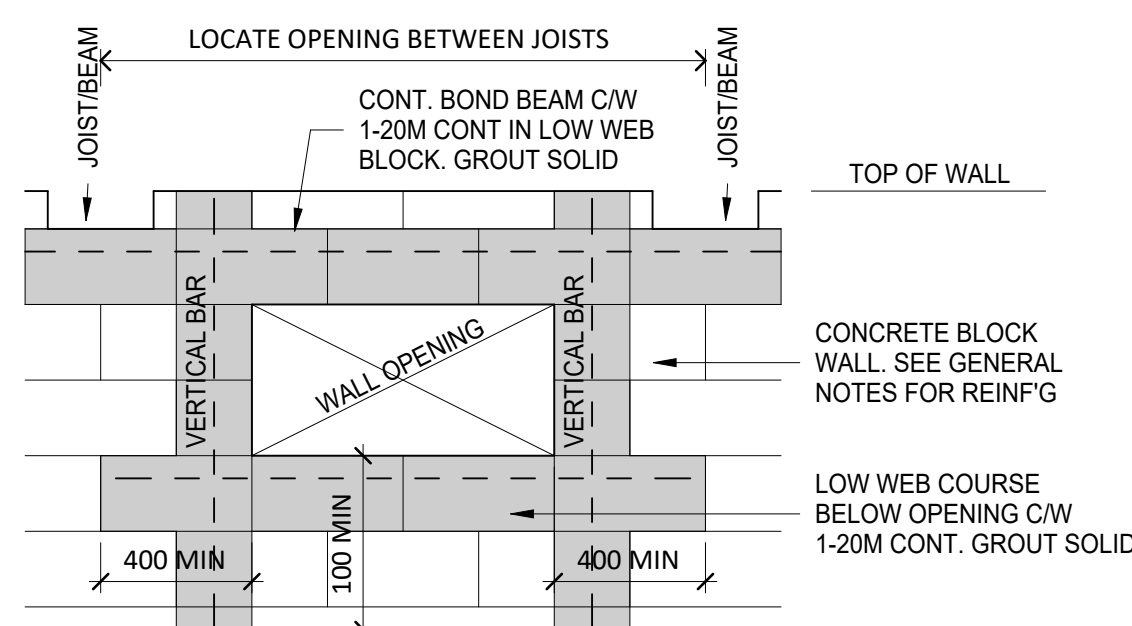
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL PARALLEL TO OWSJ**



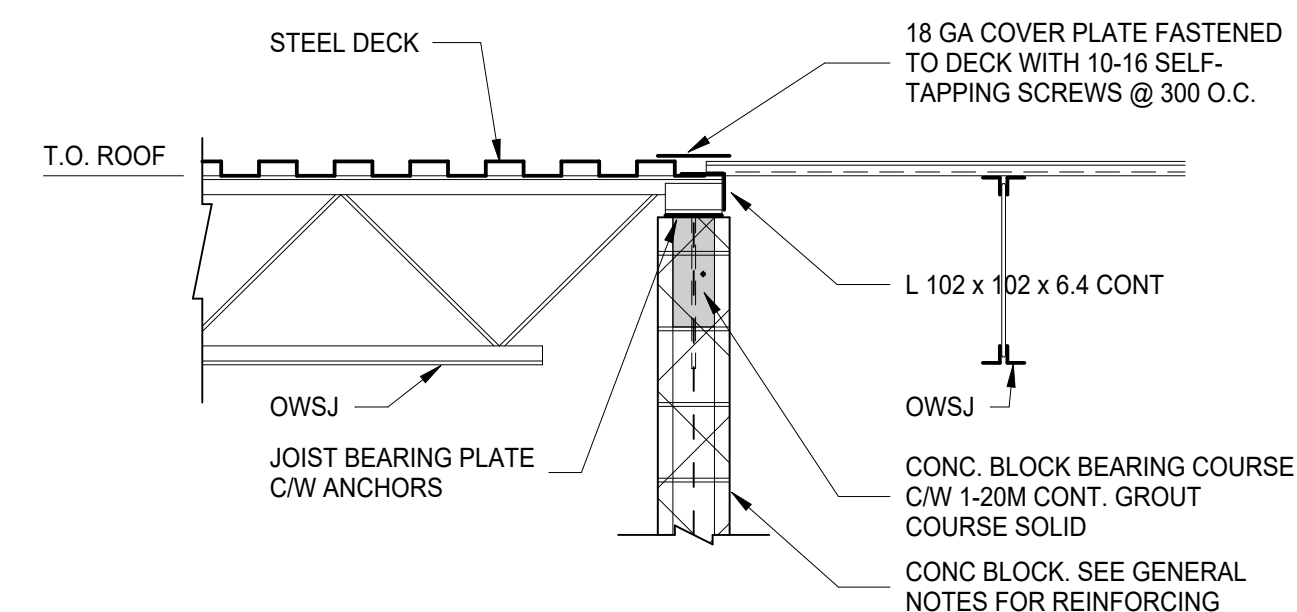
**NON-LOAD BEARING MASONRY WALL
LATERAL SUPPORT DETAIL UNDER STEEL BEAM**



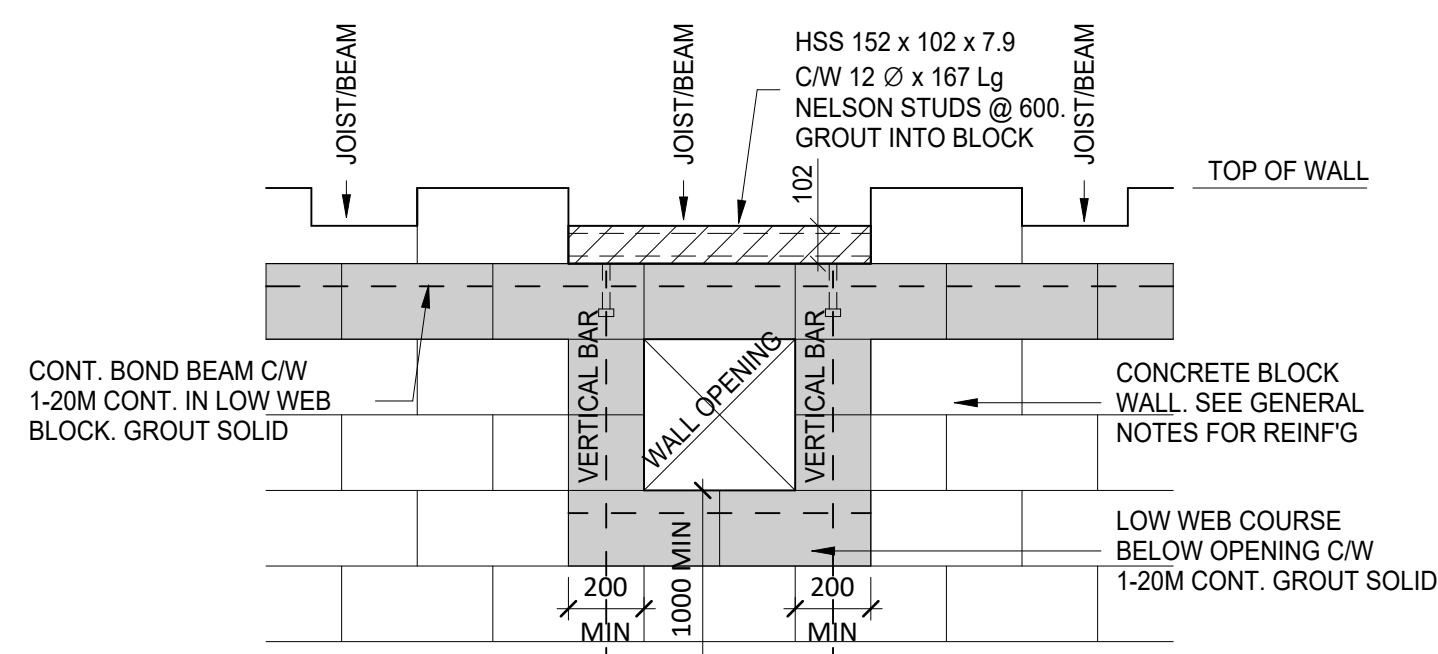
TYPICAL SECTION - LOAD BEARING BLOCK BELOW ROOF



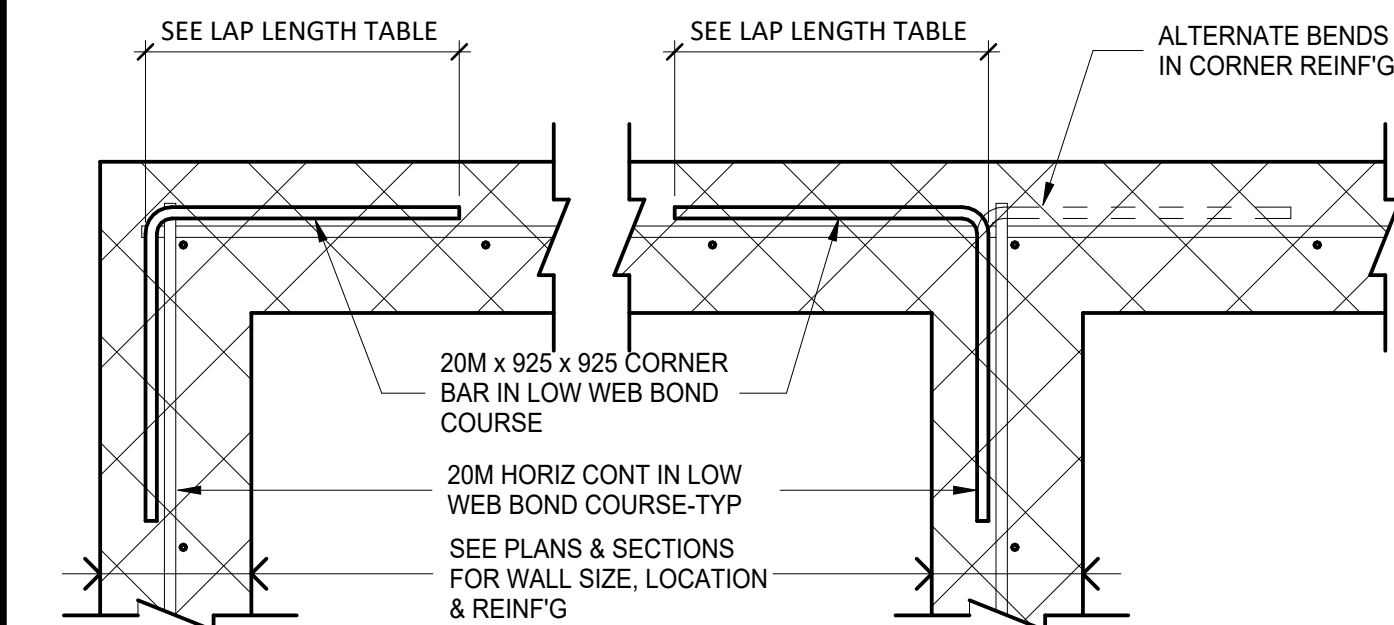
**ELEVATION - MECHANICAL OPENING THRU LOAD BEARING
CONCRETE BLOCK MASONRY (LOCATED BETWEEN JOISTS)**



