

# FIFA - EAST VSTS CENTENNIAL PARK

BLACKWELL PROJECT 230227  
56 Centennial Park Rd, Toronto, ON

ISSUE: ISSUED FOR ADDENDUM NO.1  
2024-12-19

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S000

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.
- ALL STRUCTURAL TIMBER ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD O86.
- ALL STRUCTURAL MASONRY ELEMENTS HAVE BEEN DESIGNED IN ACCORDANCE WITH CSA STANDARD S304.1.
- LATERAL FORCES ON STRUCTURAL FRAME
  - THE LATERAL FORCES ARE RESISTED BY THE VERTICAL STEEL BRACING.
  - 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 0.44 kPa (BASED ON 150 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 2015 - STRUCTURAL COMMENTARIES (PART 4).
- EARTHQUAKE:
  - THE DESIGN OF THE STRUCTURE FOR EARTHQUAKE IS BASED ON:
    - $I_e = 1.0$
    - SITE CLASS = D
    - $S_a(0.2) = 0.193$
    - $S_a(0.5) = 0.106$
    - $S_a(1.0) = 0.056$
    - $S_a(2.0) = 0.027$
    - $P_GA = 0.124$
    - $R_d R_o = 1.95$
    - $F_a = 1.0$
    - $F_v = 1.0$
  - THE SEISMIC HAZARD INDEX FOR THIS SITE IS:
    - $I_E F_a S_a(0.2) = 0.193$
  - THE STRUCTURE HAS BEEN DESIGNED FOR:
    - N/S DIRECTION
      - BASE SHEAR = 280kN
    - E/W DIRECTION
      - BASE SHEAR = 280kN
  - 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:
$$P = K (y h + q) \quad \text{WHERE}$$

K IS THE LATERAL EARTH PRESSURE COEFFICIENT (0.5)  
P IS THE PRESSURE EXERTED HORIZONTALLY  
h IS THE DEPTH BELOW GRADE  
y IS THE UNIT WEIGHT OF SOIL (21kN/M3)  
q IS THE SURCHARGE ON THE GROUND SURFACE
- FOUNDATION AND OTHER WALLS RETAINING EARTH HAVE BEEN DESIGNED FOR SURCHARGE OF 4.8 kPa TYPICAL AND 12 kPa ADJACENT SIDEWALKS.
- 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  $S_s = 1.1$  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 CONTROL FLOW DRAINS MEETING MINIMUM DRAINAGE CRITERIA FOR CASE M2.
- 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.
- FUTURE EXTENSIONS
  - THE STRUCTURE HAS NOT BEEN DESIGNED FOR ANY FUTURE EXTENSIONS.
- SERVICEABILITY LIMITS USED IN THE STRUCTURAL DESIGN INCLUDE THE FOLLOWING MAXIMUM DEFLECTION/SPAN RATIOS, UNDER LIVE, SNOW OR WIND LOADING UNLESS OTHERWISE NOTED;
  - FOUNDATION SETTLEMENT
    - TOTAL: 25mm
    - DIFFERENTIAL: 20mm
- ROOF DEFLECTION
  - 1:360
  - 1:180 TOTAL LOAD
  - 1:180 IMMEDIATE
  - 1:480 AFTER ATTACHMENT OF NON-STRUCTURAL ELEMENTS
- PERIMETER BEAMS - AS NOTED ABOVE, BUT NO MORE THAN:
  - 19mm WHERE SUPPORTING CURTAINWALL
  - 25mm ELSEWHERE
- BEAMS SUPPORTING MASONRY, INCLUDING LINTELS
  - 1:480 < 20mm VERTICAL, 1:600 HORIZONTAL
- BEAMS SUPPORTING MOVABLE PARTITIONS 1:480

- BEAMS SUPPORTING MOVABLE PARTITIONS 1:600
- TRANSFER BEAM - 1/2 THE LIMITS NOTED ABOVE
- WALL OUT-OF-PLANE DEFLECTION (HORIZONTAL)
  - TYPICAL
    - 1:180
    - SEISMIC; SAME AS INTERSTOREY DRIFT
  - SUPPORTING MASONRY VENEER
    - 1:360
    - SEISMIC; SAME AS INTERSTOREY DRIFT
- INTERSTOREY DRIFT
  - WIND; H/500
  - SEISMIC; H/40

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.
    - FOR NOMINALLY UNREINFORCED CONCRETE: CONFORM TO THE REQUIREMENTS OF CSA STANDARD A438 (LATEST VERSION) AND THE FOLLOWING FOR STRENGTH, SLUMP, WATER-TO-CEMENTING MATERIALS CONTENT AND AIR CONTENT, INCLUDING THE FOLLOWING:
      - CONCRETE STRENGTH 20 MPa, INCREASE TO;
        - 25 MPa FOR INTERIOR SLABS ON GRADE, UNLESS DAMP PROOFING IS PROVIDED (0.15 mm POLYETHYLENE BELOW THE SLAB, OR EQUAL).
      - AIR CONTENT OF 5%-8% WHERE EXPOSED TO FREEZE-THAW, REDUCE TO 3%-6% FOR FOOTINGS.
      - MAXIMUM SLUMP OF 100 mm, INCREASE TO 150mm FOR CONVENTIONAL FOUNDATIONS.
    - 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	EXPOSURE CLASS PER A23.1	CONCRETE STRENGTH $f_c$ (MPa)	DAYS TO DESIGN STRENGTH	MAX. W/C RATIO	AIR CONTENT	BENCHMARK MIX GWP/ kg CO2/m <sup>3</sup>	MAXIMUM GWP/ kg CO2/m <sup>3</sup>	SCOPE
CM 1A	FOUNDATION MIX FROST PROTECTED	N	25	56			254	211	FOOTINGS AND CAPS BELOW FROST LEVEL OR INSULATED OR INTERIOR
CM 1B	FOUNDATION MIX FROST EXPOSED	F-2	25	56		4%-7%	261	235	FOOTINGS AND CAPS EXPOSED TO FROST IN THE FINAL CONDITION
CM 2	SLAB ON GRADE MIX	N-CF	25	56	.55		265	220	INTERIOR SLABS ON GRADE
CM 13A	EXTERIOR WALL MIX	F-2	25	28	0.55	4%-7%	261	235	FOUNDATION WALLS AND OTHER WALLS EXPOSED TO FREEZE THAW BUT NOT EXPOSED TO DE-ICING CHEMICALS
CM 13B	INSULATED FOUNDATION WALL MIX	N	25	56			254	211	FOUNDATION WALLS AND OTHER WALLS NOTED EXPOSED TO FREEZE THAW (INSULATION ON OUTSIDE FACE)
CM 14	LEAN MIX	N	0.4 max. <sup>1</sup>	28		4-6% (EXTE PRIOR ONLY)	N/A	N/A	UNSHRINKABLE FILL
CM 8	PARKING WALL, SLAB AND BEAM MIX	C-1 <sup>2</sup>	35	28	0.40	5%-8%	313	294	FOUNDATION WALLS ADJACENT TO PAVING, FRAMED SLABS AND BEAMS EXPOSED TO DE-ICING CHEMICALS.

- WHERE AGGREGATES SMALLER THAN 14 mm ARE USED, INCREASE AIR CONTENT BY 1%
  - REINFORCED CONCRETE EXPOSED TO DE-ICING CHEMICALS TO HAVE CORROSION INHIBITOR IN ACCORDANCE WITH SPECIFICATION SECTION 03 30 00.
  - MAX. 25kg CEMENT/ cu.m.
  - SUBMIT (TYPE I OR) TYPE III ENVIRONMENTAL PRODUCT DECLARATION INFORMATION FOR EACH CONCRETE MIX DEMONSTRATING THAT THE GWP IS AT OR BELOW THE TARGETED MAXIMUM GWP. BENCHMARK GLOBAL WARMING POTENTIAL DATA HAS BEEN EXTRACTED FROM THE RMCAO MEMBER INDUSTRY-WIDE EPD DOCUMENT FOR READY-MIXED CONCRETE 2022.
    - GWP TARGETS MAY CONSIDER CONCRETE THAT HAS UNDERGONE CARBONATION TREATMENT WITH CARBON DIOXIDE (CO2) DURING MIXING, SUCH THAT POST INDUSTRIAL CO2 IS INJECTED INTO THE CONCRETE AS AN ADMIXTURE AND CHEMICALLY CONVERTED INTO A MINERAL. CONCRETE MIX OPTIMIZATION MAY ADJUST CEMENTITIOUS MATERIALS CONTENT. ACCEPTABLE TECHNOLOGIES: CARBONCURE TECHNOLOGIES.
- REINFORCEMENT:
    - EMBODIED CARBON DOCUMENTATION REQUIREMENTS:
      - ALL REBAR IS TO BE SOURCED FROM SUPPLIERS THAT PROVIDE A TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD)
      - SUBMIT TYPE III EPD WITH FIRST ROUND OF SHOP DRAWINGS
      - THE MAXIMUM GWP FOR FABRICATED REBAR IS 1000 kg CO<sub>2</sub>e/1000kg
    - CONFORM TO THE REQUIREMENTS OF CSA G30.18 FOR CARBON STEEL REINFORCING BARS.
    - CONFORM TO THE REQUIREMENTS OF ASTM A1064/A1064M FOR WELDED WIRE FABRIC.
    - 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.

2. 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 JOINS 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) THAT THE FOLLOWING FOR COVER TO REINFORCEMENT (mm):
    - TYPICAL COVER 40 mm
    - CAST AGAINST EARTH : 75 mm
    - EXPOSED TO EARTH: 50 mm
- REINFORCING IN SLAB ON DECK
  - WELDED WIRE MESH REINFORCING IS TO BE CHAIRED AND SECURELY POSITIONED IN THE MIDDLE OF THE COVER SLAB OF ALL SLABS ON COMPOSITE STEEL DECK, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- 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 MEMBRANCE) INCLUDING CURBS AND WALLS.
CP 4	CATHODIC PROTECTION	NONE

- WATERSTOPS
  - PROVIDE WATERSTOPS AT ALL CONCRETE JOINTS MORE THAN 600 MM BELOW GRADE.
- ARCHITECTURAL CONCRETE
  - DESIGNATE CONCRETE AS ARCHITECTURALLY EXPOSED IN ACCORDANCE WITH THE ARCHITECTURAL CONCRETE LEGEND ON PLAN. REFER TO THE SPECIFICATION FOR SPECIFIC REQUIREMENTS FOR ARCHITECTURAL CONCRETE (AEC).

050000 STRUCTURAL STEEL

- MATERIALS
  - WIDE FLANGE SHAPES - CONFORM TO THE REQUIREMENTS OF ASTM A992/A992M,  $F_y=345$ MPa
  - 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 – GRADE A325
  - 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.
- 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 ABUTTING 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 ALIGN 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 CSC 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, OR WHERE NOT NOTED STEEL SUPPLIER IS TO INTERCONNECT AS REQUIRED TO ENSURE ADEQUATE CAPACITY FOR THE DESIGN OR 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 ARCHITECTURALLY EXPOSED LEGEND ON PLAN. REFER TO THE SPECIFICATION FOR SPECIFIC REQUIREMENTS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS).
  - PROTECTION: REFER TO THE SPECIFICATION FOR SPECIFIC REQUIREMENTS FOR ANY COATING SYSTEMS.

053100 STEEL DECKING

- MATERIALS
  - EMBODIED CARBON DOCUMENTATION REQUIREMENTS:
    - ALL REBAR IS TO BE SOURCED FROM SUPPLIERS THAT PROVIDE A TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD)
    - SUBMIT TYPE III EPD WITH FIRST ROUND OF SHOP DRAWINGS
    - THE MAXIMUM GWP FOR METAL DECK IS 2000 kg CO<sub>2</sub>e/1000kg
  - 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 ZF75 FOR INTERIOR DECKING NOT EXPOSED TO VIEW AND INTERIOR DECKING WITH FIELD APPLIED PAINT SYSTEM.
  - MINIMUM 1.22mm STEEL CONFORMING TO ABOVE STANDARDS FOR COVER PLATES, CELL CLOSURES, WEB STIFFENERS, EDGE STRIPS AND FLASHINGS.
  - FORM ROOF DECK WITH INTEGRAL RISBS OF A SHAPE TO MATCH EXISTING DECK WHERE REPAIR/REPLACEMENT 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 GALVAON 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.

060000 WOOD

- MATERIALS
  - GLUED-LAMINATED TIMBER
    - CONFORM TO CAN/CSA-0122
    - SPECIES - SPRUCE-PINE
    - BENDING STRESS GRADE - 20r-E
    - COMPRESSION STRESS GRADE - 16c-E
    - TENSION STRESS GRADE - 18t-E
    - APPEARANCE GRADE - INDUSTRIAL
  - CONNECTIONS
    - ALL WOOD TO WOOD CONNECTIONS OR WOOD TO STEEL CONNECTIONS, UNLESS OTHERWISE NOTED, ARE TO BE THE APPROPRIATE SIMPSON STRONG-TIE HANGER OR APPROVED EQUIVALENT, SIZED FOR THE CONNECTION FORCE AND MEMBER CONFIGURATION INDICATED.
    - NAILS ARE TO BE COMMON STEEL WIRE NAILS CONFORMING TO THE REQUIREMENTS OF ASTM F1667 OR CSA B111. NAILS SHALL HAVE A MINIMUM DIAMETER (CORRESPONDING TO NAIL LENGTH) AS FOLLOWS: 2.87mm (FOR 57mm/2-1/4" LONG NAILS); 3.25mm (84mm/2-1/2" LONG); 3.66mm (76mm/3" AND 82mm/3-1/4" LONG); 4.88mm (102mm/4" LONG).
      - SUBSTITUTION OF THE ABOVE-SPECIFIED NAIL DIAMETERS IS SUBJECT TO APPROVAL BY THE ENGINEER. FOR PART 9 BUILDINGS, NAIL SUBSTITUTION MAY BE PERFORMED IN ACCORDANCE WITH CL. A.9.23.3.1.(2) IN THE APPENDIX OF NBC 2015.
    - WOOD SCREWS ARE TO CONFORM TO THE REQUIREMENTS OF ASTM B18.6.1. REFER TO CSA O86 FOR DIAMETER AND MINIMUM YIELD STRENGTH INFORMATION.

- ALL NAILS AND SCREWS USED IN AN EXTERIOR APPLICATION OR USED WITH PRESERVATIVE TREATED WOOD SHALL BE APPROPRIATELY COATED WITH A PROTECTIVE COATING COMPATIBLE WITH THE WOOD PRESERVATIVE TREATMENT.
  - BOLTS, NUTS AND WASHERS: ASTM A307 OR SAE J429 GRADE 2.
  - LAG SCREWS ARE TO CONFORM TO THE REQUIREMENTS OF ASTM B18.2.1
  - ALL LAG BOLTS, THRU BOLTS AND OTHER HARDWARE TO BE HOT DIPPED GALVANIZED
  - ALL LAG BOLTS SHALL HAVE SHARP THREADS FOR AT LEAST ONE-HALF THE TOTAL BOLT LENGTH, UP TO 152 mm (6") THREADED LENGTH. LAG BOLT WITH DULL THREADS OR INSUFFICIENT THREADED LENGTH WILL BE REJECTED OUTRIGHT.
  - UNLESS OTHERWISE APPROVED BY THE CONSULTANT, ALL NAILS ARE TO HAVE FULL ROUND HEADS. CLIPPED HEAD NAILS ARE NOT ACCEPTABLE. NAILS ARE TO BE DRIVEN FLUSH; DO NOT OVERDRIVE NAILS.
- EXECUTION
    - PROTECT ALL WOOD PRODUCTS FROM DAMAGE AND STAINING DUE TO WETTING AND MOISTURE.
    - PROTECT INSTALLED DECKING AND SHEATHING FROM EXCESSIVE MOISTURE UNTIL FINAL WATERPROOFING IS COMPLETE. ENSURE SURFACES THAT ARE TO RECEIVE FINISHES MEET MANUFACTURERS REQUIREMENTS FOR MAXIMUM MOISTURE CONTENT FOR THE FINISH SPECIFIED.
    - DIMENSION LUMBER WITH SMALLER NOMINAL DIMENSION OF 2 INCHES ("2-8Y-") PRESERVATIVE TREATED FOR EXTERIOR APPLICATIONS SHALL NOT BE INCISED. IF INCISED LUMBER IS TO BE USED, CONFIRM MEMBER SIZES WITH THE ENGINEER PRIOR TO CONSTRUCTION.
    - PROVIDE SIMPSON STRONG-TIE CONNECTORS OR EQUIVALENT AT ALL JOIST TO JOIST, JOIST TO BEAM, AND BEAM TO POST CONNECTIONS UNLESS NOTED OTHERWISE.

310000 FOUNDATIONS

- A SOIL INVESTIGATION HAS BEEN DONE BY GOLDER AS REPORTED IN THEIR SOIL REPORT NO. 02321465GG PREPARED BY ORBIT ENGINEERING, DATED AUGUST 15, 2023 (REVISED APRIL 18, 2024). READ THIS REPORT AND BE THOROUGHLY FAMILIARIZED WITH ITS FINDINGS. THE NEAREST BORE HOLE DATA REPORTED IS APPROXIMATELY 300m AWAY FROM THE PROPOSED SITE. IT IS ASSUMED THAT THE SOIL CAPACITY AT THE SITE IS BETTER OR CONSISTENT WITH THE REPORTED VALUES.
- FOUND ALL FOOTINGS AND UNDERPINNING ON NATURALLY CONSOLIDATED UNDISTURBED SOIL CAPABLE OF SAFELY SUSTAINING AN ULTIMATE BEARING VALUE OF 225kPa AND AN ALLOWABLE BEARING VALUE OF 150kPa AS A MINIMUM.
- FOUND FOOTINGS EXPOSED TO FREEZING BELOW THE LEVEL AT WHICH POTENTIAL DAMAGE RESULTING FROM FROST ACTION CAN OCCUR, BUT A MINIMUM OF 1200 mm BELOW FINISHED GRADE, OR 1000 BELOW EXISTING GRADE, WHICHEVER IS LOWER.
- THE LINE OF SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS OR ALONG STEPPED 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.

# Blackwell

Toronto | Waterloo | Halifax  
416.593.5300 | blackwell.ca

SEAL:		
4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION
ISSUE: ISSUED FOR ADDENDUM NO.1		
PROJECT NAME: CENTENNIAL PARK		
PROJECT ADDRESS: 56 Centennial Park Rd, Toronto, ON		
DRAWN: SG	CHECKED: VC/JC	
SCALE:	PROJECT NUMBER: 230227	
SHEET TITLE: GENERAL NOTES		
S001		



ABBREVIATIONS		TD0001
@	= AT	
A BOLT	= ANCHOR BOLT	
ADJ	= ADJUSTABLE	
ALT	= ALTERNATE	
ARCH	= ARCHITECTURAL	
ASL	= ACCUMULATED SNOW LOAD	
B	= BOTTOM	
BEW	= BOTTOM EACH WAY	
BLL	= BOTTOM LOWER LAYER	
BUL	= BOTTOM UPPER LAYER	
BLDG	= BUILDING	
BM	= BEAM	
BPL, BSPL	= BASE OR BEARING PLATE	
BSMT	= BASEMENT	
c/c, o/c	= CENTRE TO CENTRE	
c/w	= COMPLETE WITH	
C	= EPOXY COATED	
Cf, Pf, Af	= FACTORED COMPRESSION OR AXIAL FORCE, kN	
CANT	= CANTILEVER	
CFW	= COLD-FORMED STUD WALL	
CA	= COLUMN ABOVE	
CB	= COLUMN BELOW	
CDL	= COMPRESSION DEVELOPMENT LENGTH, mm	
CIF	= CONFIRM IN FIELD	
CJ	= CONSTRUCTION JOINT	
CLS	= COMPRESSION LAP SPlice, mm	
CLT	= CROSS LAMINATED TIMBER	
CLTW	= CROSS LAMINATED TIMBER WALL	
COL	= COLUMN	
COMP	= COMPRESSION	
CONC	= CONCRETE	
CONSTR	= CONSTRUCTION	
CONT	= CONTINUOUS	
CW	= CONCRETE WALL	
DET	= DETAIL	
DEV	= DEVELOPMENT	
DIAG	= DIAGONAL	
DIA, Ø	= (BAR) DIAMETER	
DIM	= DIMENSION	
DJ	= DOUBLE JOIST	
DL	= DEAD LOAD	
DLH	= DEVELOPMENT LENGTH FOR STANDARD HOOKS, mm	
DO	= DITTO	
DS	= DRAG STRUT	
DWG(S)	= DRAWING(S)	
DWL(S)	= DOWEL(S)	
EA	= EACH	
EF	= EACH FACE	
EW	= EACH WAY	
EL	= ELEVATION	
ELEC	= ELECTRICAL	
ELEV	= ELEVATOR	
E-W	= EAST-WEST	
EQ	= EQUAL	
EXIST	= EXISTING	
EXPJT	= EXPANSION JOINT	
EXT	= EXTERIOR	
FF	= FAR	
FDN	= FOUNDATION	
FIN	= FINISHED	
FL	= FLOOR	
FTG	= FOOTING	
FW	= FOUNDATION WALL	
fc	= CONCRETE STRENGTH, MPa	
GA	= GAUGE	
GALV	= GALVANIZED	
GEN	= GENERAL	
GL	= GLULAM	
H, HOR	= HORIZONTAL	
HG	= HOT DIP GALVANIZED	
HEF, H EF	= HORIZONTAL EACH FACE	
HEE	= HOOKED EACH END	
Hf	= FACTORED HOR FORCE, kN	
HSC	= HORIZONTALLY SLOTTED CONNECTION	
IF	= INSIDE FACE	
INT	= INTERIOR	
J	= JOINT	
kN	= KILONEWTON	
kg	= KILOGRAM	
kNm	= KILONEWTON METRES	
kN/sq.m	= kN PER SQUARE METRE	
kNm	= kN PER METRE	
kPa	= KILOPASCAL	

