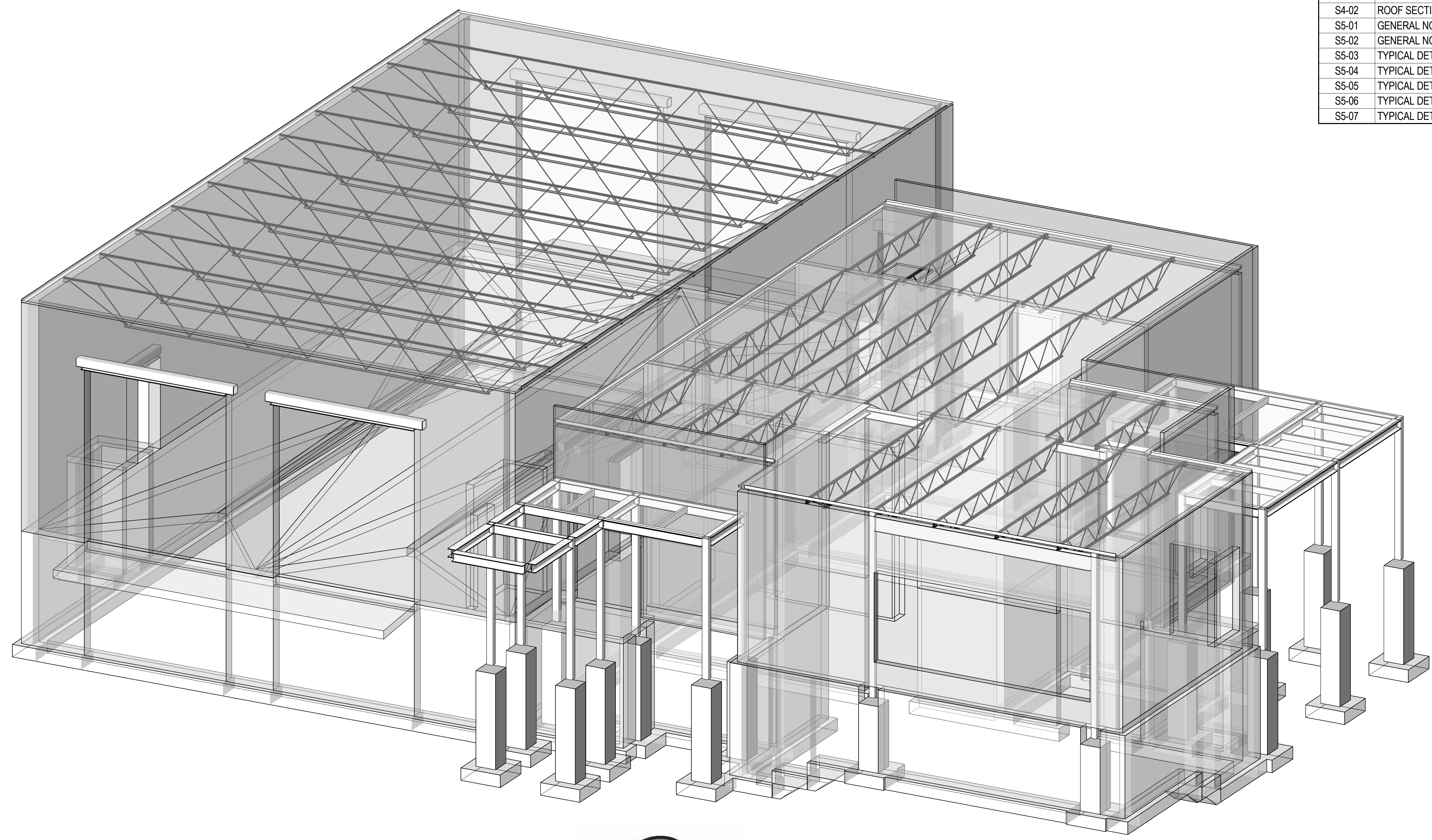


DRAWING LIST	
Sheet Number	Sheet Name
S0	COVER SHEET
S1-01	FOUNDATION PLAN
S1-02	ROOF FRAMING PLAN
S2-01	COLUMN SCHEDULE AND DETAILS
S3-01	FOUNDATION SECTIONS
S4-01	ROOF SECTIONS
S4-02	ROOF SECTIONS
S5-01	GENERAL NOTES
S5-02	GENERAL NOTES
S5-03	TYPICAL DETAILS
S5-04	TYPICAL DETAILS
S5-05	TYPICAL DETAILS
S5-06	TYPICAL DETAILS
S5-07	TYPICAL DETAILS



# YORK REGION PRS #32

THIS COVER SHEET IS A DIAGRAMATIC 3D VIEW AND DOES NOT FORM PART OF THE DOCUMENTS


**Salas O'Brien**  
 2235 Sheppard Ave. E. Suite No. 1100  
 Toronto, ON M2J 5B5  
Stephenson Engineering, a company of Salas O'Brien

**ISSUE OR REVISION**

NO.	ISSUE FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 80% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

PROJECT: YORK REGION PRS #32

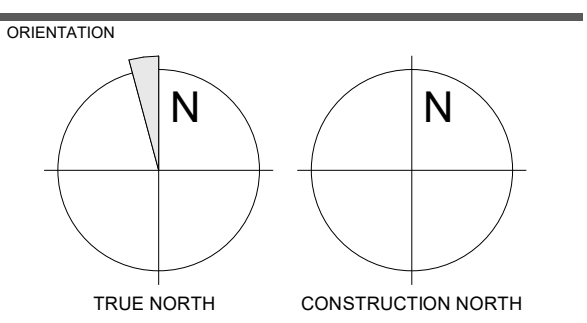
53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN



**Salas O'Brien**  
2258 Sheppard Ave. E. Suite No. 1100  
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**FOUNDATION PLAN**



DATE: JULY 2023  
SCALE: As indicated  
DRAWN BY: AE  
CHECKED BY: JG

PROJECT NO: 20160759  
DRAWING NO: S1-01  
REVISION: 5

**CONCRETE MIX SCHEDULE**

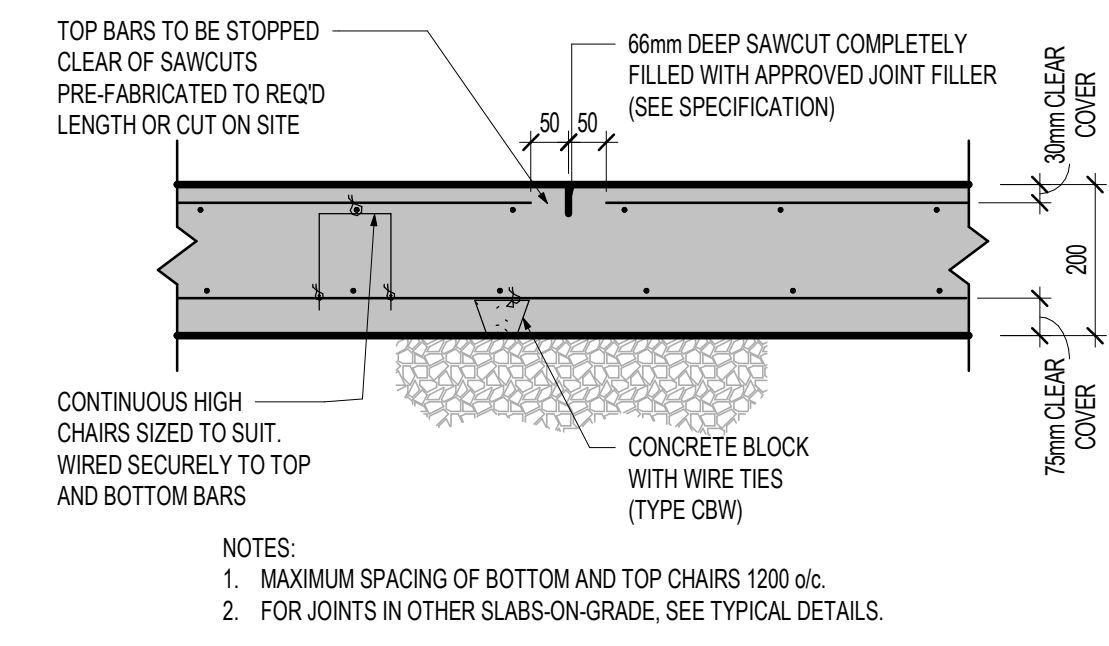
EXPOSURE	ELEMENT	MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (MPa)	EXPOSURE CLASSIFICATION	NOTES
GENERAL NON-EXPOSED CONCRETE (i.e. NOT EXPOSED TO CHLORIDES NOR FREEZE AND THAW)	FOOTINGS	25	N	
	SLAB ON GRADE 2	25	N	
	LEAN MIX	5	N	
	HOUSEKEEPING PADS	25	N	
	TOPPING	25	N	
EXTERIOR EXPOSED CONCRETE EXCLUDING PARKING (i.e. EXPOSED TO FREEZE AND THAW BUT NOT CHLORIDES)	FOUNDATION/RETAINING WALLS	25	F-2	
	SLAB ON GRADE 2, APPARATUS BAY LEAN MIX	32	N	
GROUT	MASONRY FILL/BOND BEAMS	15 (FINE GROUT)		CONFORM TO REQUIREMENTS OF CSA A179

**DESIGN CRITERIA NOTES**

- GENERAL**
  - THE PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2012 OBC (O. REG. 33012 AS AMENDED) INCLUDING CLAUSES 4.1.6.1(1), 4.1.6.4(3), 4.1.7 AND 4.1.8.
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR WHO IS SUPPLYING AND INSTALLING EQUIPMENT, THAT ALL ELEMENTS OF STRUCTURES LISTED IN TABLE 4.1.8.18 OF THE OBC 2012 ARE DESIGNED IN ACCORDANCE WITH CLAUSE 4.1.8.18.
  - BUILDING IMPORTANCE CATEGORY (SNOW, WIND, AND EARTHQUAKE) IS POST DISASTER.
  - STIFF ELEMENTS NOT PART OF SFRS SHALL BE SEPARATED FROM THE STRUCTURE AS PER OBC CLAUSE 4.1.8.3 (6a). EXAMPLES INCLUDE, BUT NOT LIMITED TO MASONRY PARTITIONS, BRICK VENEER, PRECAST CLADDING ETC. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE SHOP DRAWINGS, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER DEMONSTRATING COMPLIANCE. PROVIDE MINIMUM 15mm SEPARATION UNLESS NOTED OTHERWISE.
  - MISCELLANEOUS METAL, PRECAST AND STAIR FABRICATORS SHALL:
    - PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.
    - DESIGN ALL GUARDS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.
    - DESIGN ALL HANDRAILS TO MEET LOADS DESCRIBED IN OBC 3.4.6.5(12).
    - DESIGN ALL STAIRS TO SUPPORT A MINIMUM LIVE LOAD OF 4.8kPa.
  - ARCHITECTURAL PRECAST FABRICATOR SHALL:
    - PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.
    - WHERE PRECAST IS USED AS A GUARD DESIGN THE PRECAST AND CONNECTIONS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.
- LATERAL LOADS ON STRUCTURE**
  - WIND
    - $q(150) = 0.44kPa$
    - $C_e = 0.7(h/12)^{0.3}$
    - $C_g = 2.0$
    - $C_p = AS PER FIGURE 4.1.7.6-A OF NBC 2015$
  - SNOW
    - $S_s = 1.1kPa$
    - $S_r = 0.4kPa$
  - EARTHQUAKE
    - PGA = 0.105       $F_a = 1.12$
    - Sa(0.2) = 0.167      SITE CLASS = D       $F_v = 1.55$
    - Sa(0.5) = 0.096       $R_d = 2.0$        $I_e = 1.5$
    - Sa(1.0) = 0.053       $R_o = 1.5$        $I_e Sa(0.2) = 0.281$
    - Sa(2.0) = 0.0260       $R_o = 1.5$       SFRS CONSISTS OF MODERATELY DUCTILE MASONRY SHEAR WALLS.
    - METHOD OF ANALYSIS - STATIC
- FOUNDATION WALLS**
  - WALLS RETAINING EARTH ARE DESIGNED TO SAFELY WITHSTAND HORIZONTAL EARTH PRESSURE ( $P=h \cdot \gamma \cdot h$ )
  - THE WALLS HAVE BEEN DESIGNED ASSUMING FREE DRAINING BACKFILL OR THE USE OF A DRAINAGE CORE TO PREVENT THE BUILD-UP OF HYDROSTATIC PRESSURE.