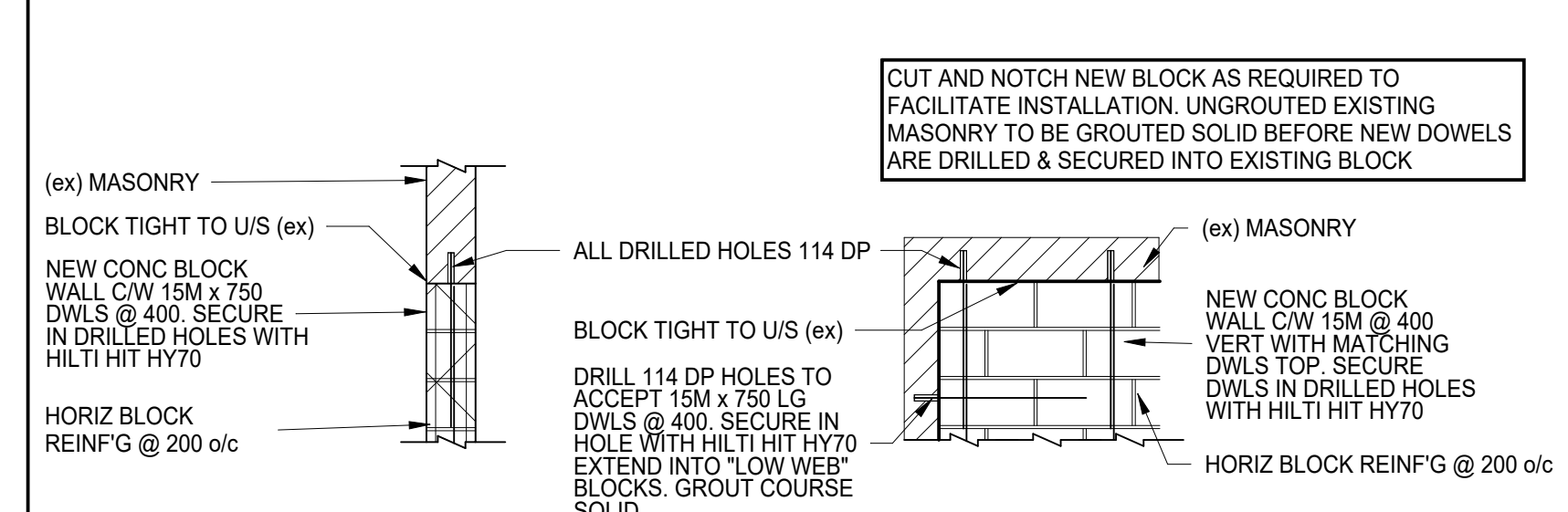
TYPICAL SECTION - LOAD BEARING BLOCK BELOW ROOF
DECK CHANGE DIRECTION



**ELEVATION - MECHANICAL OPENING THRU LOAD BEARING
CONCRETE BLOCK MASONRY (LOCATED BELOW JOISTS)**

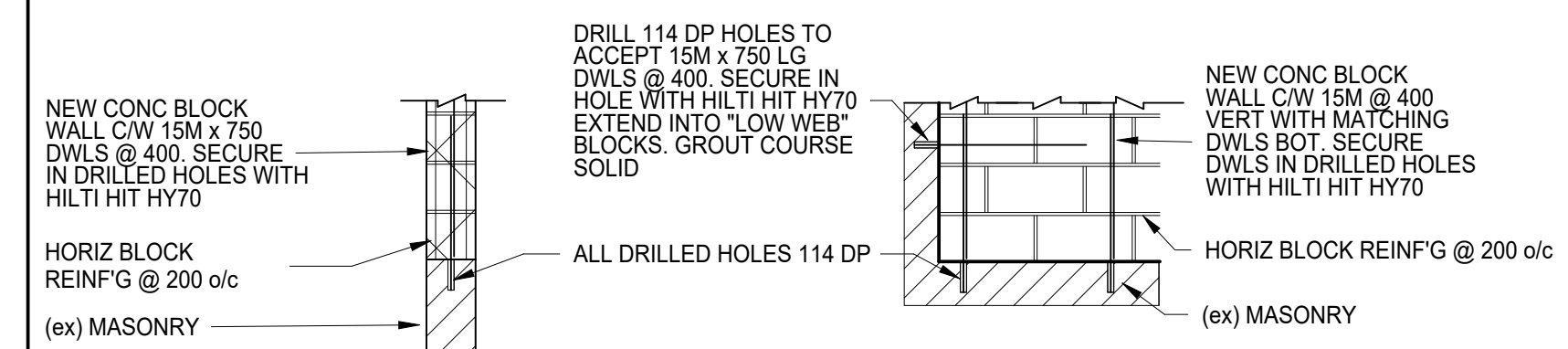


PLAN DETAIL - BLOCK WALL INTERSECTION REINFORCEMENT



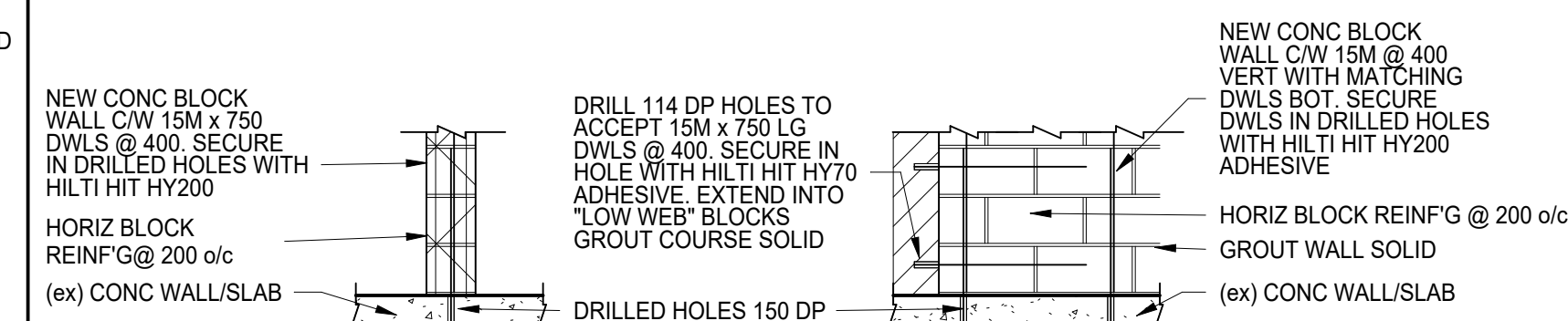
SECTION @ HEAD

ELEVATION @ HEAD & SIDE



SECTION @ SILL

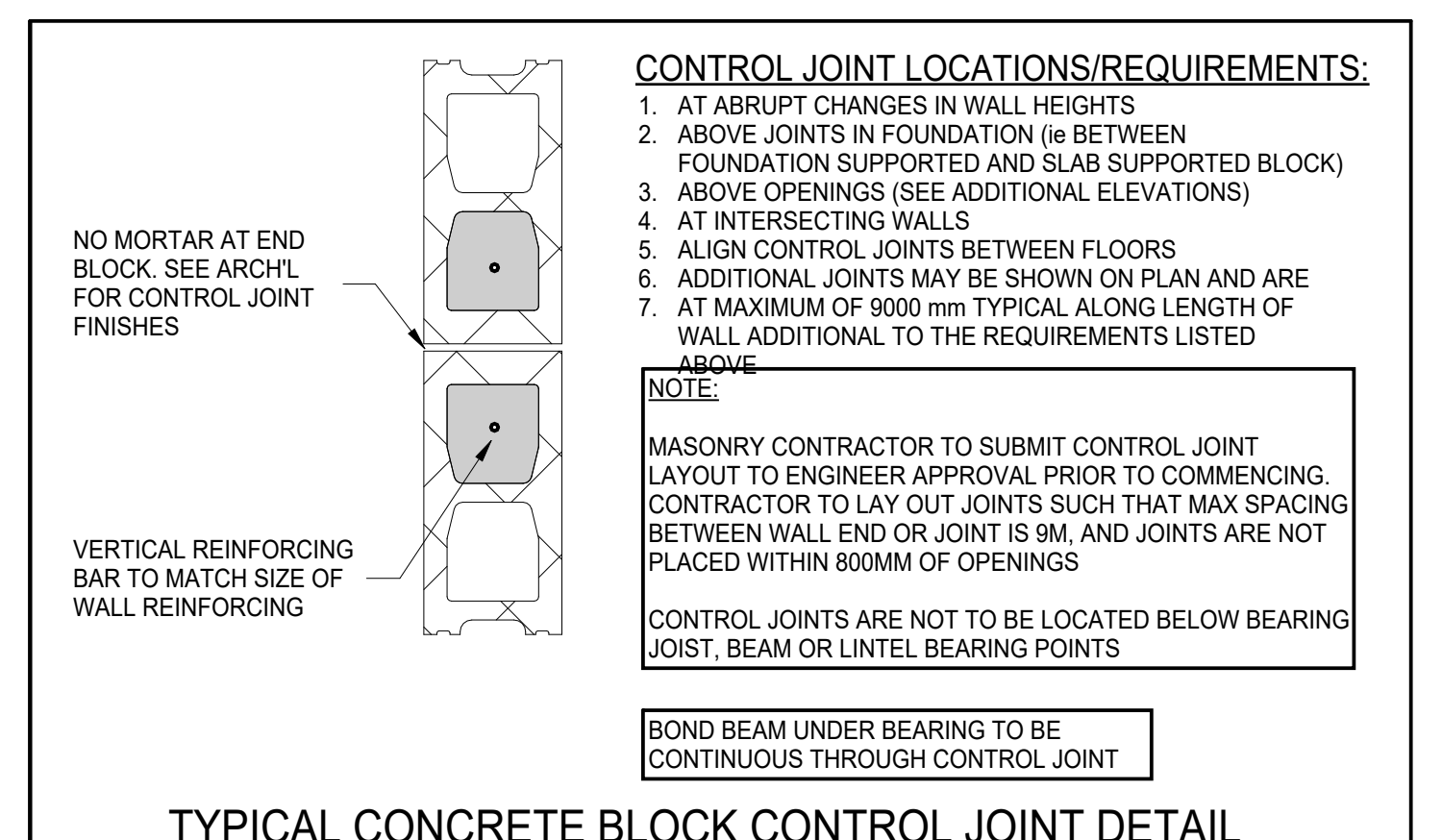
ELEVATION @ SILL & SIDE



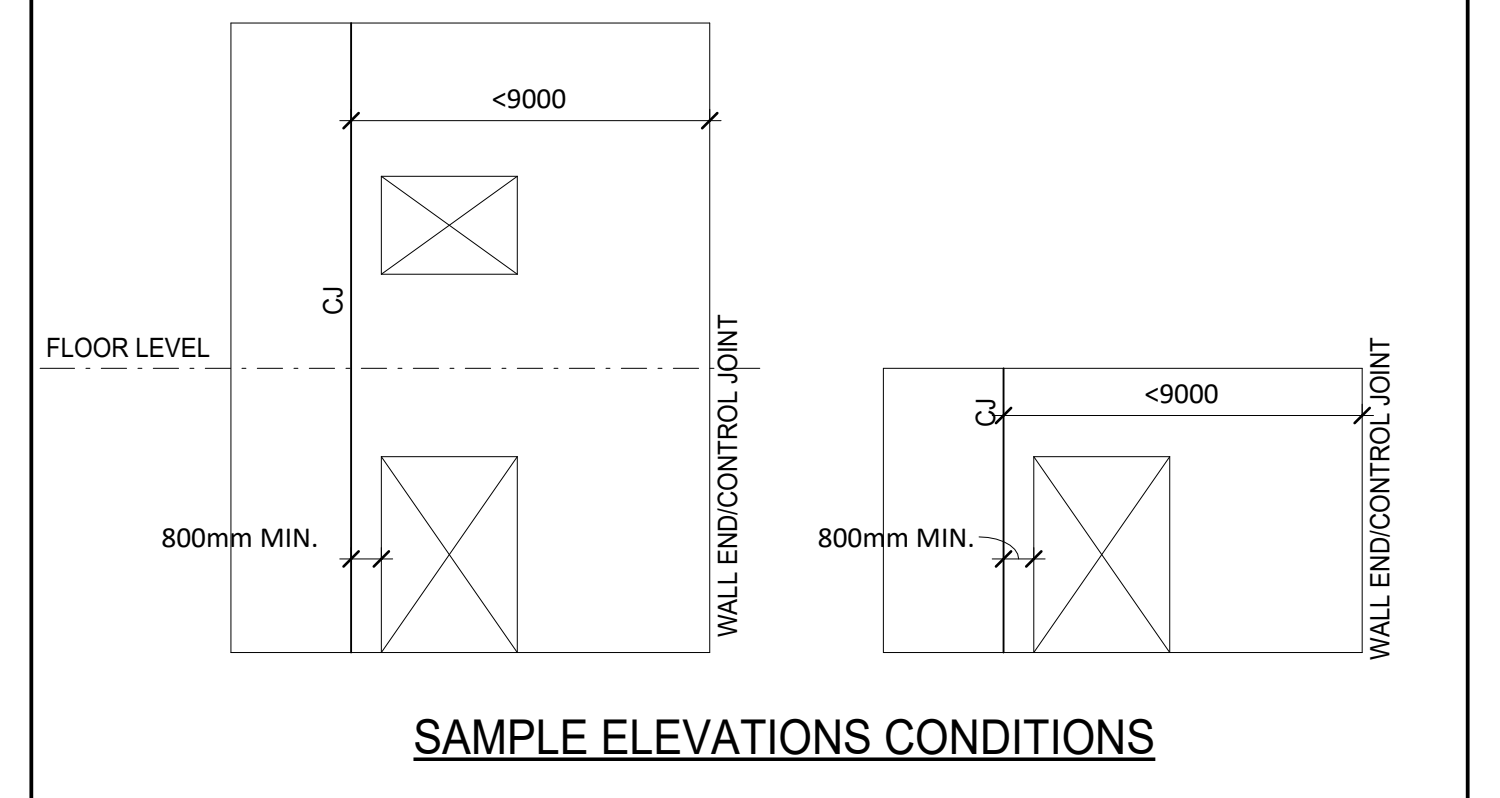
SECTION @ SILL

ELEVATION @ SILL & SIDE

DETAILS FOR INFILLING (ex) OPENINGS IN BLOCK WALLS
SEE DWG S100'S & ARCH'L DWGS FOR LOCATIONS OF OPENINGS TO BE INFILLED

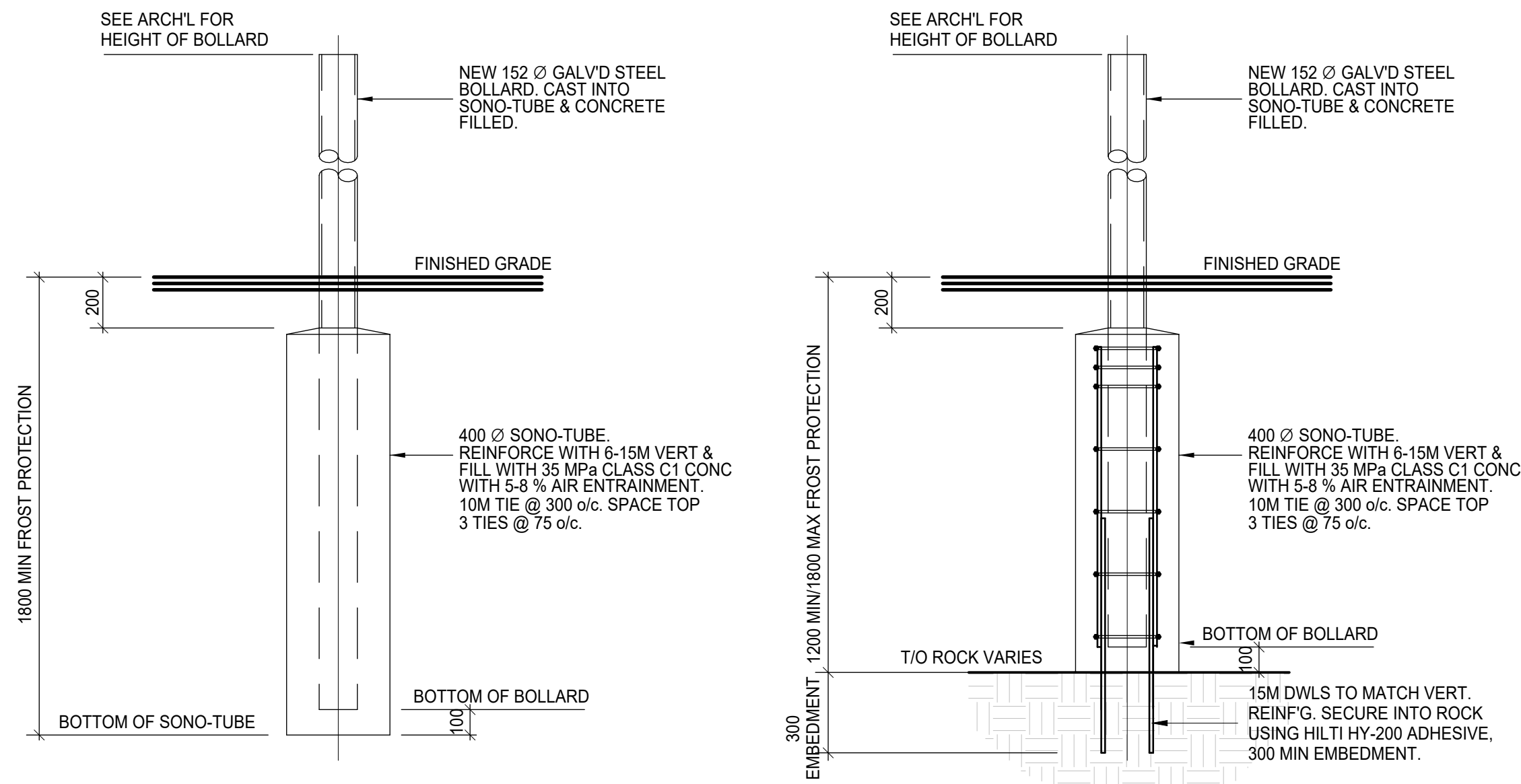
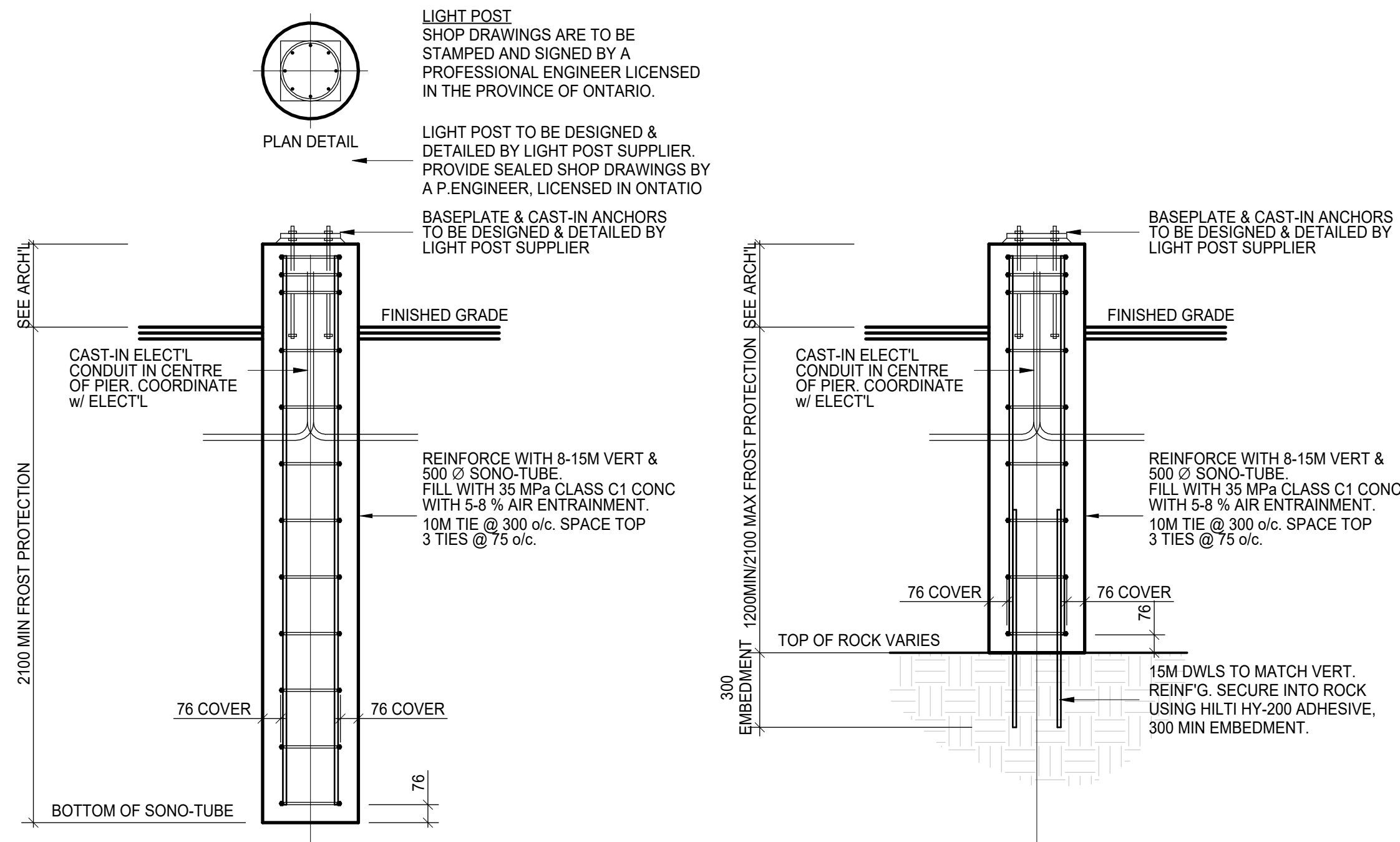


TYPICAL CONCRETE BLOCK CONTROL JOINT DETAIL



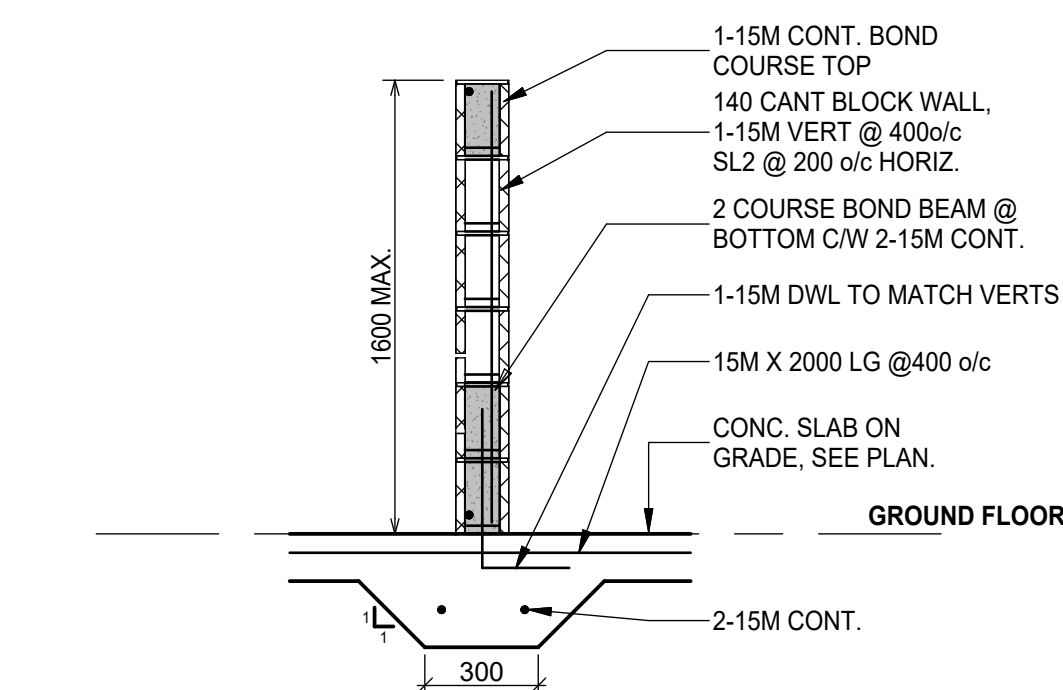
4	ISSUE FOR TENDER	2026-02-10
3	ISSUE FOR BUILDING PERMIT	2025-12-10
2	ISSUE FOR 80% REVIEW	2025-10-14
1	ISSUE FOR 50% REVIEW	2025-09-17

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4. DO NOT SCALE DRAWINGS

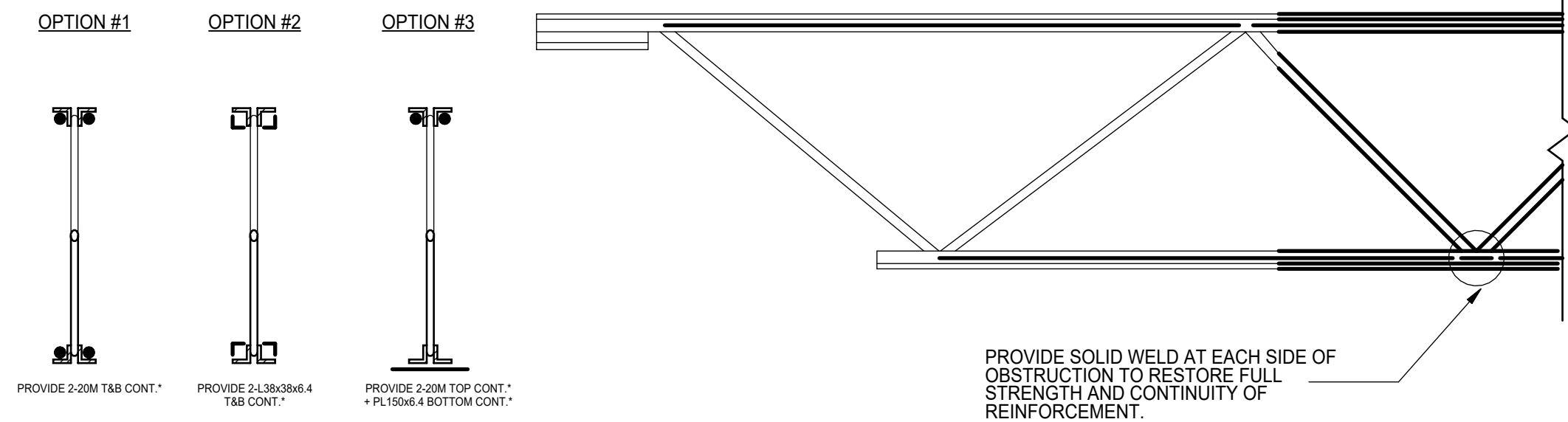


TYPICAL BOLLARD SECTION
COORDINATE EXACT LOCATIONS WITH ARCH'L DRAWINGS

TYPICAL BOLLARD SECTION ON ROCK
COORDINATE EXACT LOCATIONS WITH ARCH'L DRAWINGS



TYPICAL BLOCK HALF WALL SUPPORTS
COORDINATE EXACT LOCATIONS WITH ARCH'L DRAWINGS (IF REQUIRED)



NOTE: THE CONTRACTOR IS TO REVIEW SITE CONDITIONS TO DETERMINE WHICH OPTION IS THE MOST APPROPRIATE PER OWSJ. REINFORCING DETAILING SHALL BE PROVIDED FOR MIDDLE 80% OF SPAN LENGTH UIN.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR/ INSTALLER TO REVIEW AND INSPECT SITE CONDITIONS FOR ANY INTERFERENCES THAT WOULD PREVENT THE COMPLETION OF STRUCTURAL WORK. ANY INTERFERENCES, WHETHER IT BE MECH'L, ELECTR., ARCH'L, ETC. ARE TO BE REMOVED, THE REINSTATEMENT ONCE STRUCTURAL WORK IS COMPLETE.

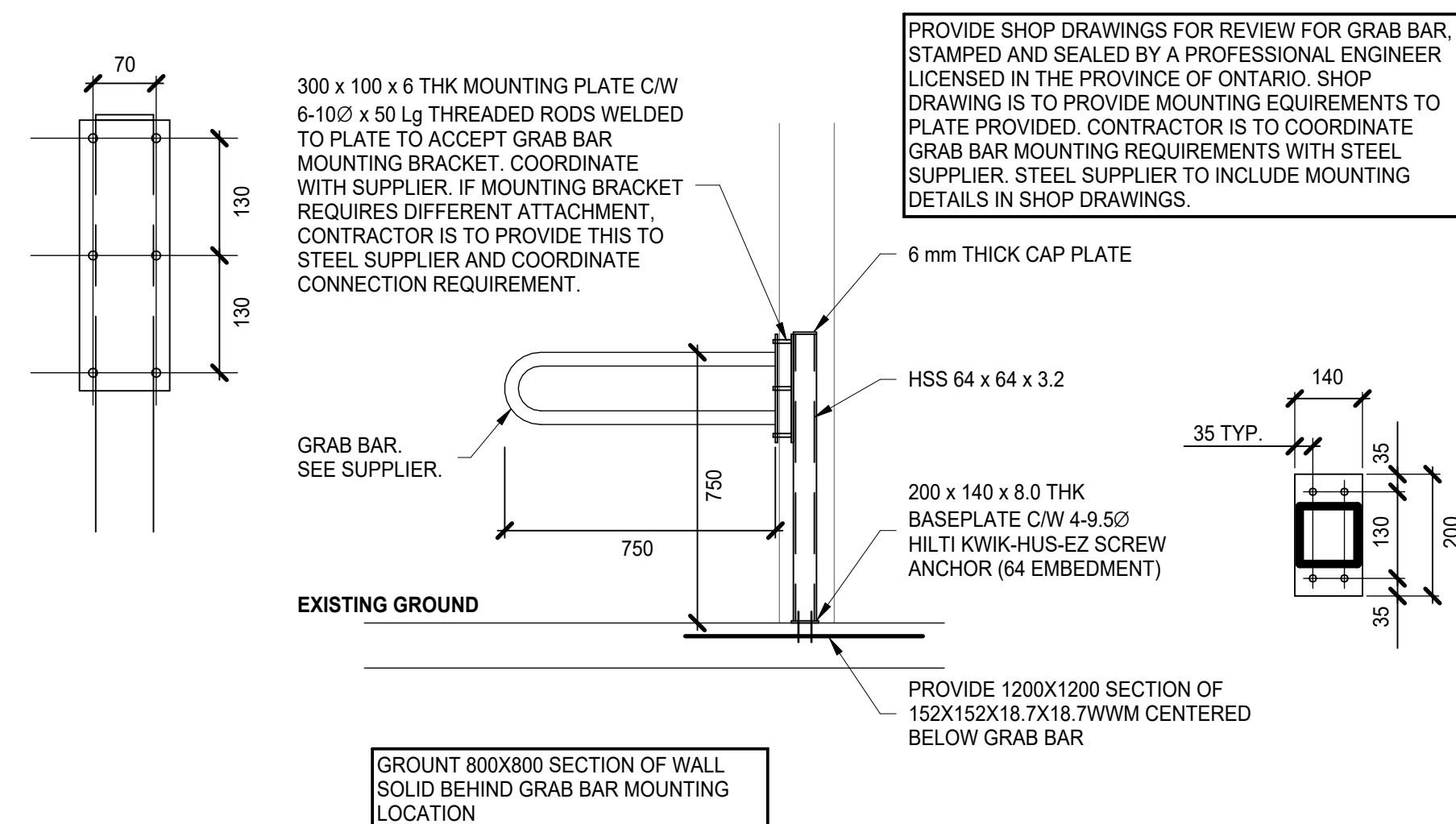
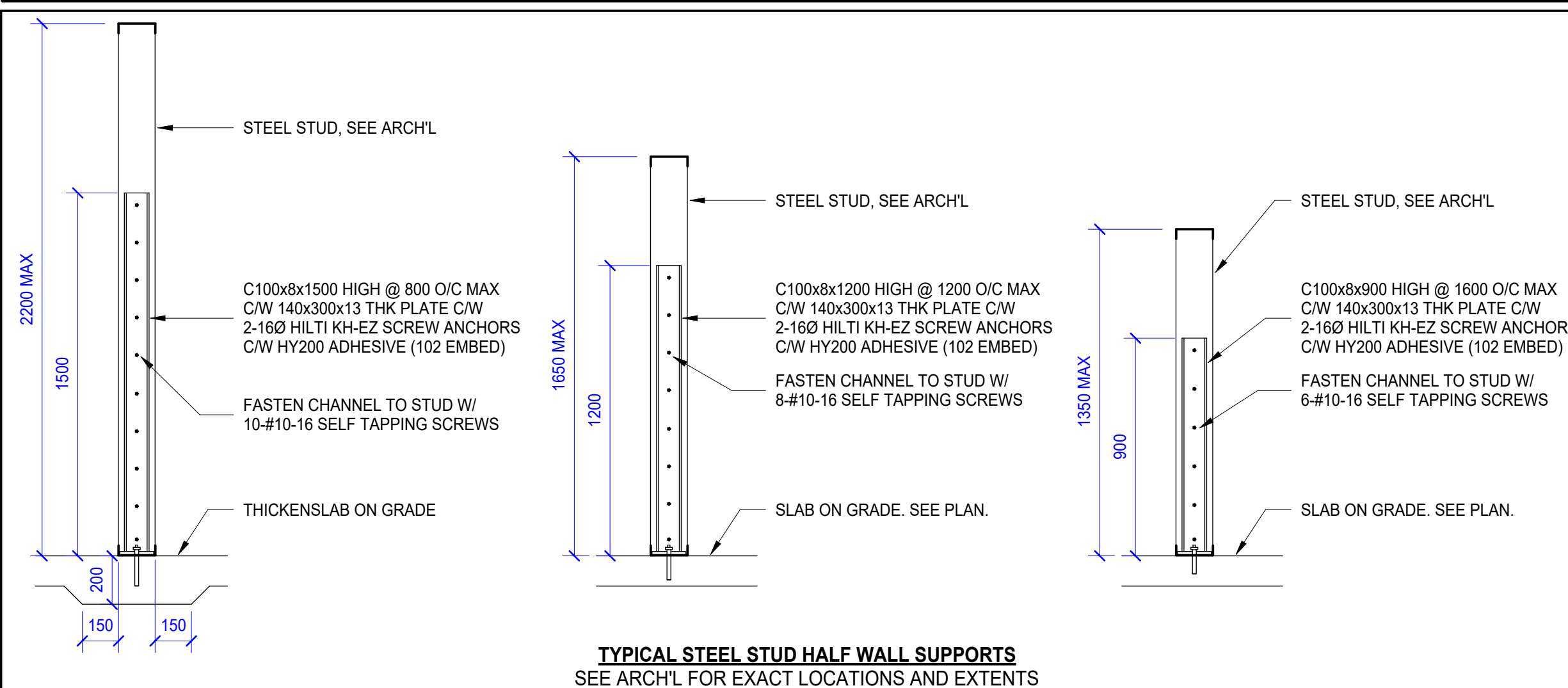
PROVIDE A MINIMUM 6mm WELD x 50mm LONG @ 300 o/c AND AT EACH END OF REINFORCEMENT.

STAMPED SHOP DRAWINGS ARE TO BE PROVIDED TO CUNLIFFE FOR REVIEW.

* WHERE OWSJ WEB MEMBERS OBSTRUCT REINFORCEMENT CONTINUITY, REINFORCEMENT IS TO BE WELDED SOLID AT EACH SIDE OF OBSTRUCTION TO RESTORE FULL STRENGTH AND CONTINUITY OF REINFORCEMENT.

NOTE: JOIST SECTION AND ELEVATION IS USED AS A REPRESENTATION ONLY.

TYPICAL REINFORCEMENT DETAIL R1



TYPICAL DETAIL FOR FOLD DOWN GRAB BAR
COORDINATE LOCATIONS & SPACING WITH ARCH'L

3	ISSUE FOR TENDER	2026-02-10
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4. DO NOT SCALE DRAWINGS

PROJECT
CAMBRIDGE PUBLIC SCHOOL

ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
TYPICAL DETAILS

DRAWN
A.M.

REVIEWED
J.C.

SCALE
As indicated

ENGINEERS SEAL
25-121

SHEET No.
S06

REVISION No.

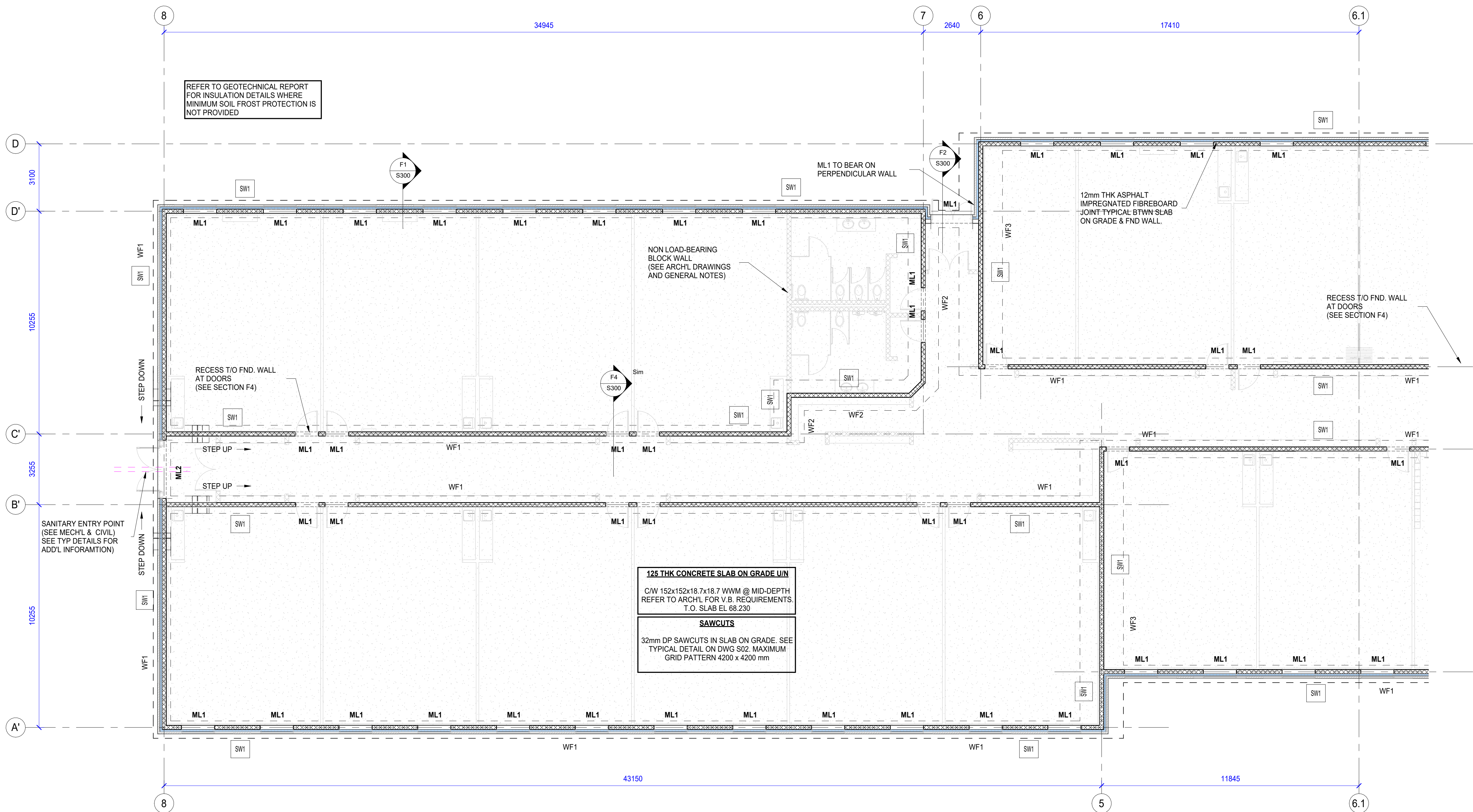
NOTES:

CONCRETE COMPRESSIVE STRENGTH

INTERIOR SLAB ON GRADE - 25 MPa TYPE N-CF INTERIOR
EXTERIOR SLABS, CURBS AND SIDEWALKS - 32 MPa CLASS C2
INTERIOR FOUNDATION WALLS - 25 MPa TYPE N
PERIMETER FOUNDATION WALLS & Curbs - 25 MPa TYPE F2
INTERIOR FOOTINGS - FOOTINGS - 25 MPA TYPE N

FOUNDATION NOTES

1. ALL FOOTINGS ARE TO BE CENTERED ON COLUMN, WALLS OR FOUNDATIONS UNLESS NOTED OTHERWISE.
2. ALL COLUMNS ARE TO BE CENTERED ON GRIDLINES UNLESS NOTED OTHERWISE.



4	ISSUE FOR TENDER	2026-02-10
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4. DO NOT SCALE DRAWINGS

CUNLIFFE & ASSOCIATES
CONSULTING STRUCTURAL ENGINEERS
200-1550 CARLING AVE
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CANADA K1Z 8S8
T: 613-729-7242
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E: cunliffe@cunliffe.ca
W: www.cunliffe.ca

PROJECT
CAMBRIDGE PUBLIC SCHOOL

ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
GROUND FLOOR PLAN
(PART A)

DRAWN
A.M.

REVIEWED
J.C.

SCALE
1 : 100

ENGINEERS SEAL
PROJECT No.
25-121

SHEET No.
S100

REVISION No.