ABBREVIATIONS		TD0002
LL	= LIVE LOAD	
LG	= LONG	
LLV	= LONG LEG VERTICAL	
LLH	= LONG LEG HORIZONTAL	
LW	= LIGHT-WOOD WALL	
MC, ►	= MOMENT CONNECTION	
MECH	= MECHANICAL	
MEW	= MIDDLE EACH WAY	
MEZZ	= MEZZANINE	
MID	= MIDDLE	
MISC	= MISCELLANEOUS	
ML	= MIDDLE LAYER	
mm	= MILLIMETRE	
MOM	= MOMENT	
m	= METRE, METRIC	
MPa	= MEGAPASCAL	
MW	= MASONRY WALL	
Mf	= FACTORED MOMENT	
Mfx, Mfy	= FACTORED MOMENT ABOUT X-AXIS OR Y-AXIS, kNm	
MFW	= MASONRY FOUNDATION WALL	
MRW	= MASONRY RETAINING WALL	
N	= NETWORKS	
NF	= NEAR FACE	
NIC	= NOT IN CONTRACT	
NLT	= NAIL LAMINATED TIMBER	
N-S	= NORTH-SOUTH	
NTS	= NOT TO SCALE	
OF	= OUTSIDE FACE	
OWSJ	= OPEN WEB STEEL JOISTS	
OPEN	= OPENING	
PL	= PLATE	
PC	= PRECAST	
PROJ	= PROJECTION	
R	= REACTION	
RAD	= RADIUS	
REF	= REFERENCE	
REINF	= REINFORCE, REINFORCEMENT	
REQ'D	= REQUIRED	
REV	= REVISION, REVISED	
Rf	= FACTORED REACTION FORCE, kN	
r/w, RW	= REINFORCED WITH	
RW	= RETAINING WALL	
SECT	= SECTION	
SDF	= STEP DOWN FOOTING	
SIM	= SIMILAR	
SIP	= STRUCTURALLY INSULATED PANEL	
SL	= SNOW LOAD	
SOG	= SLAB ON GRADE	
SPECS	= SPECIFICATIONS	
SQ	= SQUARE	
STD	= STANDARD	
STRUCT	= STRUCTURAL	
SW	= SHEAR WALL OR STUD WALL	
T	= TOP	
TD	= TYPICAL DETAIL	
TDL	= TENSION DEVELOPMENT LENGTH, mm	
T/O, TOS	= TOP OF SLAB	
TEN	= TENSION	
TEW	= TOP EACH WAY	
TMf	= FACTORED TORSIONAL MOMENT, kNm	
Tf	= FACTORED TENSION FORCE, kN	
TJ	= TIE JOIST	
TLL	= TOP LOWER LAYER	
TUL	= TOP UPPER LAYER	
TEMP	= TEMPERATURE	
TLS	= TENSION LAP SPlice, mm	
TYP	= TYPICAL	
UL	= UPPER LAYER	
U/N, UNO	= UNLESS NOTED OTHERWISE	
U/S	= UNDERSIDE	
Vf	= FACTORED SHEAR OR VERTICAL FORCE, kN	
V, VERT	= VERTICAL	
VEF, V EF	= VERTICAL EACH FACE	
VB	= VERTICAL BRACE/BRACING	
VSC	= VERTICALLY SLOTTED CONNECTION	
WPL	= WALL PLATE	
WW	= WOOD WALL	
WWF	= WELDED WIRE FABRIC	
WWM	= WELDED WIRE MESH	
w/, w/	= WITH	
wD, wL	= UNIFORMLY DISTRIBUTED LOADS	

REINFORCEMENT DEVELOPMENT LENGTHS

TD0301

TABLE 1 - TENSION DEVELOPMENT LENGTH, TDL (mm) <sup>1,2,3</sup>						
BAR SIZE	f <sub>c</sub>					
	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa	45 MPa
10M	320	300	300	300	300	300
15M	480	430	390	370	340	320
20M	640	580	530	490	460	430
25M	1010	900	820	760	710	670
30M	1210	1080	990	910	850	800
35M	1410	1260	1150	1060	1000	940
45M	1820	1620	1480	1370	1290	1210
55M	2220	1980	1810	1680	1570	1480

TABLE 2 - TENSION LAP SPlice (CLASS B) LENGTH, TLS (mm) <sup>1,2,3</sup>						
BAR SIZE	f <sub>c</sub>					
	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa	45 MPa
10M	420	380	340	315	300	300
15M	630	560	510	485	445	420
20M	840	755	690	640	600	560
25M	1315	1170	1070	990	925	870
30M	1575	1405	1290	1180	1105	1040
35M	1840	1640	1495	1405	1300	1220
45M	LAP SPICES NOT PERMITTED					
55M	LAP SPICES NOT PERMITTED					

TABLE 3 - DEVELOPMENT LENGTH FOR STANDARD HOOKS, DLH (mm) <sup>2,3,4</sup>					
BAR SIZE	f <sub>c</sub>				
	20 MPa	25 MPa	30 MPa	35 MPa	40 MPa 45 MPa
10M	220	200	180	170	160 150
15M	340	300	270	250	240 220
20M	450	400	370	340	320 300
25M	560	500	460	420	400 370
30M	670	600	550	510	470 450
35M	780	700	640	590	550 520
45M	1010	900	820	760	710 670
55M	1230	1100	1000	930	870 820

TABLE 4 - COMPRESSION DEVELOPMENT LENGTH, CDL (mm)				
BAR SIZE	f <sub>c</sub>			
	20 MPa	25 MPa	30 MPa	35 MPa
10M	210	200	200	200
15M	320	290	260	
20M	430	380	350	
25M	540	480	440	
30M	640	580	530	
35M	750	670	620	
45M	970	860	790	
55M	1180	1060	970	

TABLE 5 - COMPRESSION LAP SPlice LENGTH, CLS (mm)		
BAR SIZE	USUAL CONFINEMENT	
10M	300	
15M	440	
20M	580	
25M	730	
30M	880	
35M	1020	
45M	MECHANICAL CONNECTORS OR WELDED BUTT SPICES ONLY.	
55M	MECHANICAL CONNECTORS OR WELDED BUTT SPICES ONLY.	

TABLE 6 - DIMENSIONS FOR STANDARD HOOKS, (mm) <sup>5,6</sup>				
BAR SIZE	BEND ID	180° HOOK	90° HOOK	
10M	70	140	180	
15M	100	180	260	
20M	120	220	310	
25M	150	280	400	
30M	250	400	510	
35M	300	480	610	
45M	450	680	790	
55M	600	900	1030	

1.

VALUES ARE 1.3x THE LENGTH INDICATED FOR ALL HORIZONTAL REINFORCING PLACED IN SUCH A WAY THAT 300 mm FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPlice. THIS SHALL BE APPLIED TO ALL TOP BARS IN SLABS AND BEAMS THICKER THAN 325 mm.

2.

VALUES ARE 1.5x THE LENGTH INDICATED FOR EPOXY COATED REINFORCEMENT WITH CLEAR COVER LESS THAN 30d OR CLEAR SPACING LESS THAN 60d, AND 1.2x FOR ALL OTHER EPOXY COATED REINFORCEMENT.

3.

VALUES ARE 1.3x THE LENGTH INDICATED FOR STRUCTURAL LOW-DENSITY CONCRETE.

4.

FOR 10M TO 35M BARS WHERE THE SIDE COVER IS GREATER THAN 60 mm AND FOR 90° HOOKS WHERE THE COVER ON THE BAR EXTENSION BEYOND THE HOOK IS GREATER THAN 50 mm, LENGTHS MAY BE REDUCED BY 0.7.

5.

VALUES PROVIDED ARE FOR GRADE 400R OR 500R. ALSO ACCEPTABLE FOR GRADE 400W OR 500W.

6.

REFER TO REINFORCING STEEL MANUAL OF STANDARD PRACTICE FOR ADDITIONAL INFORMATION.

HEADS FOR REINFORCEMENT ANCHORAGE

TD0302

SQUARE PLATE

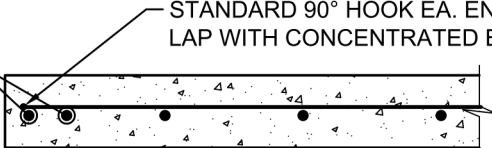
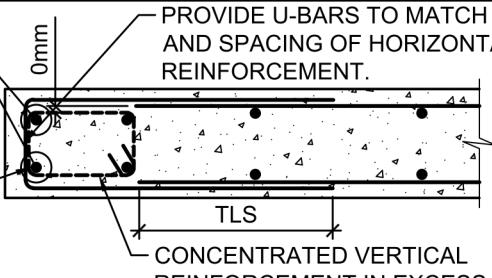
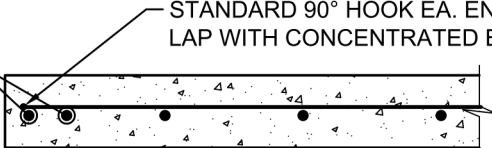
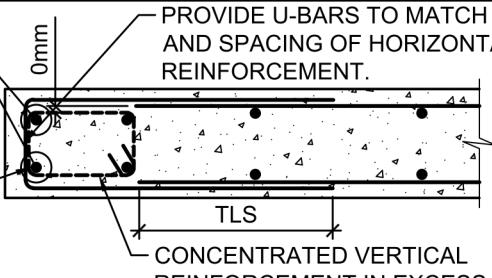
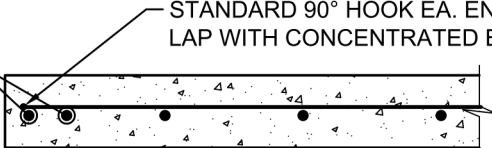
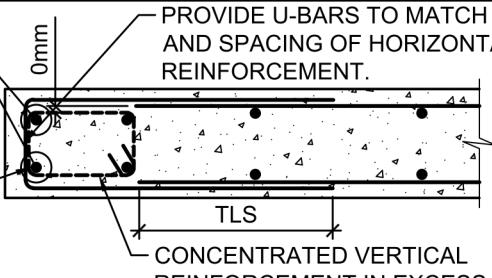
RECTANGULAR PLATE

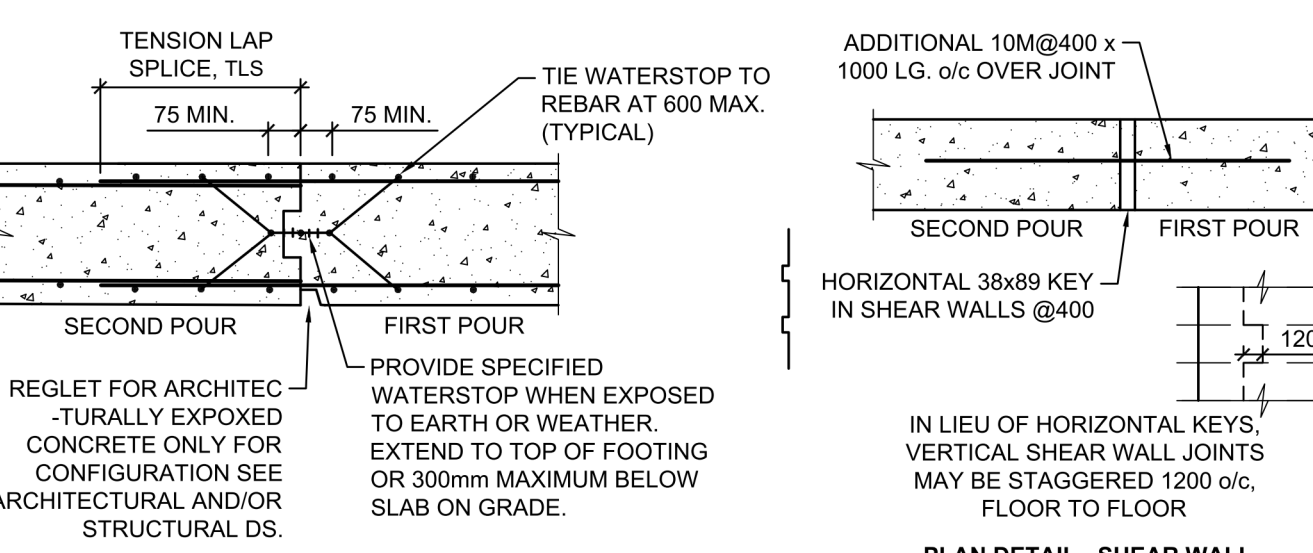
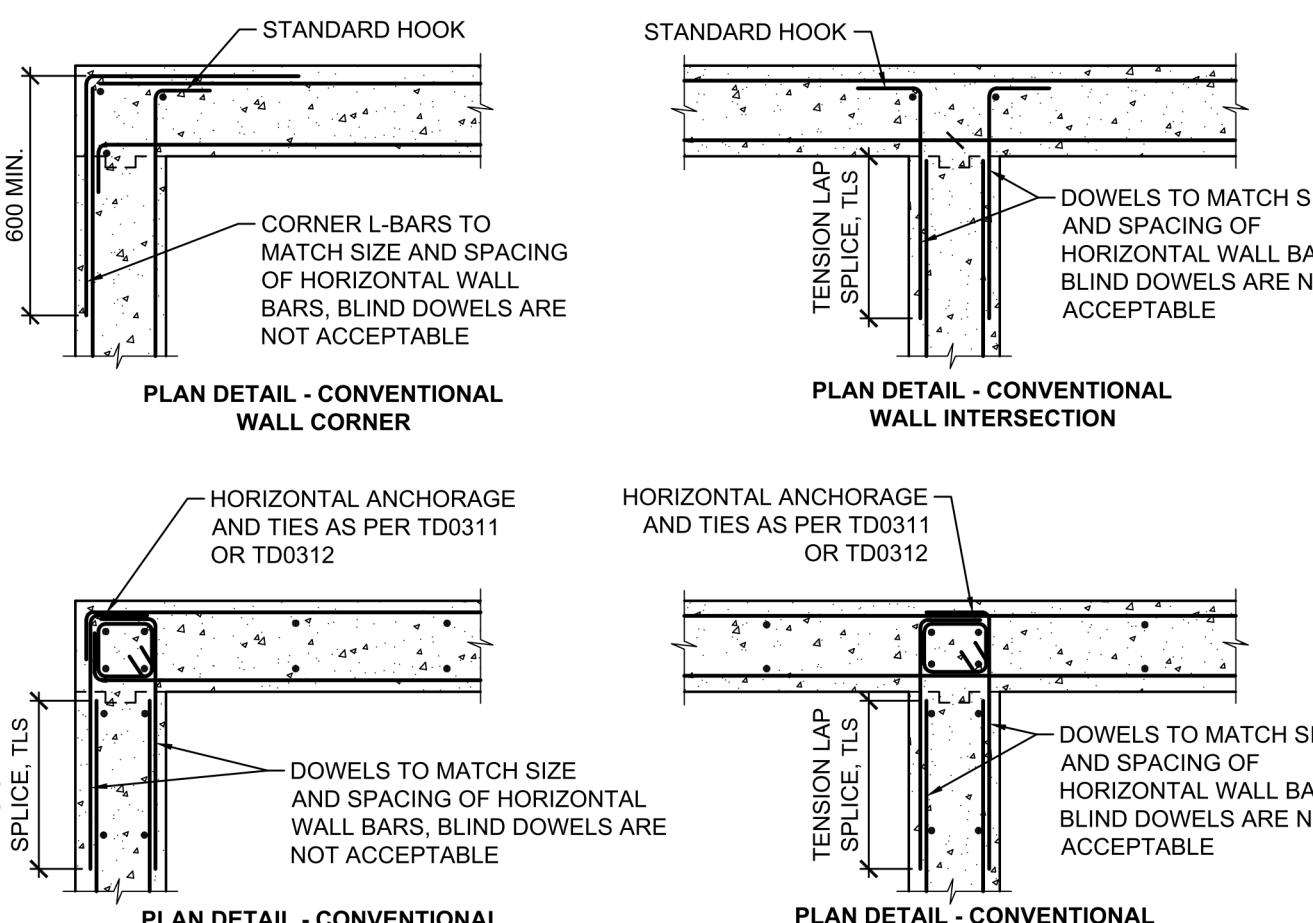
BAR SIZE	SQUARE PLATE		RECTANGULAR PLATE			WELD SIZE
	A	t <sub>1</sub>	B	C	t <sub>2</sub>	D
15M	50	12	65	35	12	10
20M	60	16	70	50	16	10
25M	75	19	90	60	22	13
30M	90	25	110	70	28	16
35M	105	28	125	90	35	19

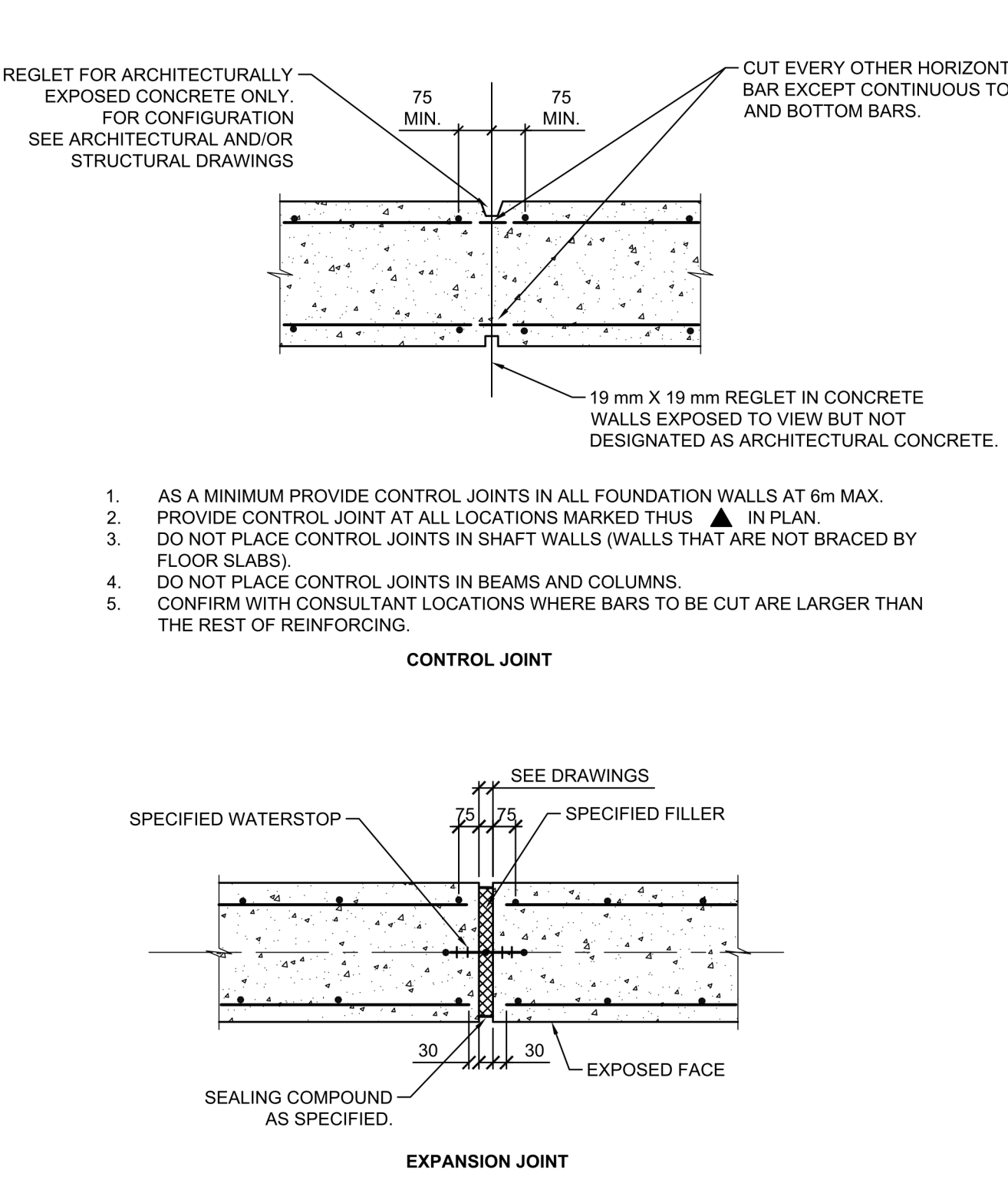
**ALTERNATELY: PROVIDE MECHANICAL ANCHORS THREADED OR FUSED TO THE REINFORCEMENT WITH AN AREA NOT LESS THAN 10 TIMES THE CROSS-SECTIONAL AREA OF THE ATTACHED REINFORCING BAR.**

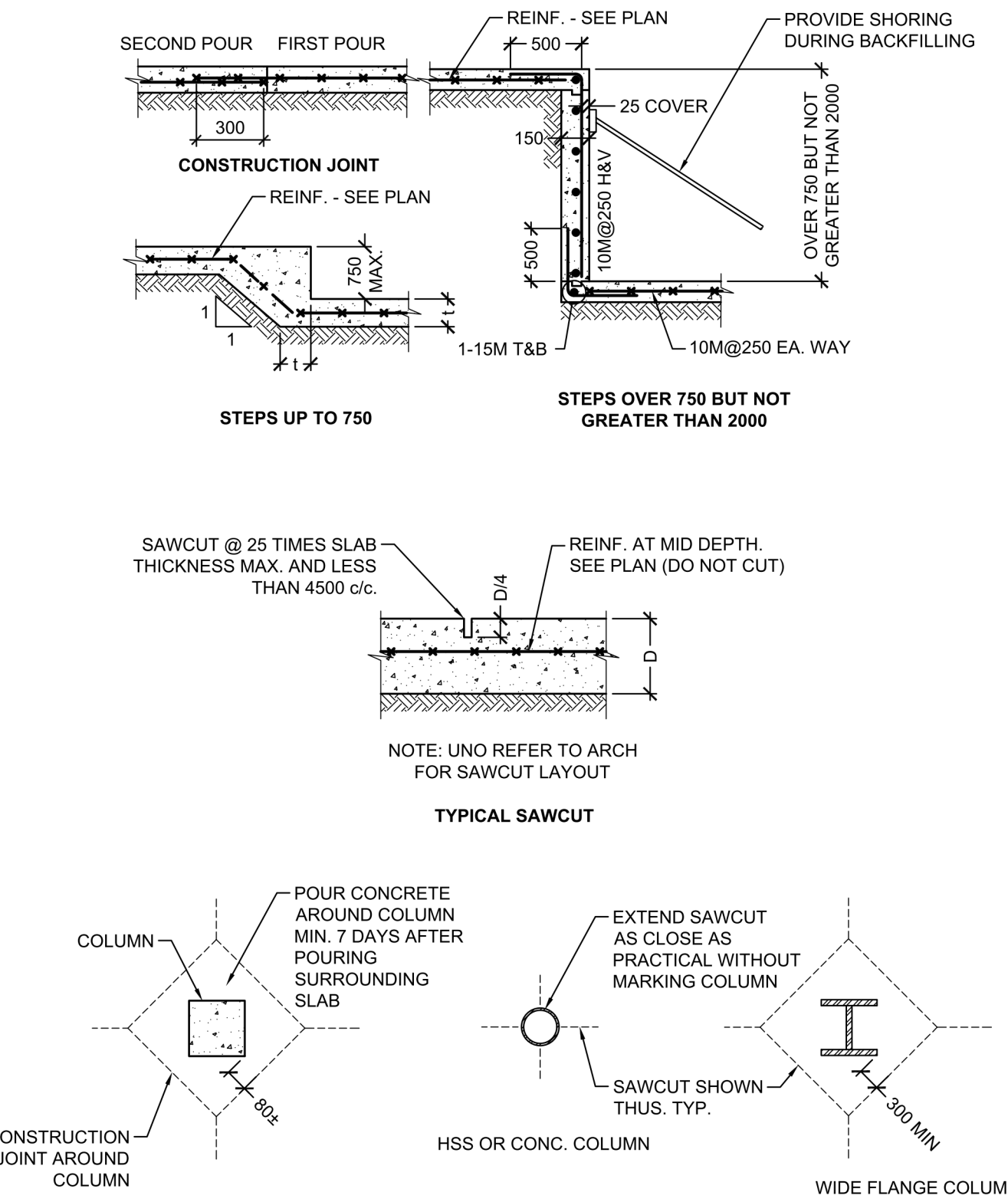
NOTES

1. WELDING OF REINFORCEMENT SHALL BE DONE IN ACCORDANCE WITH CSA W188 WITH WELD STRENGTH  $\chi_u=480$  MPa.
2. STEEL PLATE SHALL CONFORM TO REQUIREMENTS OF CSA G40.21 GRADE 300W.
3. REINFORCING STEEL SHALL CONFORM TO CSA G30.18-09 GRADE 400W.
4. MINIMUM CONCRETE STRENGTH  $f_c=25$  MPa.