**ENGINEERED FILL NOTES**

- GENERAL**
  - THE FOLLOWING ARE MINIMUM REQUIREMENTS FOR PLACING ENGINEERED FILL WITHIN THE BOUNDARIES OF THE BUILDING ENVELOPE AND EXTENDING BEYOND PERIMETER OF THE BUILDING FOUNDATIONS BY A MIN. OF 1200mm AND SLOPING DOWNWARD TO THE SUB-GRADE, IN ALL DIRECTIONS, AT 45°.
  - PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONVENE A MEETING TO BE ATTENDED BY AT LEAST THE ARCHITECT, STEPHENSON ENGINEERING, THE SOIL CONSULTANT, THE GENERAL CONTRACTOR, AND THE EXCAVATION AND BACKFILLING CONTRACTOR. THE PURPOSE OF THIS MEETING IS TO ENSURE THAT ALL PARTIES UNDERSTAND THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND TO DISCUSS PROCEDURES, TIMING, MATERIALS AND TESTING, ETC.
  - REFER ALSO TO THE SPECIFICATION, THE SOIL REPORT AND DIAGRAMMATIC SECTION.
- MATERIALS**
  - ALL MATERIAL TO BE USED AS FILL MUST BE IMPORTED GRANULAR 'B' MATERIAL AS APPROVED BY THE SOIL CONSULTANT.
  - THE LAYER IMMEDIATELY BELOW THE SLAB-ON-GRADE SHALL BE 200mm (8") OF GRANULAR 'A' COMPACTED TO MIN. 100% STANDARD PROCTOR MAX. DRY DENSITY. THE LAYER IMMEDIATELY BELOW THE APPARATUS SLAB-ON-GRADE SHALL BE SHALL BE 300mm OF GRANULAR 'A' COMPACTED TO 100% SPMD.
- EXECUTION**
  - REMOVE AND DISPOSE OF ALL EXISTING ORGANIC MATERIAL, FILL, AND CONTAMINATED MATERIAL DOWN TO NATURAL UNDISTURBED, UNCONTAMINATED SUB-GRADE.
  - THE SUB-GRADE SHALL BE PROOF ROLLED WITH HEAVY VIBRATORY EQUIPMENT TO MIN. 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
  - ANY LOOSE OR SOFT SPOT SHALL BE SUB-EXCAVATED AND BACKFILLED WITH APPROVED COMPACTED MATERIAL.
  - FILL REQUIRED TO RAISE THE GRADES SHALL COMPRISE OF APPROVED IMPORTED GRANULAR 'B' MATERIAL PLACED IN SUCCESSIVE 300mm LAYERS EACH COMPACTED TO AT LEAST 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.
  - THE LAYER IMMEDIATELY BELOW THE SLAB-ON-GRADE SHALL BE 200mm (8") OF GRANULAR 'A' COMPACTED TO MIN. 100% STANDARD PROCTOR MAX. DRY DENSITY. THE LAYER IMMEDIATELY BELOW THE APPARATUS SLAB-ON-GRADE SHALL BE SHALL BE 300mm OF GRANULAR 'A' COMPACTED TO 100% SPMD.
  - ALL PROCEDURES, EQUIPMENT AND MATERIALS SHALL BE APPROVED BY THE SOIL CONSULTANT WHO SHALL BE ENGAGED "FULL TIME" TO SUPERVISE THIS WORK.
  - CONDITIONS AS OUTLINED IN THE CONTRACT DOCUMENTS ARE ASSUMED AND ARE BASED UPON INFORMATION AVAILABLE AT THE TIME THAT THE DOCUMENTS WERE PREPARED.
  - THE SOIL CONSULTANT SHALL ISSUE, VIA "FAX", DAILY REPORTS OF THE WORK.
  - IF ANY ASPECT OF THE ACTUAL WORK IS NOT AS ASSUMED, THEN THE SOIL CONSULTANT SHALL ADVISE THE ARCHITECT IMMEDIATELY, BY TELEPHONE, BEFORE PROCEEDING.
  - NOTE THAT THE EXISTING ON-SITE MATERIAL IS NOT SUITABLE FOR BACKFILLING OF TRENCHES, ETC., OR AGAINST FOUNDATION WALLS.
  - FOR AREAS UNDER DRIVEWAYS AND PARKING ETC., OUTSIDE BUILDING ENVELOPE, REFER TO SPECIFICATION AND SOIL REPORT.



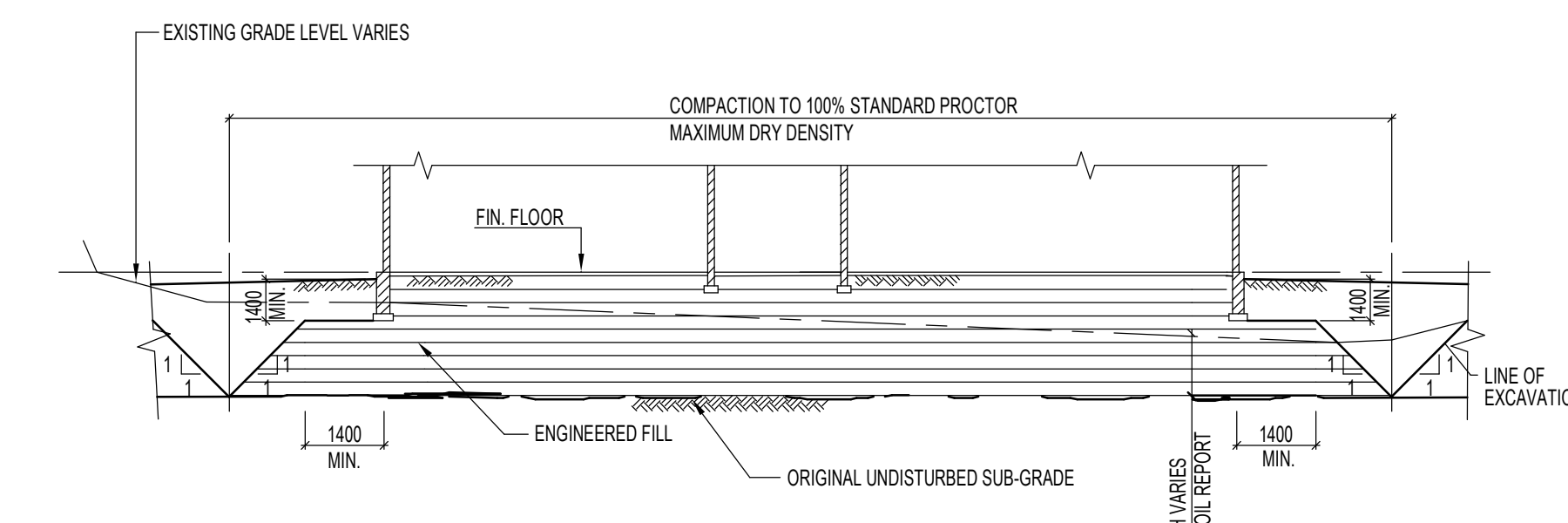
**FOUNDATION PLAN 1:75**

**PLAN NOTES**

- TOP OF SLAB - ON - GRADE TO BE 0.0 BELOW FINISHED FLOOR DATUM ELEVATION 218.18m EXCEPT AS NOTED. TOS = TOP OF SLAB.
- FOOTINGS SHALL BEAR ON UNDISTURBED NATIVE SOIL CAPABLE OF SUSTAINING A MINIMUM OF 150 kPa (SL1).
- REFER TO THE SOIL REPORT No. 2019-13462 DATED JANUARY 09, 2020 PREPARED BY SOLA ENGINEERING INC.
- SOIL AT THE UNDERSIDE OF THE FOOTINGS IS TO BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF A SOILS CONSULTANT BEFORE PLACING CONCRETE.
- REFER ALSO TO SITE PREPARATION NOTES ON DRAWING S1-01.
- CO-ORDINATE ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS AND REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO PROCEEDING WITH ANY WORK.
- UNDERSIDE OF WALL FOOTINGS TO BE AT ELEVATIONS AS NOTED ON PLAN.
- SDP = STEP DOWN FOOTING.
- UNLESS OTHERWISE SHOWN, ALL WALL FOOTINGS TO BE 300mm DEEP WITH 150mm PROJECTIONS EACH SIDE.
- FILL REQUIRED ON BOTH SIDES OF FOUNDATION WALLS SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON EACH SIDE TO EQUALIZE SOIL PRESSURE.
- PROVIDE SLAB DEPRESSIONS AND SLOPES, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, AS REQUIRED BY THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
- THE PROJECT SUPERINTENDENT MUST CONTACT THIS OFFICE 24 HOURS PRIOR TO PLACING STRUCTURAL CONCRETE INCLUDING STRIP FOOTINGS.
- GENERAL SLAB - ON - GRADE IS 100mm THICK REINFORCED WITH SYNTHETIC FIBRES (REFER TO CONCRETE SPECIFICATION), EXCEPT AS NOTED.
- CONCRETE STRENGTHS - SEE CONCRETE MIX SCHEDULE.
- SEE TYPICAL NOTES, TYPICAL DETAILS, AND ALL OTHER DRAWINGS.

**SITE PREPARATION NOTES FOR SLAB-ON-GRADE (WITHIN BUILDING ENVELOPE)**

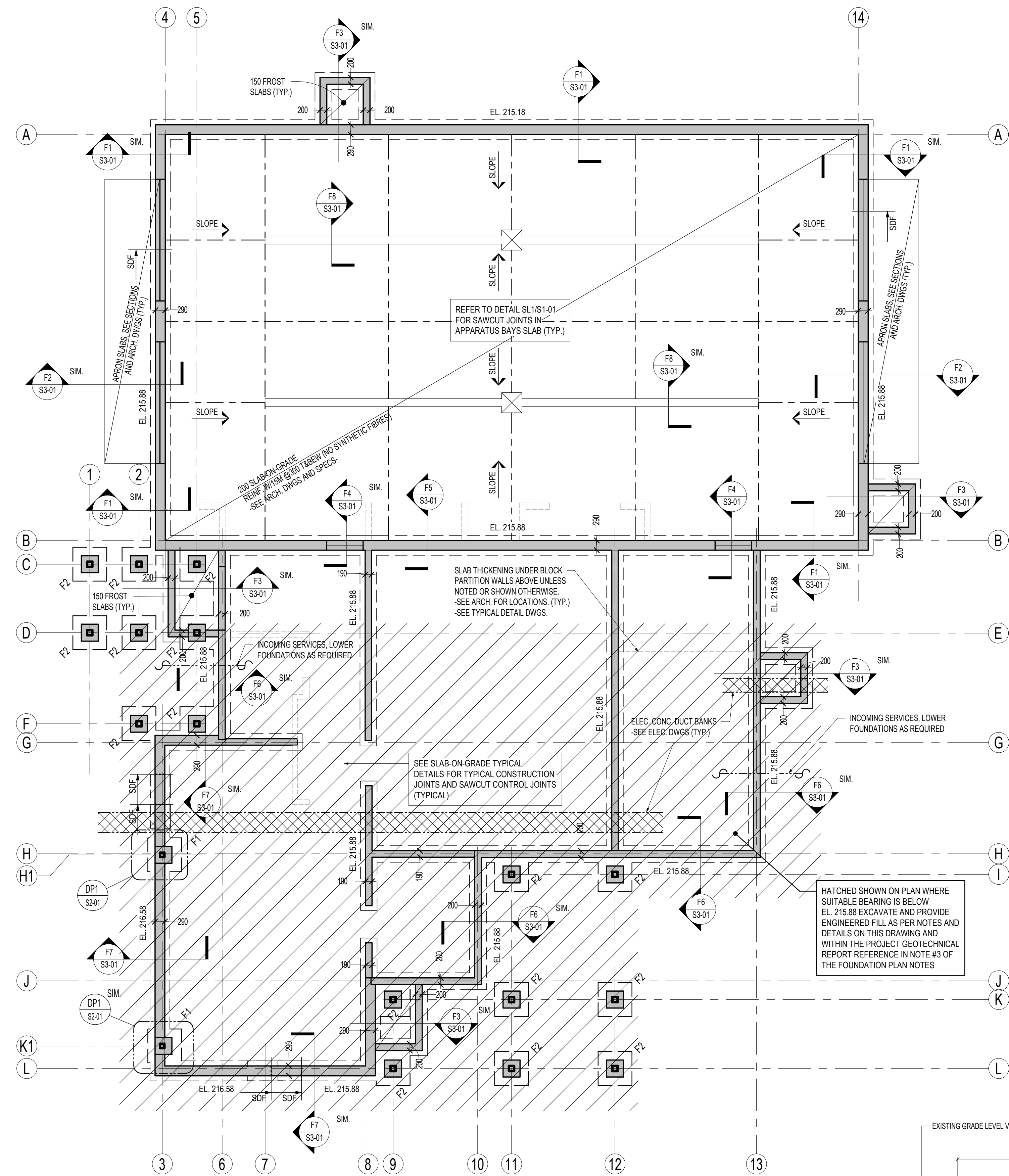
- THE AREA WITHIN THE BUILDING SHALL BE STRIPPED OF THE UPPER LAYER SOIL, FILL, ORGANICALLY CONTAMINATED MATERIAL AND RUBBLE AND TO A MINIMUM OF 1000mm BELOW THE UNDERSIDE OF THE EXISTING GRADE.
- THE EXPOSED SUB-GRADE SHALL BE EXAMINED AND APPROVED BY THE SOIL CONSULTANT.
- THE ENTIRE AREA SHALL BE PROOF ROLLED WITH A HEAVY COMPACTOR TO A MINIMUM OF 98% STANDARD PROCTOR MAX. DRY DENSITY AND TO THE APPROVAL OF THE SOIL CONSULTANT.
- ANY LOOSE OR SOFT SPOTS ENCOUNTERED SHALL BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED APPROVED MATERIAL.
- FILL REQUIRED TO RAISE THE GRADES SHALL BE COMPRISE OF APPROVED EXISTING ON-SITE MATERIAL OR GRANULAR 'B' TYPE 1 CONFORMING TO OPCS 1010. PLACED IN SUCCESSIVE LOOSE 200mm (8") LAYERS EACH COMPACTED TO AT LEAST 98% OF ITS STANDARD PROCTOR MAXIMUM DRY DENSITY.
- THE LAYER IMMEDIATELY BELOW THE SLAB-ON-GRADE SHALL BE 200mm (8") OF GRANULAR 'A' COMPACTED TO MIN. 100% STANDARD PROCTOR MAX. DRY DENSITY. THE LAYER IMMEDIATELY BELOW THE APPARATUS SLAB-ON-GRADE SHALL BE SHALL BE 300mm OF GRANULAR 'A' COMPACTED TO 100% SPMD.
- ALL PROCEDURES, EQUIPMENT AND MATERIALS SHALL BE APPROVED BY THE SOIL CONSULTANT WHO SHALL CONDUCT SUFFICIENT TESTS TO ENSURE THAT THE SPECIFIED MATERIALS AND DENSITIES ARE ACHIEVED.
- THE CONTRACTOR SHALL CO-ORDINATE WITH THE SOIL CONSULTANT AND ARRANGE A SUITABLE PROGRAM FOR SAMPLING AND INSPECTIONS, ETC. AND NOTIFY THE ARCHITECT ACCORDINGLY.
- EXISTING ON-SITE MATERIAL MAY BE USED WITHIN THE BUILDING AREA FOR BACKFILLING IN TRENCHES AGAINST FOUNDATION WALLS OR UNDER SLABS-ON-GRADE. ANY ON-SITE MATERIAL IS SUBJECT TO REVIEW AND APPROVAL OF THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT AND COMPACTION.
- REFER TO THE SPECIFICATION AND THE SOIL REPORT FOR PREPARATION OF AREAS OUTSIDE THE BUILDING ENVELOPE.