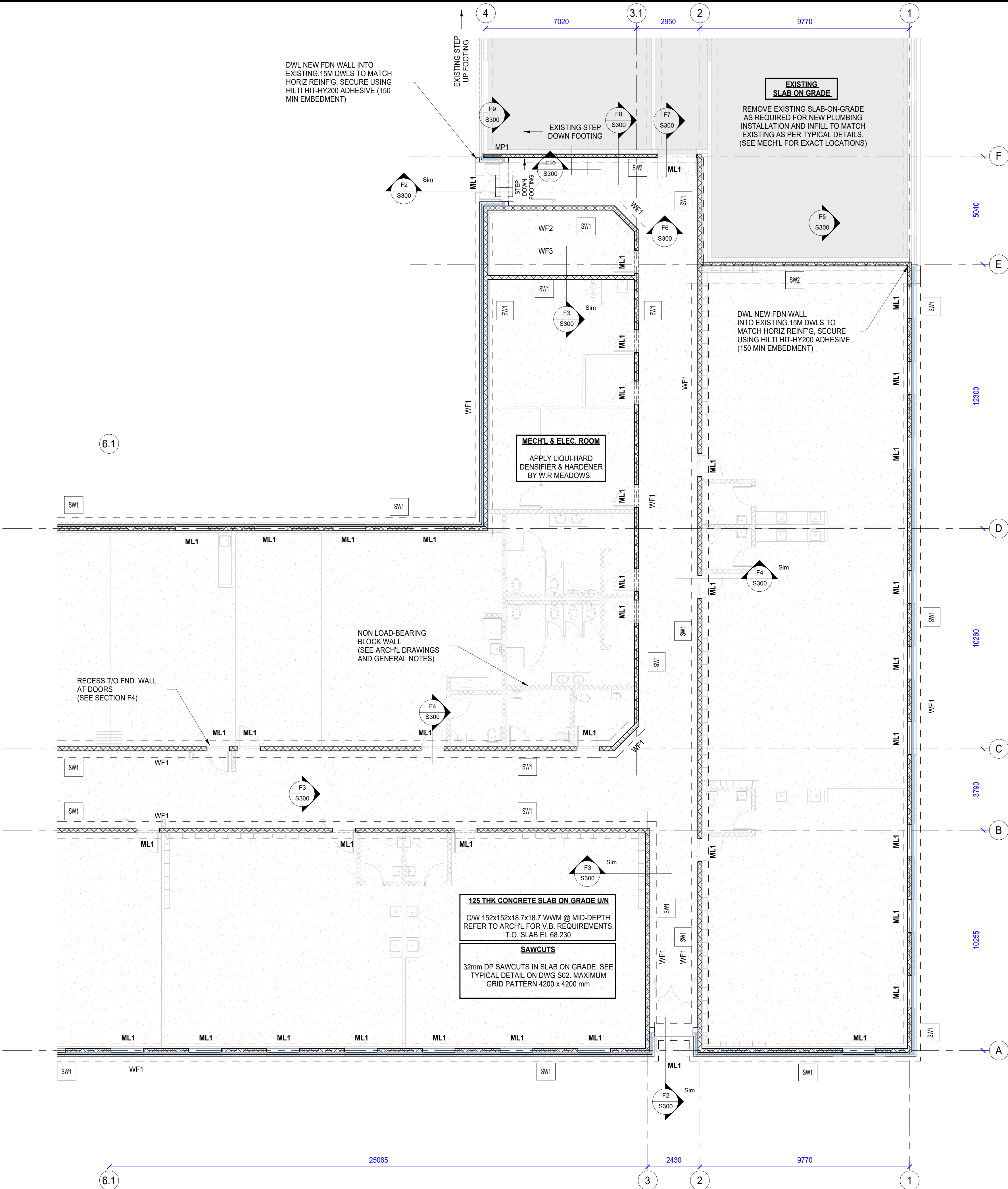
NOTES:

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PROJECT
CAMBRIDGE PUBLIC SCHOOL

ARCHITECT
N45 ARCHITECTURE INC.

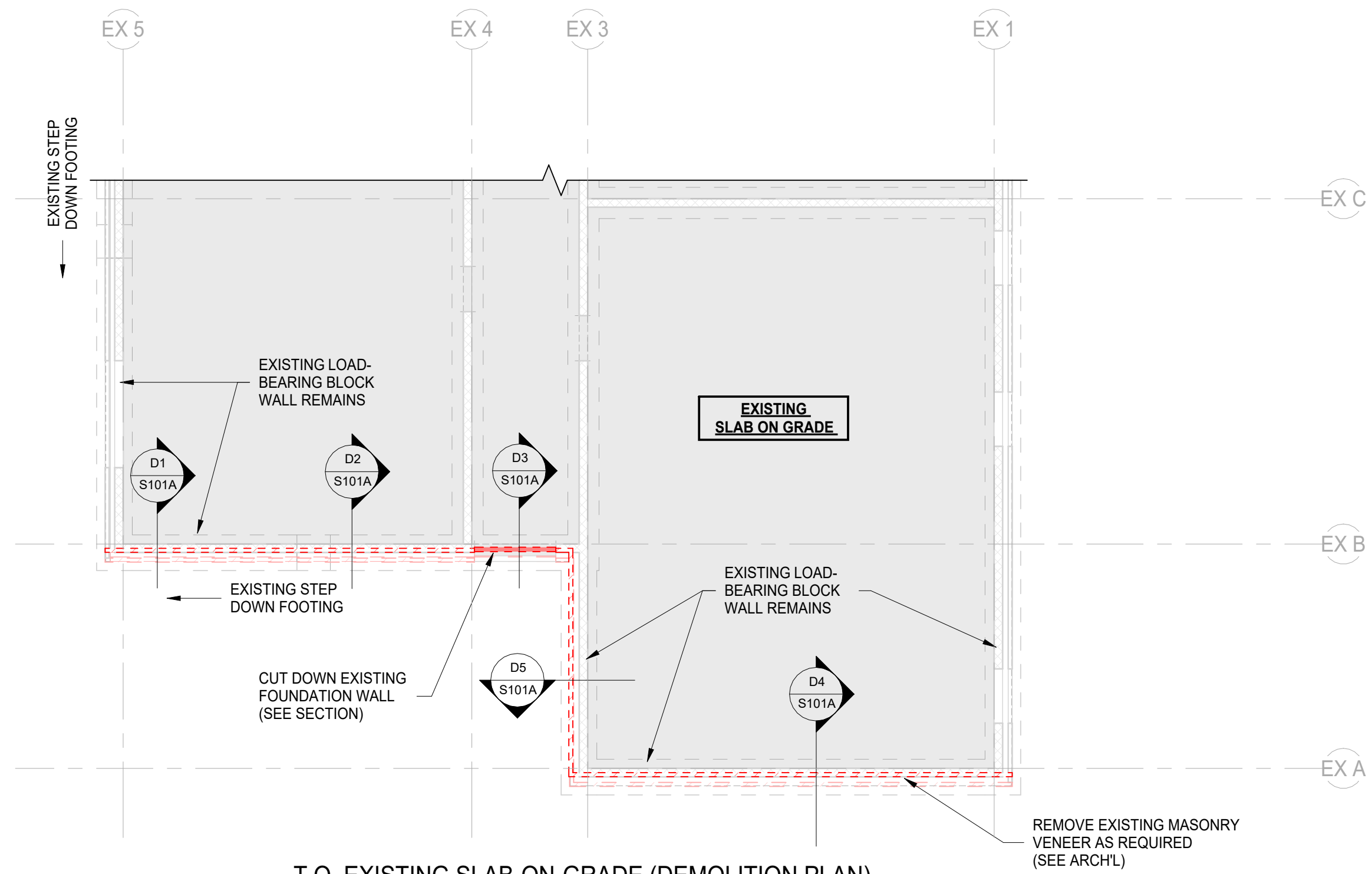
DRAWING TITLE
GROUND FLOOR PLAN (PART B)

DRAWN: A.M. REVIEWED: J.C. SCALE: 1 : 100

ENGINEERS SEAL PROJECT No. 25-121

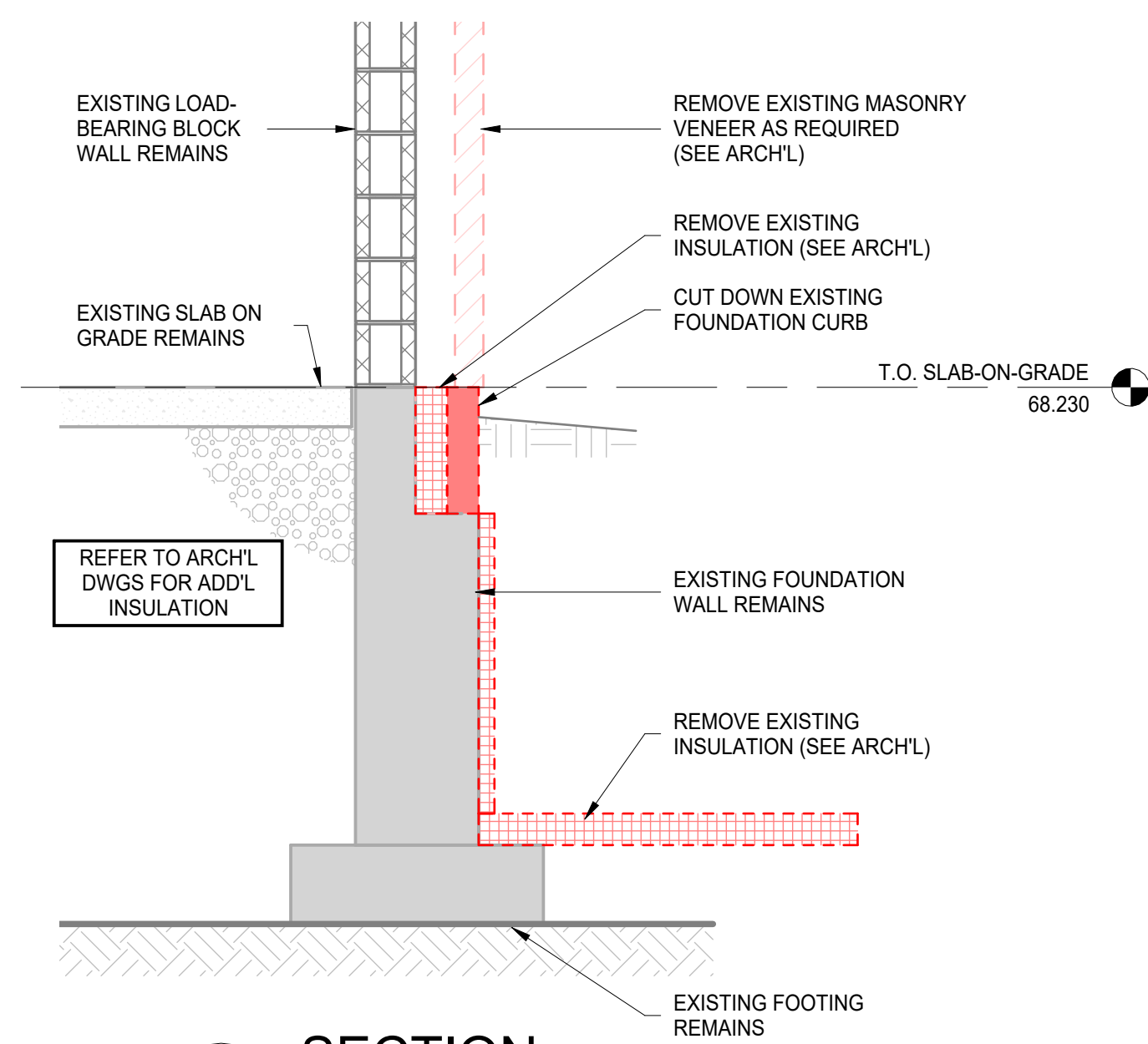
SHEET No. S101

REVISION No.

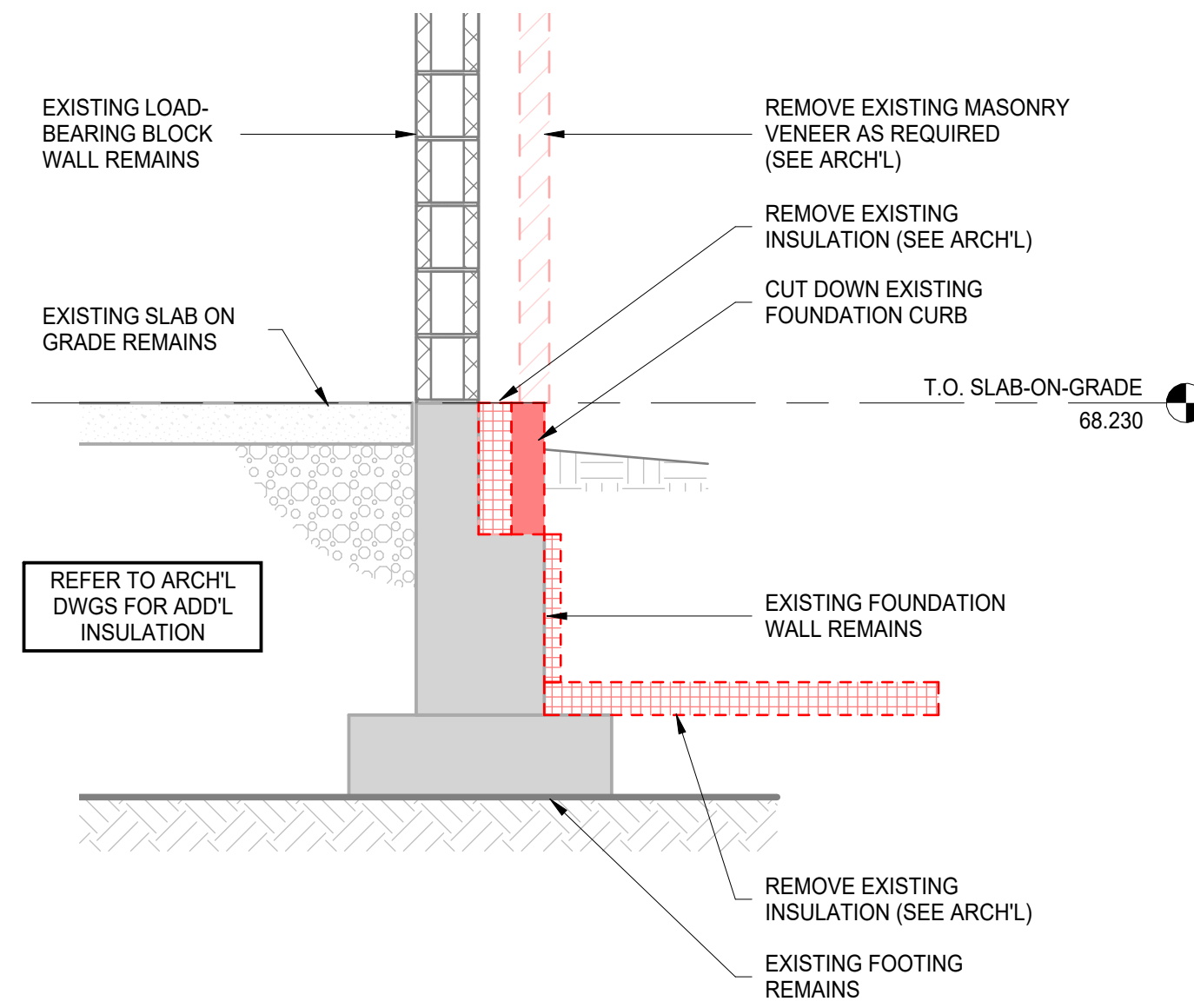


T.O. EXISTING SLAB-ON-GRADE (DEMOLITION PLAN)

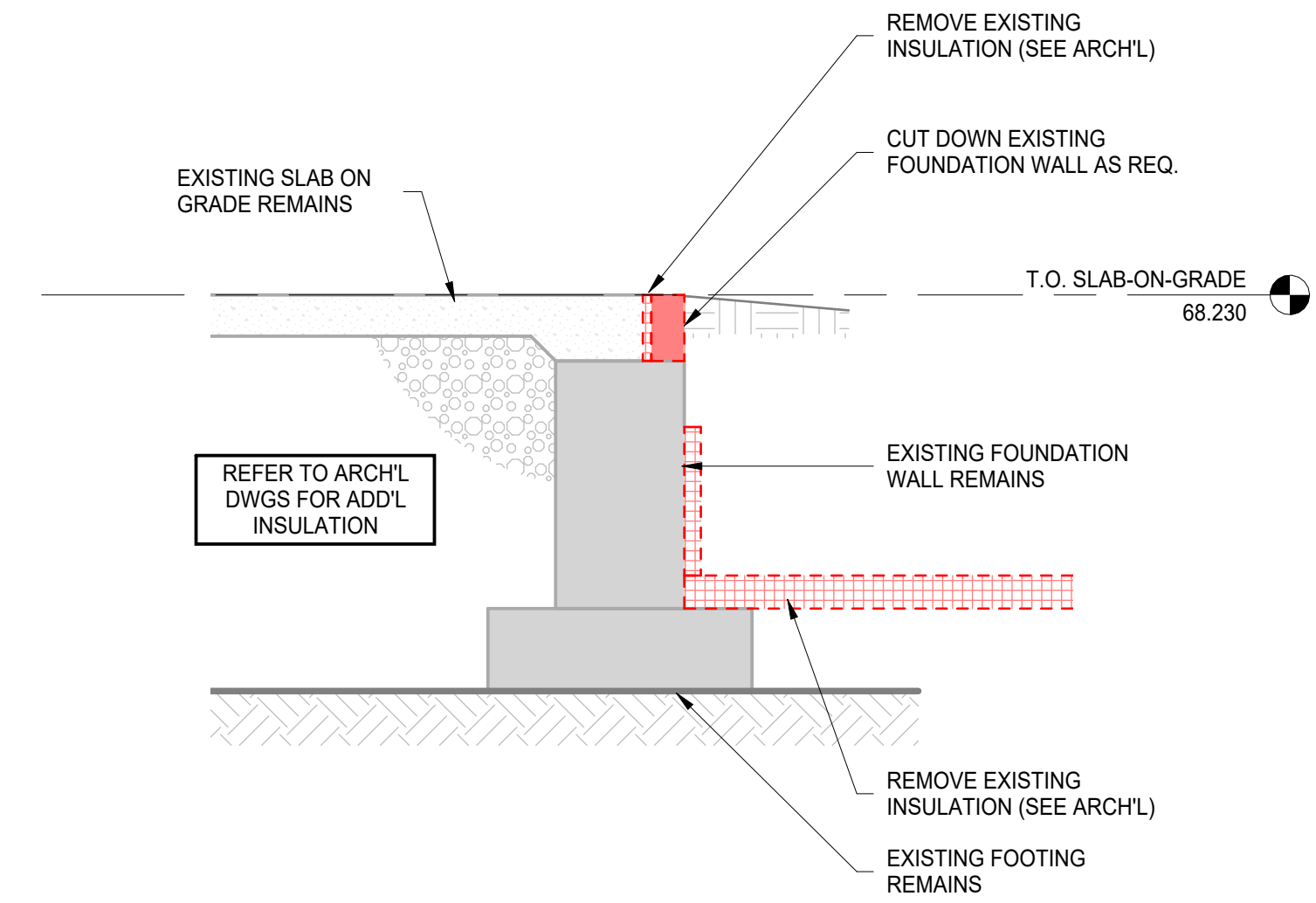
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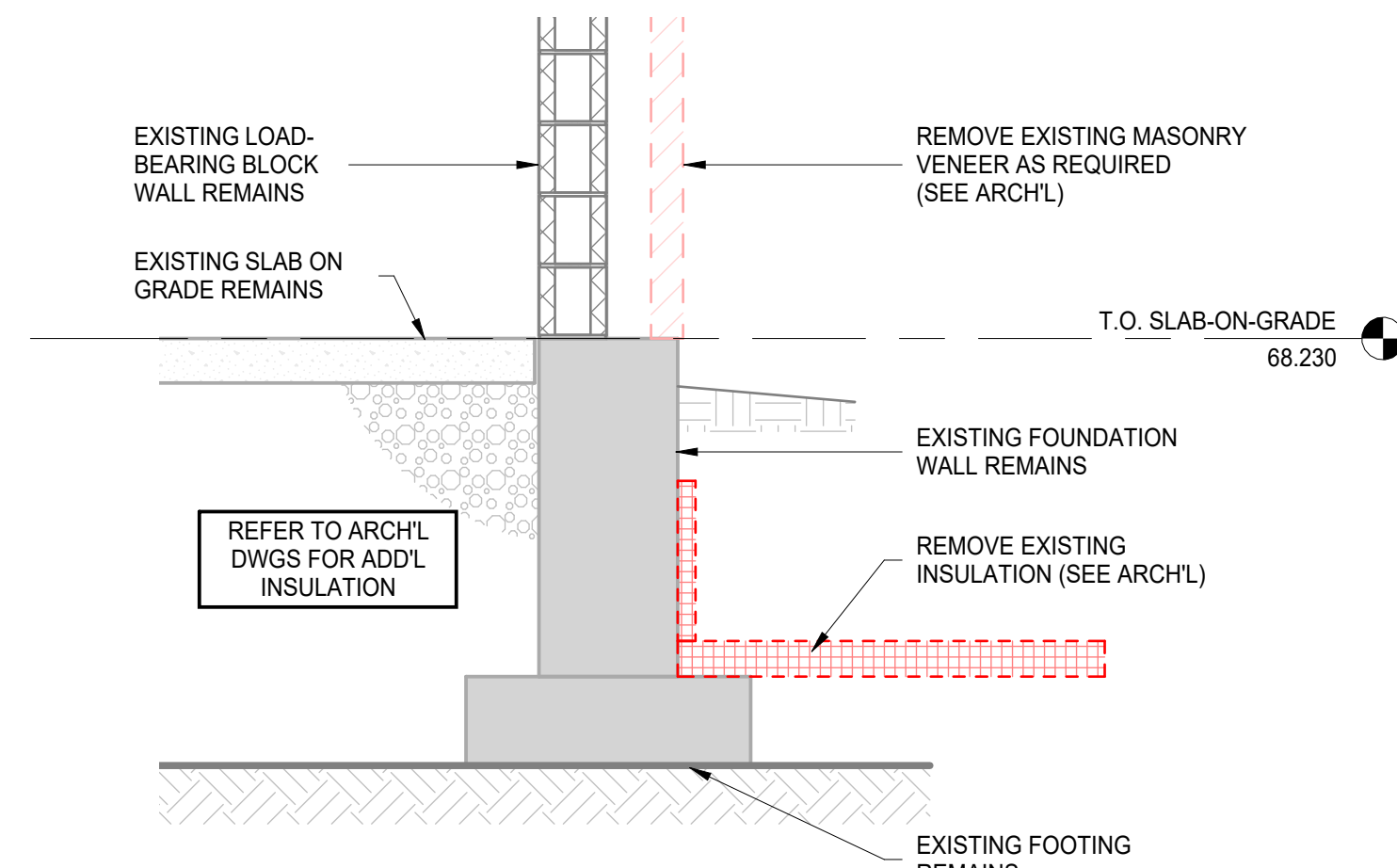
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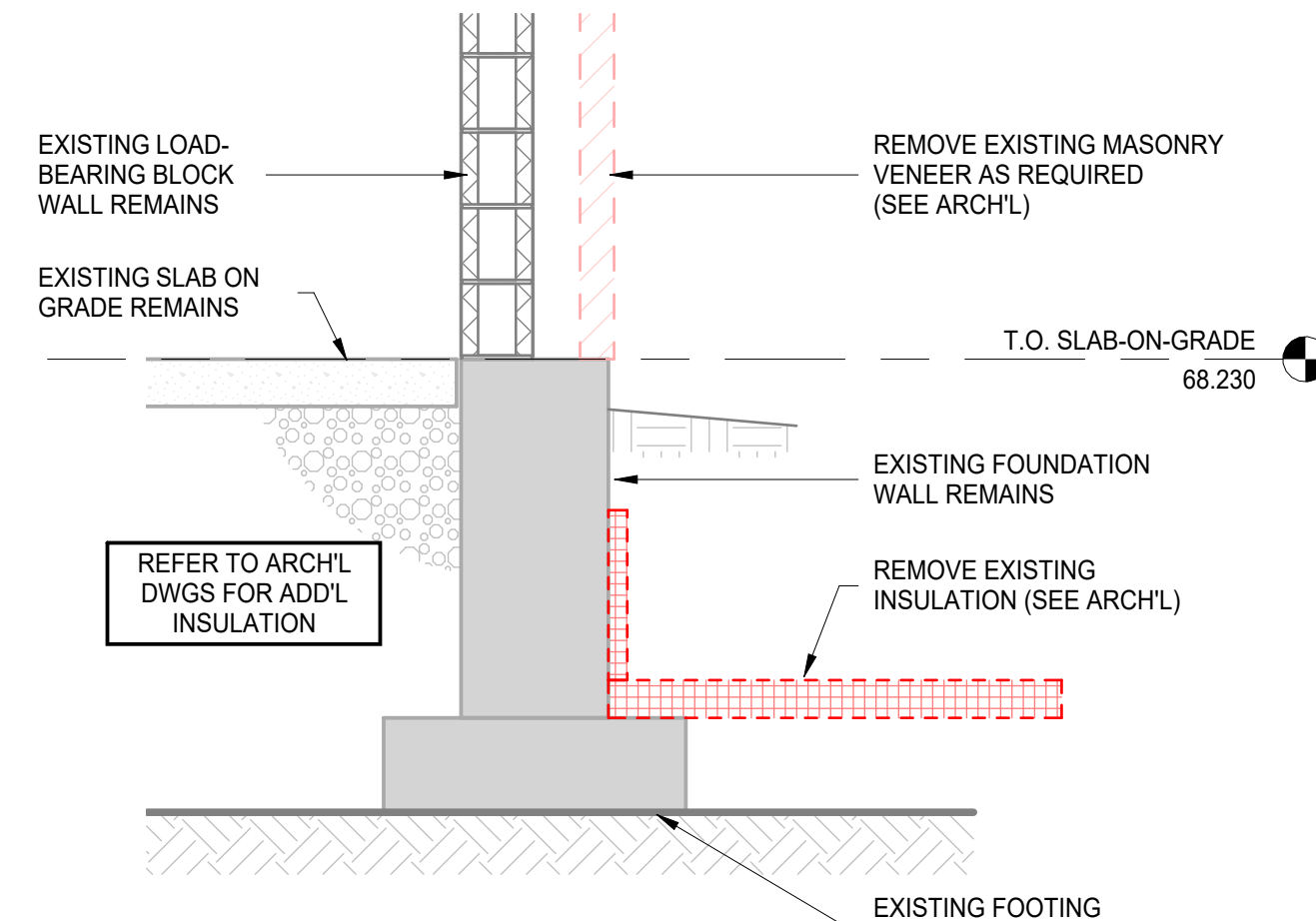
SECTION D2
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SECTION D3
1 : 20



SECTION D4
1 : 20



SECTION D5
1 : 20

4	ISSUE FOR TENDER	2026-02-10
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W: www.cunliffe.ca

PROJECT
CAMBRIDGE PUBLIC SCHOOL

ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
**EXISTING GROUND FLOOR
DEMOLITION PLAN**

DRAWN A.M.	REVIEWED J.C.	SCALE As indicated
ENGINEERS SEAL	PROJECT No. 25-121	SHEET No. S101A
		REVISION No.