CONCRETE WALL - CONVENTIONAL REINFORCEMENT		TD0310																											
<table><tr><th colspan="3">MINIMUM DISTRIBUTED WALL REINFORCING</th></tr><tr><th>t, WALL THICKNESS (mm)</th><th>VERTICAL BARS EACH FACE</th><th>HORIZONTAL BARS EACH FACE</th></tr><tr><td>150<sup>2</sup></td><td>15M@500 (1 LAYER)</td><td>10M@300 (1 LAYER)</td></tr><tr><td>200</td><td>15M@500</td><td>10M@500</td></tr><tr><td>250</td><td>15M@500</td><td>10M@400</td></tr><tr><td>300</td><td>15M@500</td><td>10M@300</td></tr><tr><td>350</td><td>15M@500</td><td>15M@500</td></tr><tr><td>400</td><td>15M@500</td><td>15M@500</td></tr><tr><td>500</td><td>15M@500</td><td>15M@400</td></tr></table>			MINIMUM DISTRIBUTED WALL REINFORCING			t, WALL THICKNESS (mm)	VERTICAL BARS EACH FACE	HORIZONTAL BARS EACH FACE	150 <sup>2</sup>	15M@500 (1 LAYER)	10M@300 (1 LAYER)	200	15M@500	10M@500	250	15M@500	10M@400	300	15M@500	10M@300	350	15M@500	15M@500	400	15M@500	15M@500	500	15M@500	15M@400
MINIMUM DISTRIBUTED WALL REINFORCING																													
t, WALL THICKNESS (mm)	VERTICAL BARS EACH FACE	HORIZONTAL BARS EACH FACE																											
150 <sup>2</sup>	15M@500 (1 LAYER)	10M@300 (1 LAYER)																											
200	15M@500	10M@500																											
250	15M@500	10M@400																											
300	15M@500	10M@300																											
350	15M@500	15M@500																											
400	15M@500	15M@500																											
500	15M@500	15M@400																											
<div><div>1. UNLESS NOTED OTHERWISE ON THE DRAWINGS, PROVIDE THE MINIMUM REINFORCING SHOWN ABOVE IN ALL CONCRETE WALLS.</div><div>2. REFER TO PLANS, NOTES AND WALL SCHEDULE FOR REINFORCING AND WALL MARKS.</div><div>3. FOR WALL THICKNESS BETWEEN THOSE SHOWN ABOVE, PROVIDE REINFORCING AS FOR THE NEXT THICKER WALL.</div><div>4. CONCENTRATED VERTICAL REINFORCING AT BOUNDARY ZONES ARE TO BE TENSION LAPPED WITH REBAR ABOVE.</div><div>5. 150 WALLS ARE TO BE NON-LOAD BEARING CONCRETE WALLS.</div></div>																													
<table><tr><th>t, WALL THICKNESS (mm)</th><th>CONCENTRATED REINFORCEMENT AND HORIZONTAL ANCHORAGE</th></tr><tr><td>150<sup>2</sup></td><td><div><div>CONCENTRATED VERTICAL BARS AS NOTED ON DRAWINGS; 2-15M MINIMUM</div><div></div></div></td></tr><tr><td>≥ 200</td><td><div><div>CONCENTRATED VERTICAL BARS AS NOTED ON DRAWINGS; 2-15M MINIMUM</div><div>CONCENTRATED VERTICAL BARS GREATER THAN 2-15M SHALL CONSIST OF TWO OR MORE LAYERS WITH AT LEAST TWO BARS IN EACH LAYER.</div><div></div></div></td></tr></table>			t, WALL THICKNESS (mm)	CONCENTRATED REINFORCEMENT AND HORIZONTAL ANCHORAGE	150 <sup>2</sup>	<div><div>CONCENTRATED VERTICAL BARS AS NOTED ON DRAWINGS; 2-15M MINIMUM</div><div></div></div>	≥ 200	<div><div>CONCENTRATED VERTICAL BARS AS NOTED ON DRAWINGS; 2-15M MINIMUM</div><div>CONCENTRATED VERTICAL BARS GREATER THAN 2-15M SHALL CONSIST OF TWO OR MORE LAYERS WITH AT LEAST TWO BARS IN EACH LAYER.</div><div></div></div>																					
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CONCRETE WALL - VERTICAL JOINTS		TD0315
		
		

CONC. WALL - CONTROL AND EXPANSION JOINTS		TD0317
		

SLAB ON GRADE - JOINTS, STEPS, SAWCUTS		TD0320
		

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE:	PROJECT NUMBER: 230227

SHEET TITLE:  
TYPICAL DETAILS

SLABS ON GRADE - STAIR & PARTITION THICKENINGTD0321

10M@300 x 750 LONG DOWELS

REFER TO PLAN FOR SLAB ON GRADE REINFORCEMENT

2-15M

400

200

STAIR STRINGER

REFER TO PLAN FOR SLAB ON GRADE REINFORCEMENT

2-15M

400

200

**CONCRETE STAIRS SUPPORTED ON GRADE**

HORIZONTAL LENGTH OF STAIR RUN NOT TO EXCEED 3.6m ( $W_{dLS} < 20\text{ kN/m}$ )

NON-LOAD BEARING WALL

DOWEL TO MATCH VERT. WALL REINF.

SLAB ON GRADE

2-15M CONT., LAP AT CORNERS AND JUNCTIONS

400

200

**SLAB THICKENING UNDER 140mm AND 190mm NON-LOAD BEARING WALLS**

FOR WALLS REINFORCED NOT MORE THAN 1200mm o/c, NOT TALLER THAN 8m ( $W_{dLS} < 20\text{ kN/m}$ )

REFER TO PLAN FOR SLAB ON GRADE REINFORCEMENT

(3)-10M BARS B.E.W

600

200

**SLAB THICKENING UNDER STAIR POSTS SUPPORTED AT GRADE**

MAXIMUM TRIBUTARY AREA OF 5m<sup>2</sup> ( $P_{dLS} < 25\text{ kN}$ )

FROST SLABTD0323

PROVIDE 3mm PREFINISHED ALUMINUM SILL FLASHING OR SIM. TO PROTECT INSULATION UNLESS SHOWN OTHERWISE BY ARCH.

EXTEND FOUNDATION WALL INSULATION PAST FROST SLAB

3-15M T+B

DOOR SWING +200mm

200

200

PLAN VIEW

PROVIDE INTERMEDIATE WALLS @ 4000o/c MAX. WHERE TOTAL WIDTH OF FROST SLAB EXCEEDS 4000mm

150 FROST SLAB r/w 15M@300 BEW

150

100 VOID BENEATH SLAB

15M@300 H&V

150

15M@300 DOWELS

1-15M CONT.

1200 MIN. OR MATCH U/S OF ADJACENT FTGS

400

SECTION VIEW

REFER TO DWGS FOR FOUNDATION WALL

150 UNO

SLOPE AWAY, 2% MIN.

EXTERIOR GRADE, REFER TO ARCH

**NOTES:**

- IF DOOR SWING IS >2000mm, REFER TO PLAN FOR FROST SLAB REINFORCING.
- FROST SLABS APPLY TO ALL OUTWARD DOOR SWINGS ON PROJECT, UNO.
- RAISE TOP OF FROST SLAB TO BE FLUSH WITH INSIDE SLAB ELEVATION IF DESIRED AND AS NOTED ON DRAWINGS, REFER TO LANDSCAPE AND ARCHITECTURAL.
- REFER TO SOIL REPORT FOR DEPTH OF FROST SLAB WALLS/FOOTINGS.

NON-LOAD-BEARING (PARTITION) MASONRY WALLS TD0402

DOWEL TO MATCH VERT. REINF. IN WALL

NON-LOAD BEARING WALL ABOVE

SLAB ON GRADE

2-15M (U.N.O.)

400 (U.N.O.)

ON SLAB ON GRADE

DOWEL TO MATCH VERT. REINF. IN WALL

NON-LOAD BEARING WALL ABOVE

PACK FLUTES WITH NON-SHRINK GROUT

COMPOSITE METAL DECK

ON COMPOSITE CONCRETE ON METAL DECK

DOWEL TO MATCH VERT. REINF. IN WALL

NON-LOAD BEARING WALL ABOVE

GROUT SOLID PER HOLLOWCORE/PRECAST SUPPLIER

CONC. SLAB

ON REINFORCED CONCRETE SLAB

ON HOLLOWCORE/PRECAST SLAB

**MINIMUM REINFORCING**

REFER TO SECTION 010001 IN THE GENERAL NOTES FOR THE SEISMIC HAZARD INDEX.

**WHERE SEISMIC HAZARD INDEX,  $0.35 \leq I_e F_a S_a(0.2) < 0.75$**

WALL THICKNESS	VERTICAL	HORIZONTAL (LADDER-TYPE JOINT REINFORCING)
140	15M@1800 o/c	2-3.66@600 o/c
190	20M@2400 o/c	2-3.66@600 o/c
240	20M@2400 o/c	2-3.66@600 o/c
290	25M@2400 o/c	2-3.66@600 o/c

**WHERE SEISMIC HAZARD INDEX,  $I_e F_a S_a(0.2) \geq 0.75$**

WALL THICKNESS	VERTICAL	HORIZONTAL (LADDER-TYPE JOINT REINFORCING + BOND BEAM)
140	15M@1200 o/c	2-3.66@400 o/c
190	15M@1200 o/c	2-4.76@400 o/c
240	15M@1200 o/c	2-3.66@600 o/c + 1-15M BOND BEAM @ 2400
290	15M@800 o/c	2-4.76@600 o/c + 1-15M BOND BEAM @ 2400

**NOTES:**

- UN-REINFORCED NON-LOAD BEARING MASONRY WALLS PERMITTED ONLY WHERE  $I_e F_a S_a(0.2) < 0.35$ .
- MAX SPAN FOR NON-LOAD BEARING MASONRY WALLS IS 36I FOR INTERIOR WALLS AND 20I FOR EXTERIOR WALLS. MAX SPAN IS THE LESSER OF (a) THE VERTICAL DISTANCE BETWEEN LATERAL SUPPORTS OR (b) THE HORIZONTAL DISTANCE BETWEEN WALLS/RETURNS.
- FOR ALL WALLS WHERE HORIZONTAL DISTANCE BETWEEN WALLS/RETURNS EXCEEDS THE MAX VALUES ABOVE OR WHERE ONE OR BOTH ENDS IS NOT SUPPORTED, LATERAL SUPPORT AT TOP OF WALL IS REQUIRED. REFER TO TD0410.
- VERTICAL REINFORCING SHOWN IS MINIMUM REQUIRED. SEE PLAN FOR MORE DETAILS.
- REFER TO TD0401 FURTHER REQUIREMENTS AND TO TD0407 FOR MOVEMENT JOINT REQUIREMENTS.

LINTELS FOR NON-LOAD BEARING MASONRY WALLS TD0404

MOVEMENT JOINT, ONE OR BOTH SIDES. SEE NOTE 8.

STEEL LINTEL PER SCHEDULE ABOVE.

200 MIN BEARING

400 MIN

CLEAR SPAN

PIER

REINFORCING AS SHOWN ON PLAN OR DETAILS. OFFSET TO CLEAR END OF LINTEL TYP.

FULLY GROUTED OR SOLID MASONRY FOR BEARING SHOWN THUS.

PROVIDE FULLY GROUTED OR SOLID MASONRY FULL HEIGHT WHERE PIER IS LESS THAN 600 mm WIDE.

**NOTES:**

- LINTELS DESCRIBED ON THIS TYPICAL DETAIL ARE FOR NON-LOAD BEARING WALLS. FOR LINTELS IN LOAD BEARING WALLS REFER TO THE STRUCTURAL PLANS.
- PROVIDE STEEL PACKING PLATES UNDER THE ENDS OF LINTELS AS REQUIRED TO ENSURE EVEN BEARING. CONNECT BACK TO BACK DOUBLE ANGLES USING 16 mm  $\emptyset$  BOLTS AT 450 mm o/c OR BY WELDING ANGLES TOP AND BOTTOM USING 6 mm BY 50 mm LONG WELDS SPACED AT 450 mm o/c. LOCATE FIRST AND LAST FASTENERS NO MORE THAN 75 mm FROM END OF LINTEL.
- PROVIDE 200 mm MINIMUM LENGTH OF BEARING AT EACH END, REFER TO FIGURE ABOVE.
- WHERE LINTELS ABUT CONCRETE COLUMNS OR WALLS (MIN. THICKNESS 150 mm) OR STEEL FRAMING MEMBERS, PROVIDE L127X89X7.9 (LLV) SEAT ANGLES WITH LENGTH TO MATCH THE LINTEL WIDTH (MIN. 115 mm LONG). ANCHOR TO CONCRETE WITH 2-16mm $\emptyset$  HILTI KWIK BOLT 3 ANCHORS OR WELD TO STEEL FOR  $V_f = 15\text{ kN}$ .
- LINTELS IN EXTERIOR WALLS EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED.
- VERTICAL MOVEMENT JOINTS SHALL NOT BE LOCATED IN LINE WITH WALL OPENINGS. REFER TO TD0407 FOR MOVEMENT JOINTS IN MASONRY WALLS. REFER TO TD0407 FOR ADDITIONAL HORIZ. REINF. REQUIRED.
- SOME OPENINGS IN NON-LOAD BEARING WALLS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS NOT SHOWN.

LATERAL SUPPORT - FULL HEIGHT PARTITIONTD0410

BOND BEAM AT TOP OF WALL, TYP ALL WALL TYPES. REFER TO TD0401

GAP FILLED WITH COMPRESSIBLE MATERIAL

ANCHOR TO SLAB WITH 2-8 $\emptyset$  EXPANSION ANCHORS

GAP FILLED WITH COMPRESSIBLE MATERIAL

CLIP FABRICATED FROM 12GA PLATE OR USE MANUFACTURED EQUIVALENT

75

200

1 WALL

ANCHORAGE TO METAL DECK

GAP FILLED WITH COMPRESSIBLE MATERIAL

12GA PLATE OR USE MANUFACTURED EQUIVALENT

ANCHORAGE TO CONCRETE SLAB

176x76x4.8 x150LG.

ANCHOR TO SLAB WITH 2-8 $\emptyset$  EXPANSION ANCHORS

GAP FILLED WITH COMPRESSIBLE MATERIAL

PROVIDE CLIPS FOR BLOCK TIES @ 400 o/c WELDED TO WEB OF BEAM

ANCHORAGE TO SIDE OF STEEL BEAM

CLIP ANGLE L76x76x4.8 x150 LG STAGGERED @ 600 o/c

ANCHORAGE TO U/S OF STEEL BEAM CONCEALED FROM VIEW

CLIP ANGLE L76x76x4.8 x150 LG STAGGERED @ 600 o/c

NO BOND BEAM REQUIRED IF CLIP ANGLES SPACED AT 800 o/c OR LESS

10M BAR x 600 LG. GROUTED SOLID INTO BLOCK

DO NOT GROUT CLIP ANGLE INTO BLOCK

ANCHORAGE TO U/S OF STEEL BEAM EXPOSED TO VIEW

**NOTES:**

- LATERAL SUPPORT OF "FULL HEIGHT" MASONRY PARTITIONS REFERS TO WHERE PARTITION WALLS EXTEND UP TO THE UNDERSIDE OF FRAMING, DECK OR SLABS AS SHOWN.
- PROVIDE TOP LATERAL SUPPORTS FOR ALL MASONRY WALLS WHEN SPACING BETWEEN RETURN WALLS EXCEEDS 20I FOR EXTERIOR WALLS, AND 36I FOR INTERIOR PARTITIONS.
- SPACING OF LATERAL SUPPORTS SHALL NOT EXCEED 1200 o/c.
- GAP BETWEEN MASONRY WALL AND STRUCTURE TO BE 25mm MIN. BUT NO LESS THAN:
  - CLEAR SPAN DIVIDED BY 360 FOR CONCRETE SLAB.
  - CLEAR SPAN DIVIDED BY 180 FOR STRUCTURAL STEEL (BEAMS, TRUSSES).

LATERAL SUPPORT - PARTIAL HEIGHT PARTITIONTD0411

H. REFER TO TABLE 1

30-55°

C150x12 SPANNING BETWEEN FRAMING MEMBERS,  $R_f = 10\text{ kN}$ , MAX 3000 LENGTH, CONNECT TO DECK FOR  $H_f = 3.8\text{ kN}$

HANGER AND BRACE @ 1800 o/c, PER TABLE 1, C/T = 7.5 kN, MAX 600 FROM END OF PARTITION

250x100x6 x 150 LG. BENT PLATE c/w VERTICALLY SLOTTED CONNECTION w/ 190 HILTI HY-270 ANCHOR

6.4mm x 150 LG. BENT PLATE

140-240 PARTIAL HEIGHT MASONRY PARTITION, TOP COURSE BOND BEAM r/w CONT. 1-15M

6mm STIFFENERS AS SHOWN

CHANNEL CAN BE OMITTED WHERE HANGER IS SUPPORTED BY BEAM/JOIST AND BRACE CONNECTS INTO ADJACENT BEAM TOP FLANGE OR JOIST TOP CHORD

ALTERNATE TOP CONNECTION WITHOUT CHANNEL

250x250x6 CAST-IN-PLACE c/w 4-19 $\emptyset$  NELSON STUDS

ALTERNATE TOP CONNECTION TO SLAB ABOVE

**TABLE 1 - HANGER AND BRACE**

H. HEIGHT (mm)	ANGLE SIZE
<600	L51x51x4.8
600-1500	L64x64x6.4
1500-2400	L102x102x6.4

**NOTES:**

- LATERAL SUPPORT OF "PARTIAL HEIGHT" MASONRY PARTITIONS REFERS TO WHERE PARTITION WALLS EXTEND UP TO THE CEILING, BUT DO NOT EXTEND UP TO THE UNDERSIDE OF FRAMING, DECK OR SLABS. WHERE POSSIBLE, UNO., EXTEND MASONRY PARTITIONS UP "FULL HEIGHT" AND REFER TO TD0410.
- THIS DETAIL HAS BEEN DESIGNED FOR AN INTERIOR PRESSURE OF 0.5 kPa.
- "PARTIAL HEIGHT" WALLS ARE NOT PERMISSIBLE WHERE  $I_e F_a S_a(0.2) \geq 0.35$ , NOTIFY THE STRUCTURAL CONSULTANT AND EXTEND ALL MASONRY PARTITIONS TO BE "FULL HEIGHT" AND FOLLOW TD0410.
- REFER TO ARCHITECTURAL FOR EXTENTS OF PARTIAL HEIGHT MASONRY PARTITIONS.
- IF MAX DIMENSIONS ARE EXCEEDED, NOTIFY THE STRUCTURAL CONSULTANT FOR ADDITIONAL REQUIREMENTS. BRACE IS TO BE WELDED, OR CONNECTED BY A MINIMUM OF 2 BOLTS.
- CONTRACTOR TO COORDINATE LATERAL SUPPORTS WITH VARIOUS SUB-TRADES AS REQUIRED.