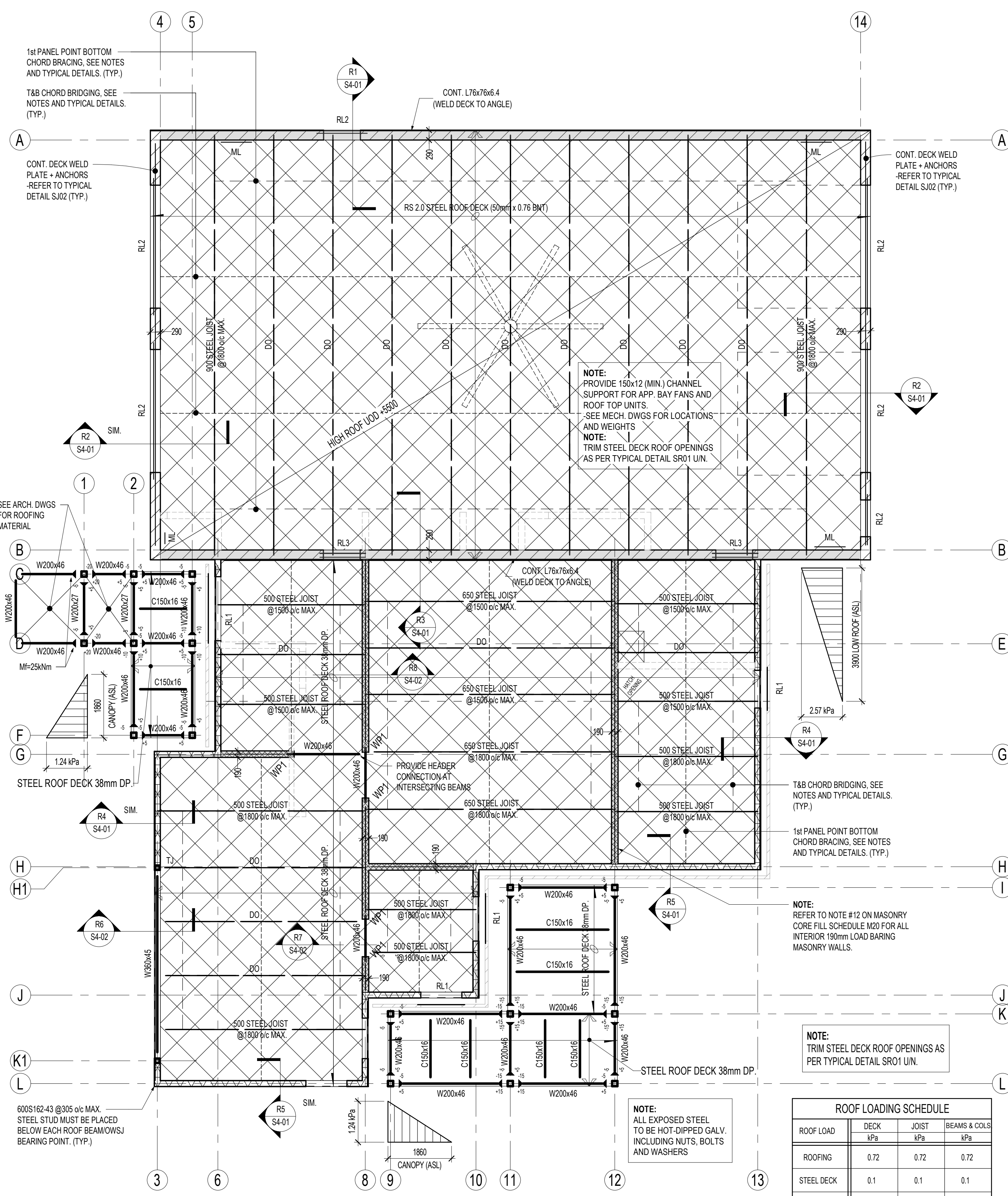


**DIAGRAMMATIC SECTION THROUGH THE BUILDING SHOWING PROPOSED ENGINEERED FILL**

(REFER TO ENGINEERED FILL NOTES ON THIS DRAWING)

FOOTING SCHEDULE				
FOOTING NUMBER	FOOTING LENGTH	FOOTING WIDTH	FOOTING THICKNESS	FOOTING REINF. B.E.W.
F1	1000	1000	300	3-15M
F2	1000	1000	300	3-15M T&BW





### MECHANICAL LINTEL SCHEDULE

MECHANICAL LINTEL SCHEDULE					
LINTELS IN LOAD BEARING WALLS OVER MECHANICAL DUCTS ETC.					
MARK	WALL THICKNESS	CLEAR SPAN	MATERIAL	TYPE	NOTES
ML1	190	200-550	175x8 PLATE	---	EXTERIOR WALLS & PLATES GALVANIZED UNLESS NOTED
ML2	190	550-1220	2-150x90x6	---	
ML3	240	200-550	225x8 PLATE	---	
ML4	240	550-1220	2-1100x100x8	---	
ML5	290	200-550	275x8 PLATE	---	
ML6	290	550-1220	3-150x90x6	---	
ML7	190 x 90	200-550	175x8 PLATE + 80x8 PLATE	---	
ML8	190 x 90	550-1220	2-150x90x6 + 1-150x90x6	---	
ML9	240 x 90	200-550	225x8 PLATE + 80x8 PLATE	---	
ML10	240 x 90	550-1220	2-1100x100x8 + 1-150x90x6	---	
ML11	290 x 90	200-550	275x8 PLATE + 80x8 PLATE	---	
ML12	290 x 90	550-1220	3-150x90x6 + 1-150x90x6	---	

1 FOR LINTELS MARKED ML ON DRAWINGS.  
 2 FOR SPANS LESS THAN 200mm - NO Lintel REQUIRED.  
 3 FOR SPANS GREATER THAN 1200mm. SEE PLANS AND MAIN LINTEL SCHEDULE.

WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ALL LINTELS WHICH OCCUR IN LOAD BEARING MASONRY WALLS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE CORRECT SIZES AND QUANTITY OF LINTELS ARE PROVIDED.

LINTELS IN NON-LOAD BEARING WALLS AND PARTITIONS ARE GENERALLY NOT SHOWN ON THE DRAWINGS. ALL SUCH LINTELS SHALL BE PROVIDED AS REQUIRED AND SHALL CONFORM TO THE NOTES & TYPICAL DETAILS ON THE STRUCTURAL DRAWINGS.

PROVIDE MECHANICAL LINTELS IN ACCORDANCE WITH TYPICAL DETAILS AND NOTES FOR ALL DUCTS AND PIPES PASSING THROUGH MASONRY WALLS.

### MASONRY CORE FILL SCHEDULE

MASONRY CORE FILL SCHEDULE				M20
TYPE	SIZE	REINF.	REMARKS	
C1	1 x 400	2-15 VERT. CONT.		
C2	1 x 600	3-15 VERT. CONT.		
C3	1 x 800	4-15 VERT. CONT.		
C4	1 x 400 x 400	4-15 VERT. CONT.		

1 DENOTES THE WALL THICKNESS

- MASONRY CORE FILLS NOTES:**
- PROVIDE CORE FILLS AS NOTED ON PLAN AND PROVIDE REINFORCEMENT AS SHOWN IN SCHEDULE.
  - CORE FILLS EXTEND FULL HEIGHT OF WALL, FLOOR TO FLOOR UNLESS NOTED.
  - INSTALL ALL REINFORCEMENT FULL HEIGHT BETWEEN FLOORS AND GROUT CORE SOLID FULL HEIGHT BETWEEN FLOORS UNLESS NOTED.
  - WHERE CORE FILL CONTIGUES TO NEXT FLOOR ABOVE, EXTEND INDICATED VERTICAL REINFORCEMENT TO PROVIDE SPECIFIED CLASS "B" TENSION LAP SPICE WITH REINFORCEMENT OF CORE ABOVE. WHERE MASONRY WALLS START ON TOP OF STEEL BEAMS, PROVIDE WELDABLE REINFORCING DOWELS TO MATCH REINFORCING NOTED IN THIS SCHEDULE, OR EQUIVALENT DZL DEFORMED BAR ANCHORS.
  - PROVIDE 15M DOWELS IN FOUNDATION WALLS FOR ALL WALL REINFORCEMENT UNLESS NOTED OTHERWISE.
  - REFER TO M04 FOR LAP LENGTHS FOR VERTICAL BARS AND DOWELS.
  - REFER TO CORE FILLS SCHEDULE FOR DETAILS AND REINFORCEMENT.
  - PROVIDE CORE FILL C1 AT EACH SIDE OF OPENINGS UN OTHERWISE NOTED ON PLANS AND/OR SECTIONS.
  - PROVIDE C1 AT UNSUPPORTED ENDS OF WALLS UN:
    - PROVIDE C1 AT EACH SIDE OF CONTROL JOINTS UN.
  - PROVIDE CORE FILL C4 AT ALL WALL CORNERS UN OTHERWISE NOTED IN PLANS AND/OR SECTIONS.
  - PROVIDE TITEL WALL BL-A CONTROL JOINT BY BLOK-LOK OR EQUIVALENT FOR ALL VERTICAL CONTROL JOINTS IN EXTERIOR MASONRY WALLS EXCEEDING 4m IN HEIGHT.
  - REINFORCE ALL MASONRY SILLS, INTERIOR AND EXTERIOR, AS PER THE REINFORCING INDICATED IN THIS SCHEDULE. GROUT TOP TWO COURSES OF ALL SILLS SOLID, FULLY GROUT ALL EXTERIOR SILLS.
  - FOR ALL 190mm MASONRY WALLS, GROUT WALLS SOLID FULL HEIGHT. PROVIDE BOND BEAM 600mm ABOVE F.F.E. AND THEN 1200mm ABOVE, REINFORCE WITH 1-10M CONT. IN ADDITION TO THE HORIZONTAL REINFORCING SPECIFIED BELOW.

### TYPICAL MASONRY WALL REINFORCING SCHEDULE

VERTICAL BLOCK WALL REINFORCING LOAD BEARING AND NON-LOAD BEARING WALLS SCHEDULE (TYP. UN NOTED)

140mm	10M @ 1200 o/c MAX.
190mm	15M @ 600 o/c MAX.
240mm	15M @ 500 o/c MAX.
290mm	2-15M @ 1000 o/c MAX.

HORIZONTAL WALL REINFORCING FOR MASONRY BLOCK WALLS - EXTERIOR WALLS:

190mm	- EXTRA HEAVY BLOK-LOK BL10 OR EQUIV. @ 200 o/c MAX.
240mm	- EXTRA HEAVY BLOK-LOK BL10 OR EQUIV. @ 200 o/c MAX.
290mm	- EXTRA HEAVY BLOK-LOK BL30 OR EQUIV. @ 200 o/c MAX.

INTERIOR WALLS (140, 190, 240, 290mm)  
 - STANDARD BLOK-LOK BL10 OR EQUIV. @ 400 o/c MAX.

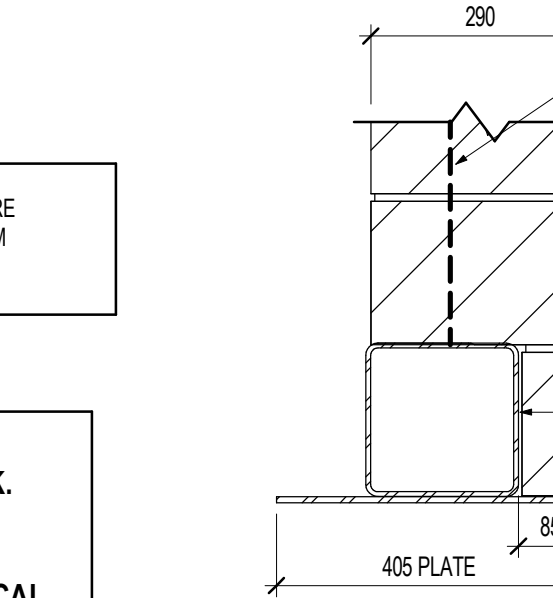
### ROOF LOADING SCHEDULE

ROOF LOAD	DECK kPa	JOIST kPa	BEAMS & COLS kPa
ROOFING	0.72	0.72	0.72
STEEL DECK	0.1	0.1	0.1
JOISTS	0.1	0.1	0.1
MECH./ELEC. CEILING	0.19	0.29	0.19
BEAMS AND COLUMNS			0.1
TOTAL DL (kPa)	2.31	2.41	2.41
SNOW *	1.60+ASL	1.60+ASL	1.60+ASL

\* STEEL JOISTS SHALL BE DESIGNED TO SUPPORT SNOW LOADS AND DEAD LOADS.  
 IN ADDITION STEEL JOISTS SHALL BE DESIGNED FOR THE ACCUMULATED SNOW LOADS (ASL) AS SHOWN ON DRAWING AND FOR POINT LOADS OF BRACING AND MECHANICAL EQUIPMENT.  
 ALL LOADS SHOWN ARE UNFACTORED.

IN ADDITION TO UNIFORM LOADING SHOWN, REFER TO ROOF PLAN FOR ADDITIONAL LOADING FOR ACCUMULATED SNOW LOADS (ASL) AS SHOWN, AND FOR POINT LOADS OF BRACING AND MECHANICAL EQUIPMENT.

### WIND UPLIFT DIAGRAM PLAN



1. LOADS NOTED ARE WIND UPLIFT VALUES AND ARE NOT FACTORED.
2. ROOF JOISTS AND THEIR ANCHORAGE SHALL BE DESIGNED FOR THE MINIMUM NET UPLIFT VALUES AND NO LESS THAN THAT REQUIRED IN PART 4 OF THE ONTARIO BUILDING CODE.
- UPLIFT LEGEND:**
- 0.94 kPa
  - 1.19 kPa
  - 2.31 kPa

### ROOF LINTEL SCHEDULE

MARK	MATERIAL	TYPE	REMARKS
RL1	LOOSE L127x89x7.9 (LLV)	L	GALVANIZED
RL2	HSS 203x203x6.4 + 405x8mm BOTTOM PLATE	□	WP2 E.E. ** SEE DL1/S1-02
RL3	(3)-L89x89x6.4	---	

T1 = 10kN.M TORSION CONNECTION  
 ALL EXTERIOR LINTELS SUPPORTING FACE BRICK TO BE GALVANIZED  
 \*\* WELDED TO HSS EACH END.

### WALL PLATE SCHEDULE

MARK	MATERIAL	REMARKS
WP1	180x15x180	(2)130 A BOLTS x 150 LG.
WP2	250x20x250	(2)130 A BOLTS x 150 LG.

### ROOF LOADING SCHEDULE

ROOF LOAD	DECK kPa	JOIST kPa	BEAMS & COLS kPa
ROOFING	0.72	0.72	0.72
STEEL DECK	0.1	0.1	0.1
JOISTS	0.1	0.1	0.1
MECH./ELEC. CEILING	0.19	0.29	0.19
BEAMS AND COLUMNS			0.1
TOTAL DL (kPa)	2.31	2.41	2.41
SNOW *	1.60+ASL	1.60+ASL	1.60+ASL

\* STEEL JOISTS SHALL BE DESIGNED TO SUPPORT SNOW LOADS AND DEAD LOADS.  
 IN ADDITION STEEL JOISTS SHALL BE DESIGNED FOR THE ACCUMULATED SNOW LOADS (ASL) AS SHOWN ON DRAWING AND FOR POINT LOADS OF BRACING AND MECHANICAL EQUIPMENT.  
 ALL LOADS SHOWN ARE UNFACTORED.