1. REFER TO ARCHITECTURAL DRAWINGS FOR SUPPLEMENTARY INFORMATION
AND ALLOW FOR ARCHITECTURAL REVIEW PRIOR TO FABRICATION.
2. OWSJS ARE TO BE DESIGNED FOR A MAXIMUM DEFLECTION DUE
TO LIVE LOADS / SNOW OF **L/360 (ROOF) OR 25mm**
3. NOTE THAT THE SNOW LOADS INDICATED MAY BE REDUCED BY THE RATIO
0.9/1.5 IN ACCORDANCE WITH **IBC 4.1.6.2 (FOR CALCULATION OF DEFLECTIONS)**
4. OWSJS SHALL BE DEPTHS - 100 mm DP U/LN
5. MINIMUM WEIGHT OF OWSJS SUPPORTING FLOORS TO BE IN-KEEPING WITH FIRE
RESISTANCE REQUIREMENTS SPECIFIED BY THE ARCHITECT. CERTIFY THAT
JOIST DESIGN MEETS THE REQUIREMENTS OF THE ULC OR UL DESIGN SPECIFIED
PRIMER APPLIED TO STRUCTURAL STEEL IS TO BE COMPATIBLE WITH SPRAY-ON
FIRE PROTECTION.
6. ENSURE THAT WELDING PROCEDURES DO NOT DAMAGE OWSJS.
7. ALLOW FOR COORDINATION WITH MECHANICAL AND PLUMBING/FIRE
PROTECTION CONTRACTOR INCLUDING HANGING PIPE LOADS ATTACHED TO
OWSJS BOTTOM CHORD.
8. OWSJS DESIGNER TO ENSURE THE SHOE AND TOP CHORD ARE SUFFICIENT TO
TRANSFER THE STEEL DECK IN-PLANE SHEAR CAPACITY (ROLL OVER
RESISTANCE) TO THE SUPPORT MEMBER.
9. CORRIDOR AND MECHANICAL ROOM OWSJS TO BE DESIGNED FOR AN
ADDITIONAL CONCENTRATED LOAD OF 1.0 kN TO BE APPLIED ANYWHERE ALONG
BOTTOM CHORD.

TJ = TIE JOIST
ROF = ROLL OVER FORCE

1. OWS/ MANUFACTURER TO PROVIDE ADDITIONAL BRIDGING AS REQ'D BY WIND SUCTION ANALYSIS OR TO FACILITATE ERECTION
2. BRIDGING IS TO BE EQUALLY SPACED OVER LENGTH OF OPEN WEB STEEL JOISTS.
3. PROVIDE DIAGONAL BRIDGING AT BEAMS & AT END SPACES. CONNECT BRIDGING TO BLOCK WALL.
4. OWS/ MANUFACTURER IS TO SPECIFY SIZE OF BRIDGING ANGLES BUT MINIMUM SIZE IS TO BE L35x35x3.
5. BRIDGING IS TO BE NEATLY ERECTED IN ROOMS WITHOUT CEILINGS.
6. THE BRIDGING LINES INDICATED ON THE PLAN DRAWINGS SHALL BE CONSIDERED A MINIMUM.

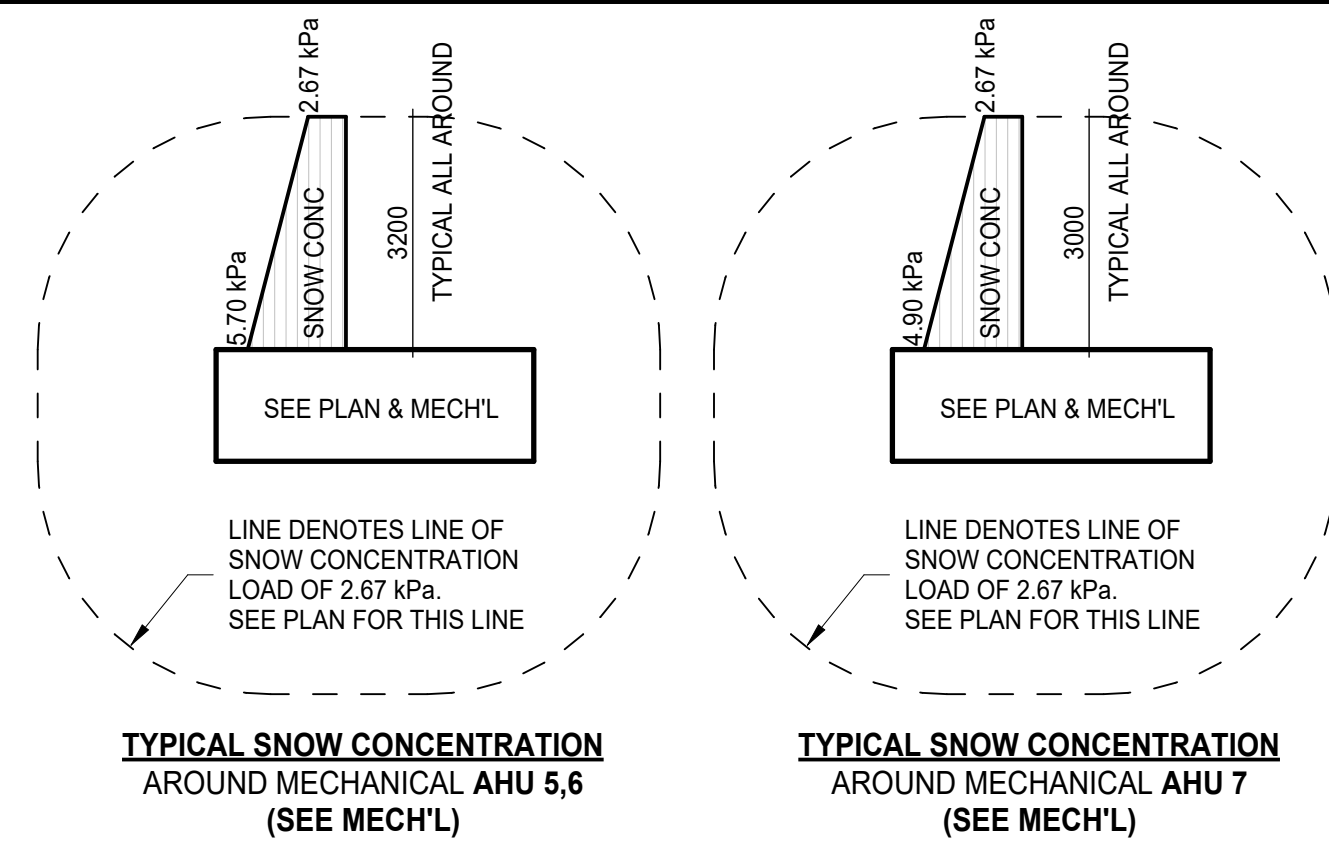
1. STEEL BEAMS WHICH ARE W410 OR DEEPER AND ARE TO RECEIVE FIRE PROTECTION ARE TO BE ADDRESSED IN ONE OF THE FOLLOWING MANNERS:
 1. NO PRIME PAINT ON WEBS
 2. SPECIAL PRIMER APPROVED FOR USE WITH FIRE PROTECTION.
 3. METAL LATHE AFFIXED TO THE WEBS TO HOLD THE FIRE PROTECTION.
 4. COORDINATE REQUIREMENTS WITH FIRE PROTECTION SUPPLIER.
2. PROVIDE 2-12mm STIFFENER PLATES EACH SIDE OF ALL BEAM WEBS WHICH ARE CONTINUOUS OVER SUPPORTS (ie COLUMNS) SEE TYPICAL DETAILS

1. SEE TYPICAL DETAILS FOR MECH'L UNIT SUPPORT & MECH'L OPENING FRAMING UNLESS NOTED
2. WHEREVER POSSIBLE MECHANICAL PIPING MUST BE SUPPORTED FROM OWSJ TOP CHORD. DO NOT SUPPORT FROM OWSJ BOTTOM CHORD UNLESS SPECIFICALLY APPROVED BY OWSJ MANUFACTURER. DO NOT HANG FROM TRUSS DECK SUPPORTS FOR OR NEAR OWSJ TOP CHORD PANEL POINTS IS PREFERRED. OWSJ MANUFACTURER IS TO COMMENT ON PERMISSIBILITY OF LOCATING PIPING SUPPORTS BETWEEN TOP CHORD PANEL POINTS.
3. MECHANICAL OPENINGS SHOWN ON THIS PLAN ARE 300 x 300 mm IN SIZE OR LARGER. SEE MECH'L, ELECTR'L & ARCH'L DWGS FOR SMALLER OPENINGS. CONFIRM SIZE OF OPENINGS WITH MECH'L DWGS. SEE TYPICAL DETAILS FOR ADDITIONAL OPENING FRAMING UNLESS NOTED.
4. MECHANICAL CONTRACTOR TO COORDINATE ALL MECH'L LOADING WITH OWSJ SUPPLIER.

ROOFING & INSULATION	0.60 kPa
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15
MECH'L / ELECT'L / MISC	0.25
PV SOLAR	0.35
<hr/>	
DEAD LOAD	1.70 kPa
SNOW LOAD	2.67 kPa
<hr/>	
TOTAL LOAD	4.37 kPa (OR DL + SNOW)

MECH'L / ELECT'L	0.80 kPa
ROOFING & INSULATION	0.60
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15
PV ALLOWANCE	0.35

MECH'L / ELECT'L	2.80 kPa
CONC. CURB (AVG) / LEVELING	2.00
62mm CONC. SLAB	1.70
ROOFING & INSULATION	0.60
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15
DEAD LOAD	7.60 kPa
LIVE LOAD	2.67 kPa
TOTAL LOAD	10.27 kPa

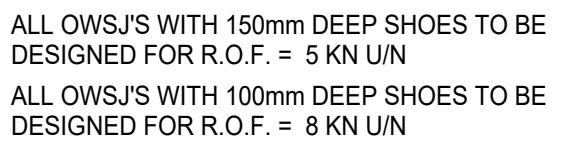
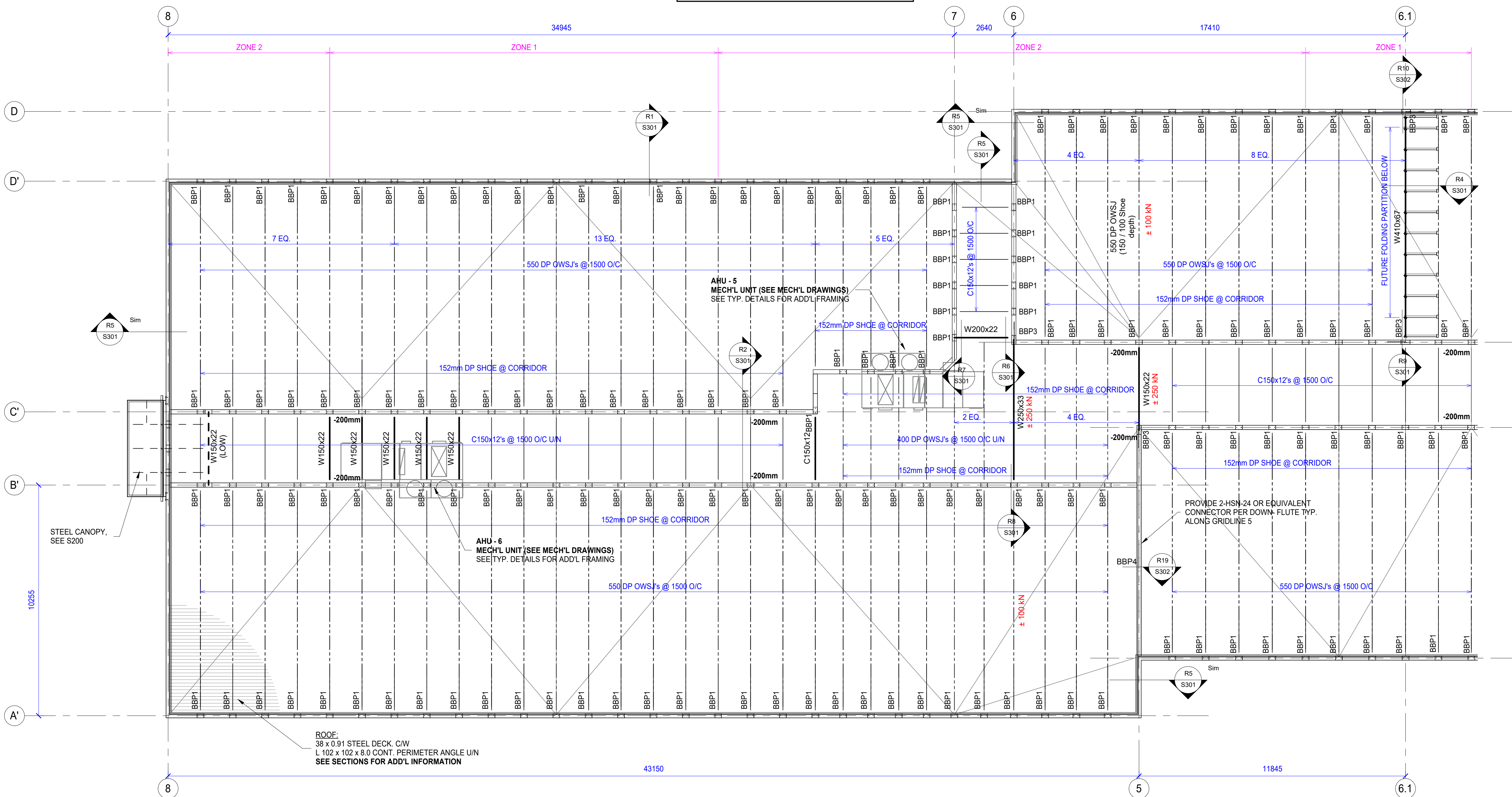


WEIGHT = ± 4360 lb.
DIMENSIONS = ±187" x ±93" x ±70"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR
TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

WEIGHT = ± 4450 lb.
DIMENSIONS = ±187" x ±93" x ±70"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR
TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

WEIGHT = ± 3800 lb.
DIMENSIONS = ±177" x ±96" x ±60"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR
TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

1. MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
2. SEE DETAILS ON S04 FOR ADDITIONAL FRAMING



ALL SOLID WEB JOISTS DEEPER THAN 100 mm AND BEARING ON A STEEL BEAM IN LINE WITH AN OWSJ ARE TO HAVE A COPED SEAT TO SUIT OWSJ SHOE DEPTH U/N.

AXIAL COLLECTOR LOADS (NOTED ON PLAN AS
± XX KN). DESIGN OF AXIAL COLLECTOR LOADS
NOTED ON PLAN HAVE BEEN MULTIPLIED BY
Rd=2.0

1	ISSUE FOR TENDER	2026-02-1
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	ISSUE FOR 50% REVIEW	2025-09-1

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PROJECT

CAMBRIDGE PUBLIC SCHOOL

ARCHITECT

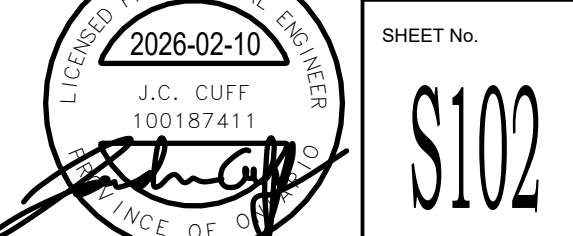
N45 ARCHITECTURE INC.

DRAWING TITLE

ROOF PLAN
(PART A)

DRAWN A.M.	REVIEWED J.C.	SCALE 1 : 100
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ENGINEERS SEAL	PROJECT No.
	25-121



S102

VISION No.

NOTES:**1. OWSJS**

- REFER TO ARCHITECTURAL DRAWINGS FOR SUPPLEMENTARY INFORMATION AND ALLOW FOR ARCHITECTURAL REVIEW PRIOR TO FABRICATION. OWSJS ARE TO BE DESIGNED FOR A MAXIMUM DEFLECTION DUE TO LIVE LOADS / SNOW OF **L/360 (ROOF) OR 25mm**. NOTE THAT THE SNOW LOADS INDICATED MAY BE REDUCED BY THE RATIO **0.9/1.15** IN ACCORDANCE WITH OBC 4.1.6.2 (FOR CALCULATION OF DEFLECTIONS)
- OWSJ SHOE DEPTH: 100 mm DP U/N
- MINIMUM WEIGHT OF OWSJS SUPPORTING FLOORS TO BE IN-KEEPING WITH FIRE RESISTANCE REQUIREMENTS SPECIFIED BY THE ARCHITECT. CERTIFY THAT JOIST DESIGN MEETS THE REQUIREMENTS OF THE ULC OR UL DESIGN SPECIFIED. PRIMER APPLIED TO STRUCTURAL STEEL IS TO BE COMPATIBLE WITH SPRAY-ON FIRE PROTECTION.
- ENSURE THAT WELDING PROCEDURES DO NOT DAMAGE OWSJS.
- ALLOW FOR COORDINATION WITH MECHANICAL AND PLUMBING/FIRE PROTECTION CONTRACTOR INCLUDING HANGING PIPE LOADS ATTACHED TO OWSJ BOTTOM CHORD.
- OWSJ DESIGNER TO ENSURE THE SHOE AND TOP CHORD ARE SUFFICIENT TO TRANSFER THE STEEL DECK IN-PLANE SHEAR CAPACITY (ROLL OVER RESISTANCE) TO THE SUPPORT MEMBER.
- CORRIDOR AND MECHANICAL ROOM OWSJS TO BE DESIGNED FOR AN ADDITIONAL CONCENTRATED LOAD OF 1.0 kN TO BE APPLIED ANYWHERE ALONG BOTTOM CHORD.

2. OWSJ LEGEND

TJ = TIE JOIST
ROF = ROLL OVER FORCE

3. OWSJ TOP & BOTTOM CHORD BRIDGING

- OWSJ MANUFACTURER TO PROVIDE ADDITIONAL BRIDGING AS REQ'D BY WIND SUCTION ANALYSIS OR TO FACILITATE ERECTION
- BRIDGING IS TO BE EQUALLY SPACED OVER LENGTH OF OPEN WEB STEEL JOISTS.
- PROVIDE DIAGONAL BRIDGING AT BEAMS & AT END SPACES. CONNECT BRIDGING TO BLOCK WALL
- OWSJ MANUFACTURER IS TO SPECIFY SIZE OF BRIDGING ANGLES BUT MINIMUM SIZE TO BE L35x35x3.
- BRIDGING IS TO BE NEATLY ERECTED IN ROOMS WITHOUT CEILINGS.
- THE BRIDGING LINES INDICATED ON THE PLAN DRAWINGS SHALL BE CONSIDERED A MINIMUM.

DESIGN LOADS**ROOF-TYP U/N**

ROOFING & INSULATION	0.60 kPa
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15
MECH'L / ELECT'L / MISC	0.25
PV SOLAR	0.35

DEAD LOAD	1.70 kPa
SNOW LOAD	2.67 kPa
TOTAL LOAD	4.37 kPa (OR DL + SNOW)

ROOF OVER & CORRIDOR

MECH'L / ELECT'L	0.80 kPa
ROOFING & INSULATION	0.60
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15
PV ALLOWANCE	0.35

DEAD LOAD	2.25 kPa
LIVE LOAD	3.60 kPa
TOTAL LOAD	5.85 kPa

AVG. LOAD UNDER RTU'S

MECH'L / ELECT'L	2.80 kPa
CONC. CURB (AVG) / LEVELING	2.00
62mm CONC. SLAB	1.70
ROOFING & INSULATION	0.60
STEEL DECK	0.10
STRUCTURE	0.25
CEILING	0.15

DEAD LOAD	7.60 kPa
LIVE LOAD	2.67 kPa
TOTAL LOAD	10.27 kPa

4. STEEL BEAMS

- STEEL BEAMS WHICH ARE W410 OR DEEPER AND ARE TO RECEIVE FIRE PROTECTION ARE TO BE ADDRESSED IN ONE OF THE FOLLOWING MANNERS:
 - NO PRIME PAINT ON WEBS
 - SPECIAL PRIMER APPROVED FOR USE WITH FIRE PROTECTION
 - METAL LATHE AFFIXED TO THE WEBS TO HOLD THE FIRE PROTECTION
 - COORDINATE REQUIREMENTS WITH FIRE PROTECTION SUPPLIER.
- PROVIDE 2-12mm STIFFENER PLATES EACH SIDE OF ALL BEAM WEBS WHICH ARE CONTINUOUS OVER SUPPORTS (ie COLUMNS) SEE TYPICAL DETAILS

5. MECHANICAL OPENINGS & FRAMING

- SEE TYPICAL DETAILS FOR MECH'L UNIT SUPPORT & MECH'L OPENING FRAMING UNLESS NOTED
- WHEREVER POSSIBLE MECHANICAL PIPING MUST BE SUPPORTED FROM OWSJ TOP CHORD. DO NOT SUPPORT FROM OWSJ BOTTOM CHORD UNLESS SPECIFICALLY APPROVED BY OWSJ MANUFACTURER. DO NOT HANG FROM STEEL DECK. SUPPORT AT OR NEAR OWSJ TOP CHORD PANEL POINT IS PREFERRED. OWSJ MANUFACTURER IS TO COMMENT ON PERMISSIBILITY OF LOCATING PIPING SUPPORTS BETWEEN TOP CHORD PANEL POINTS.
- MECHANICAL OPENINGS SHOWN ON THIS PLAN ARE 300 x 300 mm IN SIZE OR LARGER. SEE MECH'L, ELECT'L & ARCH'L DWGS FOR SMALLER OPENINGS. CONFIRM SIZE OF OPENINGS WITH MECH'L DWGS. SEE TYPICAL DETAILS FOR ADDITIONAL OPENING FRAMING UNLESS NOTED.
- MECHANICAL CONTRACTOR TO COORDINATE ALL MECH'L LOADING WITH OWSJ SUPPLIER.

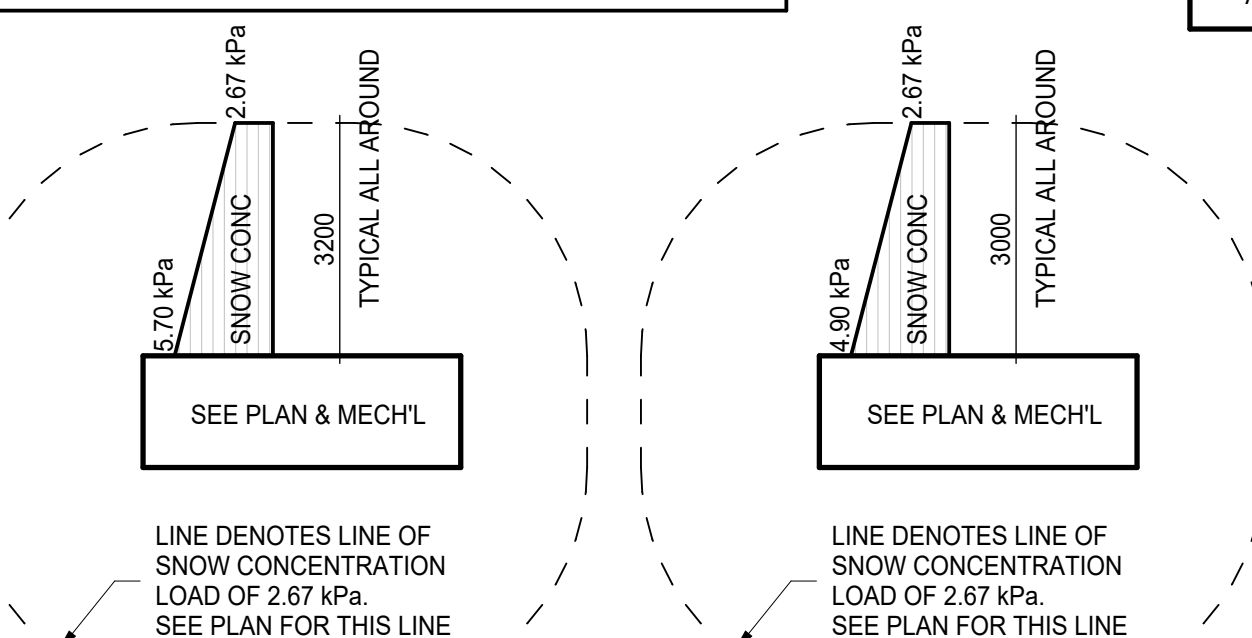
NOTES:

- MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
- SEE DETAILS ON S04 FOR ADDITIONAL FRAMING

R1 = REINFORCE EXISTING OPEN WEB STEEL JOISTS WHERE INDICATED — SEE TYPICAL DETAILS ON S06

PROVIDE 50mm MIN. EXPANSION JOINT SEE SECTIONS

PROVIDE 50mm MIN. EXPANSION JOINT SEE SECTIONS



TYPICAL SNOW CONCENTRATION
AROUND MECHANICAL AHU 5,6
(SEE MECH'L)

TYPICAL SNOW CONCENTRATION
AROUND MECHANICAL AHU 7
(SEE MECH'L)

SEE TYPICAL DETAILS FOR RTU FRAMING & CONCRETE PAD

AHU 5

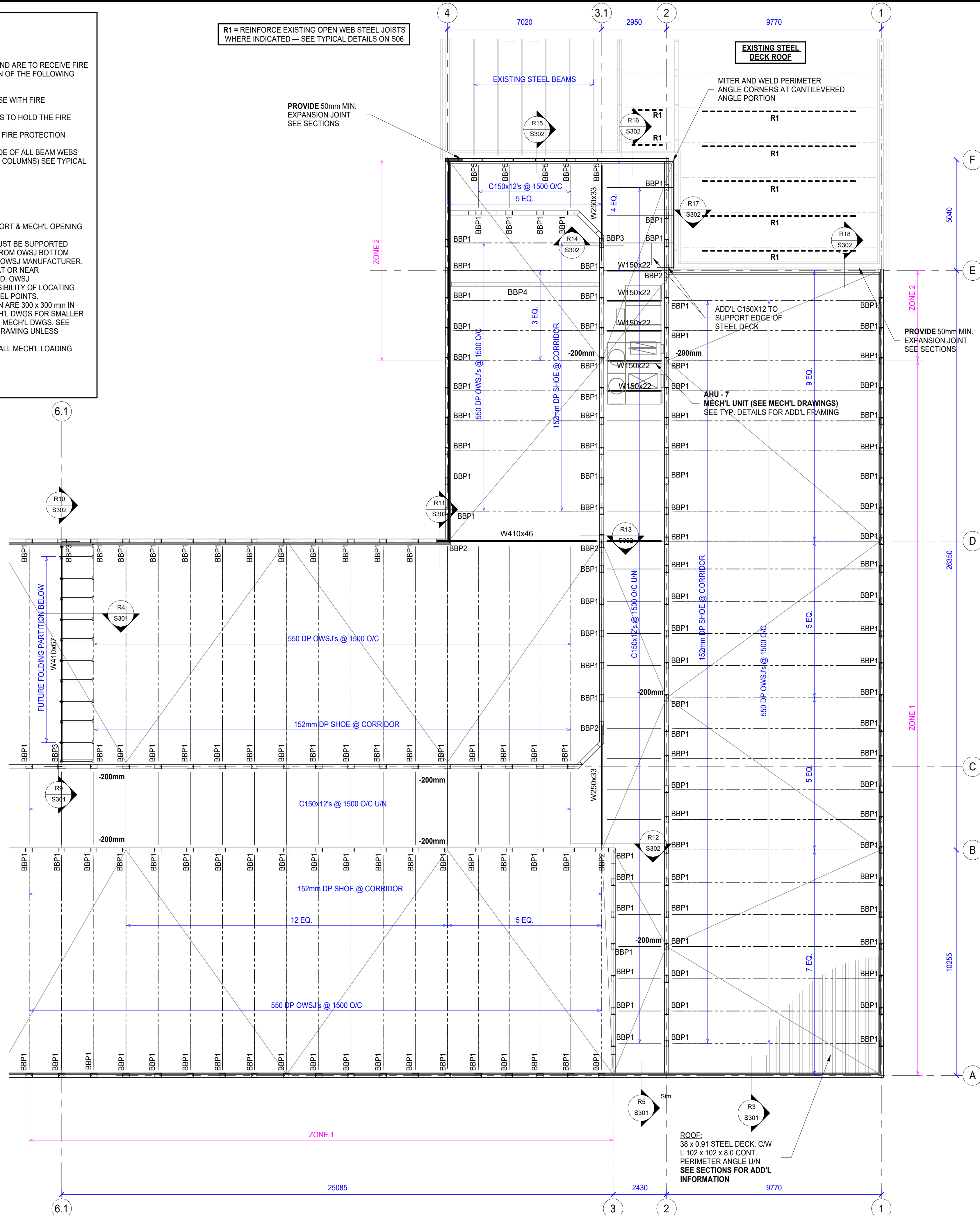
WEIGHT = ± 4360 lb.
DIMENSIONS = ± 187" x ± 93" x ± 70"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

AHU 6

WEIGHT = ± 4450 lb.
DIMENSIONS = ± 187" x ± 93" x ± 70"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

AHU 7

WEIGHT = ± 3800 lb.
DIMENSIONS = ± 177" x ± 96" x ± 60"
MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
SEE DETAILS ON S04 FOR ADDITIONAL FRAMING.