ANCHOR ROD AND BASEPLATE TD0501

LOCAL DATUM

NUT AND WASHER, REFER TO NOTE #4 BELOW

BASEPLATE AS NOTED

TOP OF CONCRETE BASE

150 PROJECTION

MIN. 100 THREADS

200 MIN. UNO ON COLUMN SCHEDULE

50 NON-SHRINK GROUT UNO

ANCHOR ROD EMBEDMENT LENGTH AS NOTED

ANCHOR BOLTS AS NOTED ON COLUMN SCHEDULE. PROVIDE 4-19 $\emptyset$  x 400 LG PLUS 75mm HOOK WITH 100mm THREAD MIN.

REFER TO TD0502 FOR ANCHOR ROD WITH END PLATE

**NOTES:**

- TYPICAL MINIMUM EDGE DISTANCE FROM CENTRE OF HOLE TO EDGE OF THE PLATE TO BE THE GREATER OF 38 mm OR 1.5x HOLE DIAMETER. THE BASE PLATE DIMENSION GIVEN FIRST IS PARALLEL TO THE COLUMN WEB, OR TO THE LONG DIMENSION OF THE COLUMN. IF THE COLUMN IS SQUARE OR ROUND, THE DIMENSION GIVEN FIRST IS PARALLEL TO THE NORTH-SOUTH AXIS.
- CONNECT COLUMN TO THE BASE PLATE FOR BASE REACTIONS NOTED IN THE COLUMN SCHEDULE.
- IF USED, OVERSIZED ANCHOR ROD HOLES ARE TO BE MAX 1.75x ANCHOR ROD DIAMETER, UNLESS OTHERWISE APPROVED. PROVIDE A 8 mm THICK RECTANGULAR OR CIRCULAR PLATE WASHER WITH STANDARD HOLE SIZE AND WELD ALL AROUND TO THE BASE PLATE FOLLOWING INSTALLATION. PROVIDE A DETAIL FOR REVIEW PRIOR TO FABRICATION

ANCHOR ROD WITH END PLATE TD0502

REFER TO TD0501 FOR NUT, WASHER, BASEPLATE AND GROUT ASSEMBLY

ANCHOR ROD OVERALL LENGTH AS NOTED

SQUARE END PLATE

OR

SQUARE END PLATE WITH HOLE

MIN. 1 THREAD PROJECTION

ROD $\emptyset$	PLATE DIMENSION	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
52 (2")	150	29	27

OPTIONAL END PLATE DETAIL FOR 38 mm  $\emptyset$  ROD AND SMALLER

ROD  $\emptyset + 2\text{ mm}$

**NOTES:**

- WELDING SHALL BE DONE IN ACCORDANCE WITH CSA W59 WITH WELD STRENGTH  $\phi_w = 480\text{ MPa}$ .
- STEEL ROD AND PLATE SHALL CONFORM TO REQUIREMENTS OF CSA G40.21 GRADE 300W.
- MINIMUM CONCRETE STRENGTH  $f_{cr} = 25\text{ MPa}$ .

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE:	PROJECT NUMBER: 230227

SHEET TITLE:  
TYPICAL DETAILS



CANTILEVERED BEAM CONNECTION

TD0503

**PLAN VIEW**

**SECTION A**

**SECTION B**

**SECTION C**

**NOTES:**

- WHERE NOT NOTED, PROVIDE (2L) - L152x152x13 BRACES AND BRACING TIES.
- AT COLUMN LOCATIONS, CONNECT FOR THE GREATER OF THE BEAM AND THE COLUMN HORIZONTAL BRACE FORCE.
- WHERE THE PERPENDICULAR MEMBER IS AN OWSJ, PROVIDE A KNEE BRACE DESIGNED FOR THE GREATER OF THE BEAM AND THE COLUMN HORIZONTAL BRACE FORCES.
- HORIZONTAL BRACE FORCES ARE NOTED IN THE DRAWINGS. WHERE NOT NOTED, PROVIDE:
  - BRACE FORCES AT COLUMNS ARE TO BE FOR  $H_f = 0.02 \cdot C_f$  (WHERE  $C_f$  IS THE COLUMN FORCE NOTED IN THE COLUMN SCHEDULE)
  - BRACE FORCES AT BEAMS ARE TO BE FOR  $H_f = 0.02 \cdot M_r / d$  (WHERE  $M_r$  IS THE MOMENT CAPACITY OF THE BEAM)

LATERAL SUPPORT - GLAZING/PARTITIONS

TD0504

**TABLE 1 - HANGER AND BRACE**

H, HEIGHT (mm)	ANGLE SIZE
<600	L51x51x4.8
600-1500	L64x64x6.4
1500-2400	L102x102x6.4

**NOTES:**

- PROVIDE LATERAL SUPPORTS AS SHOWN AT TOP OF ALL "PARTIAL HEIGHT" INTERIOR PARTITIONS OR GLAZING NOT ACTING AS GUARDS, TERMINATED BELOW THE UNDERSIDE OF DECK OR SLAB ABOVE.
- THIS DETAIL HAS BEEN DESIGNED FOR AN INTERIOR PRESSURE OF 0.5 kPa.
- REFER TO ARCHITECTURAL FOR EXTENTS OF PARTITIONS AND GLAZING.
- IF MAX DIMENSIONS ARE EXCEEDED, NOTIFY THE STRUCTURAL CONSULTANT FOR ADDITIONAL REQUIREMENTS.
- BRACE IS TO BE WELDED, OR CONNECTED BY A MINIMUM OF 2 BOLTS.
- CONTRACTOR TO COORDINATE LATERAL SUPPORTS WITH VARIOUS SUB-TRADES AS REQUIRED.

FRAMING - ROOFTOP UNITS

TD0510

**FRAMING FOR ROOFTOP MECHANICAL UNITS**

**NOTES:**

- UNLESS SHOWN OTHERWISE ON PLAN, PROVIDE C150x12 SPANNING BETWEEN BEAMS OR JOISTS EACH SIDE OF ROOFTOP UNIT, AS WELL AS AT EACH END, IN THE MANNER INDICATED ABOVE. CHANNELS TO BE LOCATED DIRECTLY UNDER CURBS SUPPORTING UNIT. OMIT CHANNEL IF CURB IS DIRECTLY OVER A BEAM OR JOIST.
- PROVIDE C100x8 TO SUPPORT EDGES OF DECK AT OPENINGS IN THE MANNER INDICATED ABOVE. IF THE DECK UNDER THE ENTIRE UNIT IS TO BE OMITTED, THE C100x8 FRAMING CAN BE DELETED.
- CONNECT C150x12 TO SUPPORTING BEAMS OR JOISTS FOR A MINIMUM WORKING LOAD OF 9 kN OR  $\frac{1}{4}$  OF THE WEIGHT OF THE UNIT PLUS 5 kN, WHICHEVER IS MORE. CONNECT WITHOUT DAMAGING THE SUPPORTING STEEL.
- CONNECT C100x8 TO SUPPORTS FOR A MINIMUM WORKING LOAD OF 5 kN.
- COORDINATE LOCATION AND SIZE OF UNIT AND OPENINGS, AND LOCATION OF STEEL FRAMING WITH THE MECHANICAL CONSULTANT AND/OR MECHANICAL CONTRACTOR AND THE STRUCTURAL CONSULTANT.
- WHERE EXISTING BEAMS OR JOISTS ARE SUPPORTING C150x12 MEMBERS, REINFORCE AS REQUIRED. REFER TO TD0511 FOR CONNECTION TO JOISTS AS REQUIRED.

FRAMING - OWSJ AND DECK

TD0511

**DETAIL AT JOIST (TWO OPTIONS SHOWN)**

**DETAIL AT DECK**

**NOTES:**

- DECK DESIGN BY SUPPLIER, FASTEN TO FRAMING SUPPORT MEMBER FOR LOAD ON DIAPHRAGM SHEAR FORCE DRAWINGS, NOT LESS THAN 2.3 kN/m.

FRAMING - WEB OPENINGS

TD0512

**REINFORCING MARK**

REINFORCING TOP & BOTTOM	d	b	L	WELD SIZE	
A	2-L51x51x9.5	300	300	200	8
B	10x40 PL, EACH SIDE	200	500	150	5
C					

**PROVIDE OPENINGS IN WEBS OF STEEL BEAMS WHERE SHOWN THUS ON PLAN:**

**PROVIDE OPENINGS IN WEBS OF OPEN WEB STEEL JOISTS WHERE SHOWN THUS ON PLAN:**

**NOTES:**

- COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS FOR EXACT LOCATION OF OPENING. CONFIRM CLEAR OPENING WITH MECHANICAL PRIOR TO FABRICATING JOIST.
- UNLESS OTHERWISE NOTED, OPENINGS ARE TO BE CENTRED ON THE DEPTH OF THE JOIST.
- OPENINGS ARE TO BE DESIGNED AND FABRICATED BY THE MANUFACTURER OF THE JOIST. NO JOIST WEB ELEMENTS ARE TO BE CUT IN THE FIELD.

ROOF ANCHORS - STEEL FRAMING

TD0520

**NOTE: FOR BEAMS SUPPORTING ANCHORS WITH  $b < 133$  INCREASE TO BEAM FROM NEXT SIZE GROUP WITH EQUAL OR GREATER VALUE FOR  $I_x$  (E.G. W200x22 → W200x27)**

**NOTES:**

- REFER TO ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR THERMAL BREAK, CONNECT FOR FULL CAPACITY.
- IN EXISTING STRUCTURES, LOCATE ROOF ANCHORS BETWEEN JOISTS OR BEAMS AND SUPPORT ON HSS FRAMING AS SHOWN IN LOWER DETAIL.
- STRUCTURAL STEEL OUTSIDE OF BUILDING ENVELOPE TO BE HOT DIPPED GALVANIZED.

ROOF ANCHOR - OWSJ

TD0521

**PLAN VIEW**

**NOTES:**

- REFER TO ARCHITECTURAL DRAWINGS FOR QUANTITY AND LOCATIONS.
- SEE ARCHITECTURAL DRAWINGS FOR THERMAL BREAK, CONNECT FOR FULL CAPACITY.
- LOCATE ROOF ANCHORS BETWEEN JOISTS; ROOF ANCHOR MAY BE LOCATED AT ANY POINT ON THE HSS FRAME.
- COORDINATE REACTIONS ACTING AT EACH PANEL POINT w/ JOIST MANUFACTURER.
- REINFORCE EXISTING JOISTS AS REQUIRED PER TYPICAL DETAIL TD0540.
- STRUCTURAL STEEL OUTSIDE OF BUILDING ENVELOPE TO BE HOT DIPPED GALVANIZED.

METAL DECK - FRAMING DETAILS

TD0530

**CLOSURE ANGLE AND SHEAR TRANSFER**

**CLOSURE ANGLE SPLICE**

**CHANGE IN SPAN DIRECTION OF DECK**

**DECK PERPENDICULAR TO BEAM ALONG EDGE OF ROOF**

**STEEL BEAM PARALLEL TO DECK**

**NOTES:**

- DECK DESIGN BY SUPPLIER, FASTEN TO FRAMING SUPPORT MEMBER FOR LOAD ON DIAPHRAGM SHEAR FORCE DRAWINGS, NOT LESS THAN 2.3 kN/m.

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN:  
SG

CHECKED:  
VC/JC

SCALE:

PROJECT NUMBER:  
230227

SHEET TITLE:  
TYPICAL DETAILS

METAL DECK - OPENINGS

TD0531

OPENINGS IN METAL DECK

EDGE OF DECK DETAILS

NOTES:

- OPENINGS UP TO 150mm SQUARE OR IN DIAMETER AND SPACED A MINIMUM 300mm CLEAR FROM ADJACENT OPENINGS DO NOT REQUIRE REINFORCING.
- OPENINGS LARGER THAN 150mm, BUT NOT EXCEEDING 450mm IN ROOF DECK OR 300mm IN FLOOR DECK, ARE TO BE REINFORCED BY THE METAL DECK SUPPLIER AS REQUIRED.
- OPENINGS LARGER THAN 450mm IN ROOF DECK OR 300mm IN FLOOR DECK, BUT NOT EXCEEDING 1200mm SQUARE, ARE TO BE REINFORCED AS SHOWN, UNLESS NOTED OTHERWISE ON PLAN.
- CONNECT FRAMING FOR A MINIMUM END REACTION OF 10 kN.
- WHERE EXISTING BEAMS OR JOISTS ARE SUPPORTING C150x12 MEMBERS, REINFORCE AS REQUIRED. REFER TO TD0511 FOR CONNECTION TO JOISTS AS REQUIRED.

FOOTINGS FOR CONCRETE COLUMNS

TD3102

NOTES:

- REFER TO COLUMN AND FOOTING SCHEDULE FOR SIZING AND REINFORCEMENT.
- REFER TO TD0301 FOR COMPRESSION DEVELOPMENT (CDL) AND COMPRESSION LAP SPLICE (CLS).
- IF D1 IS LESS THAN THE TENSION DEVELOPMENT LENGTH FOR THE SPECIFIED BAR (REFER TO TD0301) PROVIDE STANDARD HOOK.

FOOTINGS AND BASES FOR STEEL COLUMNS

TD3103

NOTE:

- REFER TO COLUMN AND FOOTING SCHEDULE FOR SIZING AND REINFORCEMENT OF CAP AND FOOTING
- IF D1 IS LESS THAN THE TENSION DEVELOPMENT LENGTH FOR THE SPECIFIED BAR (REFER TO TD0301), PROVIDE STANDARD HOOK.
- TIE ARRANGEMENT IN CAPS AS PER TD0331 OR TABLE 25 AND 25A IN REINFORCING STEEL MANUAL OF STANDARD PRACTICE (RSIC).
- INCREASE CAP HEIGHT AND DROP FOOTING TO ACCOMMODATE ANCHOR BOLT LENGTH

WALL FOOTINGS

TD3104

TYPICAL STEPPING DETAIL FOR STRIP FOOTINGS MARKED SDF (STEP DOWN FOOTING) ON PLAN

PIPES CROSSING BENEATH CONT. WALL FOOTINGS

STEEL COLUMN SUPPORTING WOOD BEAMS

TD0641

BEAM FRAMING TO SIDE OF COLUMN

ONE BEAM AT TOP OF COLUMN

TWO BEAMS AT TOP OF COLUMN

NOTES:

- CONNECTIONS TO BE DESIGNED FOR FORCES SHOWN ON BEAM SCHEDULE BY A STEEL SUPPLIER/DESIGNER. ASSUME EVEN BEARING AT SUPPORT.
- CONNECTIONS SHOWN FOR INTENT. ACTUAL CONDITIONS MAY VARY.
- DETAILS APPLY TO SAWN LUMBER AND ENGINEERED LUMBER BEAMS WITH MIN 7/2" DEPTH AND MAXIMUM 7" WIDTH.
- DETAILS APPLY TO STEEL HSS COLUMNS WITH MINIMUM 3" DIMENSION.
- MAXIMUM WIND UPLIFT FOR 12-2.5" NAILS: 8kN.
- FOR STEEL COLUMNS INSIDE EXTERIOR WALLS, DRILL 1/2" HOLES @12" ON ONE FACE OF COLUMN. FILL COLUMN WITH EXPANDABLE INSULATION. KEEP 12" AWAY FROM ANY CONNECTIONS.

GLULAM - BEAM PENETRATIONS

TD0643

TYPICAL HOLES:

- HOLE DIAMETER TO NOT EXCEED 38mm OR h/10, WHICHEVER IS LESS
- MAXIMUM NUMBER OF HOLES IN A SINGLE BEAM SHALL BE LESS THAN L/1.5m
- ALL HOLES TO BE ROUND AND NEATLY CUT WITH A HOLE SAW OR ROUTER AND TEMPLATE
- NO OPENINGS WITHIN 150mm OF THE EDGE OF A CONCENTRATED LOAD APPLIED TO THE TOP OR FACE OF THE GLULAM BEAM
- ALL HOLES TO BE FIRE STOPPED TO PREVENT CHARRING ON THE INTERIOR OF THE HOLE

LARGE OPENINGS:

- REFER TO PLANS FOR OPENING DIMENSIONS AND LOCATIONS.
- DO NOT CUT LARGE OPENINGS NOT SHOWN ON PLAN WITHOUT THE WRITTEN CONSENT OF THE CONSULTANT.
- ALL LARGE OPENINGS TO BE SHOP FABRICATED WITH A CNC MACHINE OR ROUTER AND TEMPLATE. ALL EDGES ARE TO BE SMOOTH, NO OVERCUTS PERMITTED. RECTANGULAR OPENINGS TO HAVE A CORNER RADIUS OF 20mm OR GREATER WHERE THE OPENING IS LESS THAN 200mm IN HEIGHT AND A RADIUS OF 40mm OR GREATER WHERE THE OPENING IS GREATER THAN 200mm IN HEIGHT.
- GLULAM SUPPLIER TO DESIGN REINFORCEMENT AROUND OPENINGS FOR THE INTERNAL BEAM FORCES NOTED ON PLAN AS REQUIRED.
- ALL OPENINGS TO BE FIRE STOPPED TO PREVENT CHARRING ON THE INTERIOR OF THE OPENING

MASS TIMBER - CHAR DEPTH

TD0670

MEMBER EXPOSED ON 4 SIDES

MEMBER EXPOSED ON 3 SIDES w/ DECK

TYPE	CHAR DEPTH (mm)											
	45			60			90			120		
	Xc,n	Xc,0	Rc,0	Xc,n	Xc,0	Rc,0	Xc,n	Xc,0	Rc,0	Xc,n	Xc,0	Rc,0
GLULAM	31.5	29.3	7	42	39.0	7	63	58.5	7	84	78.0	7
SOLID TIMBER/PLANK DECKING	36	29.3	7	48	39.0	7	72	58.5	7	96	78.0	7
CROSS LAMINATED TIMBER (CLT)	36	29.3	7	48	39.0	7	72	58.5	7	96	78.0	7
STRUCTURAL COMPOSITE LUMBER (SCL)	31.5	29.3	7	42	39.0	7	63	58.5	7	84	78.0	7

NOTES:

- CHAR DEPTH DETERMINED ACCORDING TO CSA 086 ANNEX B, REFER TO THE STANDARD FOR ADDITIONAL INFORMATION.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE REQUIRED FIRE RESISTANCE RATING (FRR).
- Rc,0 & Ri ARE CORNER RADII IN mm. CORNER RADII CAN BE NEGLECTED IF Xc,n IS USED IN PLACE OF Xc,0.
- IF THE CHAR LAYER DEPTH REACHES THE DEPTH OF THE FIRST BOND LINE OF A CLT MEMBER FOR THE DESIRED FRR, THE NOTIONAL CHARRING RATE Xc,n SHALL BE USED IN PLACE OF Xc,0.
- CHAR DEPTH IS REDUCED BY ENCAPSULATION WITH GYPSUM BOARD. REFER TO ARCHITECTURAL DRAWINGS FOR THE EXTENT AND AMOUNT OF ENCAPSULATION. WHERE TIMBER IS ENCAPSULATED, THE FRR USED TO DETERMINE THE CHAR DEPTH MAY BE REDUCED AS FOLLOWS:
  - 15 MINUTES WHEN ONE LAYER OF 12.7mm TYPE X GYPSUM BOARD IS USED
  - 30 MINUTES WHERE ONE LAYER OF 15.9mm TYPE X GYPSUM BOARD IS USED
  - 60 MINUTES WHERE TWO LAYERS OF 15.9mm TYPE X GYPSUM BOARD IS USED
  - 60 MINUTES WHERE TWO LAYERS OF 12.7mm TYPE X GYPSUM BOARDS ARE APPLIED TO CLT
- CHAR DEPTH DOES NOT APPLY TO TIMBER STRUCTURES ACHIEVING A 45 MINUTE FRR THROUGH THE HEAVY TIMBER PROVISIONS OF THE NBCC (3.1.4.6)

CONCRETE WALL - CROSSTIES FOR VERTICAL REINFORCEMENT

TD0310A

TABLE 1:

WALL THICKNESS t (mm)	SPACING OF VERTICAL BARS IN WALLS WHERE CROSSTIES ARE REQUIRED, x (mm)				
	10M	15M	20M	25M	30M
200	<200	<400	<600		
250	<160	<320	<480		
300	<140	<270	<400		
350	<120	<230	<350		
400	<100	<200	<300		
500	<80	<160	<240		
600	<70	<140	<200		

CROSSTIES ARE ALWAYS REQUIRED

TABLE 2:

WALL THICKNESS t (mm)	MAXIMUM SPACING OF 10M CROSSTIES IN WALLS WHERE CROSSTIES ARE REQUIRED FOR VERTICAL BARS, s (mm)				
	10M	15M	20M	25M	30M
200	190	200	200	200	200
250	190	250	250	250	250
300	190	260	300	300	300
350	190	260	320	350	350
400	190	260	320	400	400
500	190	260	320	410	480
600	190	260	320	410	550

NOTE: FOR CONCRETE COMPRESSIVE STRENGTHS EXCEEDING 50 MPa, THE TIE SPACING IN THE ABOVE TABLE SHALL BE MULTIPLIED BY 0.75

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN:  
SG

CHECKED:  
VC/JC

SCALE:  
PROJECT NUMBER:  
230227

SHEET TITLE:  
TYPICAL DETAILS



SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
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PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE:	PROJECT NUMBER: 230227