IN ADDITION TO UNIFORM LOADING SHOWN, REFER TO ROOF PLAN FOR ADDITIONAL LOADING FOR ACCUMULATED SNOW LOADS (ASL) AS SHOWN, AND FOR POINT LOADS OF BRACING AND MECHANICAL EQUIPMENT.

### DL1 DETAIL



ISSUE OR REVISION		
NO.	ISSUED FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 90% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

**YORK REGION PRS #32**  
 53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN

**York Region**  
 THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.

**Salas O'Brien**  
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 Toronto, ON M2J 8S6  
 Stephenson Engineering, a company of Salas O'Brien

PROFESSIONAL SEAL  
 LICENSED PROFESSIONAL ENGINEER  
 J. C. GASDIA  
 100169574  
 PROVINCE OF ONTARIO

### ROOF FRAMING PLAN

DATE: **JULY 2023**

SCALE: **As indicated** DRAWN BY: **AE** CHECKED BY: **JG**

DWG STATUS: **IFC**

PROJECT NO: **20160759**

DRAWING NO: **S1-02** REVISION: **5**

ISSUE OR REVISION		
NO.	ISSUED FOR	DATE
2	ISSUED FOR 90% REVIEW	SEP. 2021
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 2022
5	ISSUED FOR CONSTRUCTION	JULY 12/23

# YORK REGION PRS #32

53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN

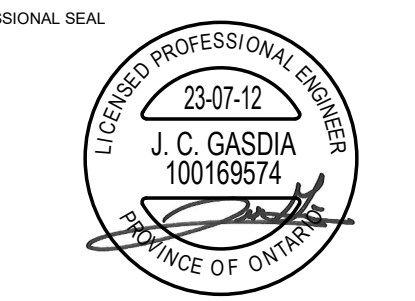
PROJECT:



THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.



2388 Sheppard Ave. E. Suite No. 1100  
Toronto, ON M2J 8B8  
Stephenson Engineering, a company of Salas O'Brien



## COLUMN SCHEDULE AND DETAILS

ORIENTATION

DATE: JULY 2023

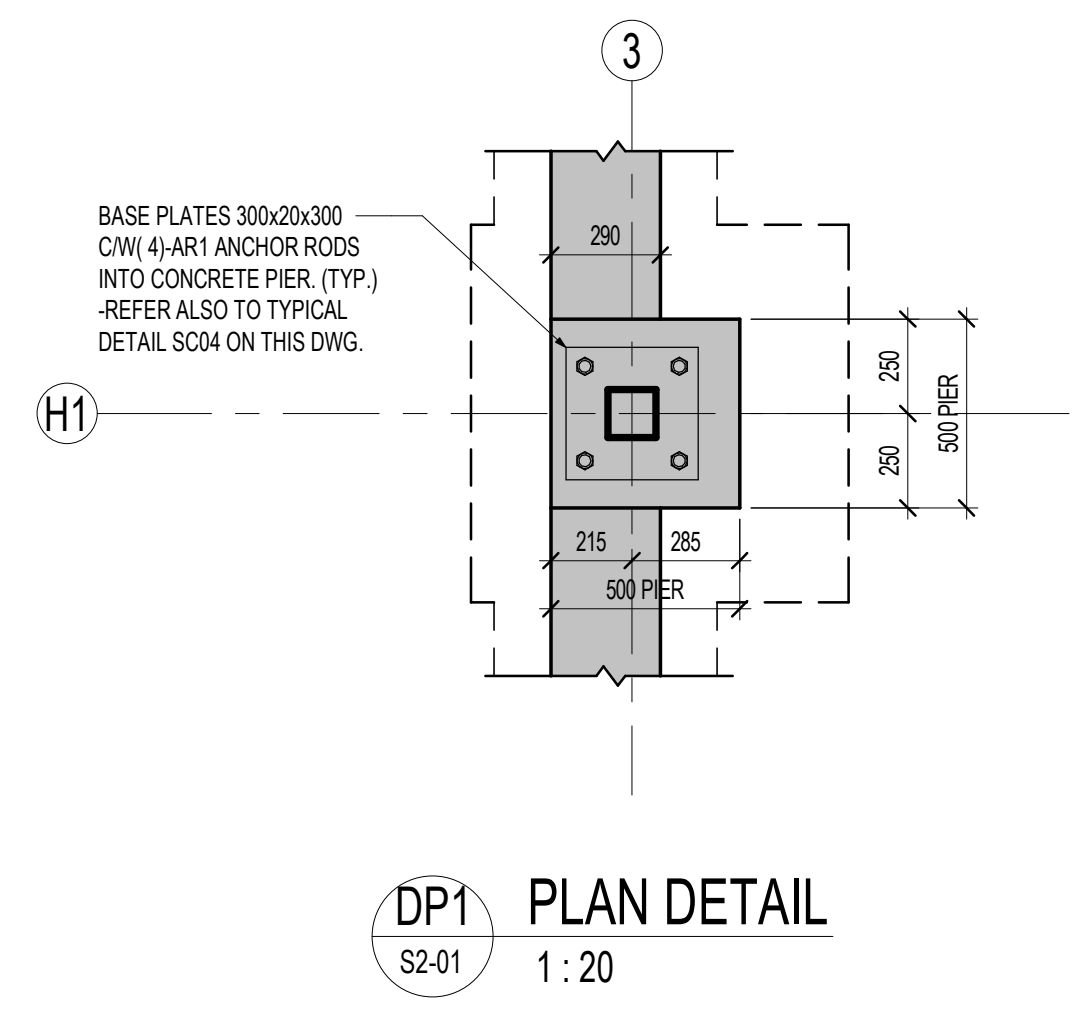
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DWG STATUS: IFC

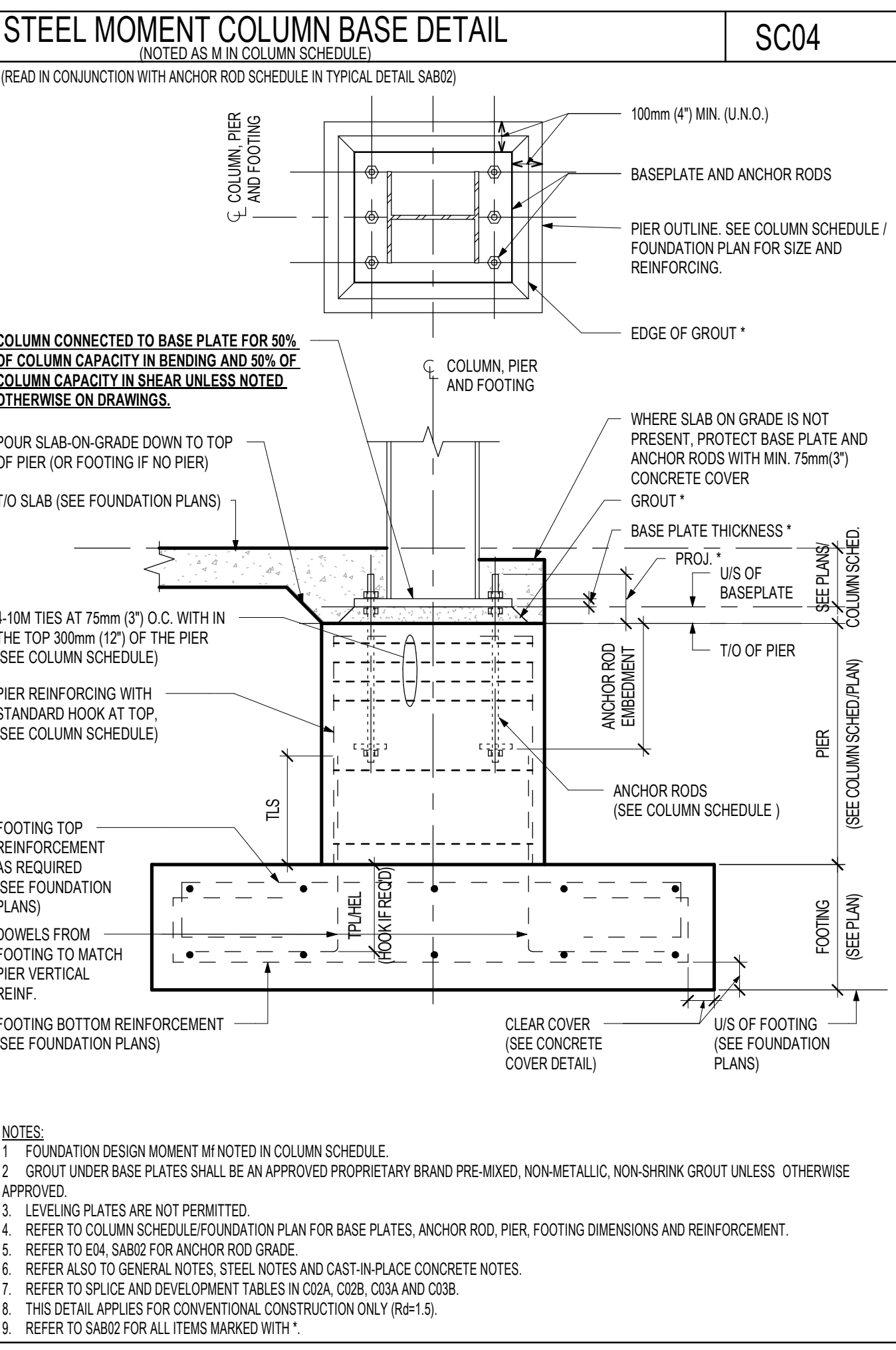
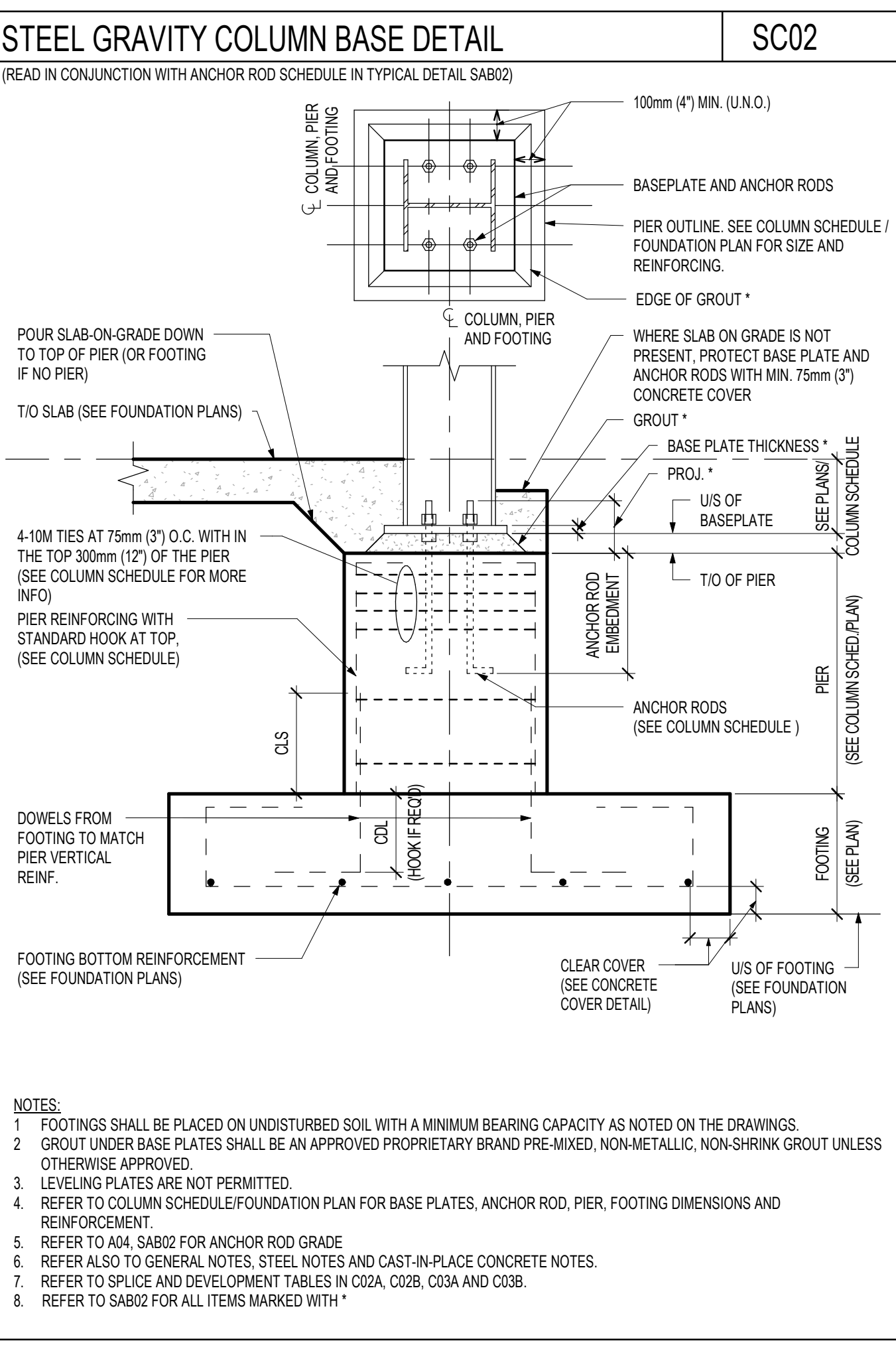
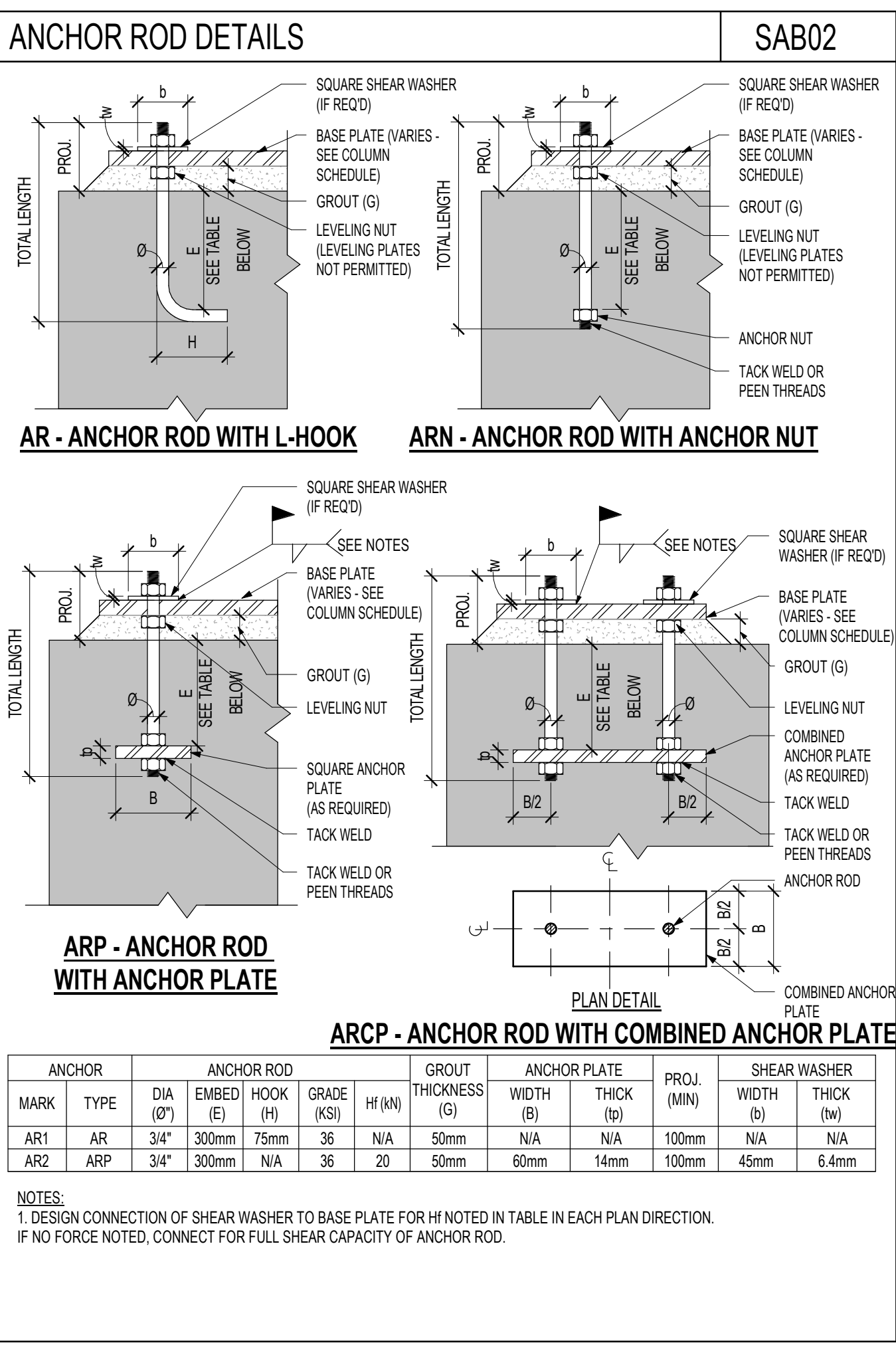
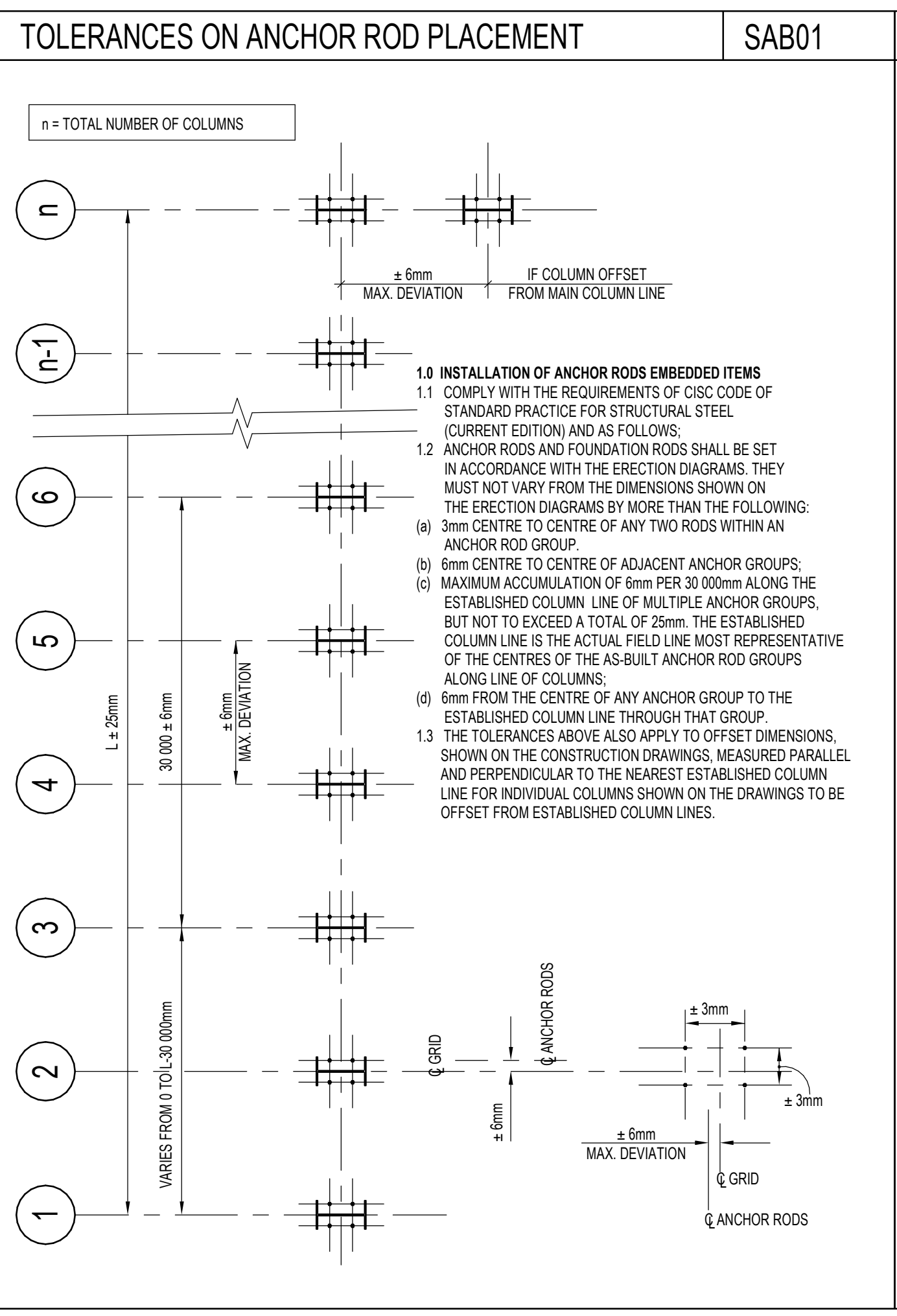
PROJECT NO: 20160759