**ROLLOVER FORCES**

ALL OWSJS WITH 150mm DEEP SHOES TO BE DESIGNED FOR R.O.F. = 5 kN U/N
ALL OWSJS WITH 100mm DEEP SHOES TO BE DESIGNED FOR R.O.F. = 8 kN U/N

SOLID WEB JOISTS

ALL SOLID WEB JOISTS DEEPER THAN 100 mm AND BEARING ON A STEEL BEAM IN LINE WITH AN OWSJ ARE TO HAVE A COPEL SEAT TO SUIT OWSJ SHOE DEPTH U/N.

AXIAL COLLECTOR LOADS

AXIAL COLLECTOR LOADS (NOTED ON PLAN AS ± XX kN). DESIGN OF AXIAL COLLECTOR LOADS NOTED ON PLAN HAVE BEEN MULTIPLIED BY Rd=2.0

4. ISSUE FOR TENDER	2026-02-10
3. ISSUE FOR BUILDING PERMIT	2025-12-10
2. ISSUE FOR 80% REVIEW	2025-10-14
1. ISSUE FOR 50% REVIEW	2025-09-17

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- DO NOT SCALE DRAWINGS

PROJECT

CAMBRIDGE PUBLIC SCHOOL

ARCHITECT

N45 ARCHITECTURE INC.

DRAWING TITLE

**ROOF PLAN
(PART B)**

DRAWN

REVIEWED

SCALE

ENGINEERS SEAL

PROJECT No.

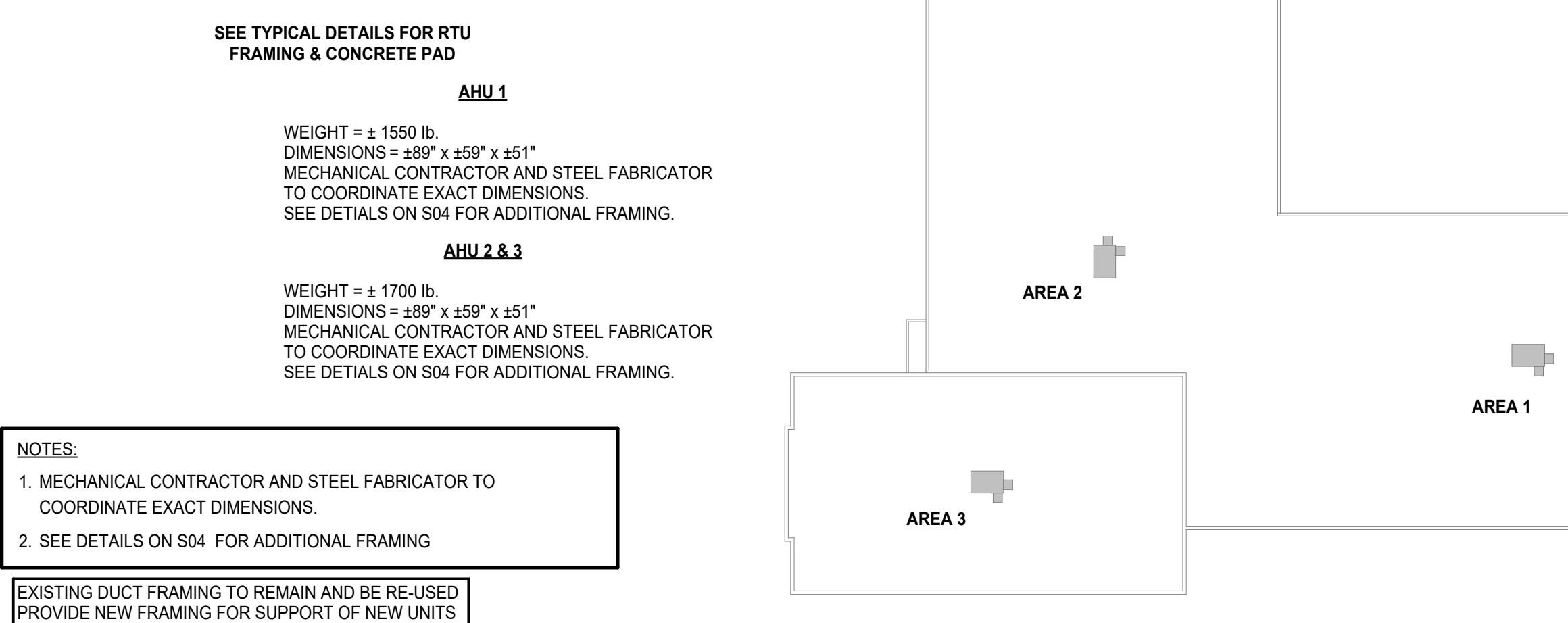
25-121

SHEET No.

S103

REVISION No.

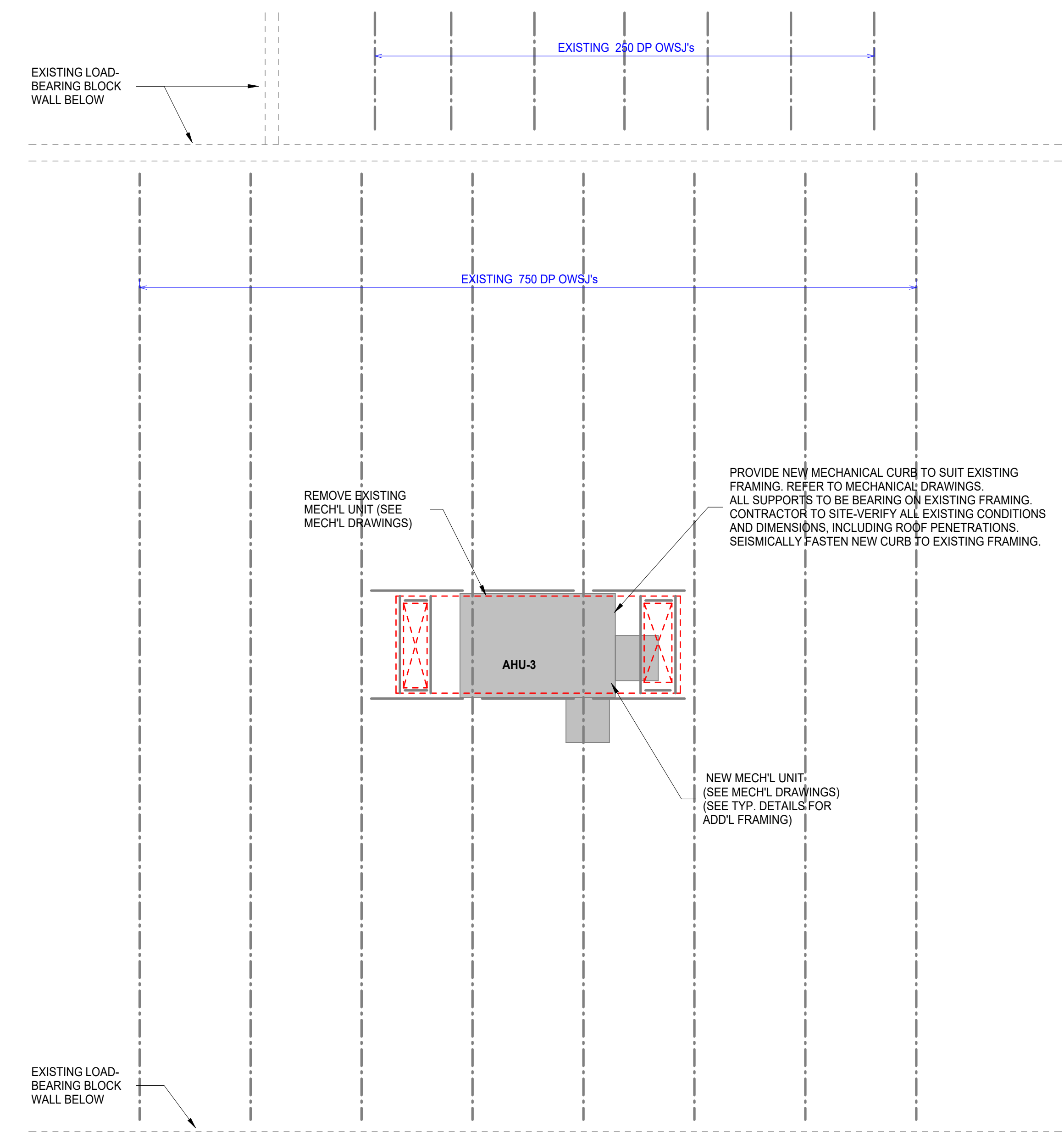
2026-02-10
J.C. CUFF
100187411
PROFESSIONAL ENGINEER
ON BEHALF OF



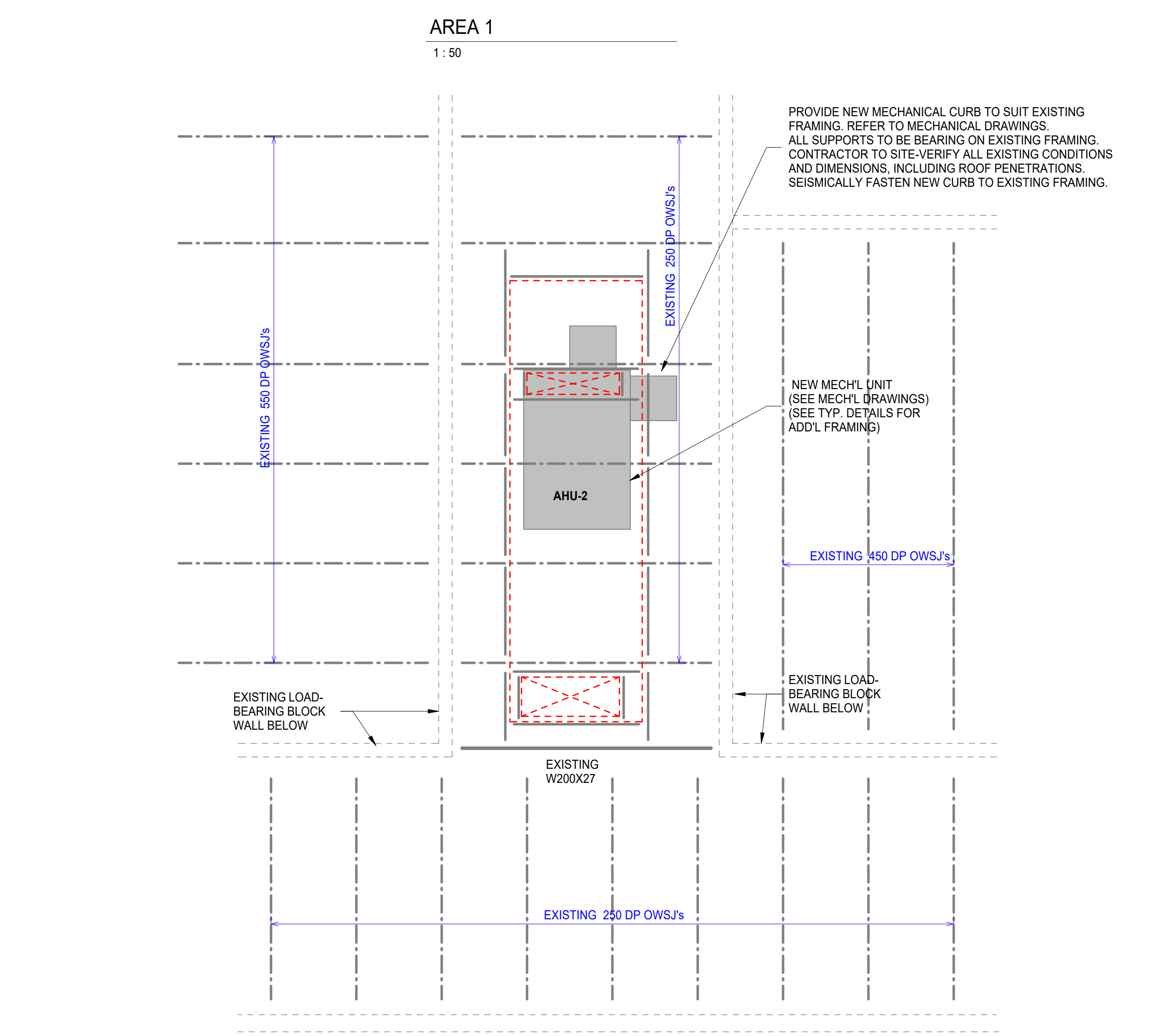
NOTES:

1. MECHANICAL CONTRACTOR AND STEEL FABRICATOR TO COORDINATE EXACT DIMENSIONS.
2. SEE DETAILS ON S04 FOR ADDITIONAL FRAMING

EXISTING DUCT FRAMING TO REMAIN AND BE RE-USED PROVIDE NEW FRAMING FOR SUPPORT OF NEW UNITS
--



EXISTING LOAD-BEARING BLOCK WALL BELOW



PROVIDE NEW MECHANICAL CURB TO SUIT EXISTING FRAMING. REFER TO MECHANICAL DRAWINGS. ALL SUPPORTS TO BE BEARING ON EXISTING FRAMING. CONTRACTOR TO SITE-VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS, INCLUDING ROOF PENETRATIONS. SEISMICALLY FASTEN NEW CURB TO EXISTING FRAMING.

AREA 1

1 : 50

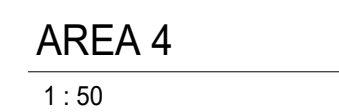
AREA 2

1:50

AHU 4

NOTES:

- EXISTING DUCT FRAMING TO REMAIN AND BE RE-USED
PROVIDE NEW FRAMING FOR SUPPORT OF NEW UNITS

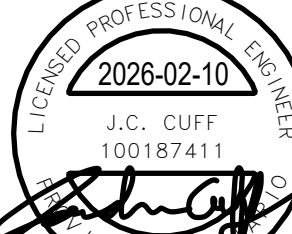


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4. DO NOT SCALE DRAWINGS

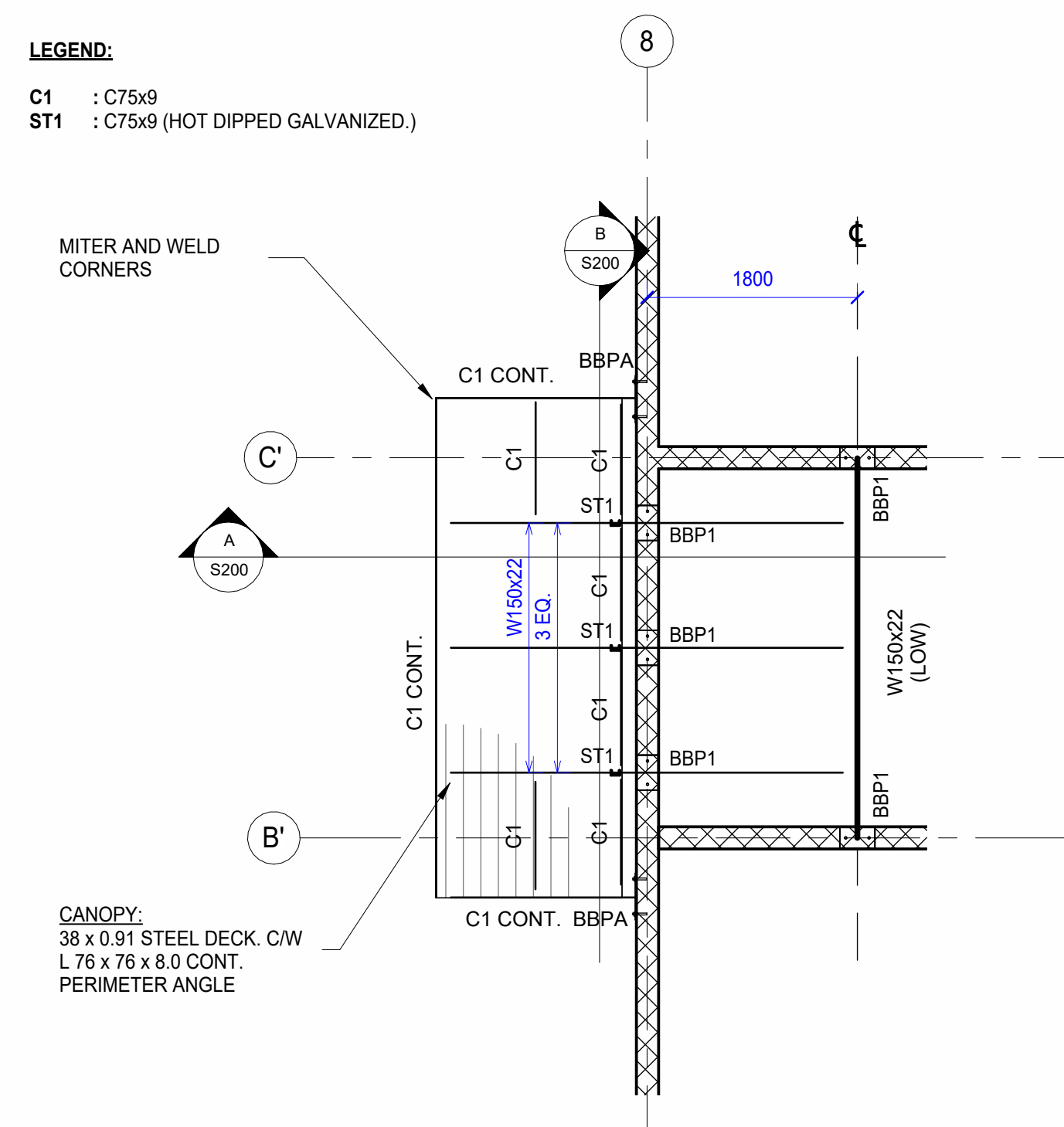


DRAWING TITLE

EXISTING RTU's
REPLACEMENT

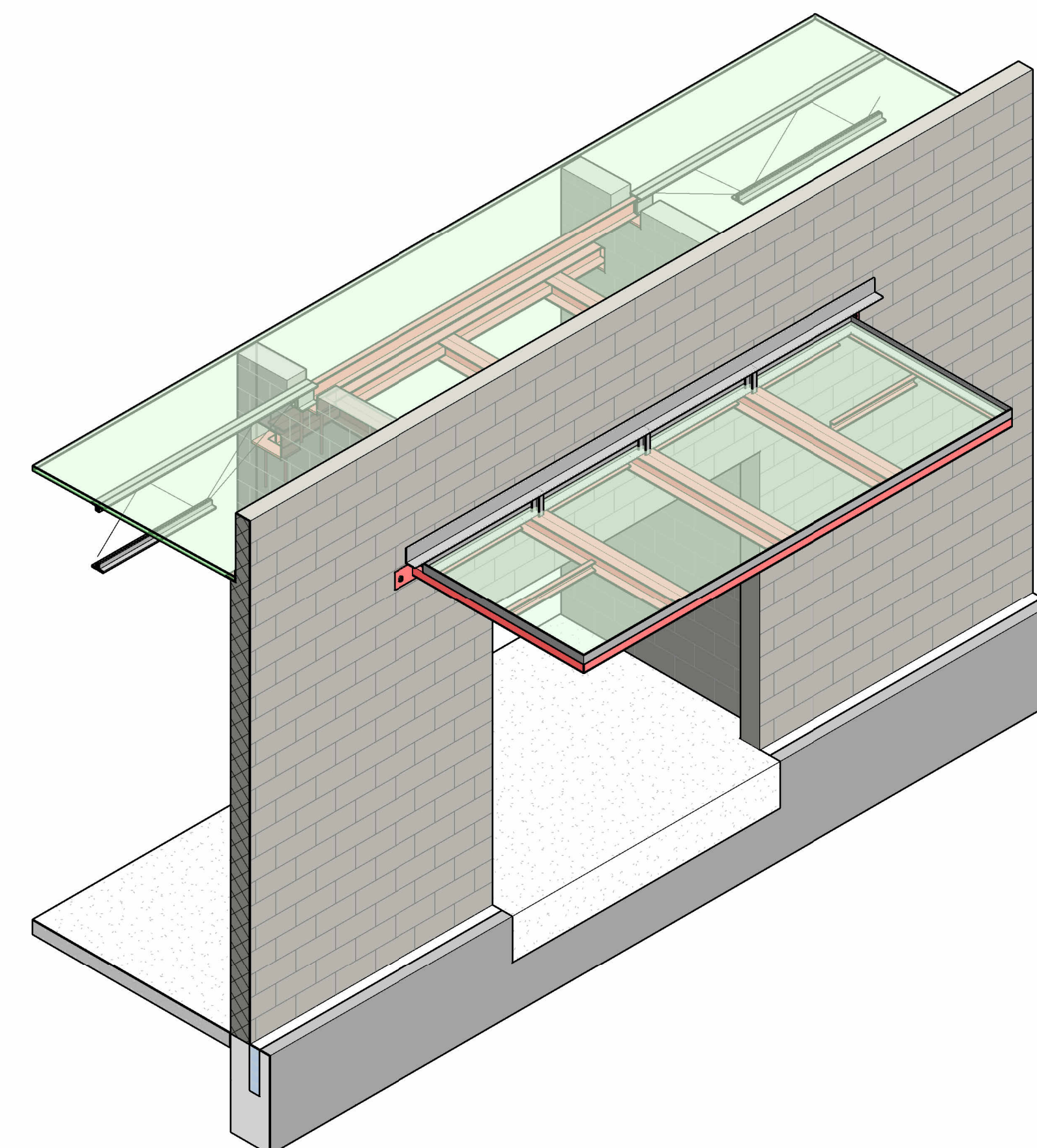
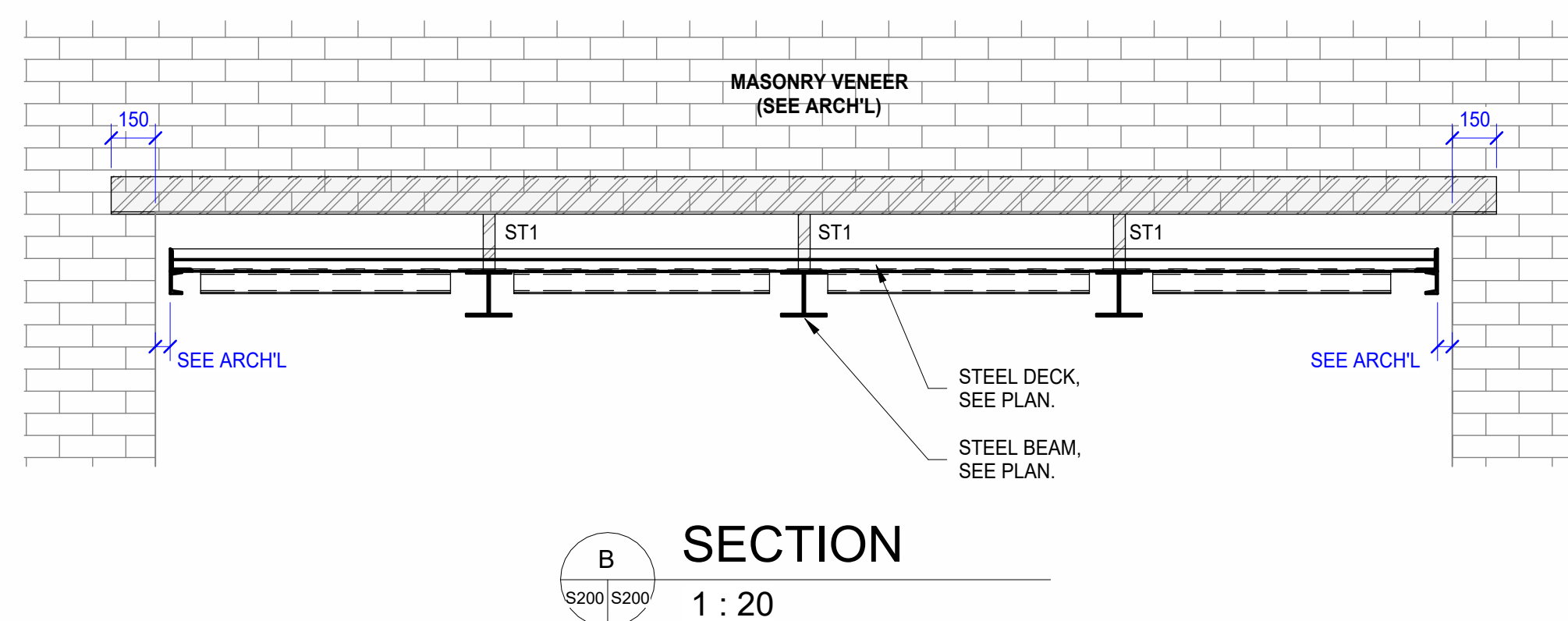
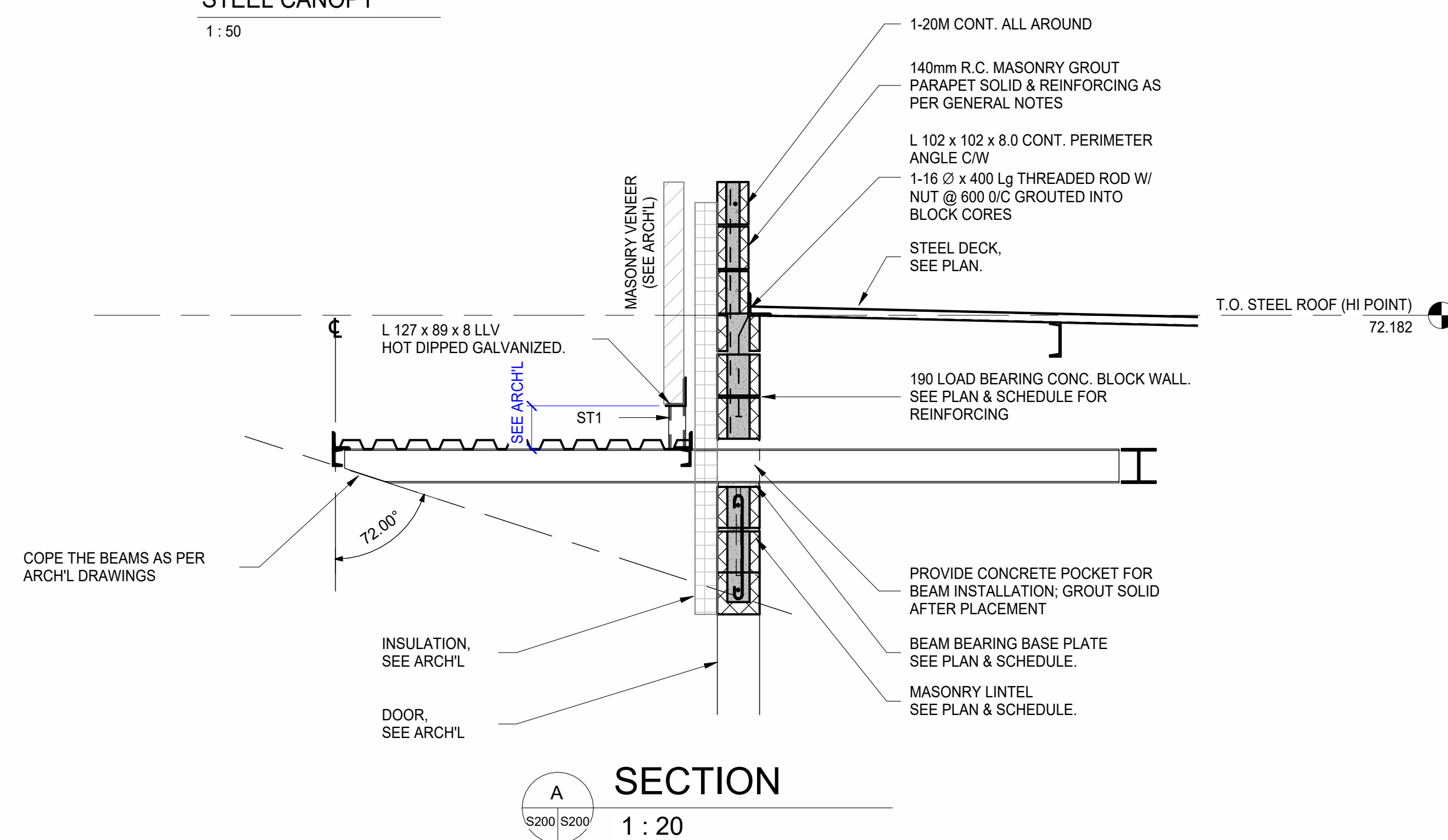
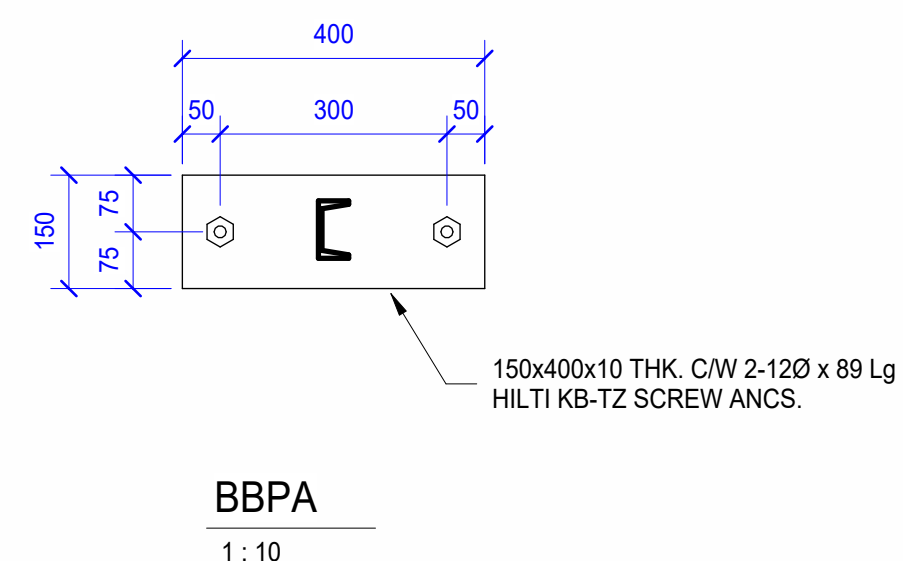
DRAWN A.M.	REVIEWED J.C.	SCALE As indicated
ENGINEERS SEAL		PROJECT No. 25-121
		SHEET No. S106
		REVISION No.