SHEET TITLE:  
**TYPICAL DETAILS**

SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

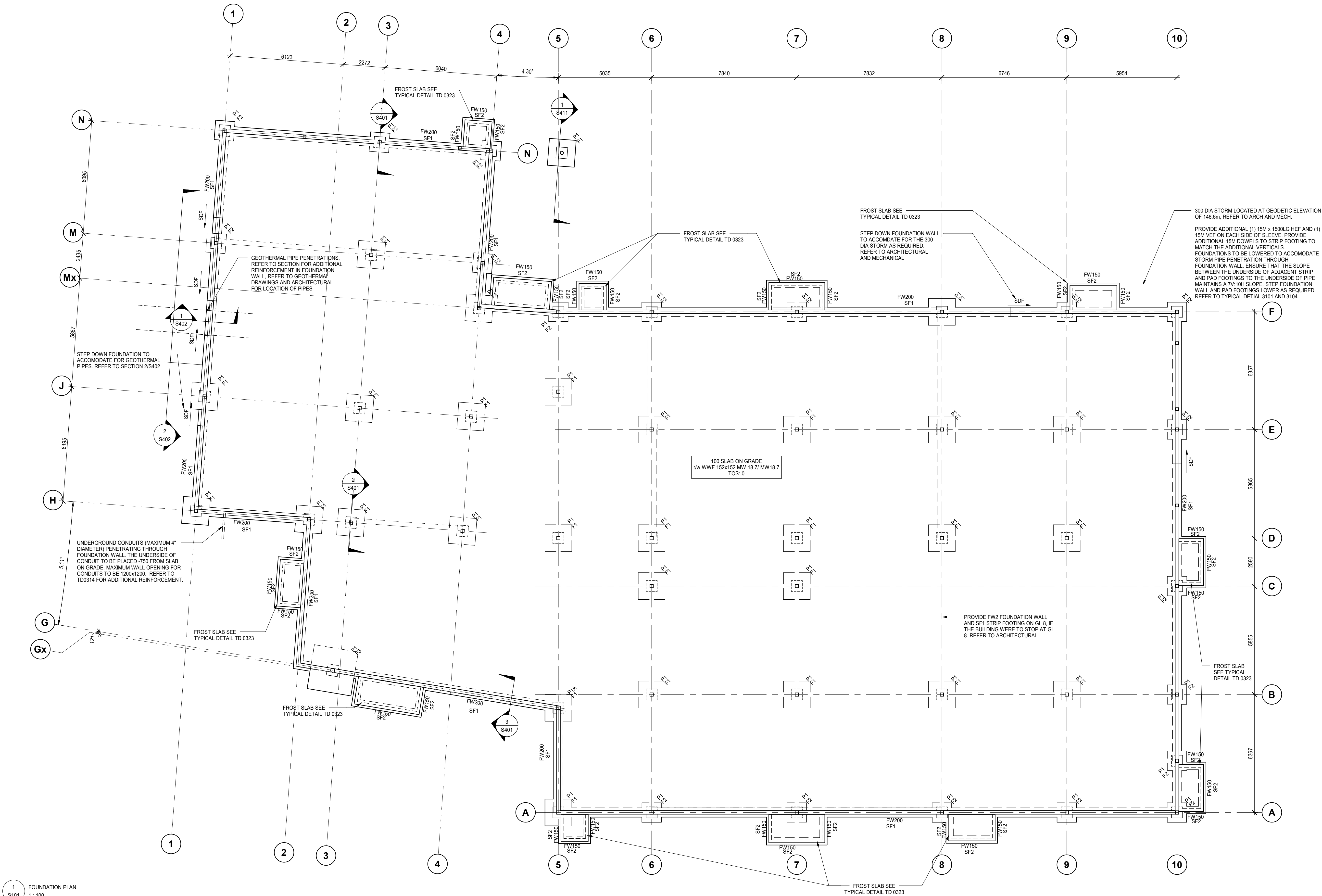
PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: As indicated	PROJECT NUMBER: 230227

SHEET TITLE:  
FOUNDATION PLAN

S101





SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
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1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN:  
SG

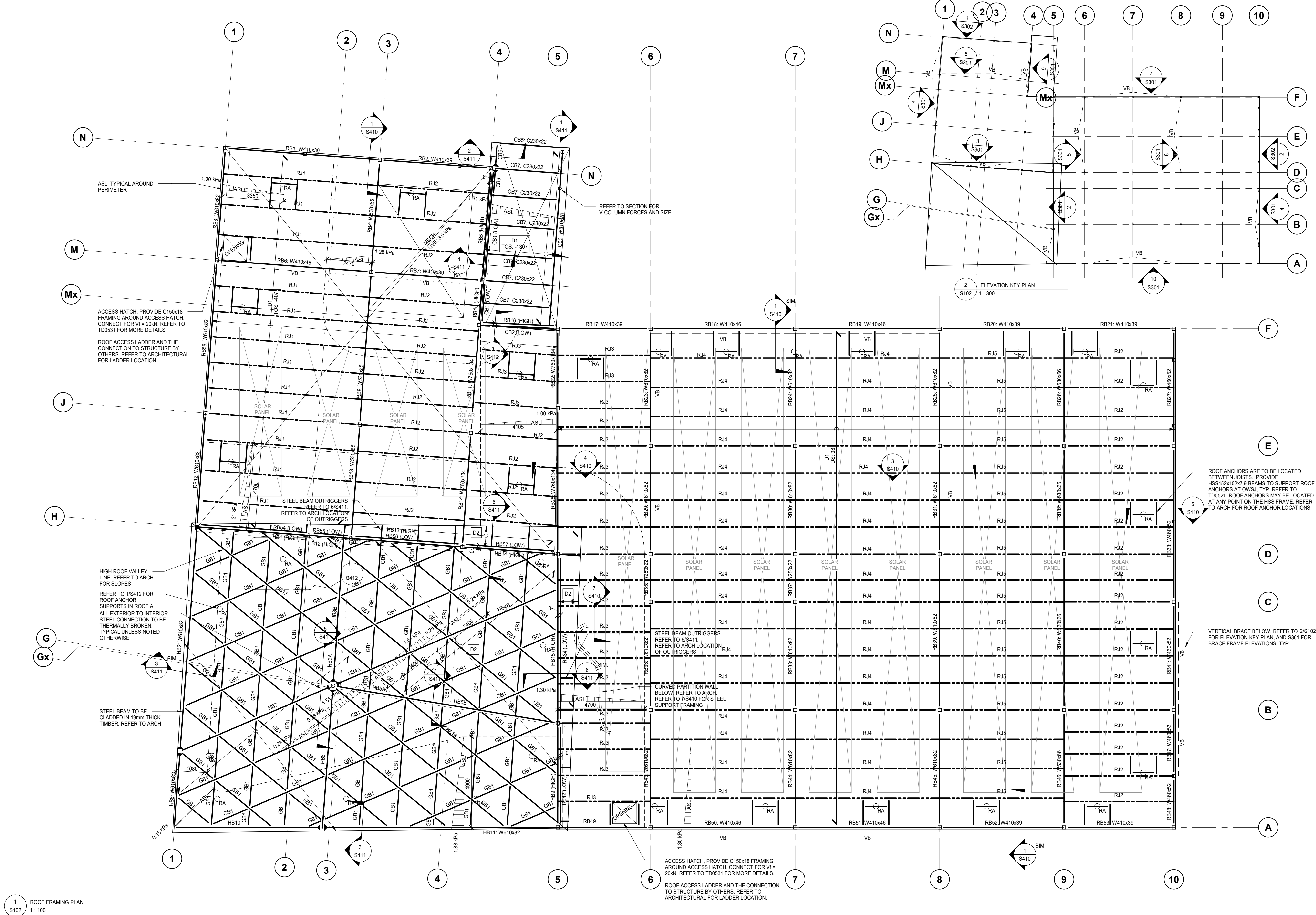
CHECKED:  
VC/JC

SCALE:  
As indicated

PROJECT NUMBER:  
230227

SHEET TITLE:  
ROOF FRAMING  
PLAN

S102



1 ROOF FRAMING PLAN  
S102 1:100

NOTES:

1. ROOF DATUM IS 4.455m ABOVE THE GROUND FLOOR DATUM EXCEPT AS CROSSED AND NOTED.
  2. THE ROOF DATUM REPRESENTS THE UNDERSIDE OF METAL DECK AT ITS HIGHEST POINTS. THE ROOF SLOPES. REFER TO ARCHITECTURAL DRAWINGS FOR THE SLOPES.
  3. ROOF LOADS USED IN THE DESIGN:  
SNOW: 1.28 kPa (ETOBICOKE)  
MECH SCREENS TO BE RAISED 600 FOR SCOURING, NO ASL  
SNOW AT SOLAR PANELS: 2.24 kPa
- ROOF DEAD LOAD:
- |                       |          |
|-----------------------|----------|
| ROOFING               | 0.20 kPa |
| INSULATION            | 0.20 kPa |
| STRUCTURE SELF-WEIGHT | 0.50 kPa |
| M&E                   | 0.30 kPa |
| SUSPENDED             | 0.30 kPa |
| ADDITIONAL ALLOWANCE  | 0.20 kPa |
| ROOF TOTAL            | 1.70 kPa |
- SOLAR PV:
- |  |          |
|--|----------|
|  | 0.75 kPa |
|--|----------|
4. REFER TO DRAWING S-001 FOR GENERAL NOTES.
  5. REFER TO DRAWING S-002 - S-006 FOR TYPICAL DETAILS.
  6. REFER TO DRAWING S-201 FOR COLUMN SCHEDULE.
  7. REFER TO DRAWING S-201 FOR BEAM SCHEDULE.

**ARCHITECTURALLY EXPOSED STRUCTURAL STEEL LEGEND:**

- AESS 1 - ALL STEEL COLUMNS IN LOBBY EXPOSED TO VIEW.
- AESS 1 - ALL STEEL COLUMNS ALONG GL H ADJACENT TO MASONRY WALLS.
- AESS 2 - ALL STEEL COLUMNS IN WARM UP / LOUNGE.
- AESS 3 - ALL STEEL MEMBERS AT THE UPPER CEILING IN THE WARM UP / LOUNGE

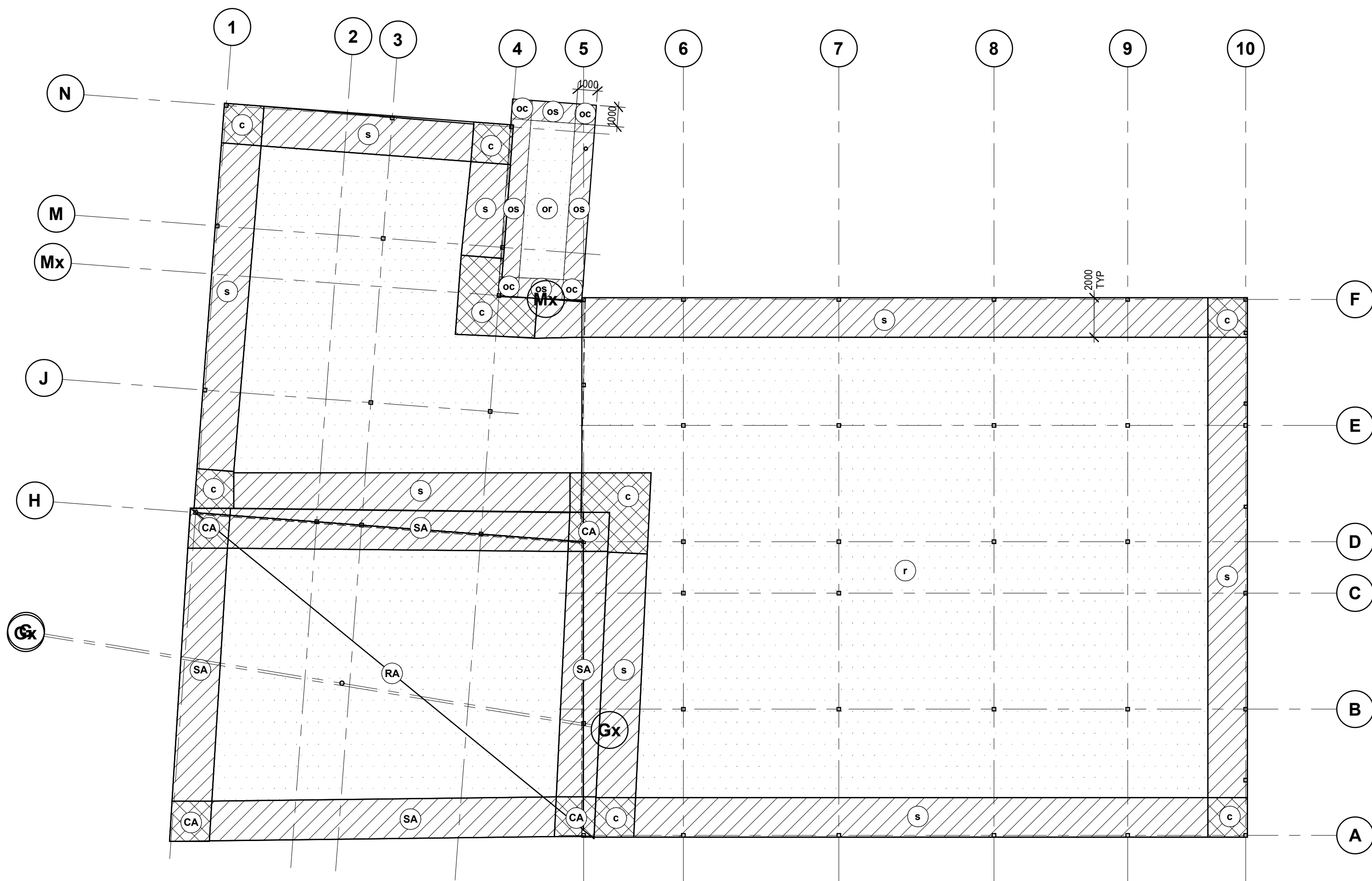
**ARCHITECTURALLY EXPOSED CONCRETE LEGEND:**

- AEC 1 - CONCRETE SLAB ON GRADE AT LOBBY, MAIN CORRIDOR, STORAGE AREA, EPOXY FLOORS, REFER TO ARCH

NOTE: REFER TO THE SPECIFICATIONS FOR DETAILED REQUIREMENTS.

DECK SCHEDULE			
MARK	DESCRIPTION	PLYWOOD PANEL	REMARKS
D1	38 METAL DECK		MIN. THICKNESS 0.91mm, TRIPLE SPAN
D2	38 SPF DECKING	9.5mm OSB PANEL W. 2.52Φ x 2-1/4" NAILS @100mm O.C.	SELECT GRADE DECK PLANKS; DECKING TO HAVE MIN. 2 SPAN CHORD MEMBERS ON EITHER EDGE w. #2 - 4Φ x 3.5" NAILS @ 200mm O.C.

SEAL:

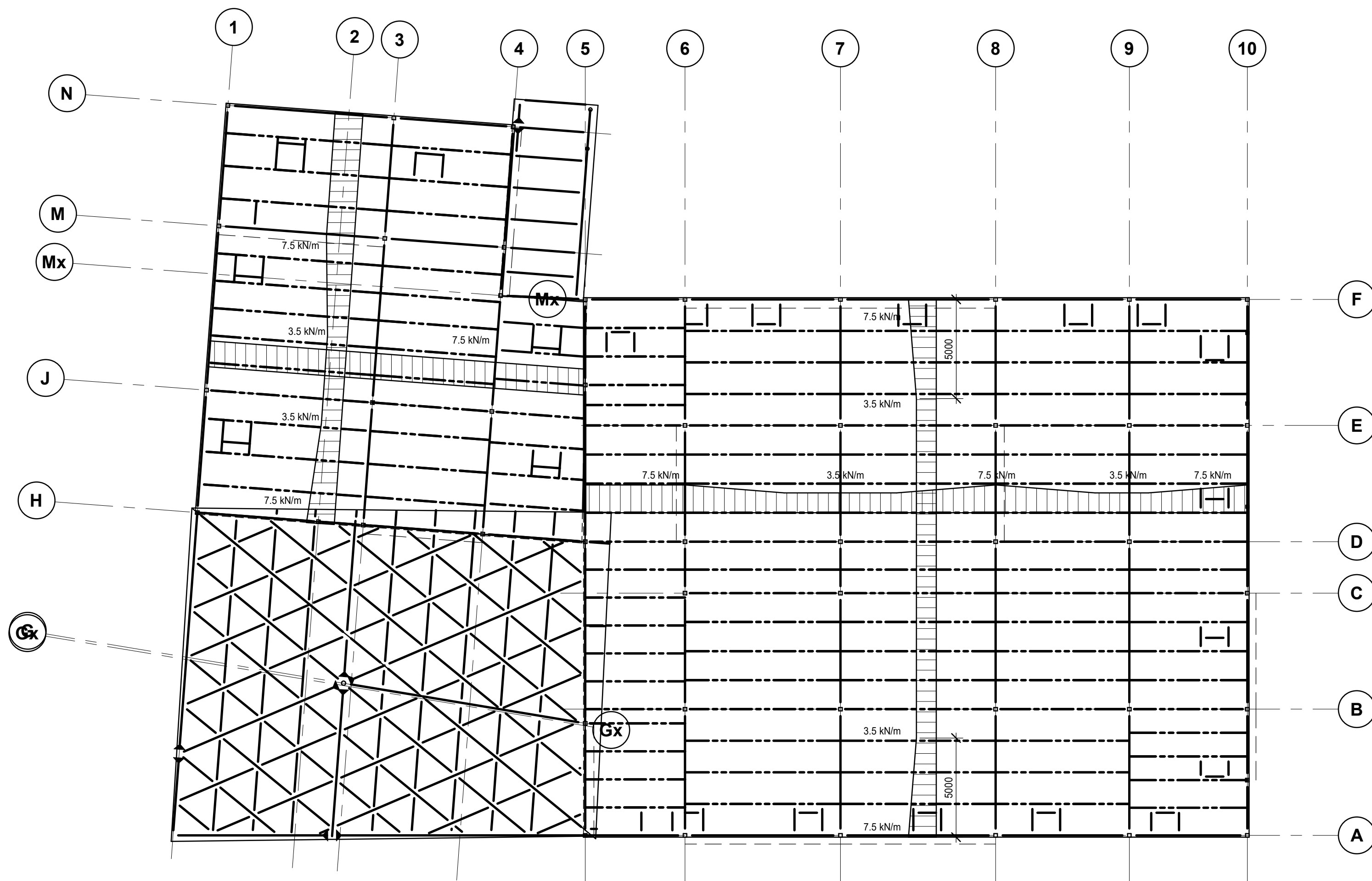


1 WIND UPLIFT DIAGRAM  
S103 1:175

- NOTES:
- PRESSURES SHOWN ARE UNFACTORED DESIGN UPLIFT PRESSURES IN  $\text{kPa}$  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] - ROOF B AND C:							
ZONE	r	s	c	of	os	oc	
ELEMENT							
JOISTS	0.52	0.77	0.86	0.56	0.56	0.12	
DECK	0.83	1.10	1.96	0.80	0.80	1.41	

NET UPLIFT PRESSURES [kPa] - ROOF A:							
ZONE	RA	SA	CA	DRA	DSA	DCA	
ELEMENT							
JOISTS	0.89	1.28	1.87	0	0.98	2.08	
DECK	1.09	1.47	2.06	0.18	1.17	2.27	



2 SHEAR FORCE DIAGRAM  
S103 1:175

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

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ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

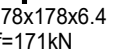
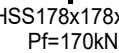
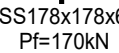
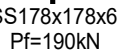
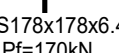
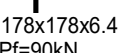
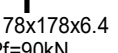
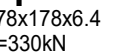
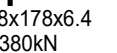
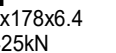
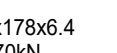
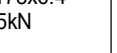


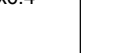

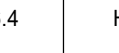
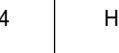
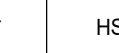


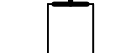














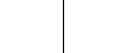
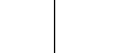
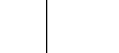
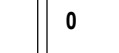
PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON


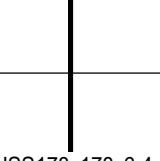
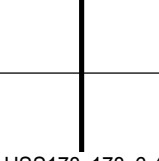
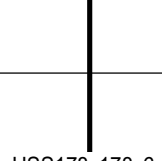
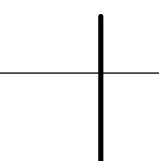



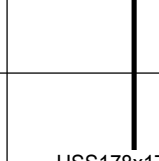
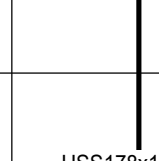

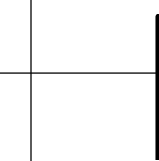
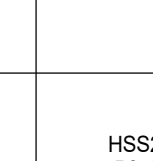
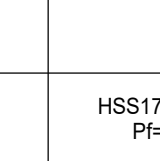
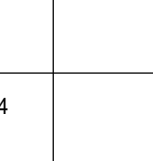
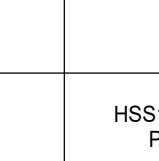
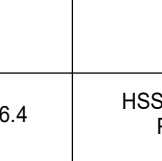
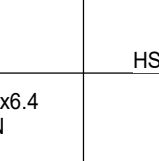
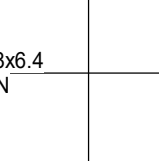
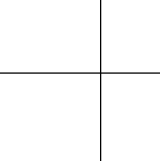


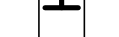

















DRAWN: SG	CHECKED: VC/JC
SCALE: As indicated	PROJECT NUMBER: 230227

SHEET TITLE:  
KEY PLANS

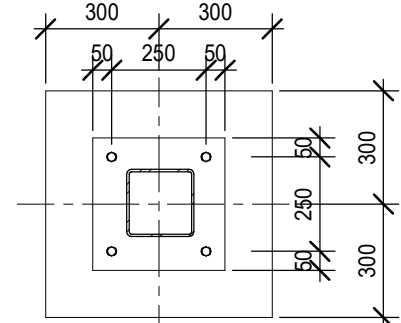


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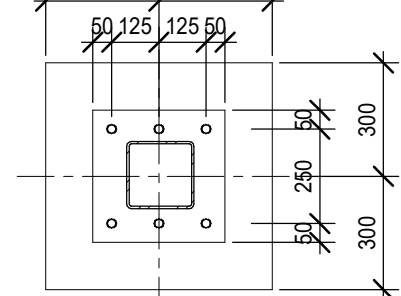
COLUMN SCHEDULE																					
T/O ROOF-A																				T/O ROOF-A	
9300																				9300	
T/O ROOF-C																				T/O ROOF-C	
4555 T/O CANOPY																				4555 T/O CANOPY	
3450																					3450
GROUND FLOOR																				GROUND FLOOR	
0																					0
Column Locations	A-5	A-6	A-7	A-8	A-9	A-10	A(2792)-10	B-6	B-7	B-8	B-9	B-10	C-6	C-7	C-10	D-5	D-6	D-7	D-8	D-9	