DRAWING NO: S2-01 REVISION: 5

STEEL COLUMN SCHEDULE																		
UIS LOW ROOF DECK																		
UIS CONAPY ROOF DECK																		
GROUND FLOOR	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4	HSS152x152x6.4		
UIS B.P.L. -350 (U.N.O.)																		
BASE PLATE SIZE	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325	325x25x325		
ANCHOR RODS	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2	(4)-AR2		
PIER SIZE	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500	500x500		
VERTICAL REINF. TIES	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T	8-15V 10@300T		
FACTORED LOADING (kN) MOMENT	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M		
Column Locations	C-1	C-2	C-5	D-1	D-2	D-5	F-2	F-5	H1-3	I-11	I-12	K-9	K-11	K-12	K1-3	L-9	L-11	L-12



- STEEL COLUMN SCHEDULE NOTES:**
- FOR GRADE OF STRUCTURAL STEEL SEE GENERAL NOTES AND SPECIFICATION.
  - LOADS FOR COLUMNS REPRESENT THE FACTORED LOAD IN KILOWEIGHTONS APPLIED AT THE BASE OF THE COLUMN AND DO NOT INCLUDE THE WEIGHT OF THE FOUNDATION.
  - BASE PLATE AND / OR CAP PLATE DIMENSION GIVEN LAST TO BE PARALLEL WITH COLUMN WEB.
  - REFER ALSO TO TYPICAL NOTES AND DETAIL DRAWINGS.
  - REFER TO STEEL COLUMN / ANCHOR ROD SCHEDULE AND TYPICAL COLUMN BASE DETAILS FOR ANCHOR RODS AND FOR COLUMN BASE PLATE SIZES.
  - FOR ALL COLUMNS ABUTTING MASONRY, PROVIDE ADJUSTABLE MASONRY ANCHORS AS PER TYPICAL DETAIL. SEE TYPICAL DETAIL DRAWINGS.

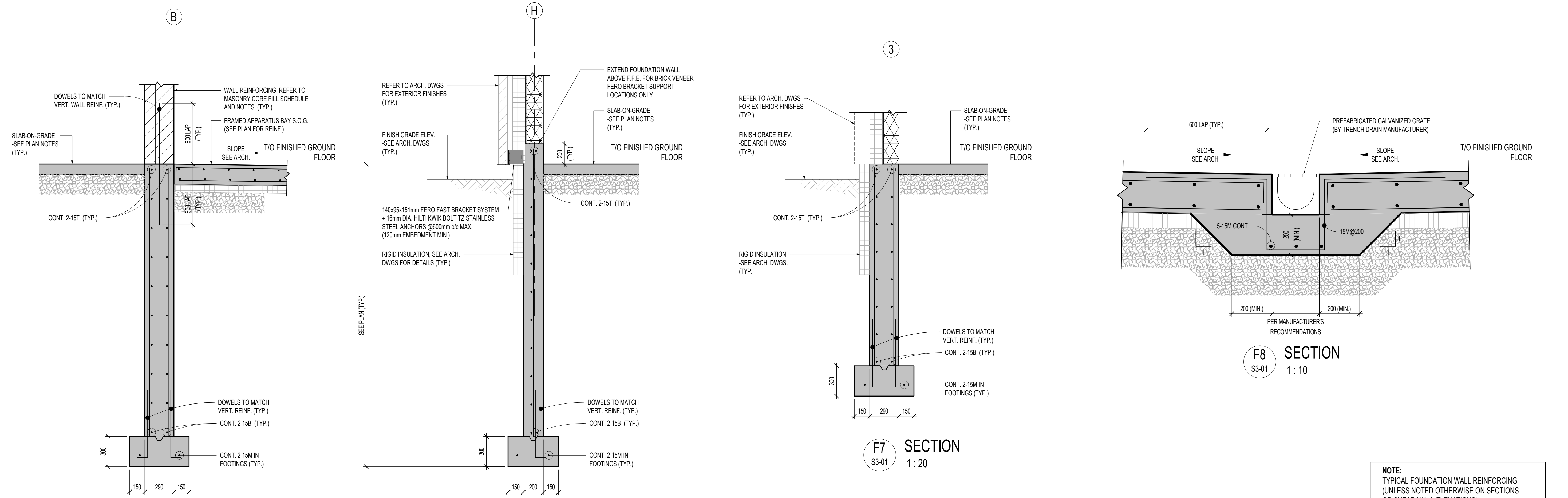
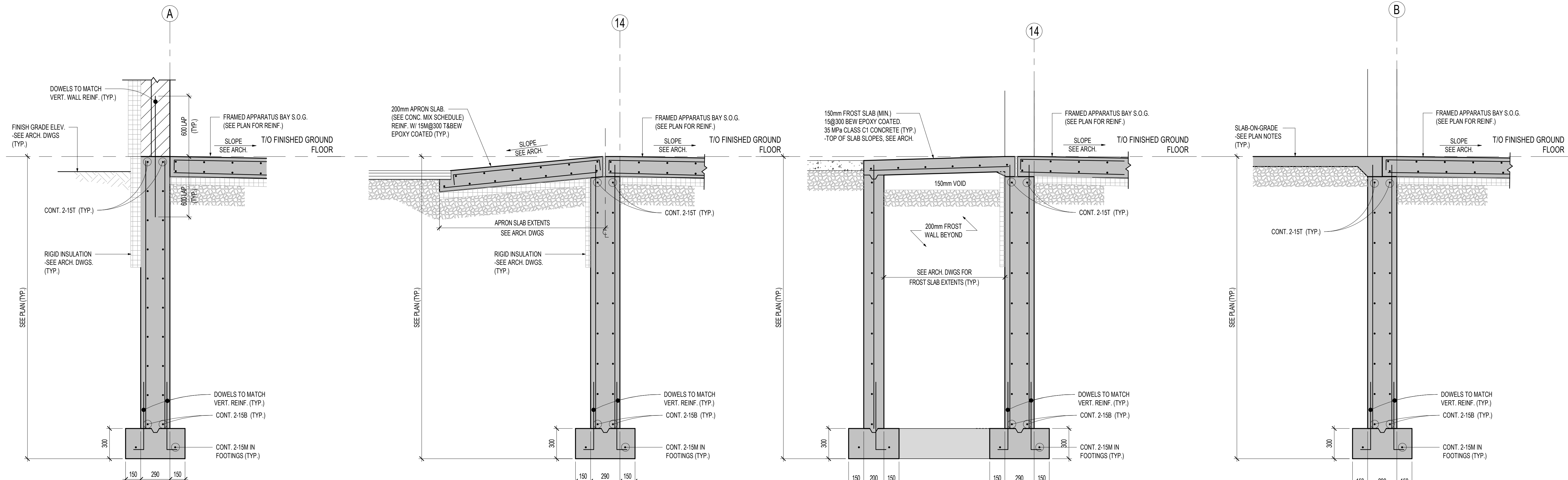


- NOTES:**
- FOOTINGS SHALL BE PLACED ON UNDISTURBED SOIL WITH A MINIMUM BEARING CAPACITY AS NOTED ON THE DRAWINGS.
  - GROUT UNDER BASE PLATES SHALL BE AN APPROVED PROPRIETARY BRAND PRE-MIXED, NON-METALLIC, NON-SHRINK GROUT UNLESS OTHERWISE APPROVED.
  - LEVELING PLATES ARE NOT PERMITTED.
  - REFER TO COLUMN SCHEDULE/FOUNDATION PLAN FOR BASE PLATES, ANCHOR ROD, PIER, FOOTING DIMENSIONS AND REINFORCEMENT.
  - REFER TO A04, SAB02 FOR ANCHOR ROD GRADE.
  - REFER ALSO TO GENERAL NOTES, STEEL NOTES AND CAST-IN-PLACE CONCRETE NOTES.
  - REFER TO SPLICE AND DEVELOPMENT TABLES IN C02A, C02B, C03A AND C03B.
  - REFER TO SAB02 FOR ALL ITEMS MARKED WITH \*