C1 : C75x9
ST1 : C75x9 (HOT DIPPED GALVANIZED.)



STEEL CANOPY

1 : 50



4	ISSUE FOR TENDER	2026-02-1
3	ISSUE FOR BUILDING PERMIT	2025-12-1
2	ISSUE FOR 80% REVIEW	2025-10-1
1	ISSUE FOR 50% REVIEW	2025-09-1

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PROJECT


CAMBRIDGE PUBLIC SCHOOL

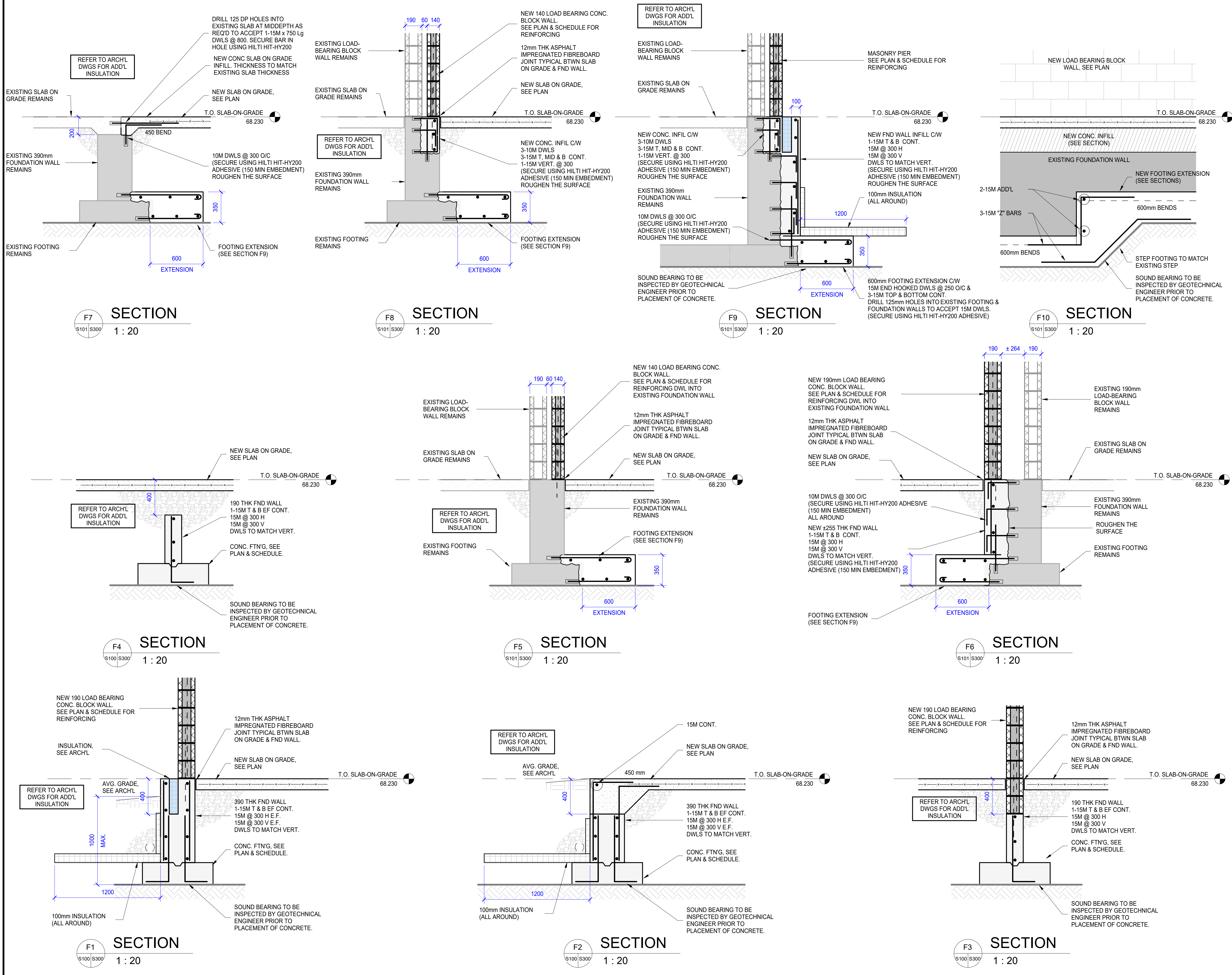
ARCHITECT

N45 ARCHITECTURE INC.

DRAWING TITLE

STEEL CANOPY

DRAWN A.M.	REVIEWED J.C.	SCALE As indicated
ENGINEERS SEAL 		PROJECT No. 25-121
		SHEET No. S200
		REVISION No.



4	ISSUE FOR TENDER	2026-02-10
3	ISSUE FOR BUILDING PERMIT	2025-12-10
2	ISSUE FOR 80% REVIEW	2025-10-14
1	ISSUE FOR 50% REVIEW	2025-09-17

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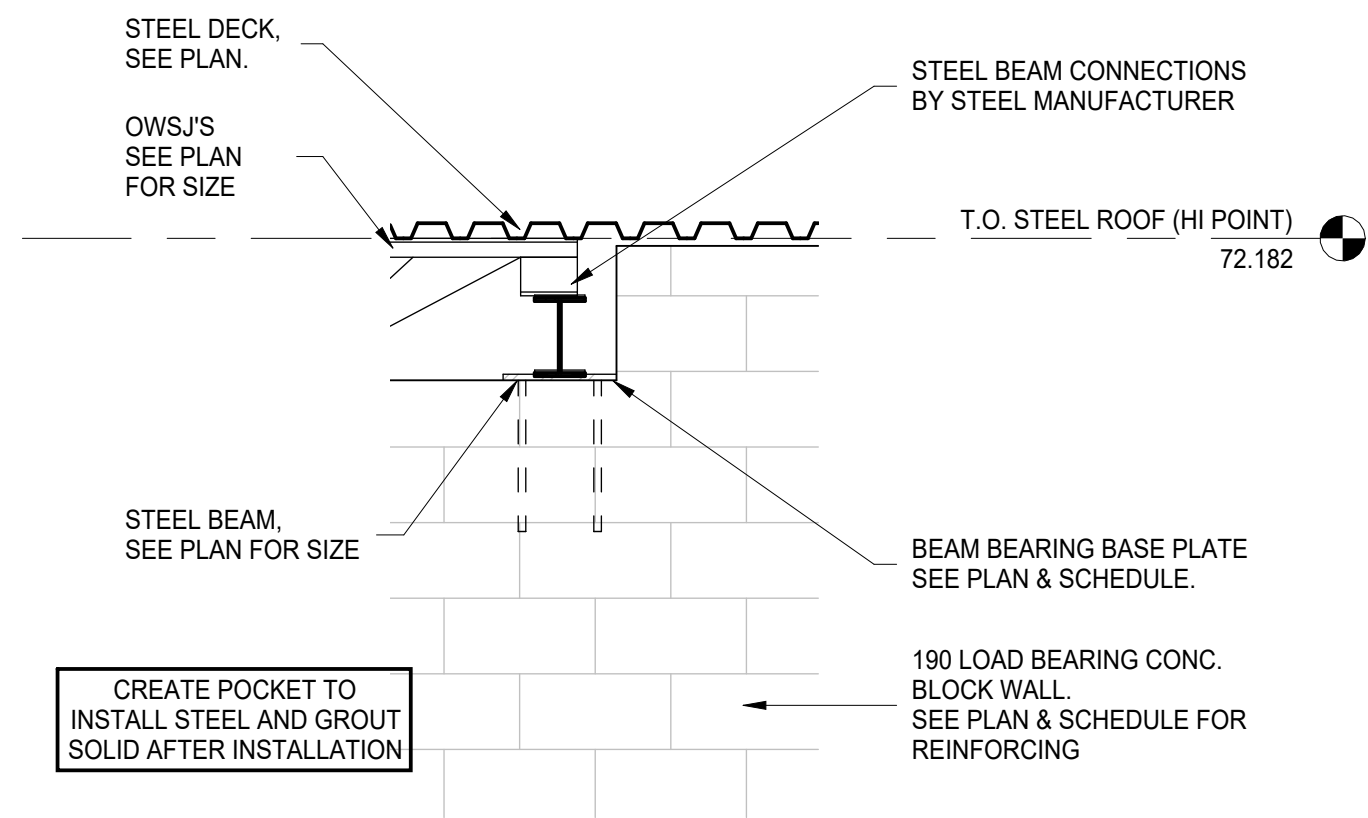
CUNLIFFE & ASSOCIATES
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E: cunliffe@cunliffe.ca
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PROJECT
CAMBRIDGE PUBLIC SCHOOL

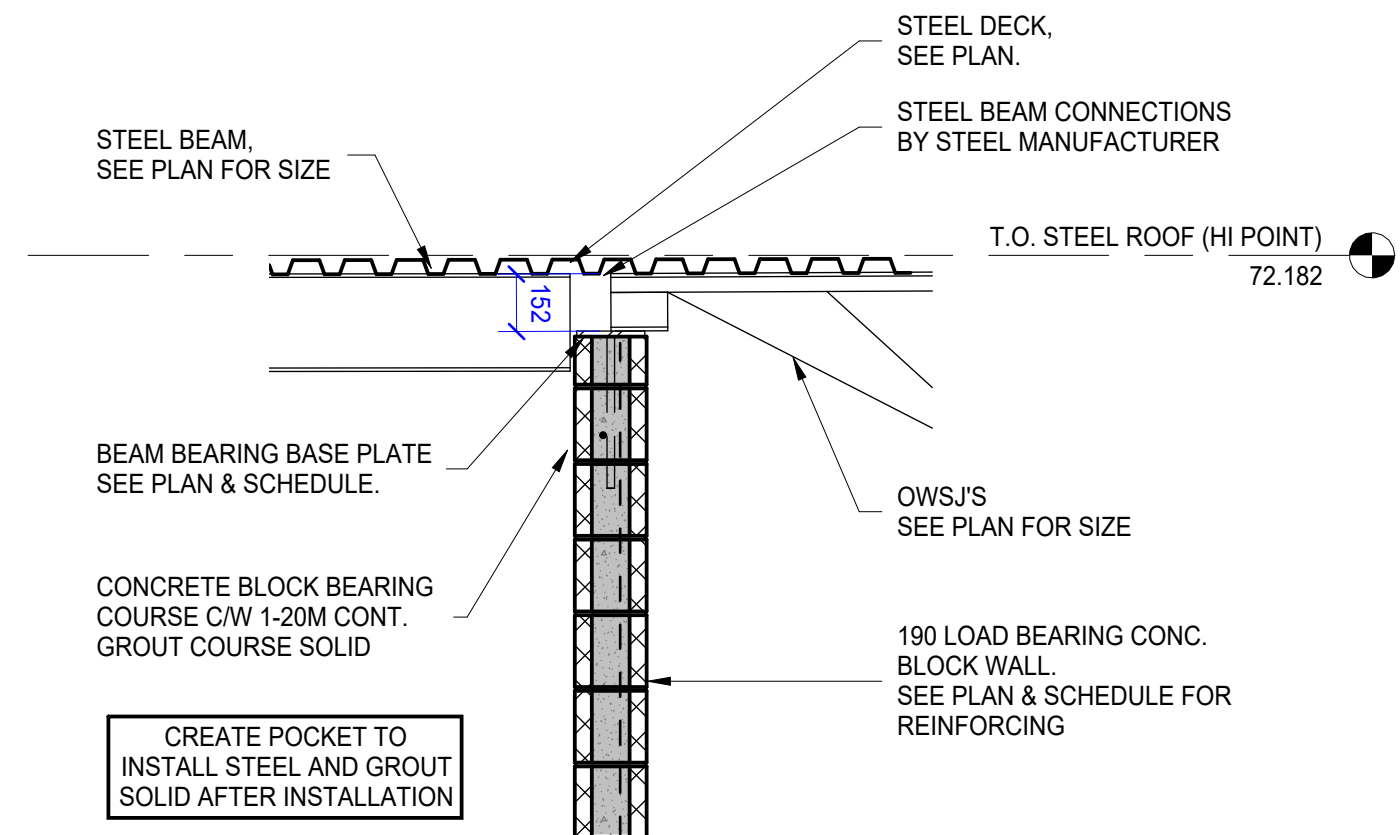
ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
SECTIONS

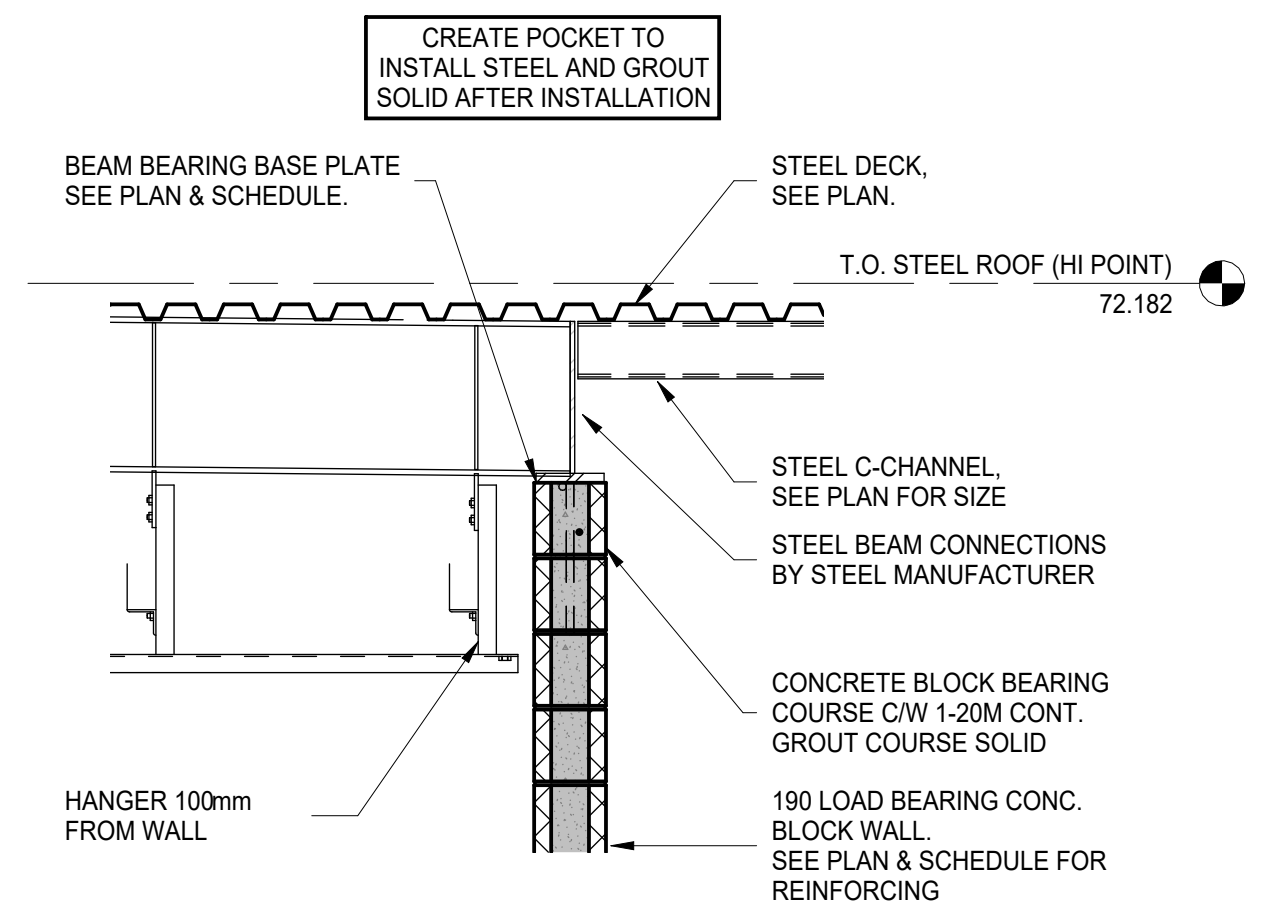
DRAWN A.M.	REVIEWED J.C.	SCALE 1 : 20
ENGINEERS SEAL 	PROJECT No. 25-121	SHEET No. S300
		REVISION No.