COLUMN SCHEDULE																					
T/O ROOF-A																				T/O ROOF-A	
9300																				9300	
T/O ROOF-C																				T/O ROOF-C	
4555 T/O CANOPY																				4555 T/O CANOPY	
3450																					3450
GROUND FLOOR																				GROUND FLOOR	
0																					0
Column Locations	E(2042)-5	E-6	E-7	E-8	E-9	E-10	F-5	F-6	F-7	F-8	F-9	F-10	G-3(-390)	G-5	H-1	H-2	H-3	H-4	J-1	J-3	

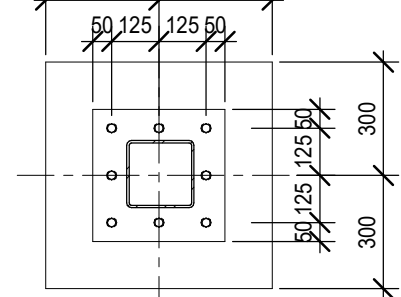
COLUMN SCHEDULE									T/O ROOF-A
T/O ROOF-A									T/O ROOF-A
9300									9300
T/O ROOF-C									T/O ROOF-C
4555 T/O CANOPY									4555 T/O CANOPY
3450	HSS178x178x6.4 Pf=240kN	HSS178x178x6.4 Pf=190kN	HSS178x178x6.4 Pf=320kN	HSS178x178x6.4 Pf=150kN	HSS178x178x6.4 Pf=100kN	HSS178x178x6.4 Pf=180kN	HSS178x178x6.4 Pf=160kN	HSS178x178x6.4 Pf=260kN	3450
GROUND FLOOR									GROUND FLOOR
0	350x350x16 (4) 190 x 400 HOOKED ANCHORS SLS: P=130kN ULS: Pf=240kN	350x350x19 (4) 250x400 ANCHORS WITH 50x50x13 PL HEAD SLS: P=125kN ULS: Pf=235kN VF=85kN	BPL1 SLS: P=165kN ULS: Pf=320kN	BPL2 SLS: P=75kN ULS: Pf=150kN VF=90kN	350x350x19 (4) 250x400 ANCHORS WITH 50x50x13 PL HEAD SLS: P=75kN ULS: Pf=140kN VF=50kN	350x350x16 (4) 190 x 400 HOOKED ANCHORS SLS: P=96kN ULS: Pf=180kN	BPL2 SLS: P=90kN ULS: Pf=180kN VF=40kN	BPL2 SLS: P=130kN ULS: Pf=284kN VF=20kN	0
Column Locations	J-4	M-1	M-3	M-4	N-1	N-3	N-4	Mx-4	



BPL1  
350x350x19  
(4) 200 x 450 LONG ANCHOR BOLTS  
c/w 60x60x13 END PLATE



BPL2  
350x350x25  
(6) 200 x 450 LONG ANCHOR BOLTS  
c/w 60x60x13 END PLATE



BPL3  
350x350x25  
(8) 200 x 450 LONG ANCHOR BOLTS  
c/w 60x60x13 END PLATE

STEEL COLUMN SCHEDULE  
NOTES:

- 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 TD3103 UNLESS NOTED OTHERWISE.
- PROVIDE 4-19 DIAM. HOOKED ANCHOR BOLTS AS PER TD3103 UNLESS NOTED OTHERWISE.
- WHERE HEADED ANCHOR RODS ARE SPECIFIED REFER TO TD0502.

LEGEND:

COLUMN TAG:

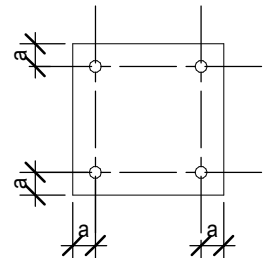
- W310x97 ——— COLUMN SECTION  
Pf=600kN/200kN ——— AXIAL COMPRESSION FORCE (TENSION IN BRACKETS, IF APPLICABLE)  
M=100kNm/50kNm ——— BENDING MOMENT(S) (REFER TO NOTES)  
Tm=50kNm ——— TORSIONAL MOMENTS  
COMMENTS ——— COLUMN-SPECIFIC COMMENTS (IF APPLICABLE)

BASE TAG(S):

- 400x400x25 ——— BASE PLATE (REFER TO BASE PLATE SCHEDULE, IF APPLICABLE)  
4-19@ 400 L.G. ——— ANCHOR RODS  
SLS P=120kN/700kN ——— SLS (UNFACTORED) AXIAL REACTION (UPLIFT IN BRACKETS, IF APPLICABLE)  
ULS Pf=200kN/100kN ——— ULS (FACTORED) AXIAL REACTION (UPLIFT IN BRACKETS, IF APPLICABLE)  
VF=200kN/100kN ——— ULS (FACTORED) SHEAR REACTION(S), IF APPLICABLE (REFER TO NOTES)  
M=130kNm/100kNm ——— ULS (FACTORED) BENDING MOMENT REACTION(S), IF APPLICABLE (REFER TO NOTES)  
Tm=50kNm ——— ULS (FACTORED) TORSIONAL MOMENT REACTION, IF APPLICABLE

- 600x750 ——— PIER SIZE  
12-20M V ——— VERTICAL REINFORCING  
10M@300 TIES ——— HORIZONTAL TIES

TYPICAL BASE PLATE:



NOTES:

- as TYPICAL MINIMUM EDGE DISTANCE FROM CENTRE OF HOLE TO EDGE OF THE PLATE TO BE THE GREATER OF 38mm OR 1.5x HOLE DIAMETER.
- THE BASE PLATE DIMENSION GIVEN FIRST IS PARALLEL TO THE COLUMN WEB, OR TO THE LONG DIMENSION OF THE COLUMN, IF THE COLUMN IS SQUARE OR ROUND. THE DIMENSION GIVEN FIRST IS PARALLEL TO THE NORTH-SOUTH AXIS.
- CONNECT COLUMN TO THE BASE PLATE FOR BASE REACTIONS NOTED IN THE COLUMN SCHEDULE.
- IF USED, OVERSIZED ANCHOR ROD HOLES ARE TO BE MAX 1.75x ANCHOR ROD DIAMETER, UNLESS OTHERWISE APPROVED. PROVIDE A 8mm THICK RECTANGULAR OR CIRCULAR PLATE WASHER WITH STANDARD HOLE SIZE AND WELD ALL AROUND TO THE BASE PLATE FOLLOWING INSTALLATION PROVIDE A DETAIL FOR REVIEW PRIOR TO FABRICATION.

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: As indicated	PROJECT NUMBER: 230227

SHEET TITLE:  
COLUMN SCHEDULE

SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET

MARK	DATE	DESCRIPTION
ISSUE: ISSUED FOR ADDENDUM NO.1		
PROJECT NAME: CENTENNIAL PARK		

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: As indicated	PROJECT NUMBER: 230227

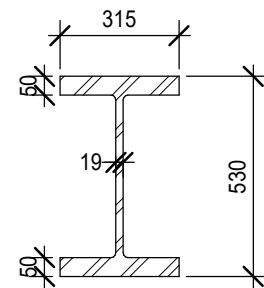
SHEET TITLE:  
BEAM SCHEDULE

- STEEL BEAM SCHEDULE NOTES:
- LEFT AND RIGHT ENDS OF BEAMS ARE DEFINED BY THE ORIENTATION OF THE BEAM MARK ON PLAN.
  - WHERE A BEAM MARK IS INDICATED WITH THE SUFFIX "R" ON PLAN THE REACTIONS ARE TO APPLY AT THE OPPOSITE ENDS.
  - REACTIONS GIVEN ARE FACTORED FORCES. REACTIONS WITHIN BRACKETS DENOTE FACTORED UPLIFT FORCES.
  - BEARING PLATE DIMENSION GIVEN FIRST IS PARALLEL TO THE BEAM WEB.
  - DESIGN CONNECTIONS FOR AXIAL COMPRESSION (C), AXIAL TENSION (T), STRONG-AXIS MOMENT (M), TORSIONAL MOMENT (Tmf) 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.
  - "F" INDICATES FLUSH MOUNTED CAST IN PLACE PLATE.

HIGH BEAM STEEL BEAM NOTES:

- ALL STEEL BEAMS TO BE CLADDED WITH 38mm MAX TIMBER. REFER TO ARCH.
- ALL STEEL BEAM TO COME WITH MIN. 25mm NAILERS. REFER TO 6/S410.
- ALL STEEL BEAM EXPOSED TO WEATHER TO BE HOT DIPPED GALVANIZED.
- REFER TO ARCH FOR ROOF SLOPES.

WELDED WIDE FLANGE (WWF) SHAPES:



ROOF STEEL BEAM SCHEDULE				
MARK	SIZE	REACTIONS		REMARKS
		LEFT END	RIGHT END	
RB1	W410x39	25 kN	25 kN	
RB2	W410x39	25 kN	25 kN	
RB3	C150x19	100 kN	100 kN	
RB3	W610x82	100 kN	100 kN	
RB4	W530x85	160 kN	160 kN	
RB5	W460x52	70 kN	70 kN	
RB6	W410x46	45 kN	45 kN	
RB7	W410x39	45 kN	45 kN	
RB9	W530x85	250 kN	250 kN	
RB10	W460x52	40 kN	40 kN	
RB11	W760x134	140 kN	140 kN	
RB12	W610x82	100 kN	100 kN	
RB13	W530x85	165 kN	165 kN	
RB14	W760x134	130 kN	130 kN	
RB16	W410x39	50 kN	50 kN	
RB17	W410x39	25 kN	25 kN	
RB18	W410x46	25 kN	25 kN	
RB19	W410x46	25 kN	25 kN	
RB20	W410x39	25 kN	25 kN	
RB21	W410x39	25 kN	25 kN	
RB22	W760x134	115 kN	115 kN	
RB23	W610x82	155 kN	155 kN	
RB24	W610x82	190 kN	190 kN	
RB25	W610x82	190 kN	190 kN	
RB26	W530x66	155 kN	155 kN	
RB27	W460x52	75 kN	75 kN	
RB28	W760x134	150 kN	150 kN	
RB29	W610x82	145 kN	145 kN	
RB30	W610x82	175 kN	175 kN	
RB31	W610x82	175 kN	175 kN	
RB32	W530x66	140 kN	140 kN	
RB33	W460x52	100 kN	100 kN	
RB34	W410x39	105 kN	105 kN	
RB35	W250x22	80 kN	80 kN	
RB36	W610x82	150 kN	150 kN	
RB37	W250x22	85 kN	85 kN	
RB38	W610x82	175 kN	175 kN	
RB39	W610x82	235 kN	230 kN	
RB40	W530x66	205 kN	205 kN	
RB41	W460x52	70 kN	70 kN	
RB42	W310x28	75 kN	75 kN	
RB43	C150x19	155 kN	155 kN	
RB43	W610x82	155 kN	155 kN	
RB44	W610x82	190 kN	190 kN	
RB45	W610x82	190 kN	190 kN	
RB46	W530x66	155 kN	155 kN	
RB47	W460x52	40 kN	40 kN	
RB48	W460x52	40 kN	40 kN	
RB49	W410x39	25 kN	25 kN	
RB50	W410x46	25 kN	25 kN	
RB51	W410x46	25 kN	25 kN	
RB52	W410x39	25 kN	25 kN	
RB53	W410x39	25 kN	25 kN	
RB54	W410x39	25 kN	25 kN	
RB55	W410x39	25 kN	25 kN	
RB56	W410x39	25 kN	25 kN	
RB57	W410x39	25 kN	25 kN	
RB58	W610x82	140 kN	140 kN	

HIGH BEAM STEEL BEAM SCHEDULE				
MARK	SIZE	REACTIONS		REMARKS
		LEFT END	RIGHT END	
HB1	W410x39	70 kN	70 kN	Tmf(L)=16 kN-m Tmf(R)=16 kN-m Cf=100 kN Tf=100 kN
HB2	W610x82	110 kN	110 kN	M(L)=320 kN-m Cf=140 kN Tf=140 kN
HB3A	WWF530x320	340 kN	340 kN	M(L)=1550 kN-m M(R)=830 kN-m Cf=200 kN Tf=200 kN ; SEE DETAIL 3/S102
HB3B	WWF530x320	340 kN	200 kN	M(L)=830 kN-m Cf=280 kN Tf=280 kN ; SEE DETAIL 3/S102
HB4A	WWF530x320	410 kN	410 kN	M(L)=1620 kN-m M(R)=750 kN-m Cf=310 kN Tf=310 kN ; SEE DETAIL 3/S102
HB4B	WWF530x320	410 kN	250 kN	M(L)=750 kN-m Cf=450 kN Tf=450 kN ; SEE DETAIL 3/S102
HB5A	WWF530x320	280 kN	280 kN	M(R)=735 kN-m Cf=100 kN Tf=100 kN ; SEE DETAIL 3/S102
HB5B	WWF530x320	280 kN	280 kN	M(L)=735 kN-m Cf=50 kN Tf=50 kN ; SEE DETAIL 3/S102
HB6	W610x82	55 kN	100 kN	M(R)=320 kN-m Cf=30 kN Tf=30 kN
HB7	WWF530x320	140 kN	250 kN	M(R)=1620 kN-m Cf=225 kN Tf=225 kN ; SEE DETAIL 3/S102
HB8	WWF530x320	170 kN	420 kN	M(R)=1550 kN-m Cf=315 kN Tf=315 kN ; SEE DETAIL 3/S102
HB9	W610x82	100 kN	100 kN	Tmf(L)=32 kN-m Tmf(R)=32 kN-m Cf=220 kN Tf=220 kN
HB10	W610x82	50 kN	50 kN	Cf=75 kN Tf=75 kN
HB11	W610x82	100 kN	100 kN	Cf=225 kN Tf=225 kN
HB12	W410x39	105 kN	185 kN	Tmf(L)=16 kN-m Tmf(R)=16 kN-m Cf=100 kN Tf=100 kN
HB13	W410x39	85 kN	85 kN	Tmf(L)=16 kN-m Tmf(R)=16 kN-m Cf=100 kN Tf=100 kN
HB14	W410x39	65 kN	65 kN	Tmf(L)=16 kN-m Tmf(R)=16 kN-m Cf=100 kN Tf=100 kN
HB15	W610x82	210 kN	310 kN	Tmf(L)=32 kN-m Tmf(R)=32 kN-m Cf=150 kN Tf=150 kN
HB16	W530x66	160 kN	160 kN	
HB17	W530x66	160 kN	160 kN	

CANOPY STEEL BEAM SCHEDULE				
MARK	SIZE	REACTIONS		REMARKS
		LEFT END	RIGHT END	
CB1	W310x28	40 kN	40 kN	
CB2	W310x28	20 kN	20 kN	
CB3	W310x28	50 kN	50 kN	
CB5	C230x22	20 kN	20 kN	
CB6	W310x28	15 kN	15 kN	Mf = 20.5kN.m
CB7	C230x22	20 kN	20 kN	

OPEN WEB STEEL JOIST SCHEDULE				
JOIST MARK	JOIST DEPTH	MAX OWSJ SPACING (mm)	OWSJ MINIMUM MOMENTS OF INERTIA (mm <sup>4</sup> )	REMARKS
RJ1	750 OWSJ	1600	621x10 <sup>6</sup>	
RJ2	550 OWSJ	1600	190x10 <sup>6</sup>	
RJ3	350 OWSJ	1600	142x10 <sup>6</sup>	
RJ4	750 OWSJ	1600	436x10 <sup>6</sup>	
RJ5	600 OWSJ	1600	292x10 <sup>6</sup>	

TIMBER BEAM SCHEDULE - ROOF PLAN								
MARK	SIZE	REACTIONS		MIN. BEARING LENGTH		Kd FACTOR		REMARKS
		L. END	R. END	L. END	R. END	L. END	R. END	
GB1	315x342 20f-E SPF GLULAM	45 kN	45 kN	38	38	1	1	



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MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

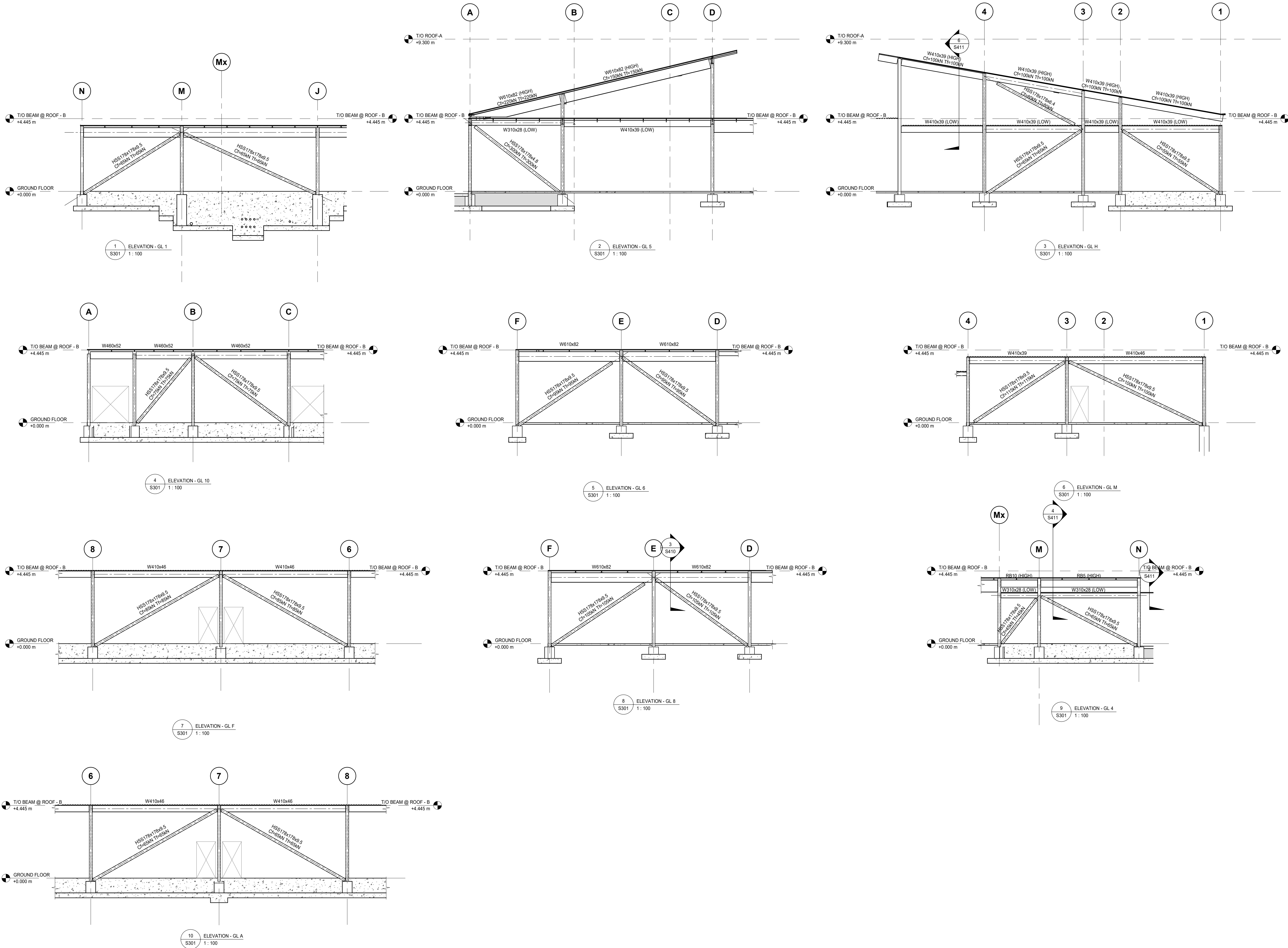
PROJECT NAME:  
CENTENNIAL PARK

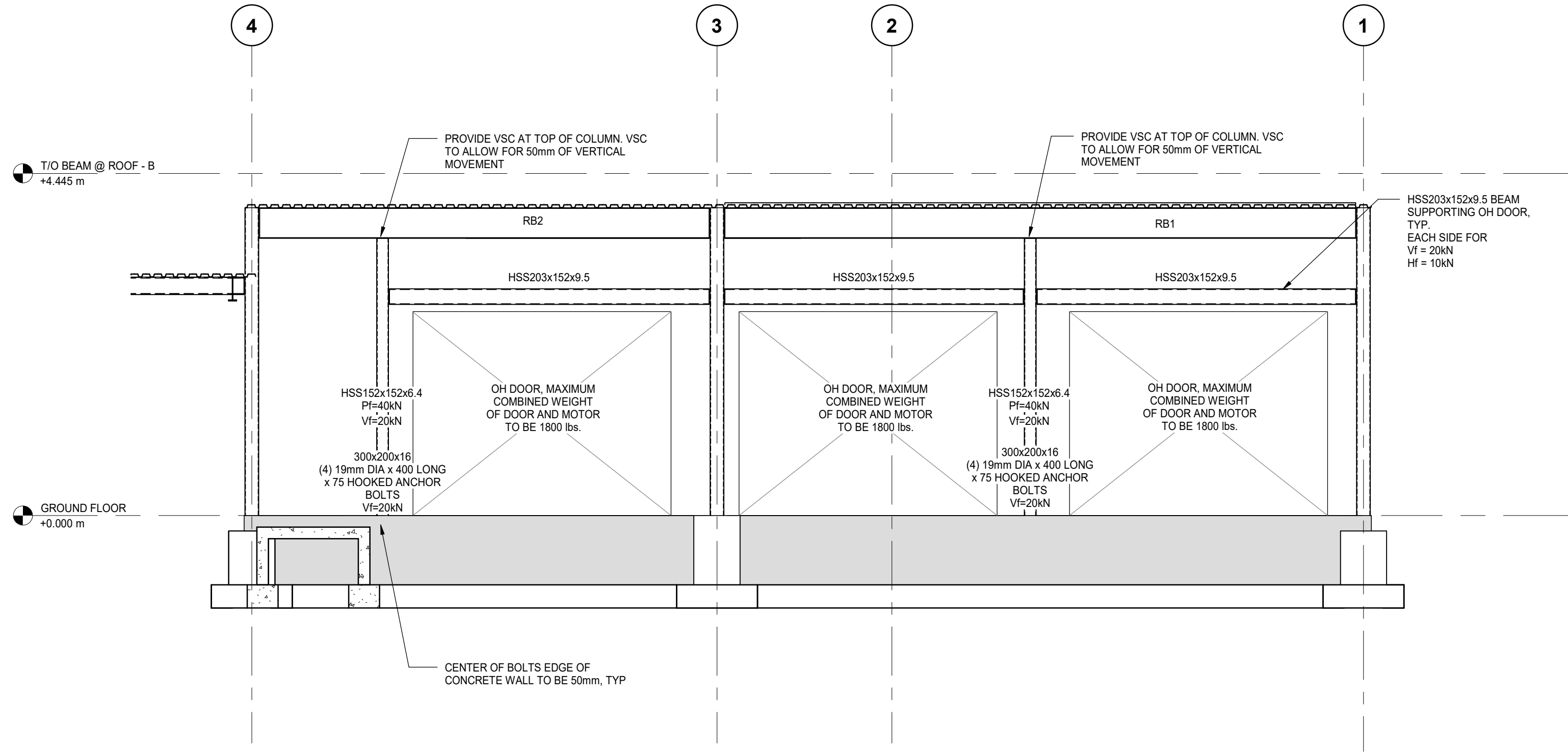
PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: 1 : 100	PROJECT NUMBER: 230227