- NOTES:**
- FOUNDATION DESIGN MOMENT HI NOTED IN COLUMN SCHEDULE.
  - GROUT UNDER BASE PLATES SHALL BE AN APPROVED PROPRIETARY BRAND PRE-MIXED, NON-METALLIC, NON-SHRINK GROUT UNLESS OTHERWISE APPROVED.
  - LEVELING PLATES ARE NOT PERMITTED.
  - REFER TO COLUMN SCHEDULE/FOUNDATION PLAN FOR BASE PLATES, ANCHOR ROD, PIER, FOOTING DIMENSIONS AND REINFORCEMENT.
  - REFER TO E04, SAB02 FOR ANCHOR ROD GRADE.
  - REFER ALSO TO GENERAL NOTES, STEEL NOTES AND CAST-IN-PLACE CONCRETE NOTES.
  - REFER TO SPLICE AND DEVELOPMENT TABLES IN C02A, C02B, C03A AND C03B.
  - THIS DETAIL APPLIES FOR CONVENTIONAL CONSTRUCTION ONLY (Rd-1.5).
  - REFER TO SAB02 FOR ALL ITEMS MARKED WITH \*

**ISSUE OR REVISION**

NO.	ISSUED FOR	DATE
2	ISSUED FOR 90% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23



**NOTE:**  
TYPICAL FOUNDATION WALL REINFORCING  
(UNLESS NOTED OTHERWISE ON SECTIONS  
OR SHEAR WALL ELEVATIONS)  
10M @460 VEF  
10M @320 HEF

FOR 190mm/200mm WALLS:  
10M @320 VERT. CENTRE OF WALL  
10M @200 HORIZ. CENTRE OF WALL

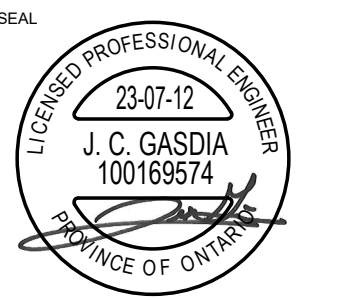
**YORK REGION PRS #32**

53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN



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**Salas O'Brien**  
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Toronto, ON M2J 8S6  
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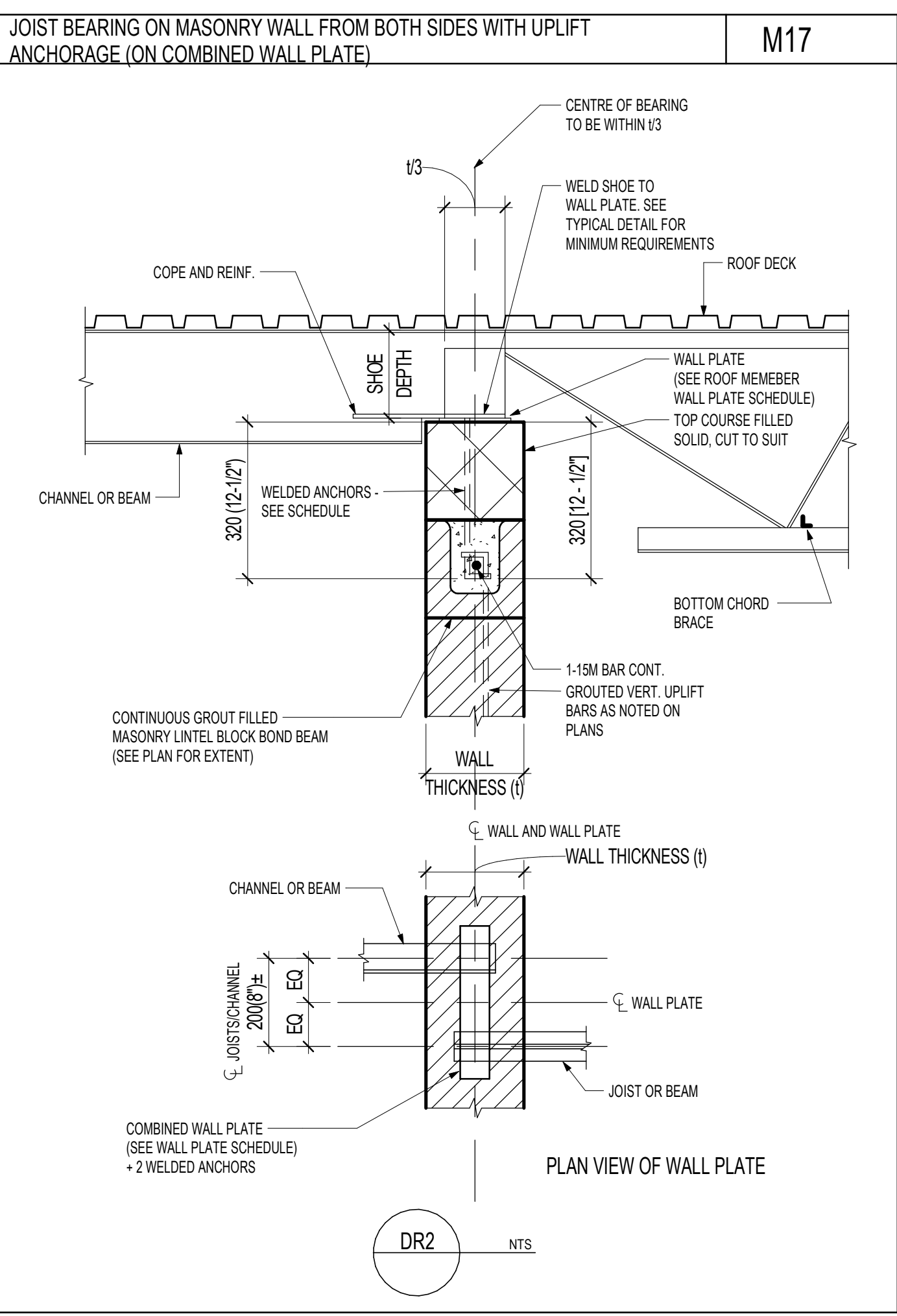
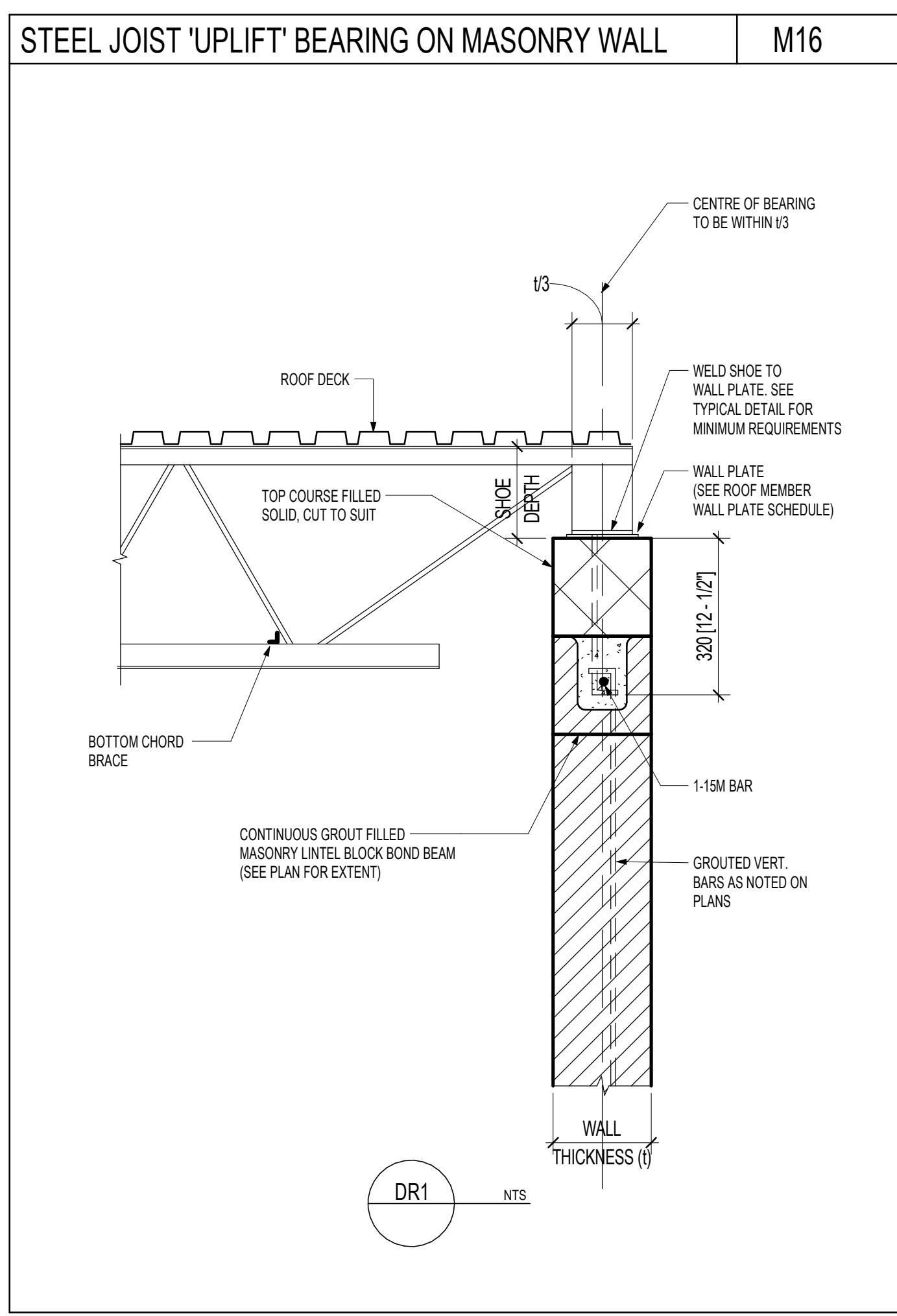
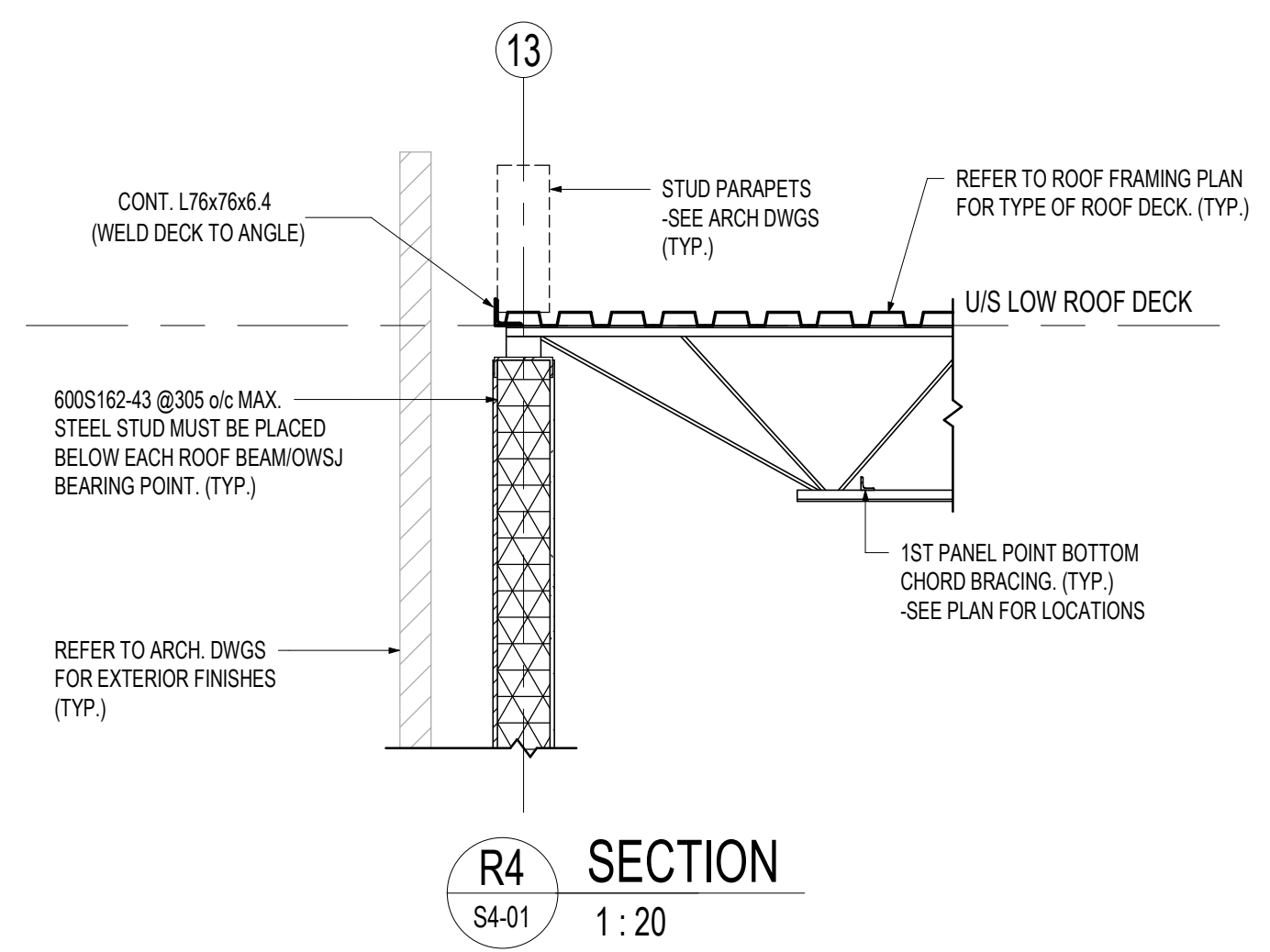
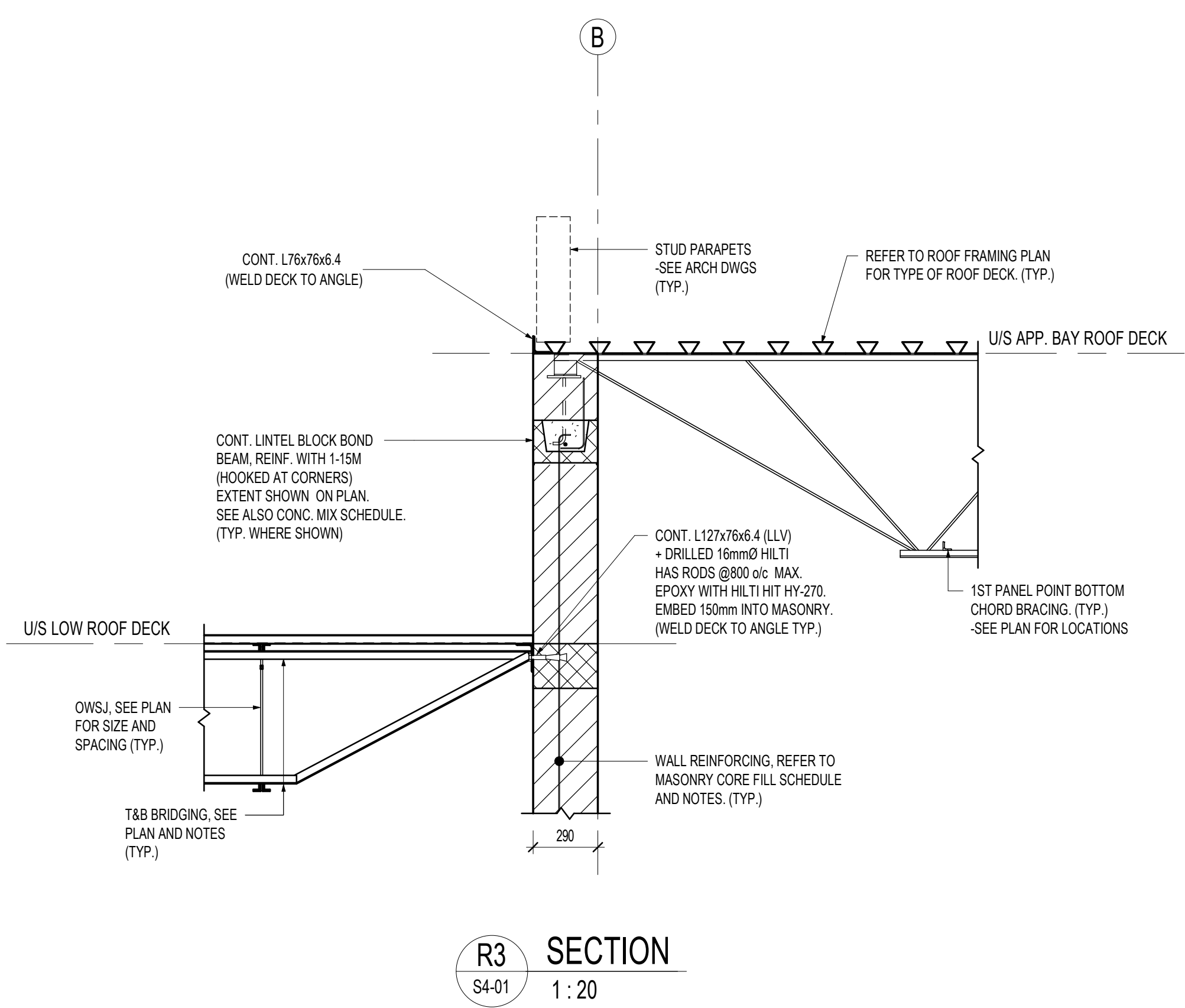
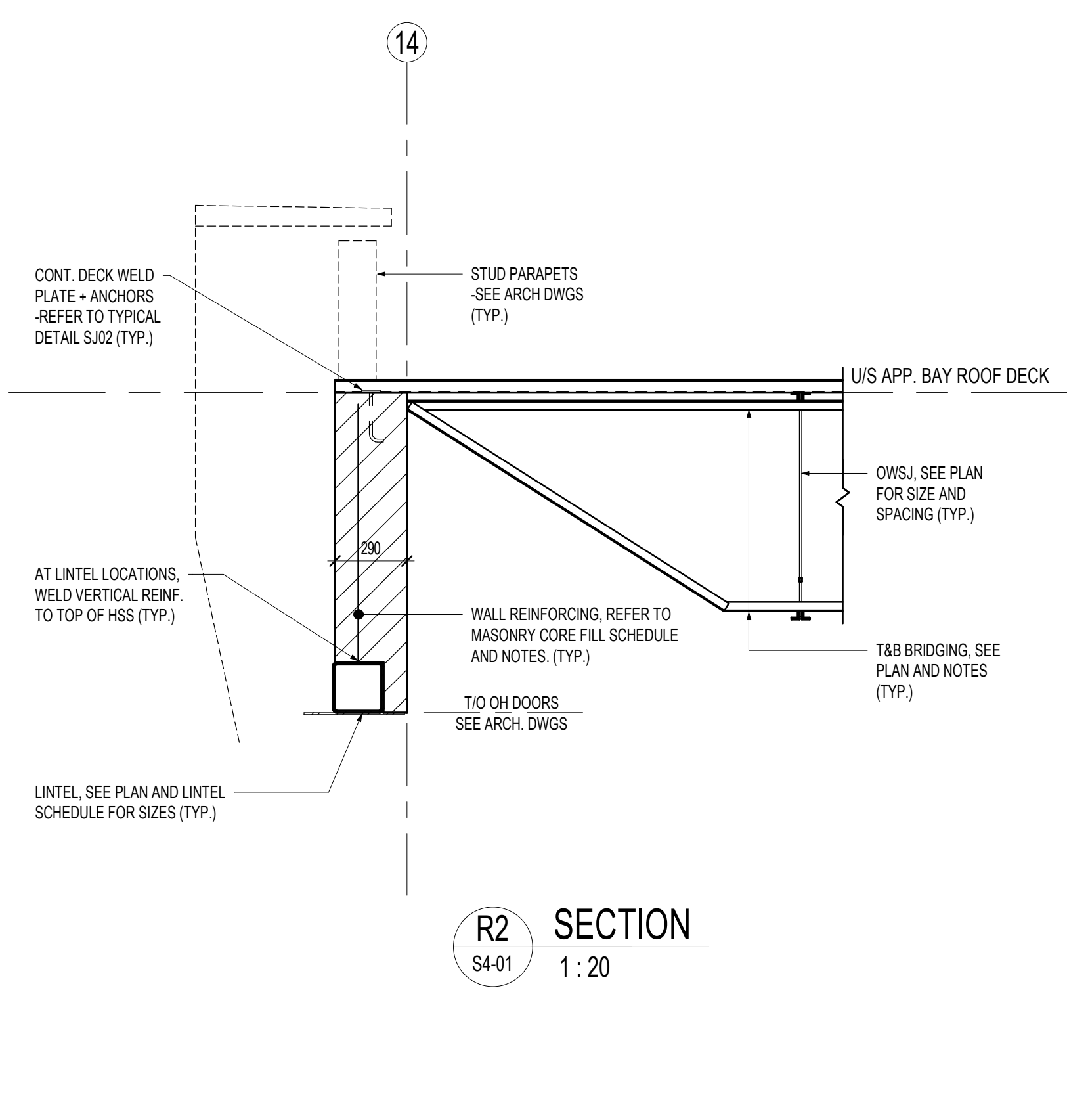
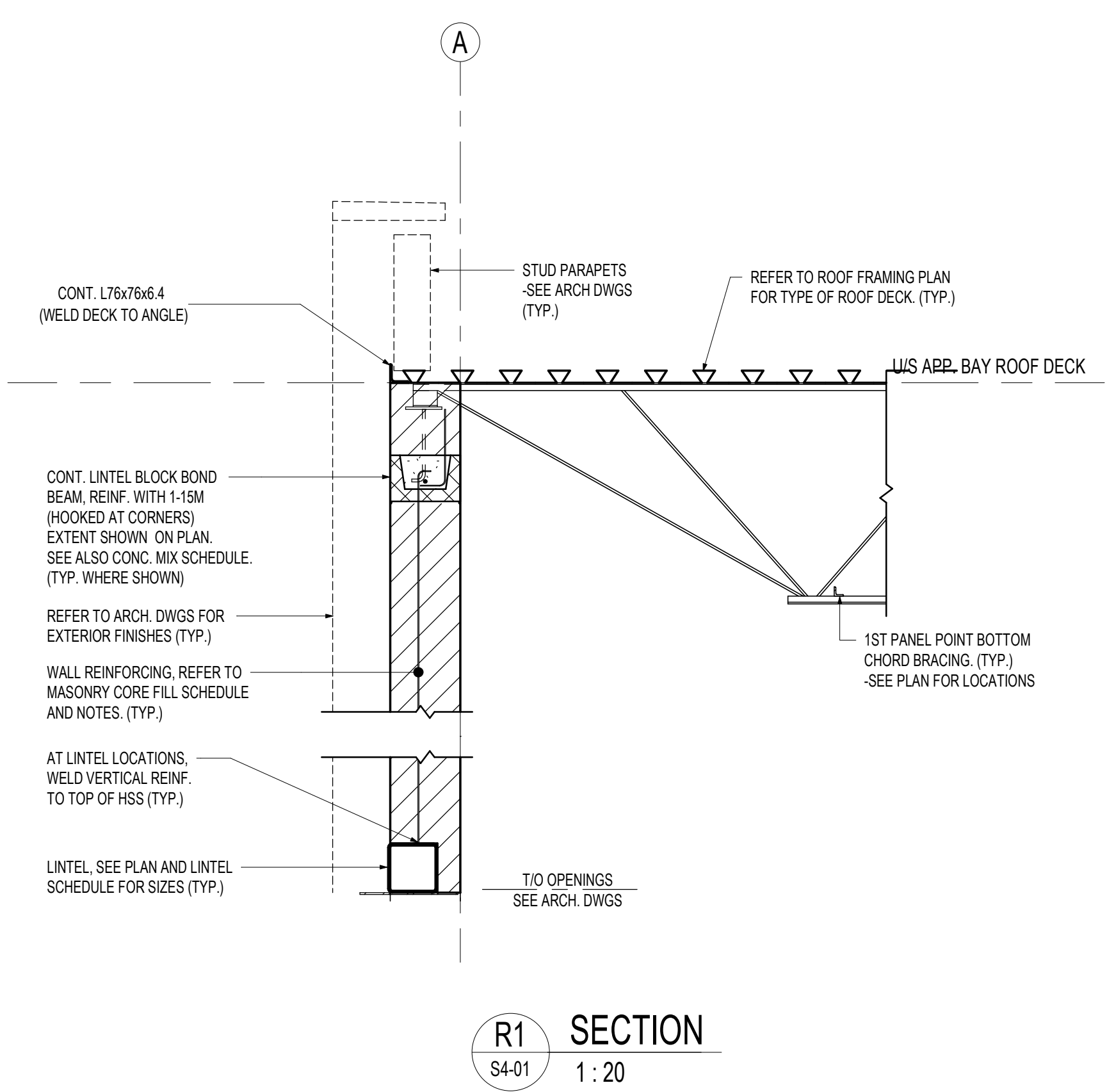
**FOUNDATION SECTIONS**