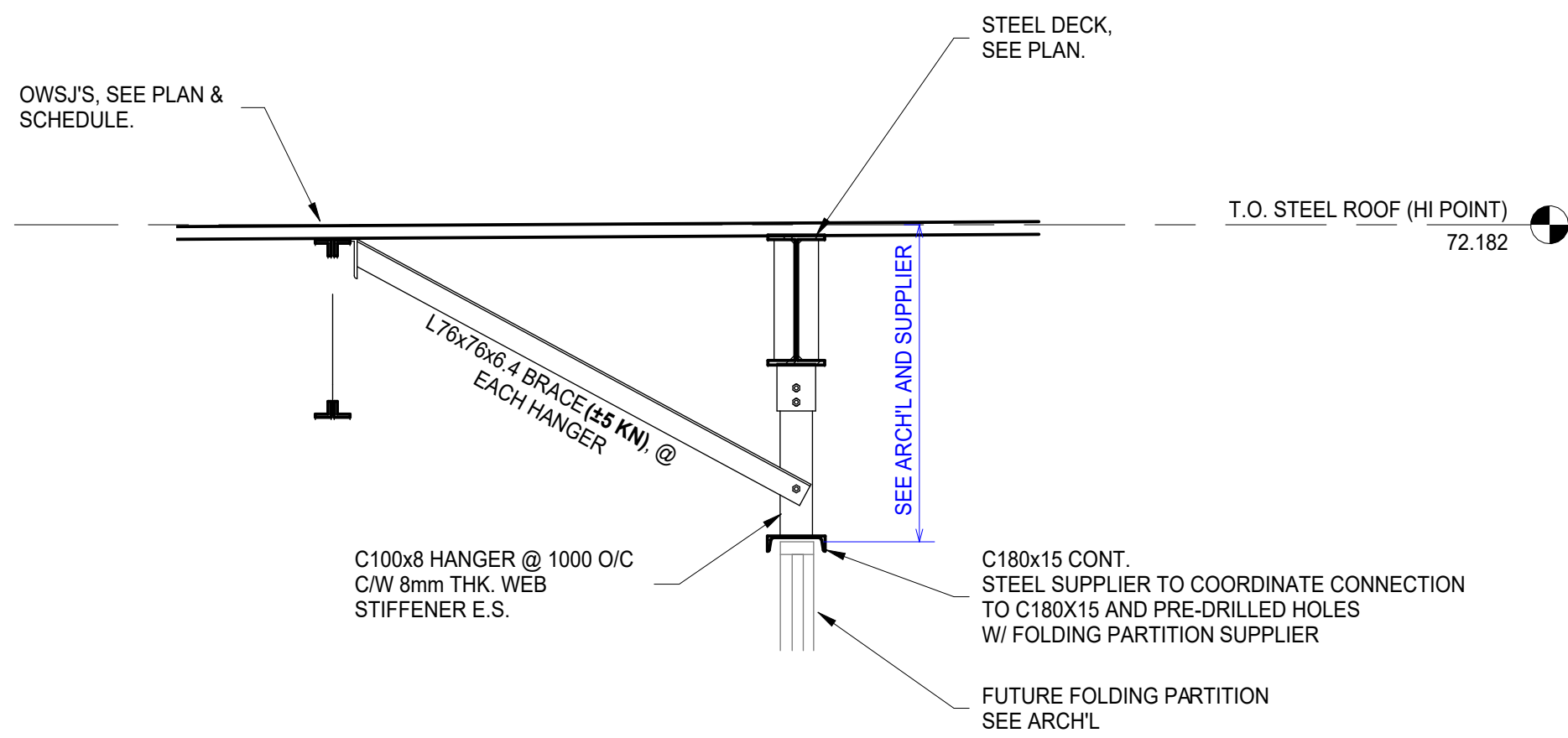
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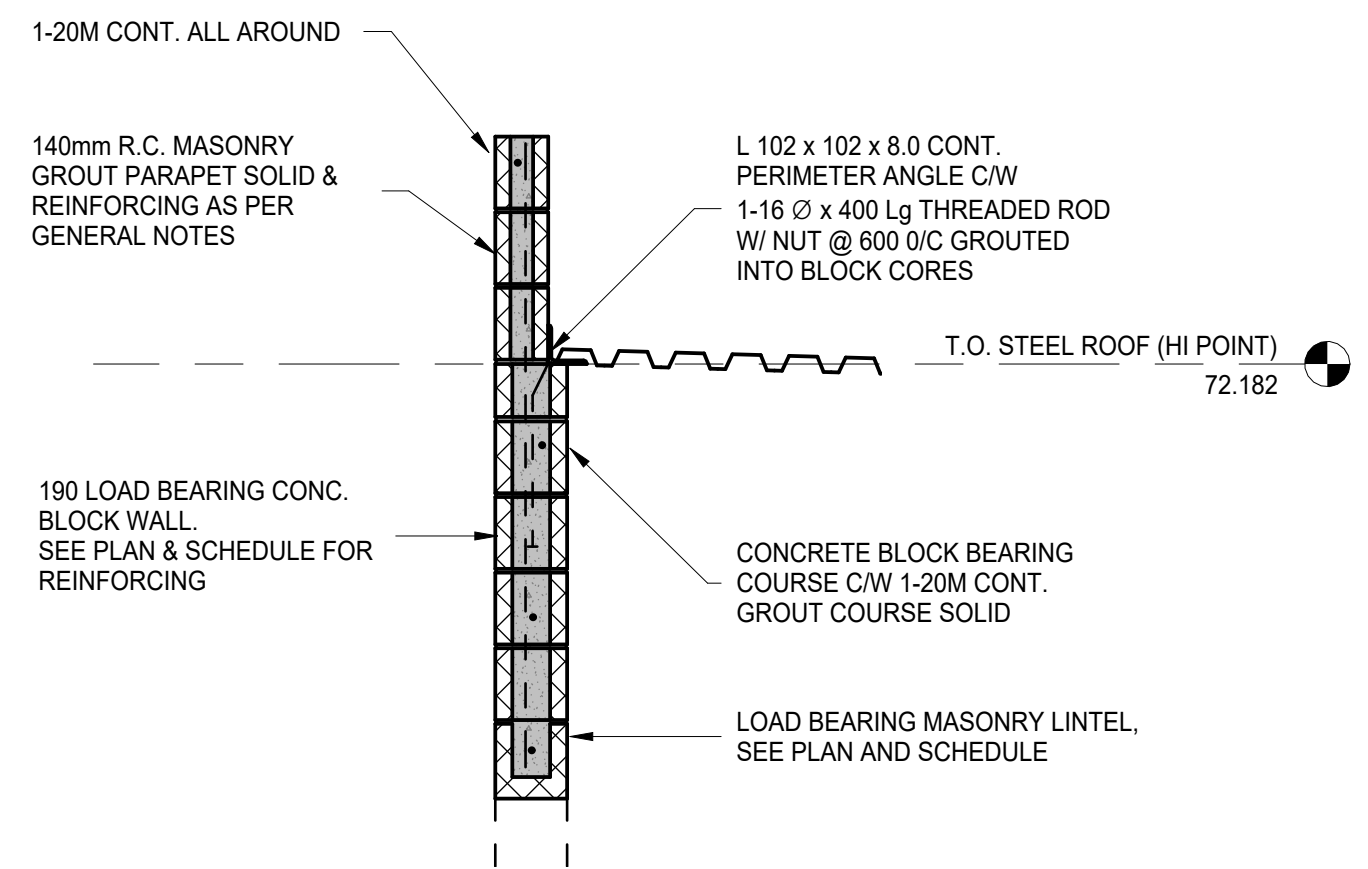
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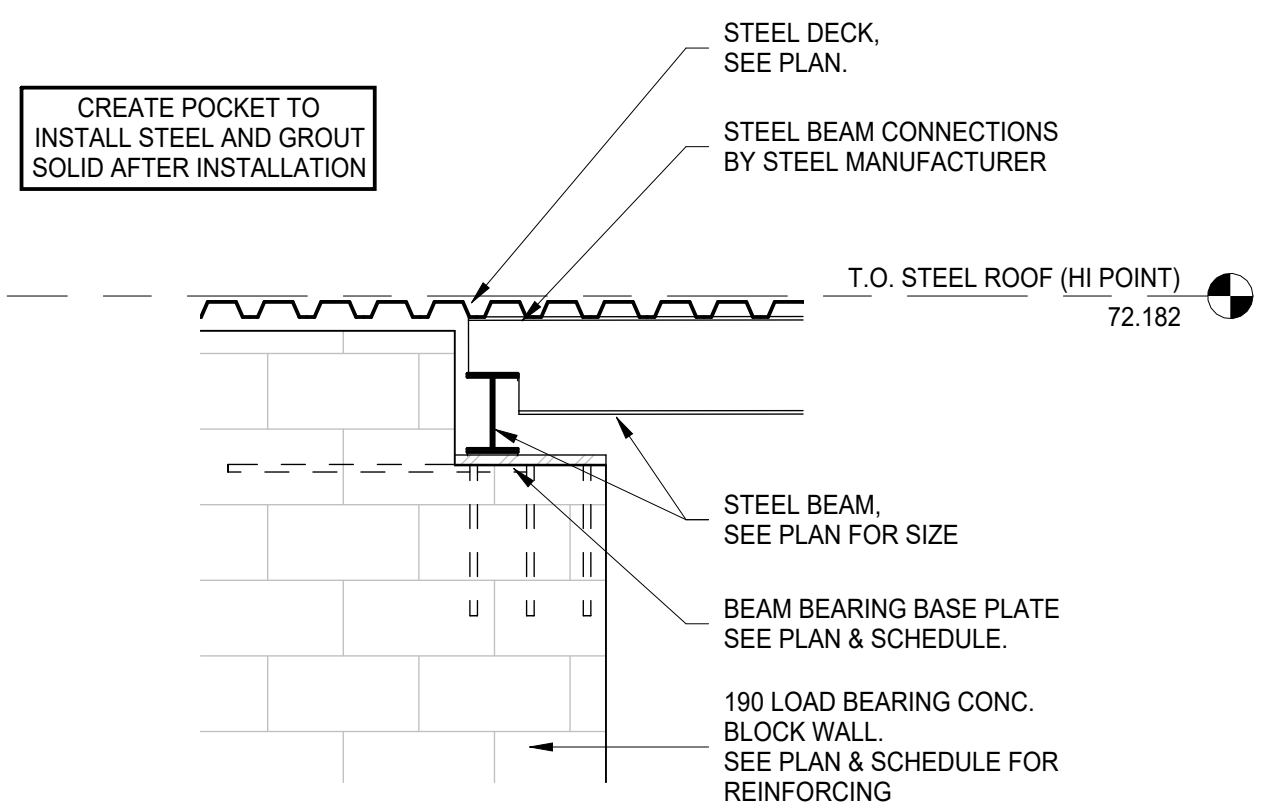
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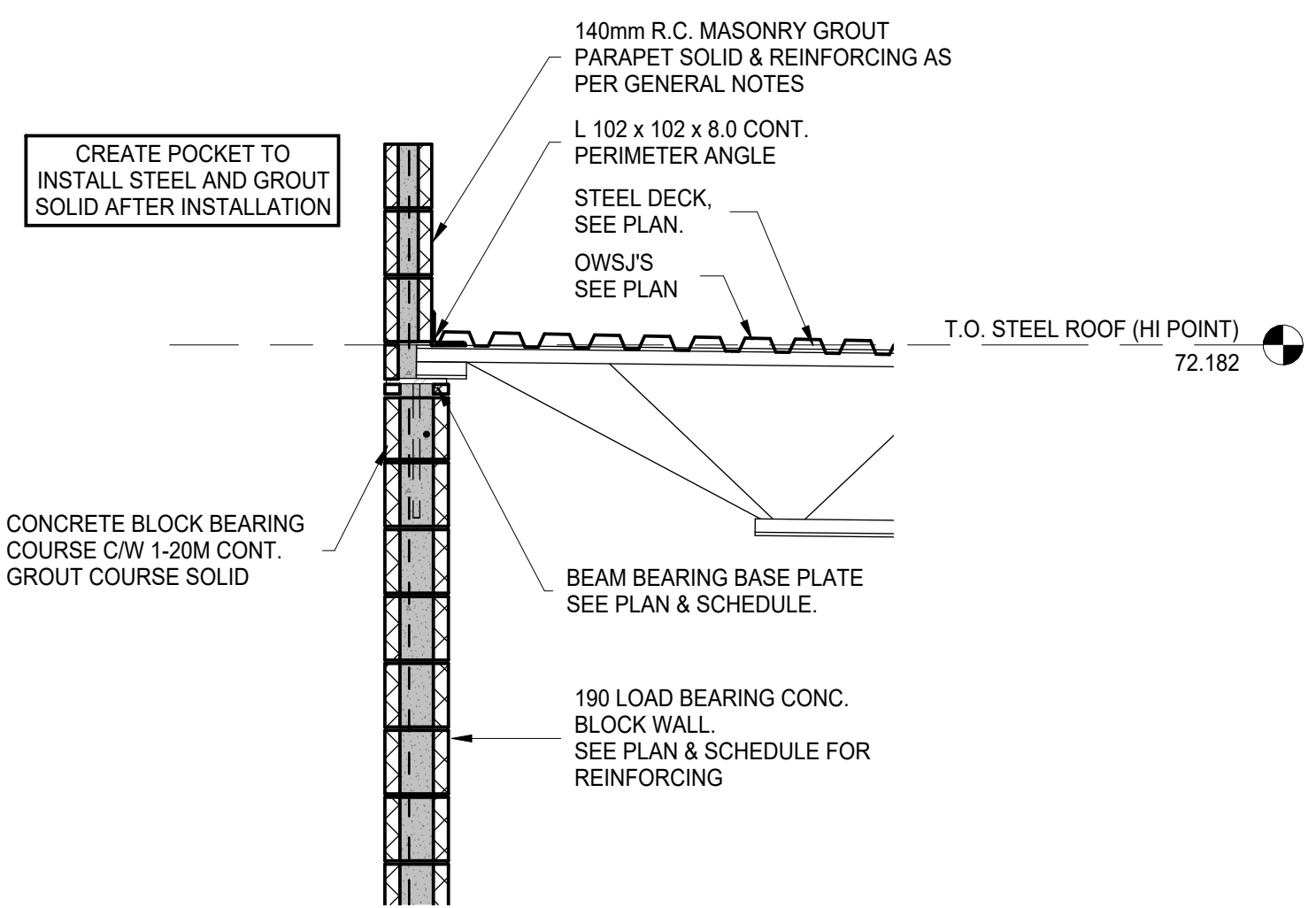
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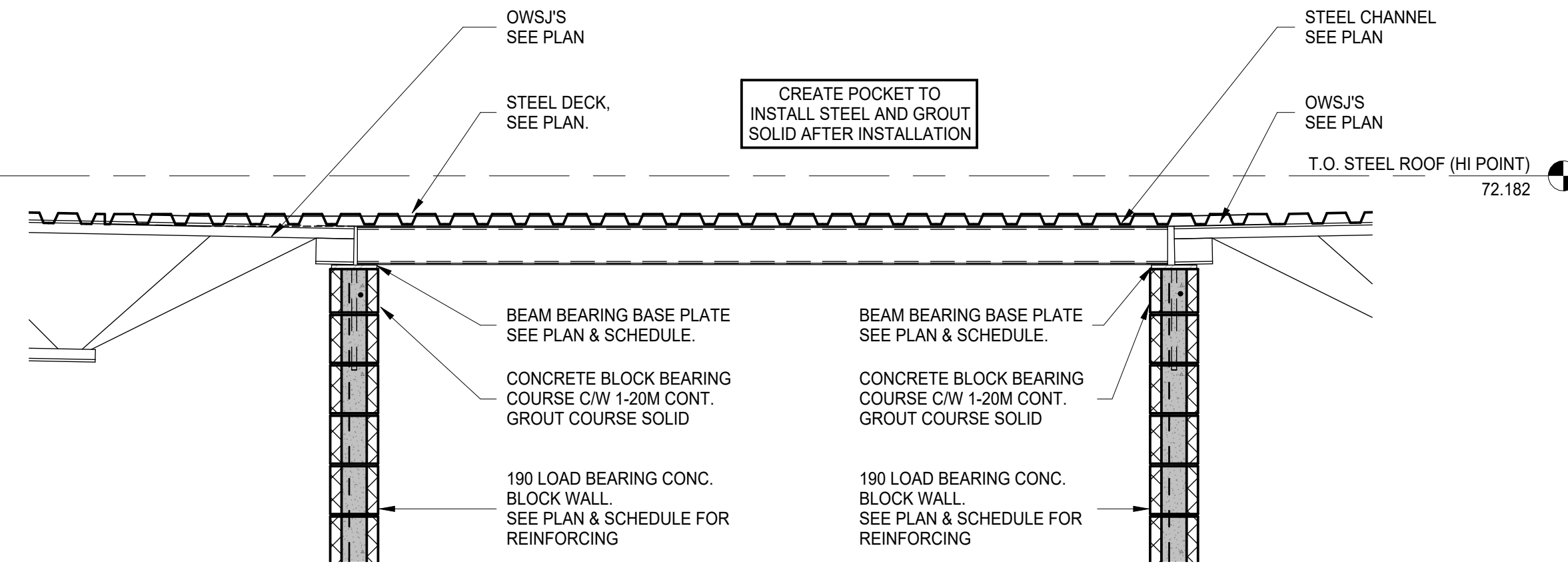
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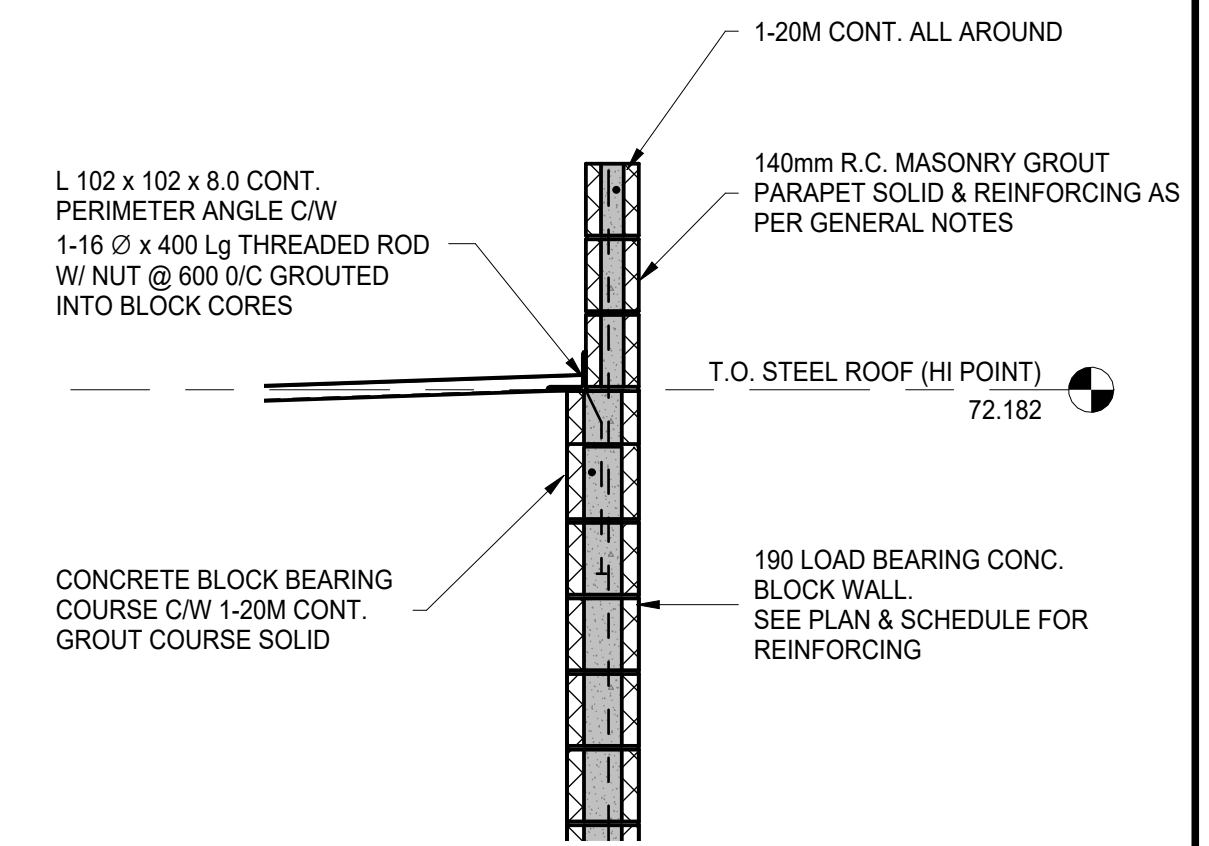
SECTION R6
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SECTION R1
1 : 20



SECTION R2
1 : 20



SECTION R3
1 : 20

4	ISSUE FOR TENDER	2026-02-10
3	ISSUE FOR BUILDING PERMIT	2025-12-10
2	ISSUE FOR 80% REVIEW	2025-10-14
1	ISSUE FOR 50% REVIEW	2025-09-17


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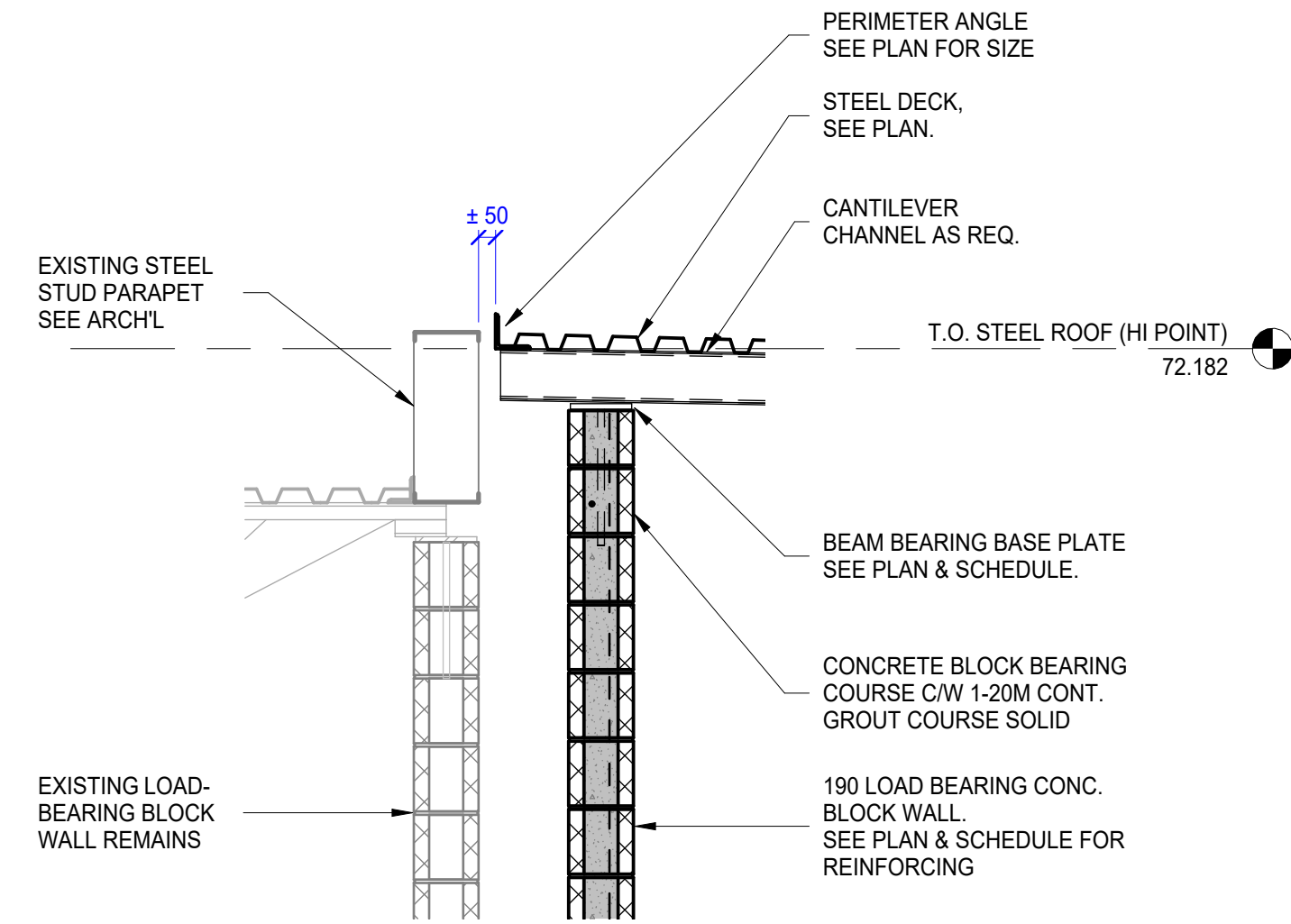
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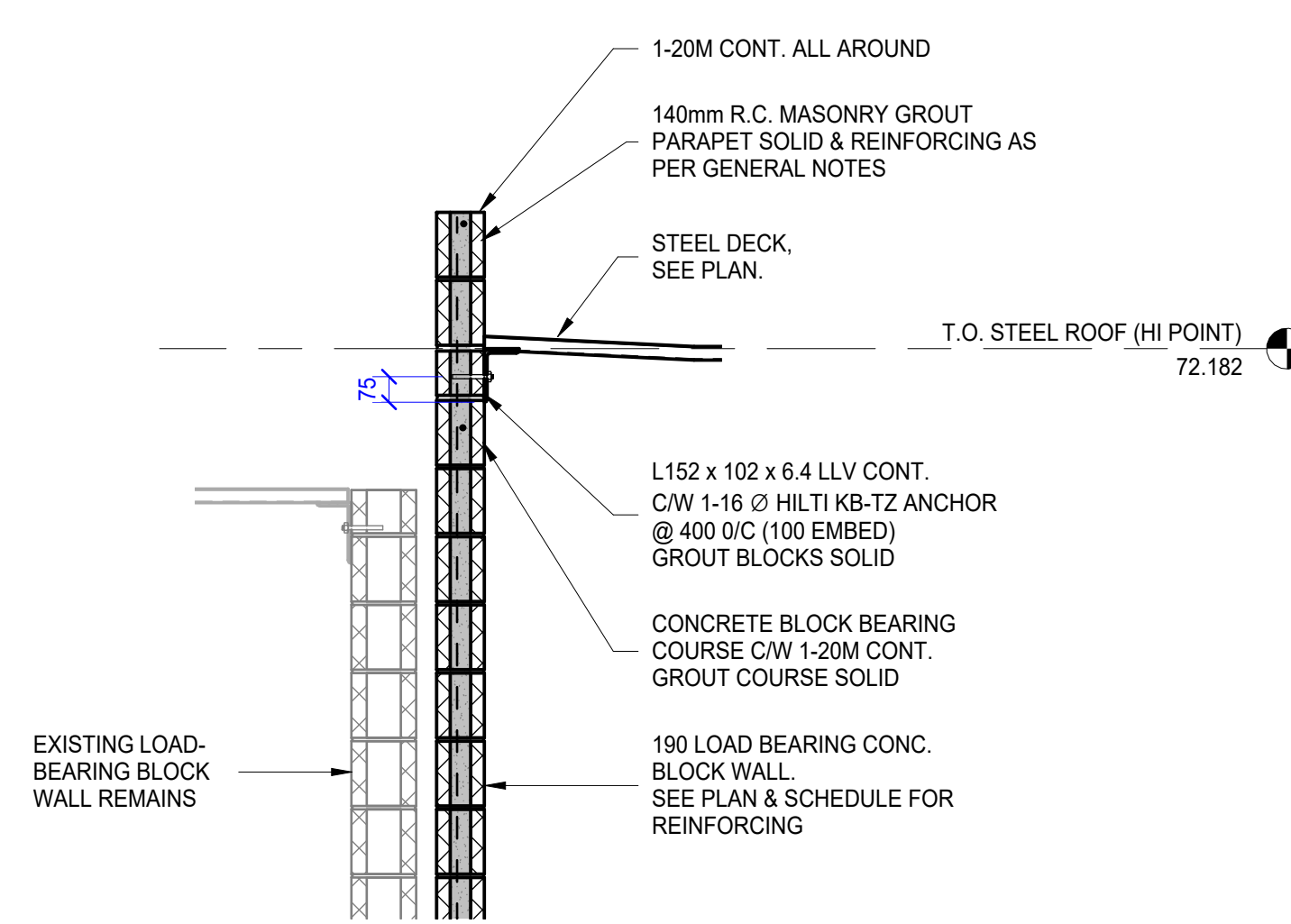
ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
SECTIONS

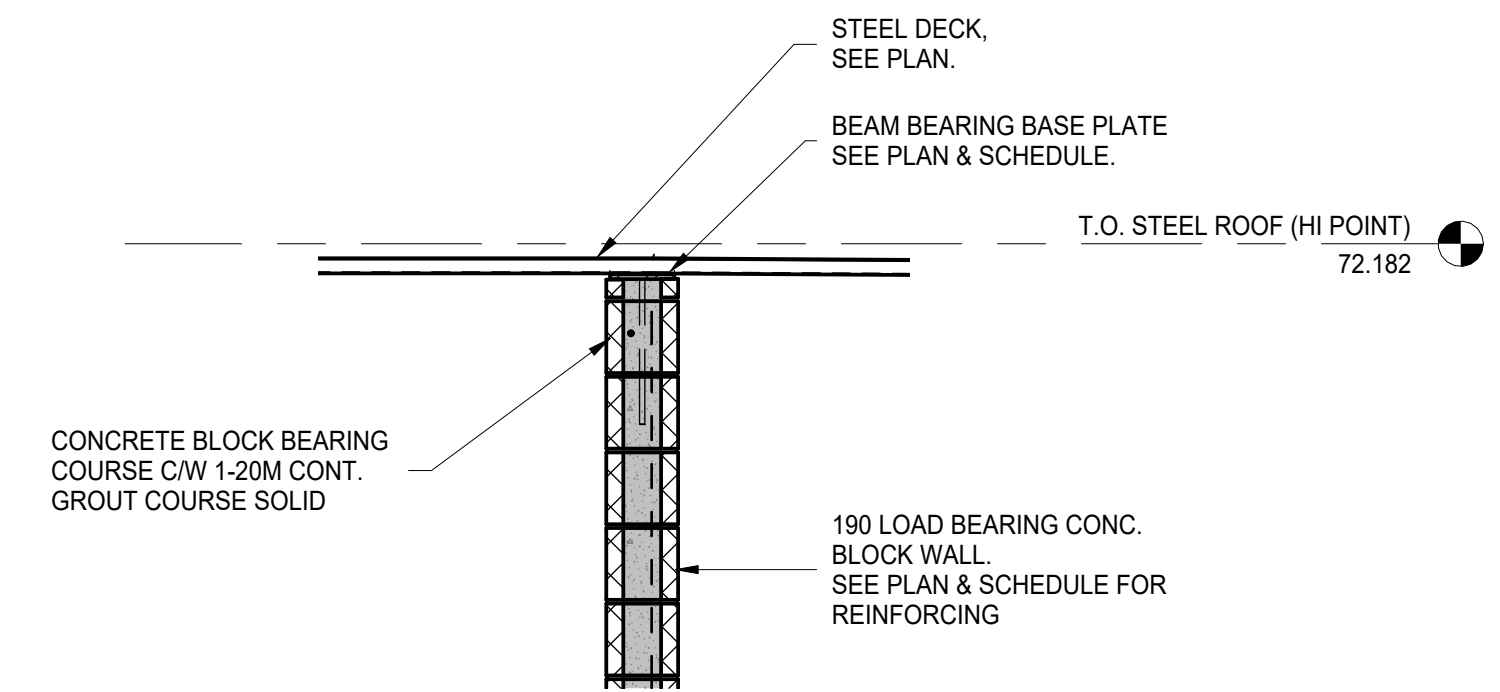
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ENGINEERS SEAL 	PROJECT No. 25-121	SHEET No. S301
		REVISION No.