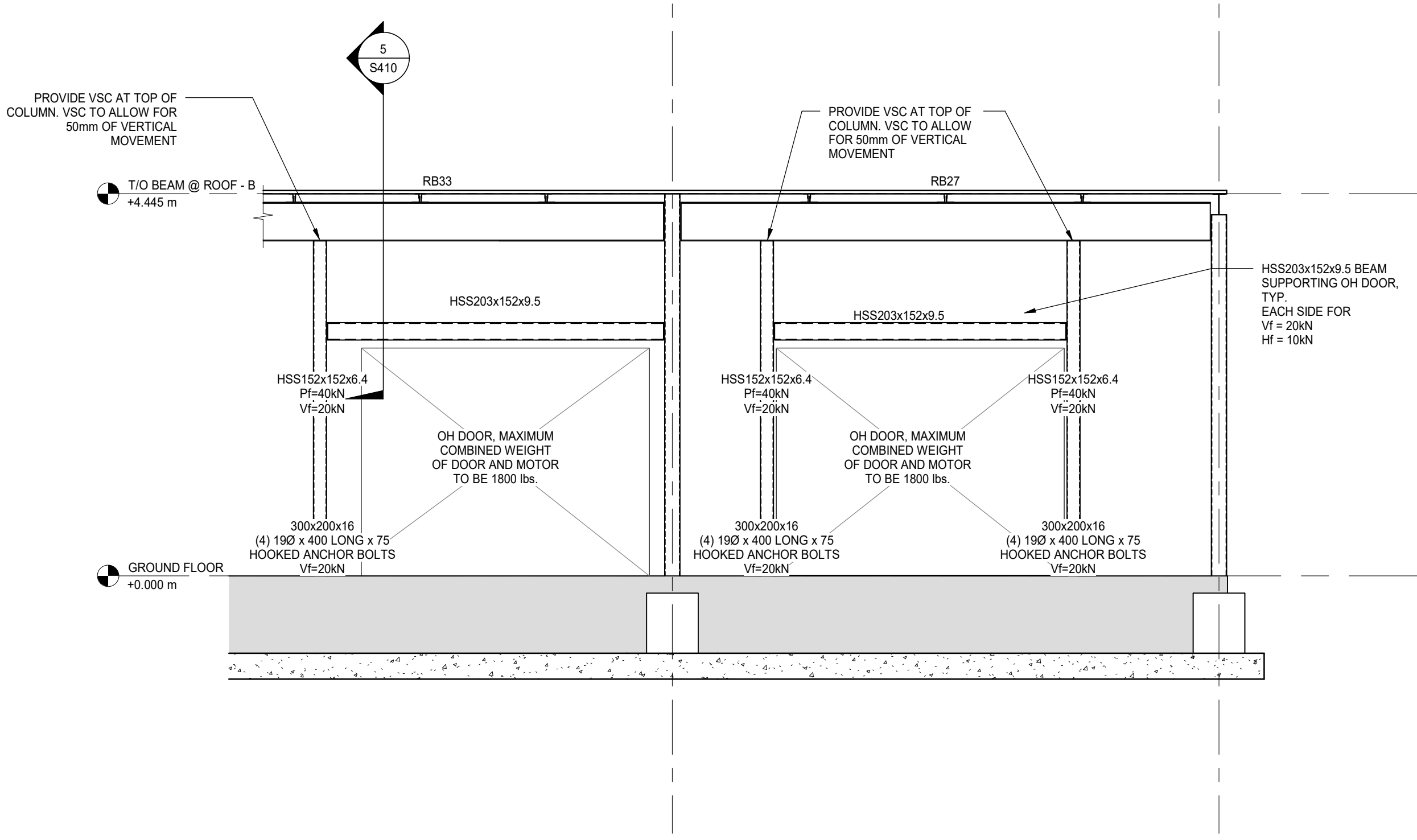
SHEET TITLE:  
ELEVATIONS

S301





1 ELEVATION - GL N  
S302 1 : 50



2 ELEVATION - GL 10 OH DOOR  
S302 1 : 50

# Blackwell

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SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET

MARK	DATE	DESCRIPTION
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ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: 1 : 50	PROJECT NUMBER: 230227

SHEET TITLE:  
ELEVATIONS

S302



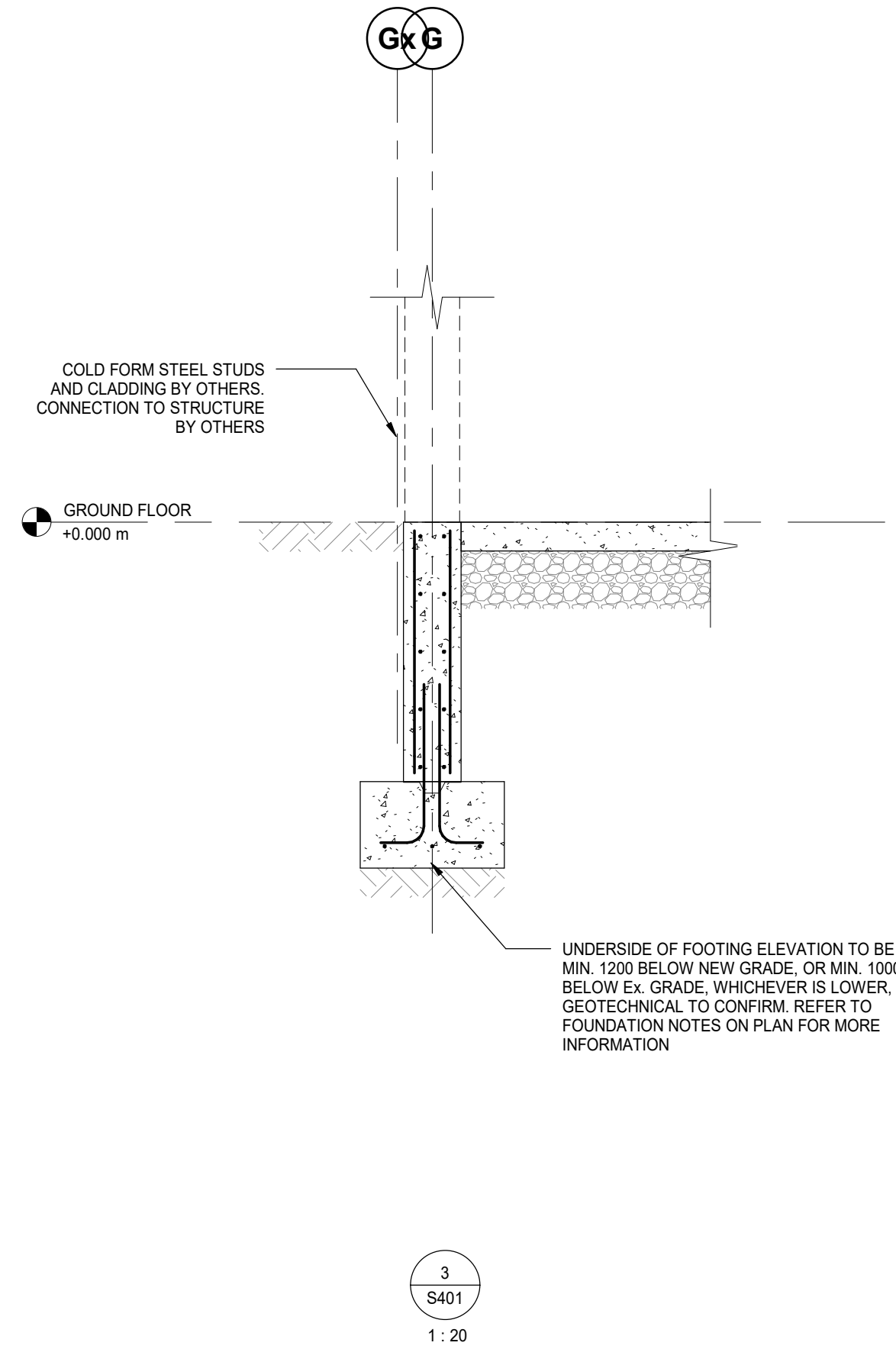
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416.593.5300 | [blackwell.ca](http://blackwell.ca)

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET

PROJECT NAME:  
CENTENNIAL PARK

DRAWN: 6G	CHECKED: VC/JC
SCALE: 1 : 20	PROJECT NUMBER: 230227

# S401



SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET

MARK	DATE	DESCRIPTION
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ISSUE:  
ISSUED FOR ADDENDUM NO.1

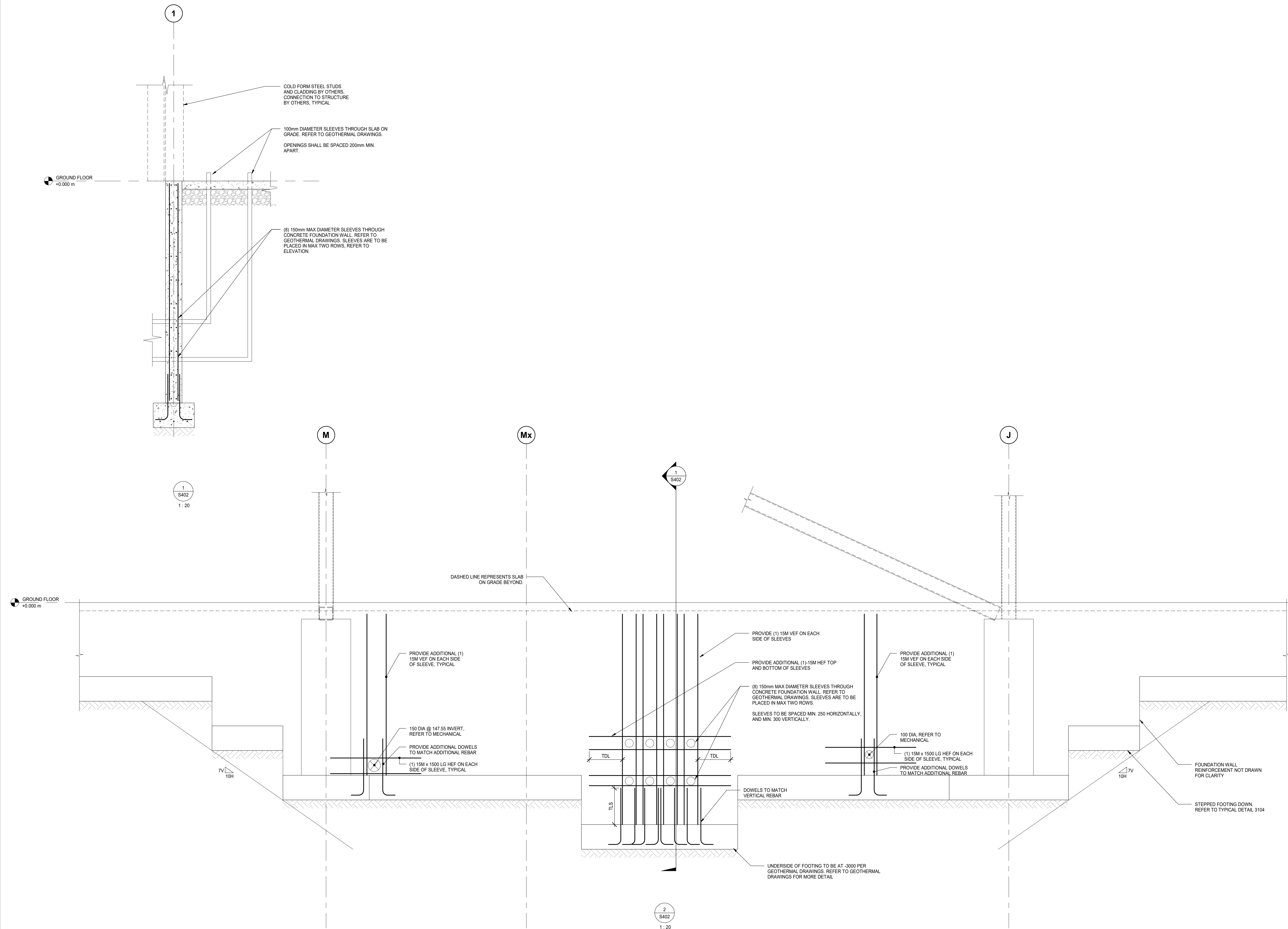
PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: 1 : 20	PROJECT NUMBER: 230227

SHEET TITLE:  
FOUNDATION  
SECTIONS

S402





SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
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1	2024-10-04	PROGRESS SET

MARK	DATE	DESCRIPTION
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ISSUE:  
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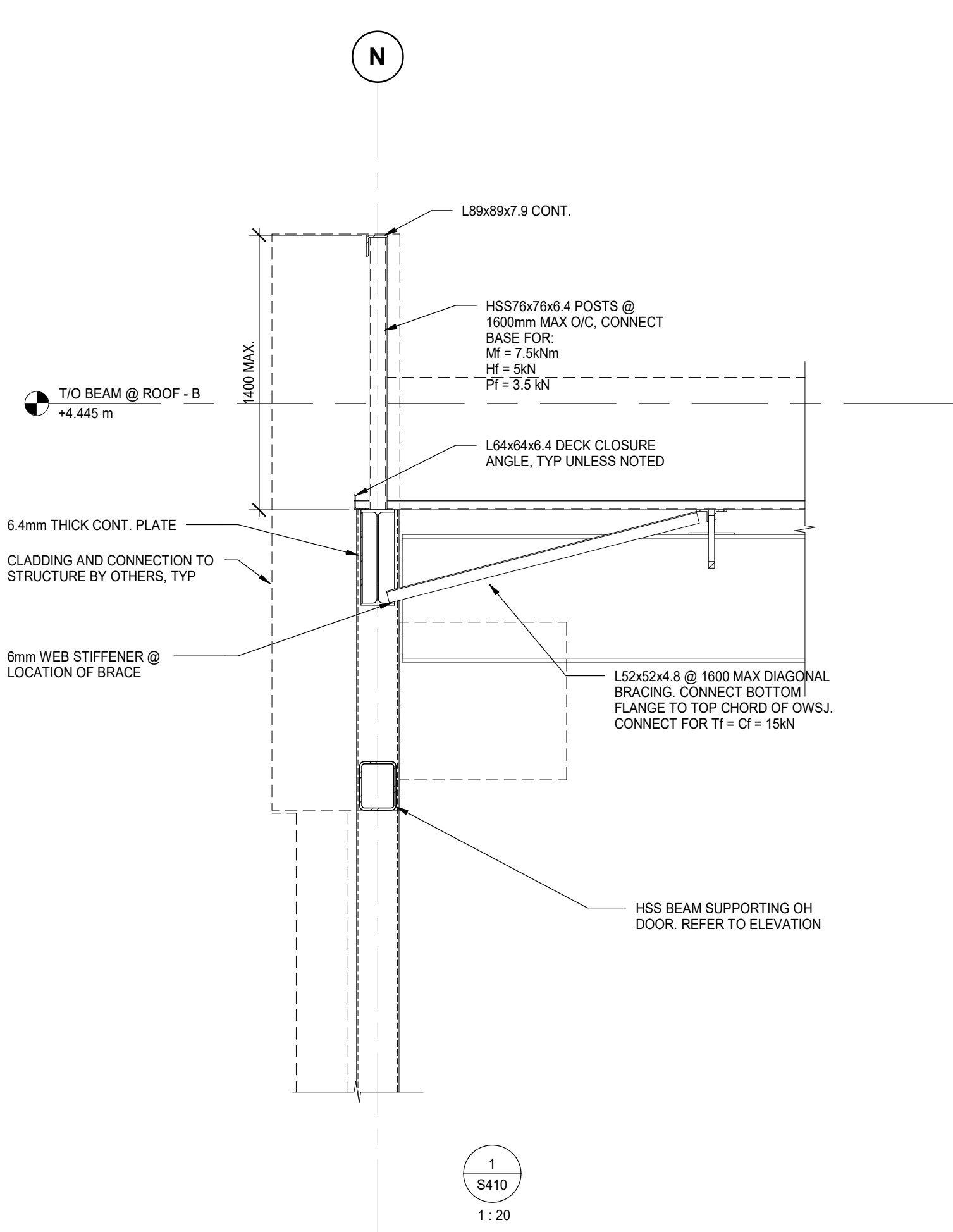
PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