DATE	JULY 2023	
SCALE	As indicated	CHECKED BY: JG
DWG STATUS	AE	
PROJECT No.	20160759	
DRAWING No.	<b>S3-01</b>	REVISION: 5

2023-07-14 10:25 AM

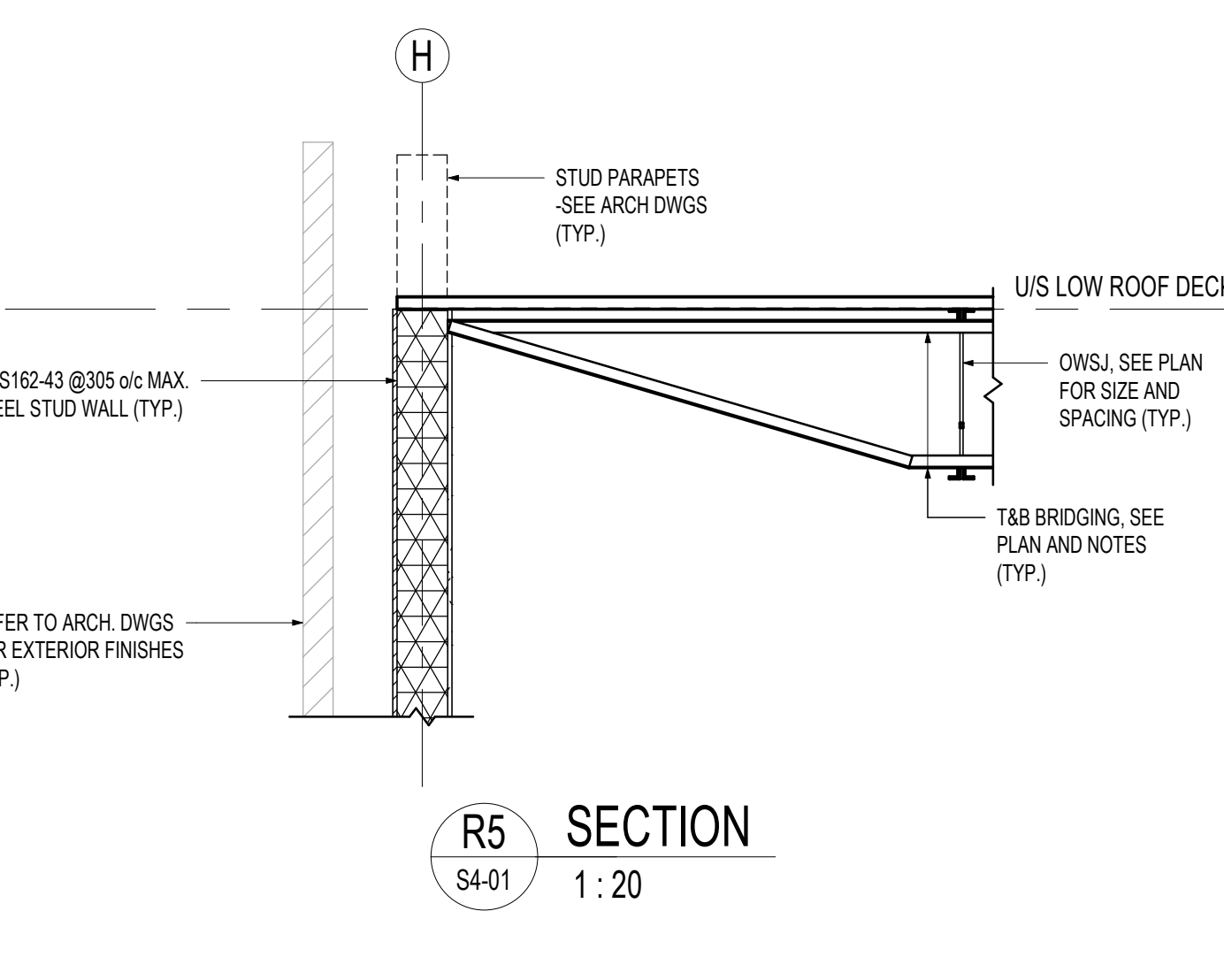
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**TYPICAL ROOF MEMBER WALL PLATE SCHEDULE (UNLESS OTHERWISE SHOWN)**