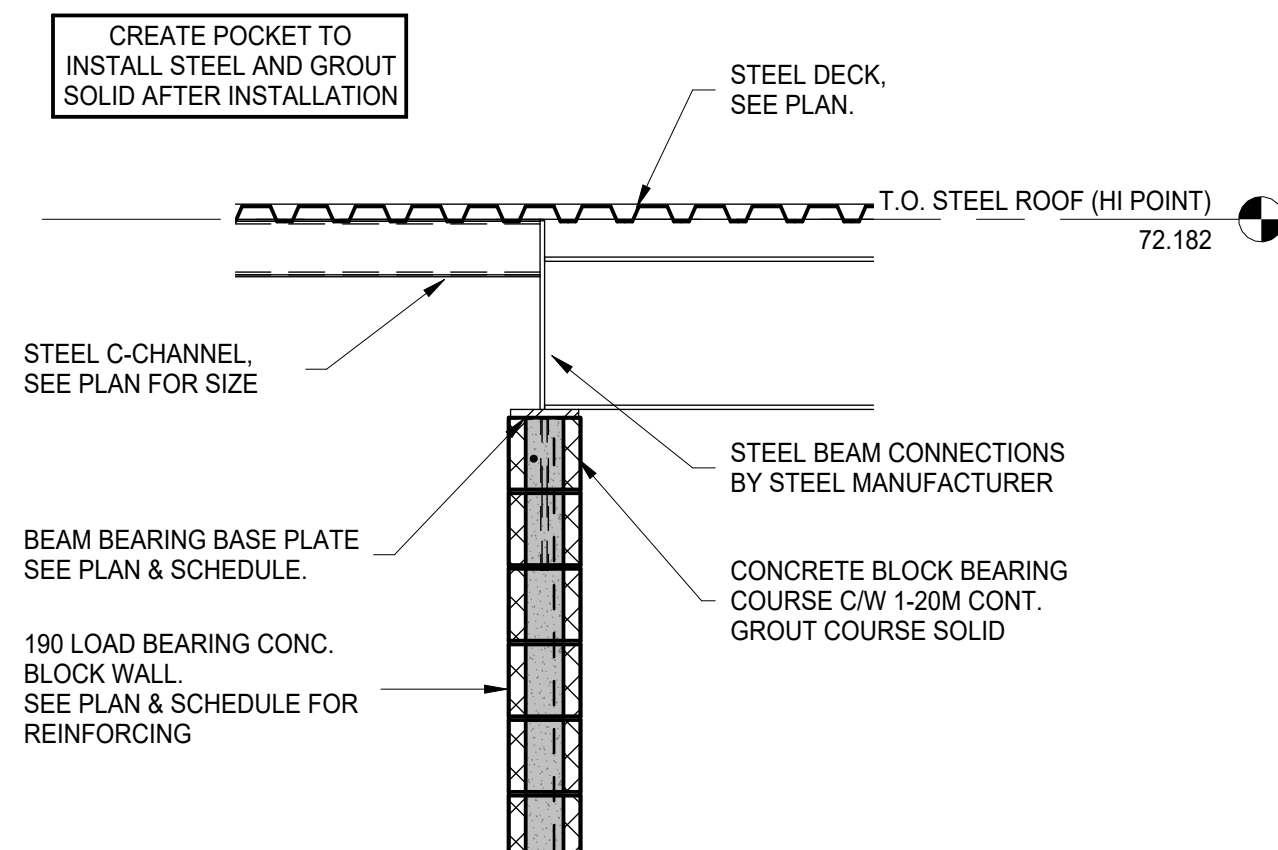
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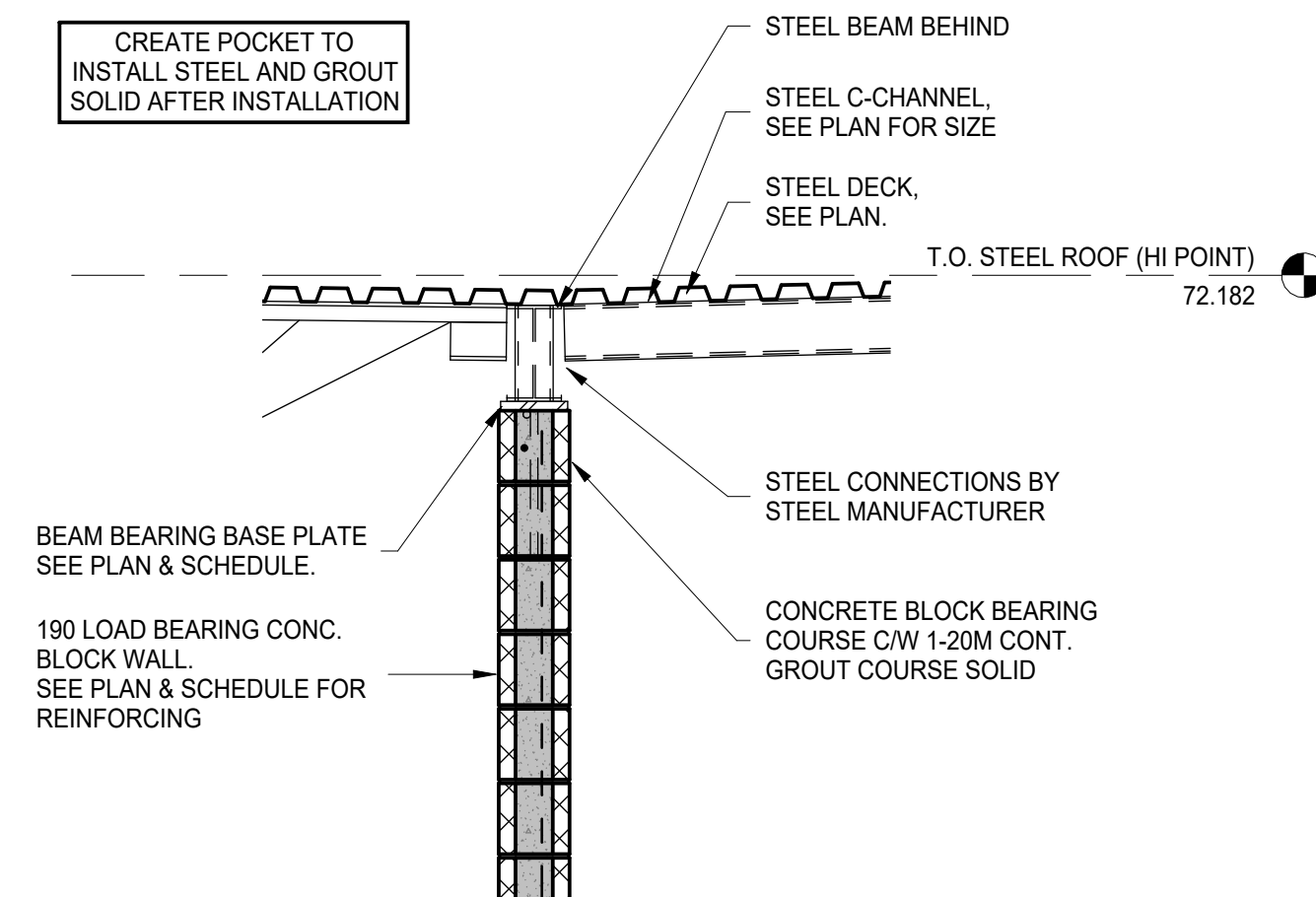
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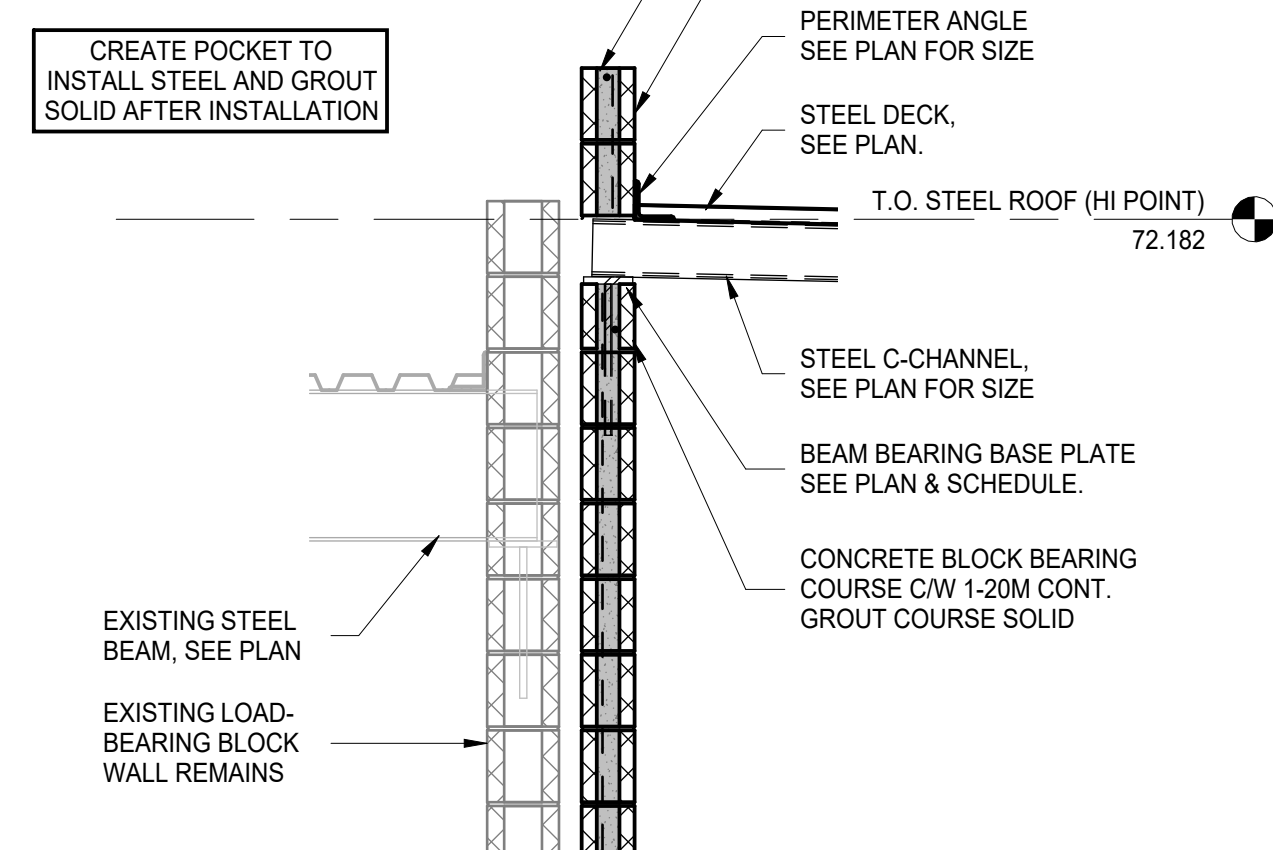
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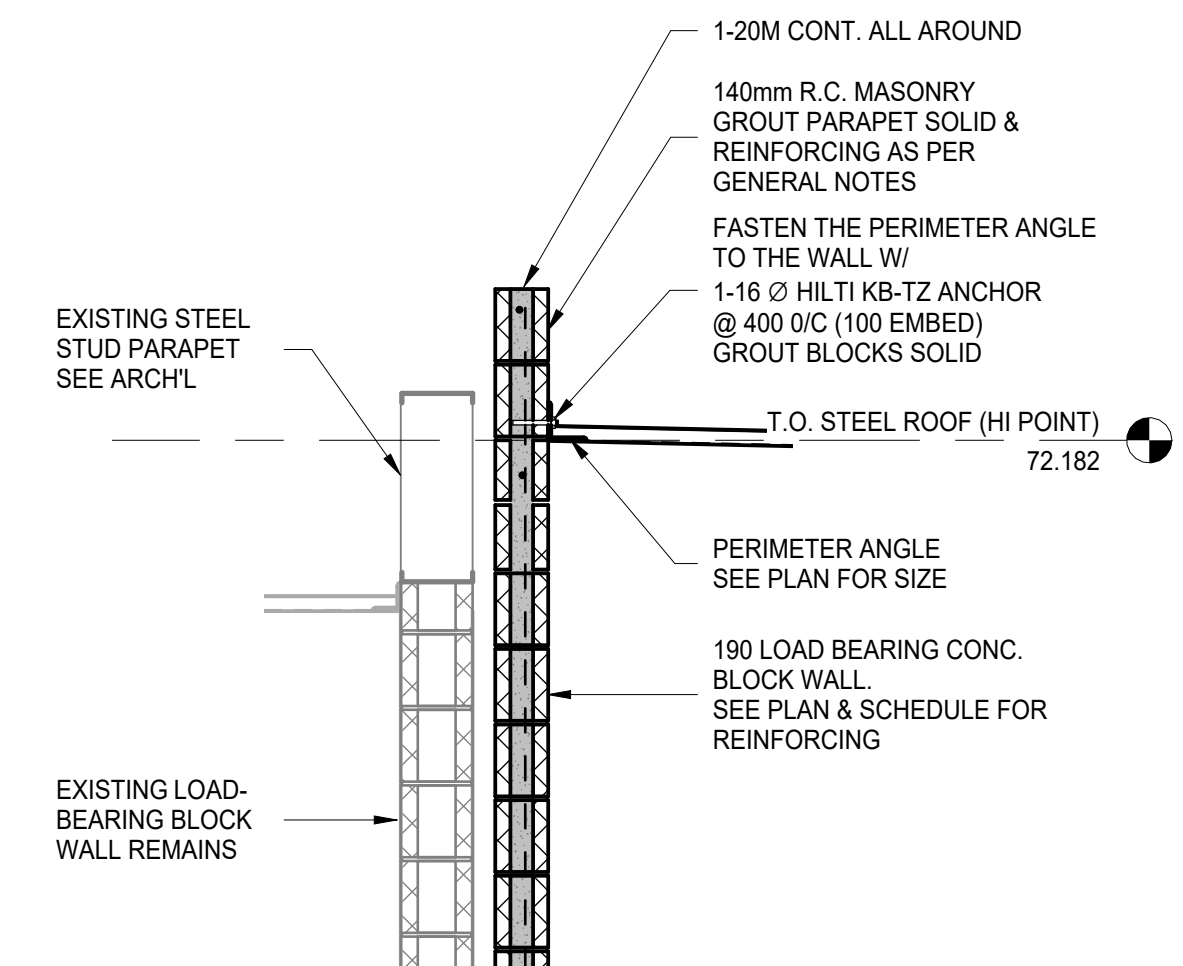
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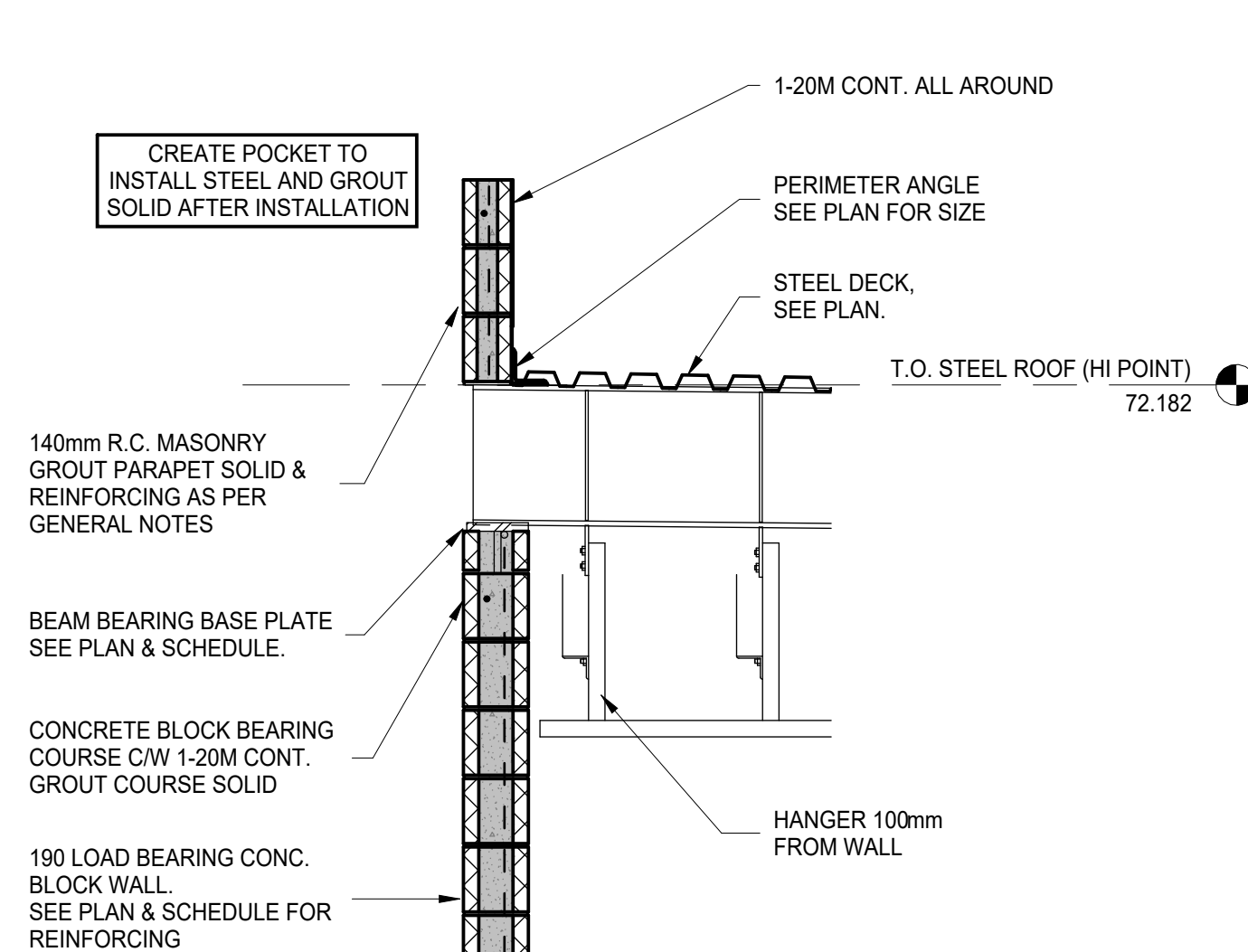
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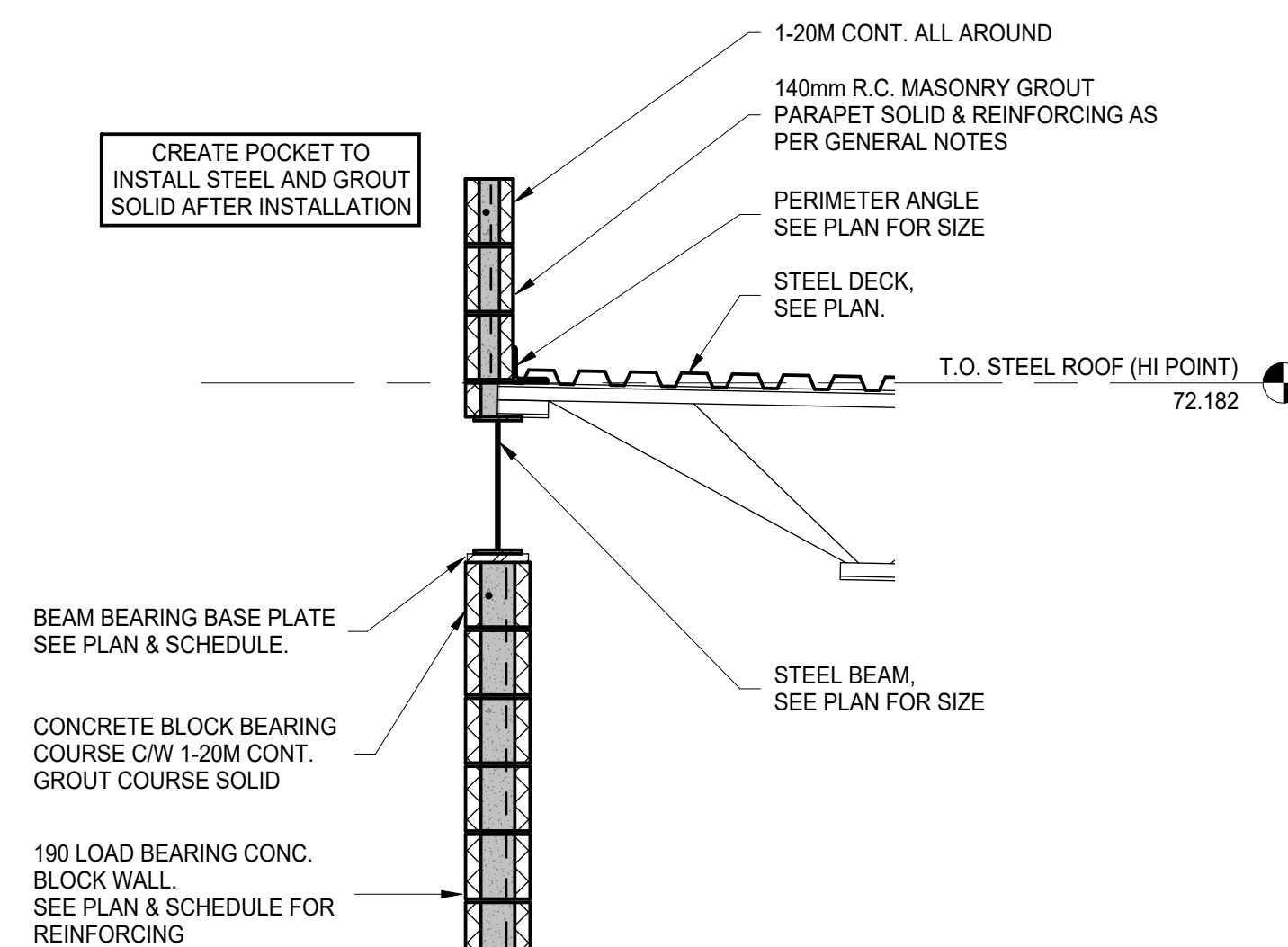
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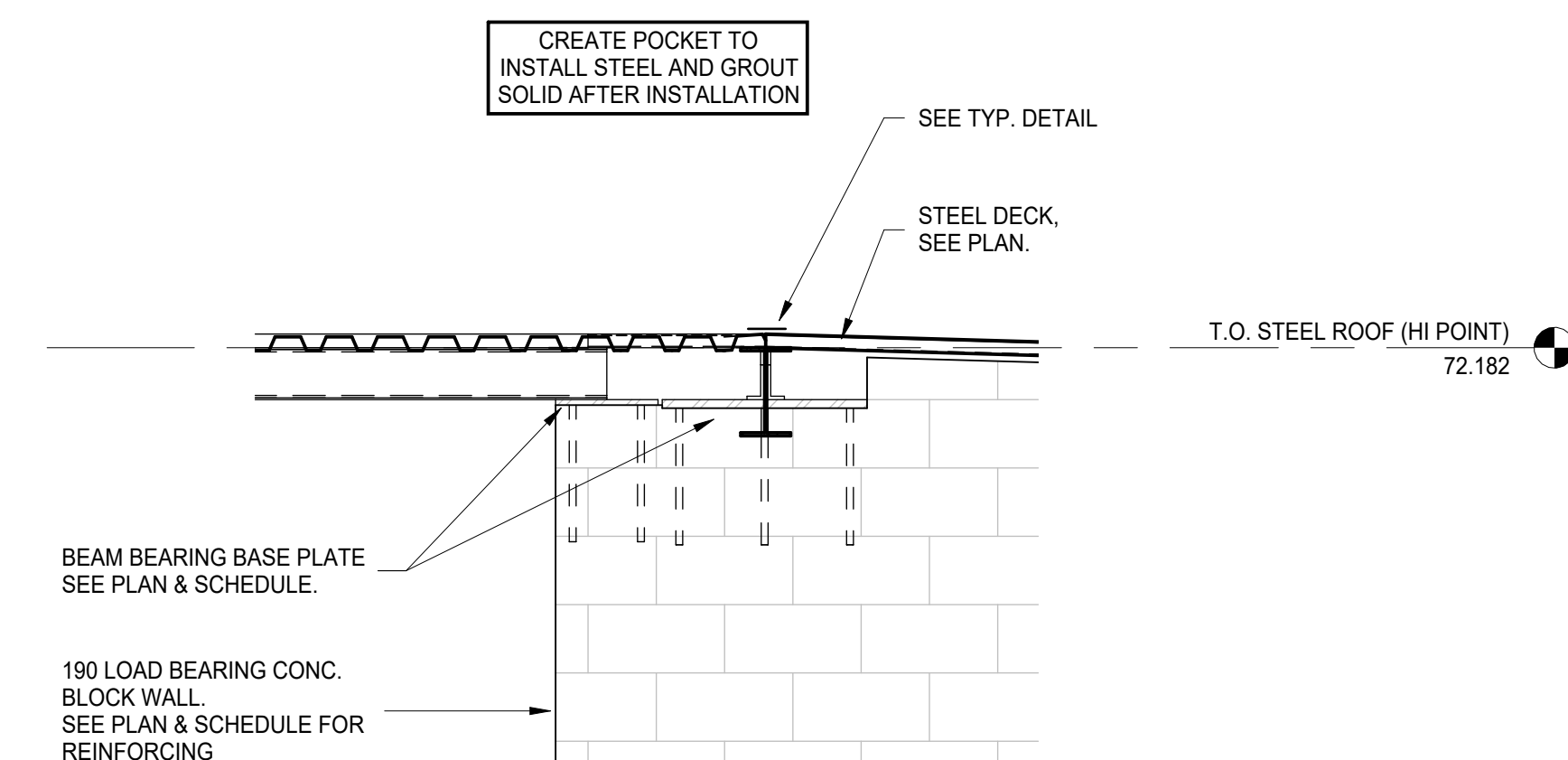
R16
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1 : 20



R10
SECTION
1 : 20



R11
SECTION
1 : 20



R12
SECTION
1 : 20

2	ISSUE FOR TENDER	2026-02-10
1	ISSUE FOR BUILDING PERMIT	2025-12-10


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PROJECT
CAMBRIDGE PUBLIC SCHOOL

ARCHITECT
N45 ARCHITECTURE INC.

DRAWING TITLE
SECTIONS

DRAWN A.M.	REVIEWED J.C.	SCALE 1 : 20
ENGINEERS SEAL	PROJECT No. 25-121	SHEET No. S302
		REVISION No.