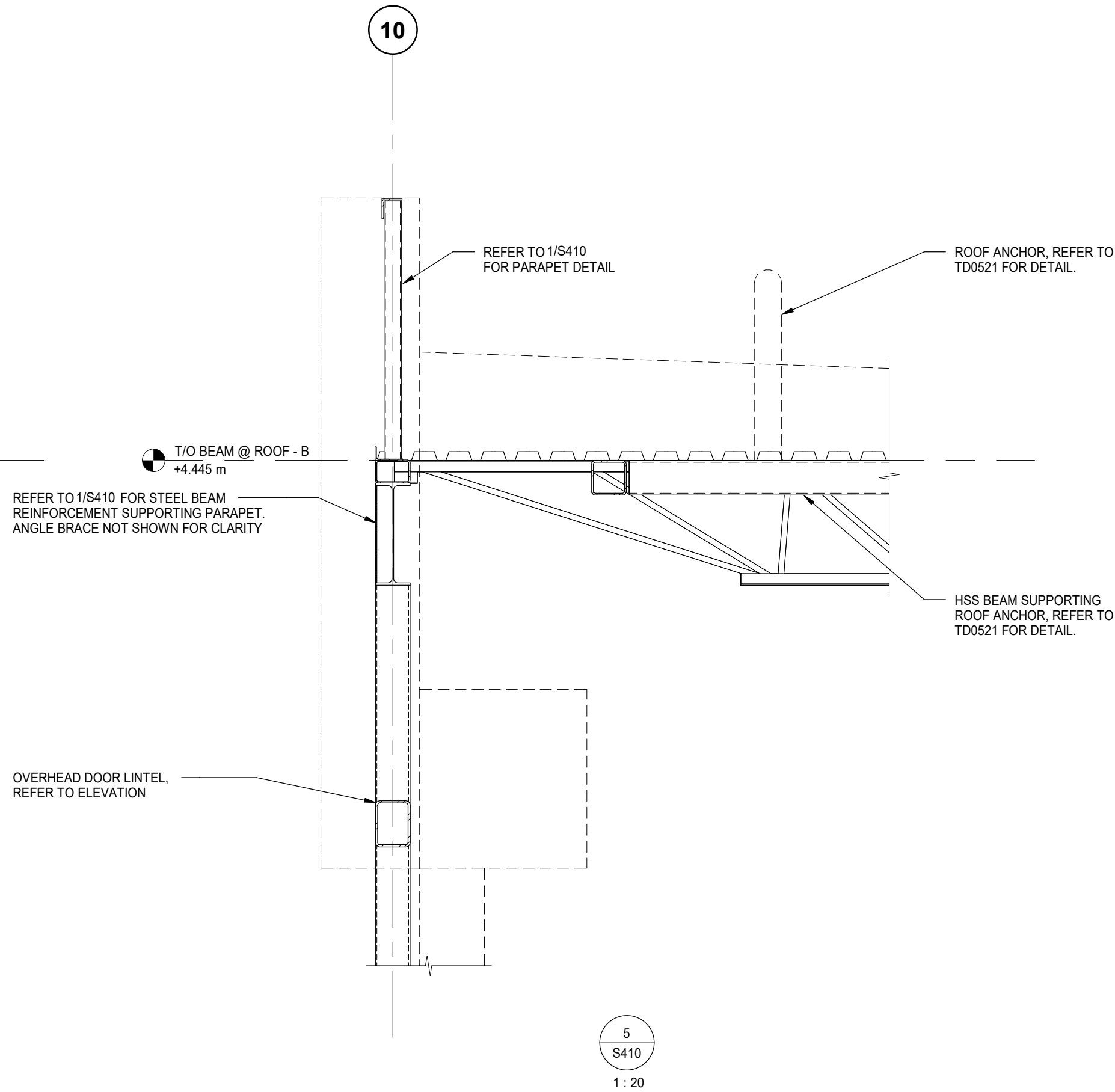
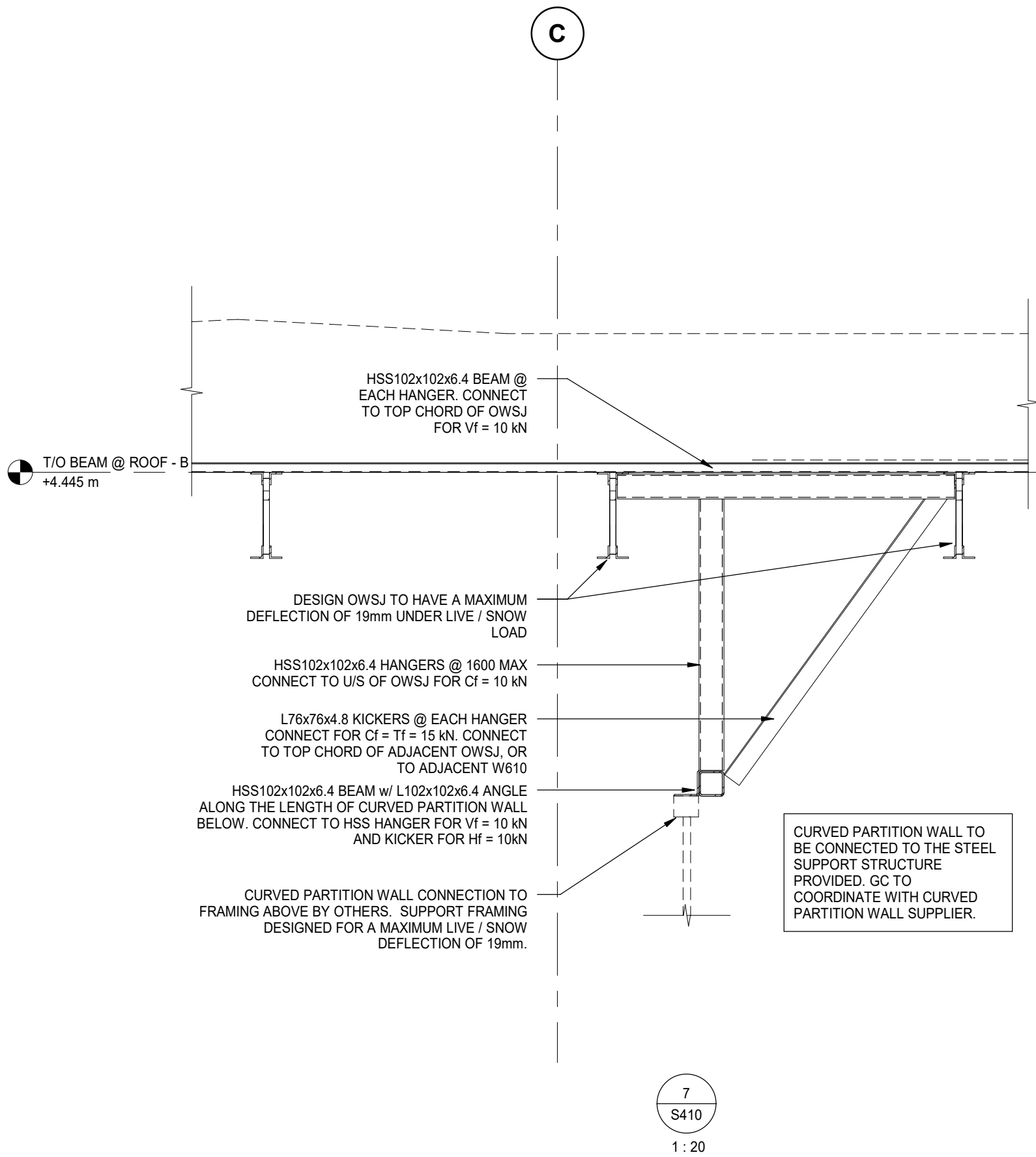
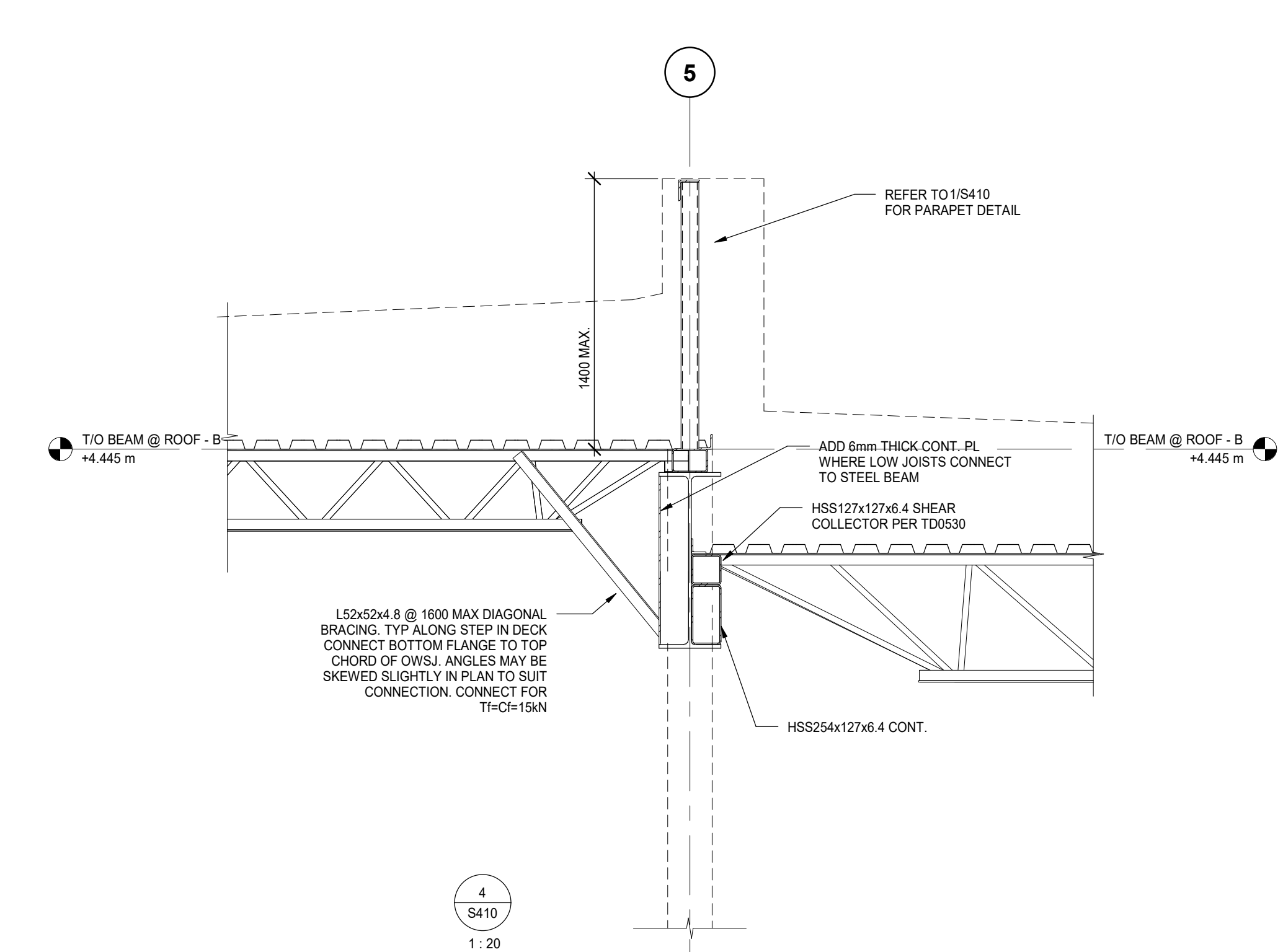
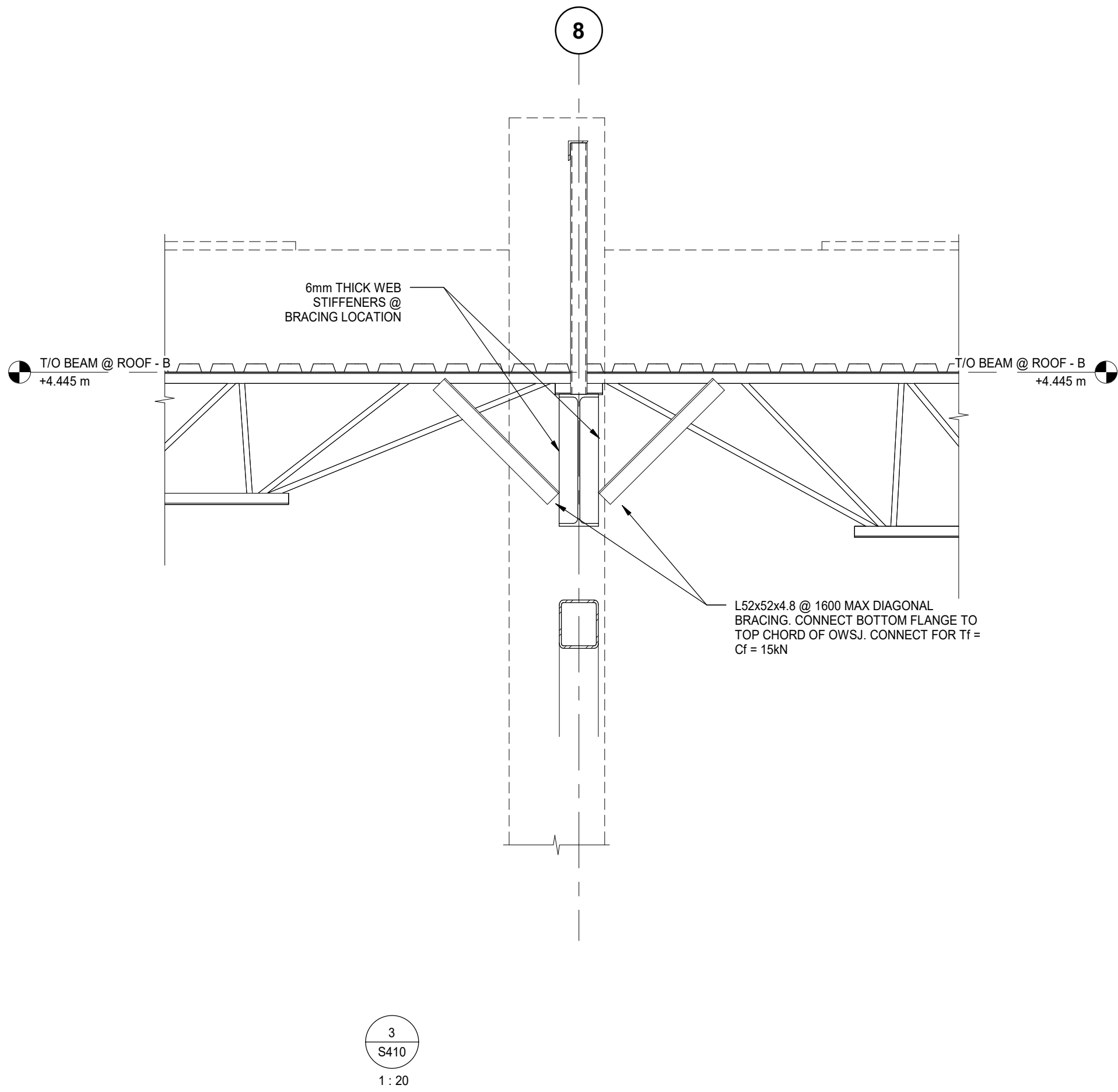
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SCALE: 1 : 20	PROJECT NUMBER: 230227

SHEET TITLE:  
ROOF SECTIONS

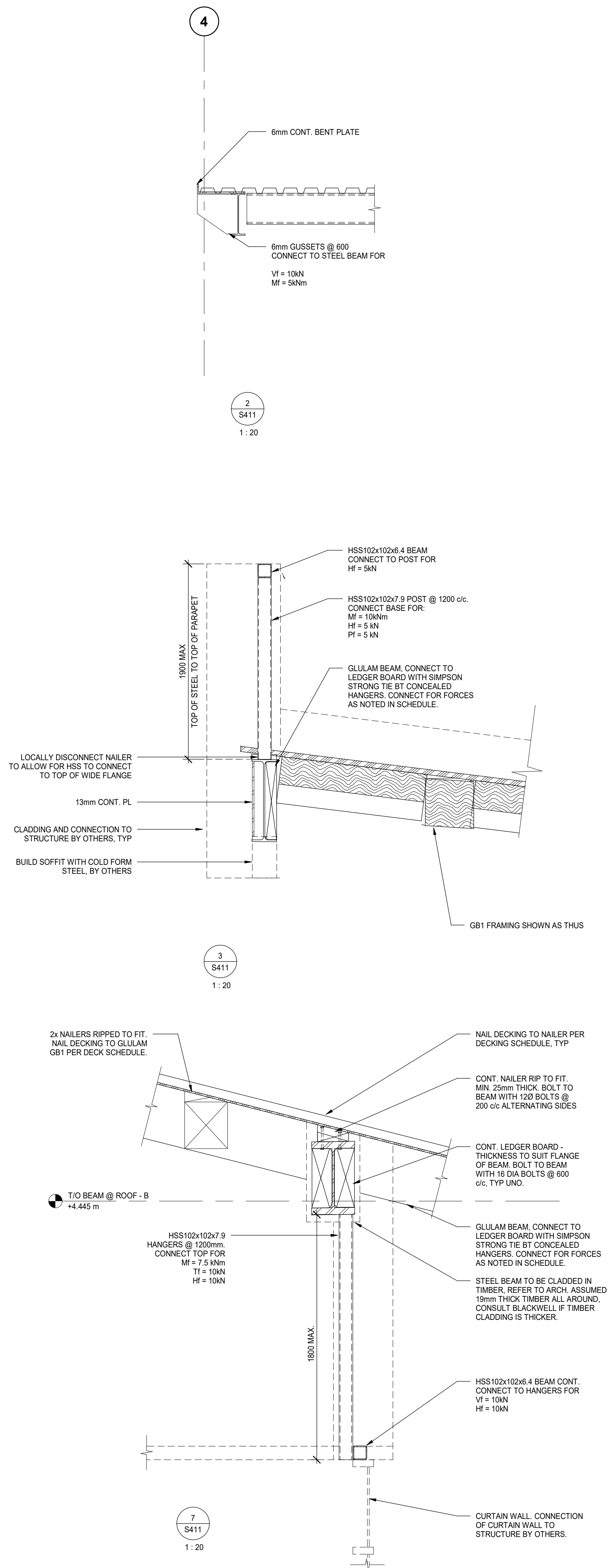
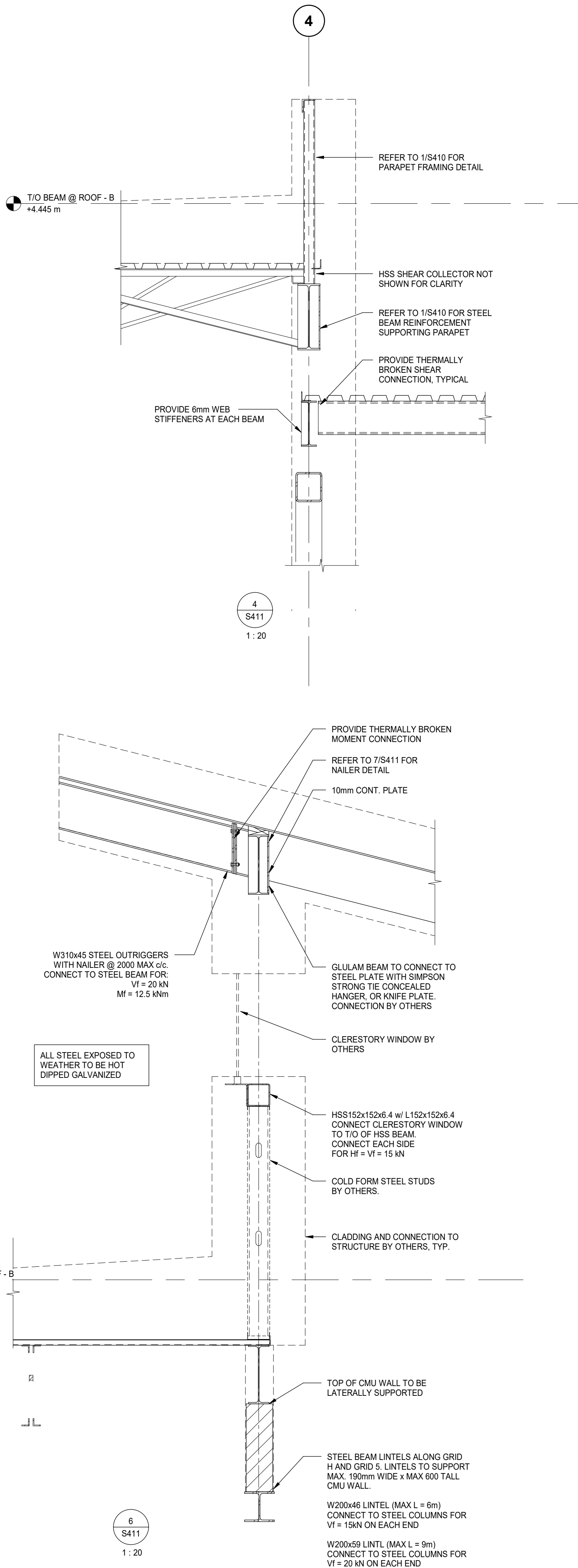
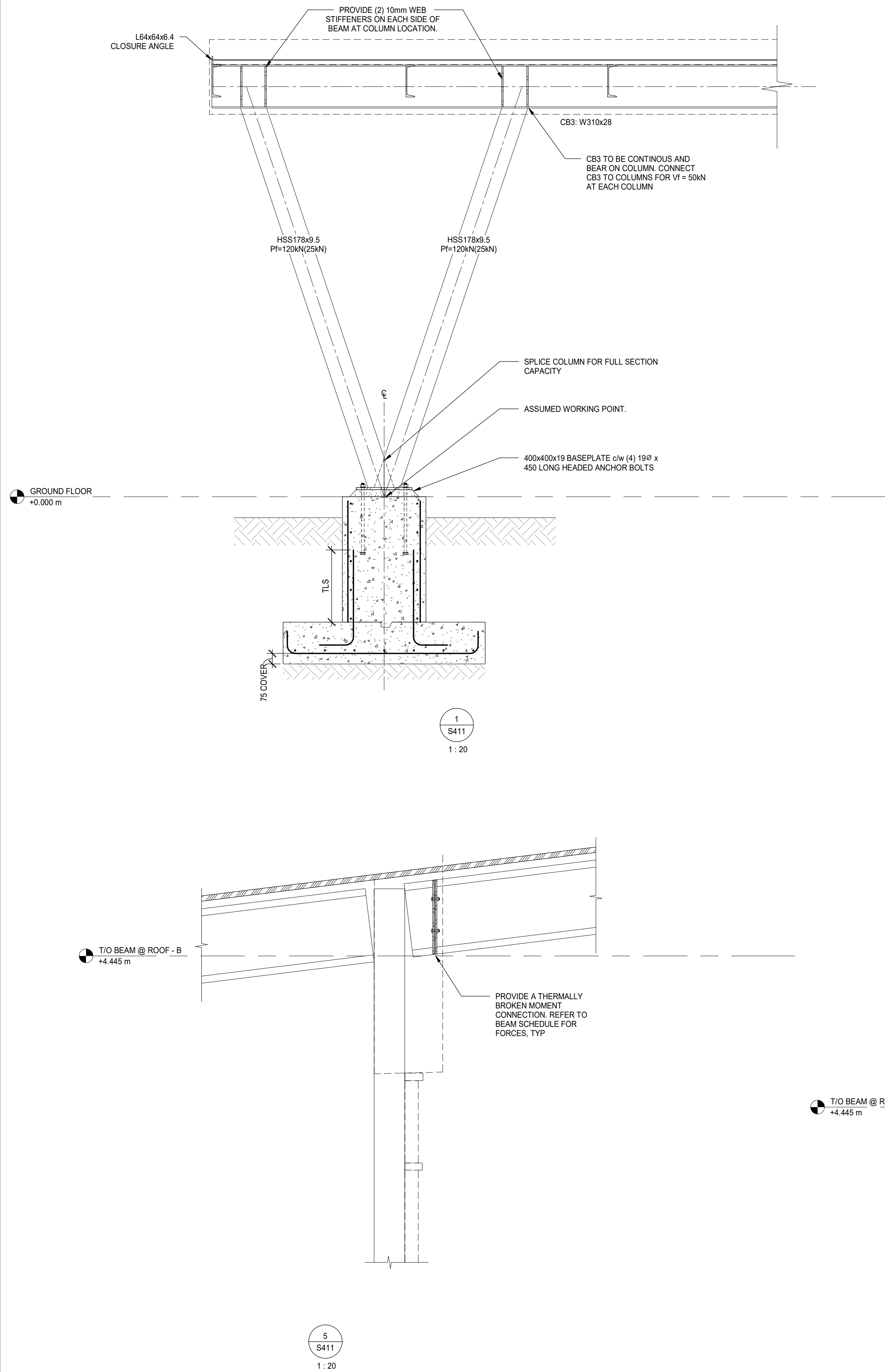
S410



2/S410 NOT USED



SEAL:



4	2024-12-19	ISSUED FOR ADDENDUM NO.1
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ISSUE:  
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CENTENNIAL PARK

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56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: 1 : 20	PROJECT NUMBER: 230227

SHEET TITLE:  
ROOF SECTION

S411



SEAL:

4	2024-12-19	ISSUED FOR ADDENDUM NO.1
3	2024-11-20	ISSUED FOR TENDER
2	2024-10-18	ISSUED FOR TENDER REVIEW
1	2024-10-04	PROGRESS SET
MARK	DATE	DESCRIPTION

ISSUE:  
ISSUED FOR ADDENDUM NO.1

PROJECT NAME:  
CENTENNIAL PARK

PROJECT ADDRESS:  
56 Centennial Park Rd,  
Toronto, ON

DRAWN: SG	CHECKED: VC/JC
SCALE: 1 : 20	PROJECT NUMBER: 230227

SHEET TITLE:  
ROOF SECTION

S412