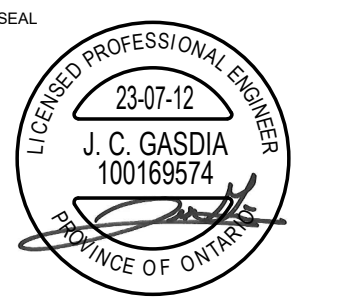
LOCATION	TYPE	DESCRIPTION	SIZE	REMARKS
CORRIDOR AND OTHER INTERIOR WALLS	SINGLE	OWSJ CHANNEL BEAM	150x6300 + 2-12 DIA x 320-50 HOOK	SEE DR1/S4-01
	COMBINED	OWSJ/CHANNEL OWSJ/OWSJ/OWSJ/BEAM/CHANNEL	150x10x460 + 2-20 DIA. x 320-50 HOOK	SEE DR2/S4-01
EXTERIOR WALL	SINGLE	OWSJ CHANNEL BEAM	150x6300 + 2-12 DIA. x 320-50 HOOK	SEE DR1/S4-01
GP ROOM WALL	SINGLE	BEAM LSSJ	150x6300 + 2-20 DIA. x 320-50 HOOK	SEE DR1/S1-0
	COMBINED	LSSJ/CHANNEL OR BEAM	150x10x460 + 2-20 DIA. x 320-50 HOOK UN	SEE DR2/S4-01



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DWG TITLE: **ROOF SECTIONS**

ORIENTATION

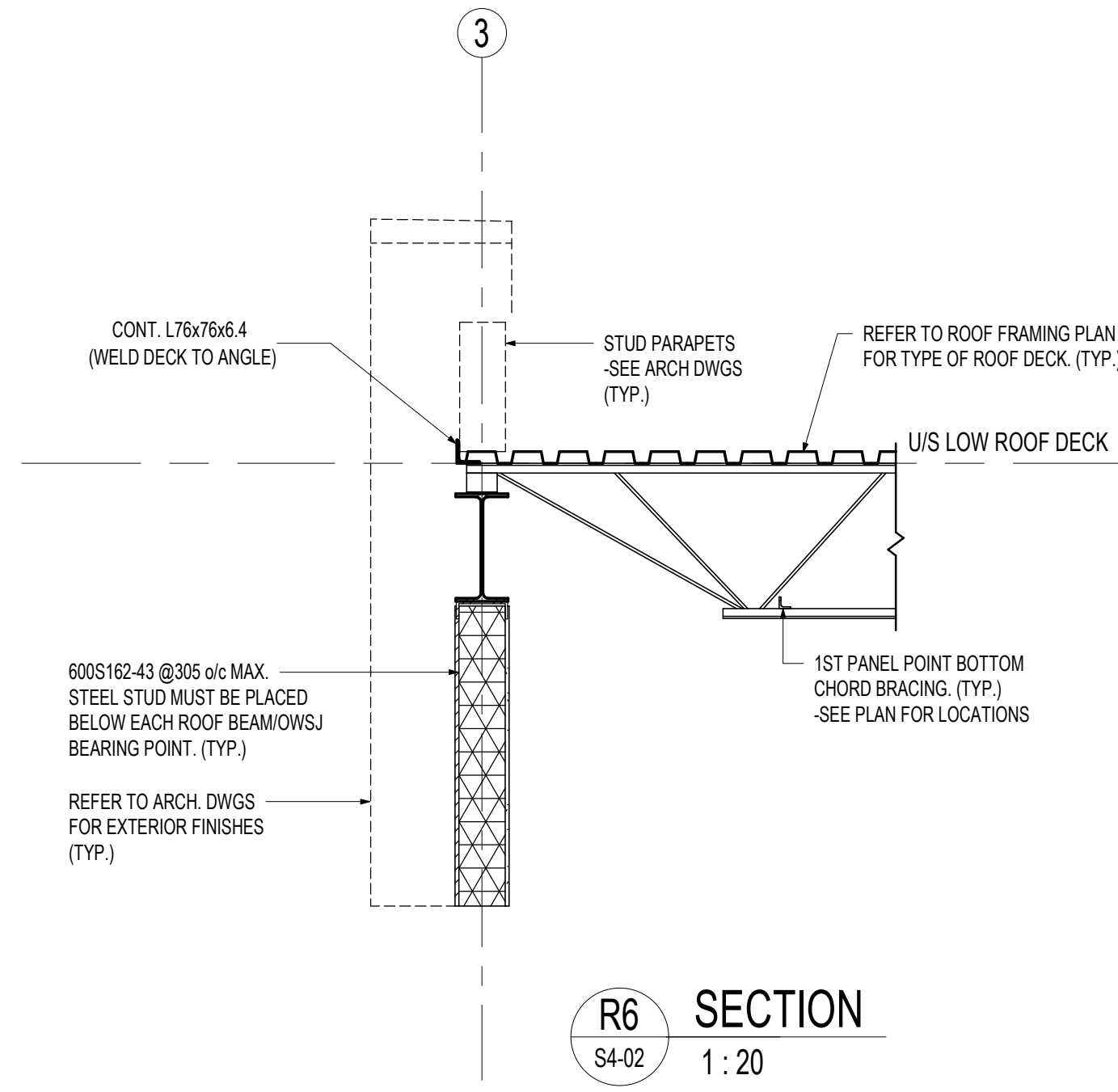
DATE: **JULY 2023**  
 SCALE: **As indicated** DRAWN BY: **AE** CHECKED BY: **JG**  
 PROJECT No.: **20160759**  
 DRAWING No.: **S4-01** REVISION: **5**

2023-07-14 09:30 AM

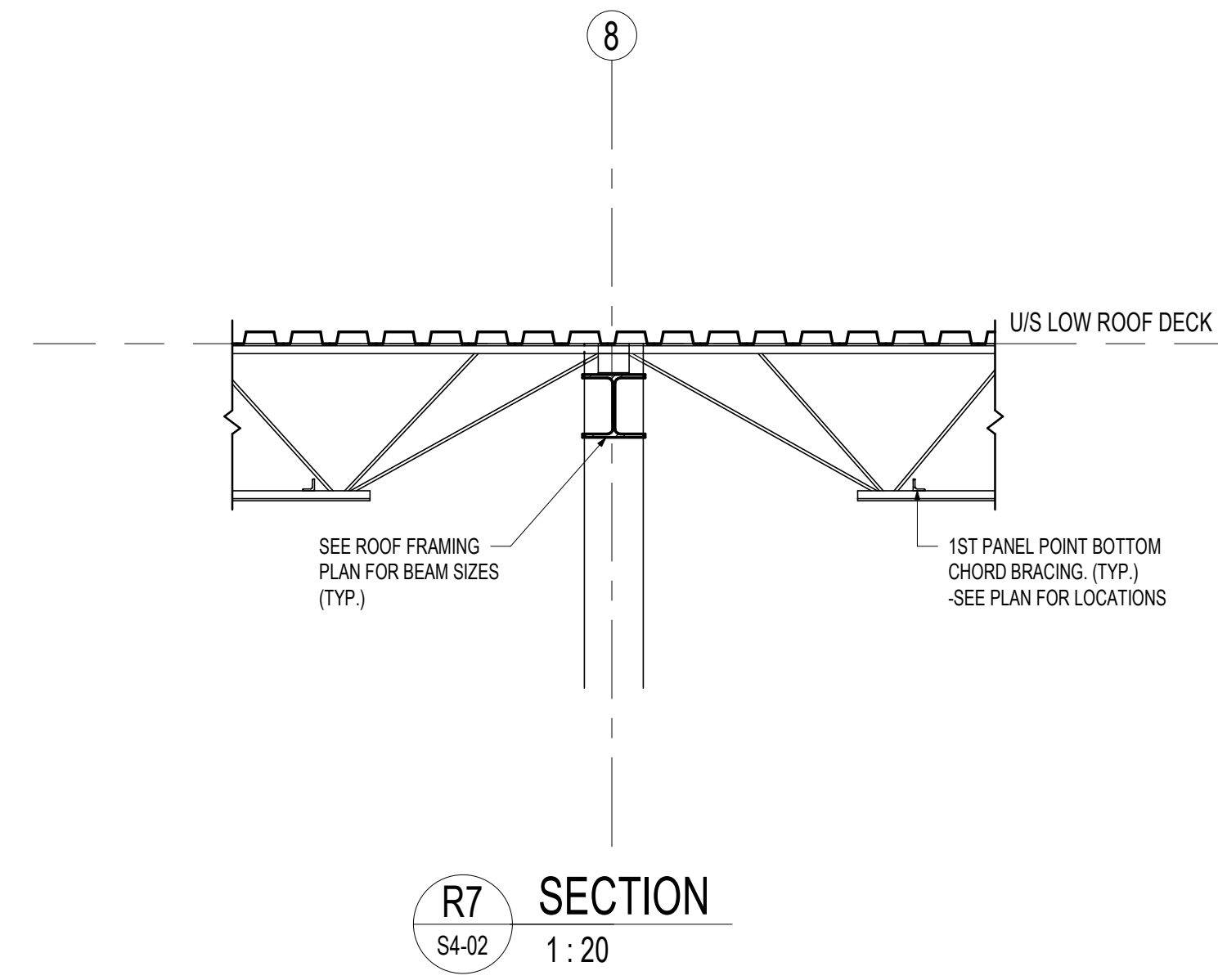
THE CONTENTS OF THIS DRAWING AND SPECIFICATIONS  
REMAIN THE COPYRIGHT PROPERTY OF  
STEPHENSON ENGINEERING  
AND MUST BE RETURNED UPON COMPLETION OF THE WORK.

**ISSUE OR REVISION**

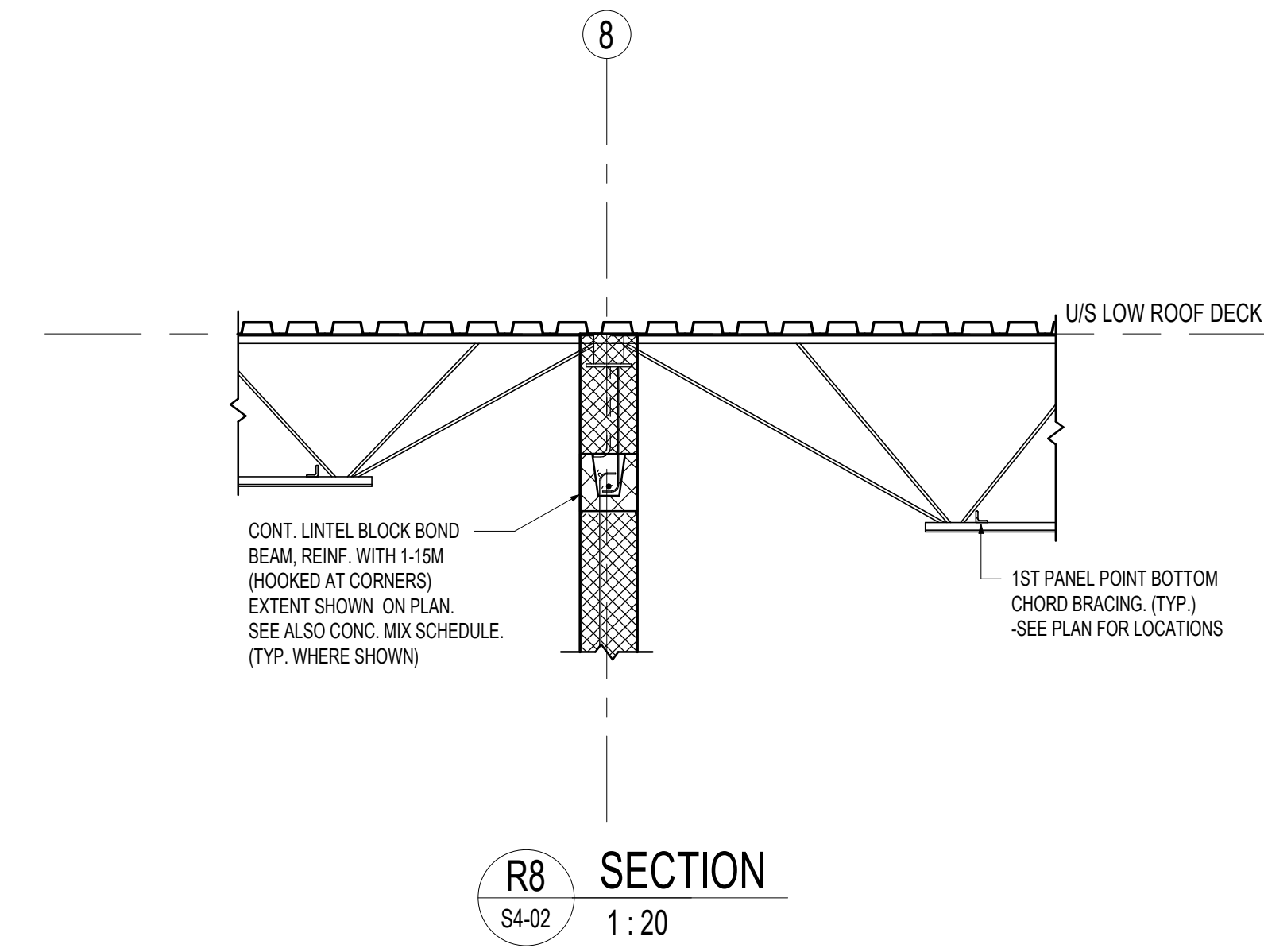
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**R6 SECTION**  
S4-02 1:20



**R7 SECTION**  
S4-02 1:20



**R8 SECTION**  
S4-02 1:20

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DWG TITLE  
**ROOF SECTIONS**

ORIENTATION

DATE	JULY 2023	
SCALE	1:20	DRAWN BY: AE, CHECKED BY: JG
DWG STATUS:	IFC	
PROJECT No.	20160759	
DRAWING No.	<b>S4-02</b>	REVISION: 5

2023-07-14 09:30 AM

STANDARD ABBREVIATIONS	A01	GENERAL NOTES	A02	STEEL DECK NOTES	A05	CAST-IN-PLACE CONCRETE NOTES	A03.1
<p><b>@</b> - At <b>ADJ</b> - Adjustable <b>AFB</b> - Asphalt Impregnated Fibre Board <b>ALT</b> - Alternate <b>ARCH</b> - Architectural <b>A. ROD(AR)</b> - Anchor Rod <b>ASL</b> - Accumulated Snow Loading</p> <p><b>B (BOT)</b> - Bottom <b>BEW</b> - Bottom Each Way <b>BLDG</b> - Building <b>BL</b> - Bottom Lower Layer <b>BM</b> - Beam <b>BML</b> - Bottom Middle Layer <b>BNT</b> - Base Nominal Thickness <b>B.O.F.</b> - Bottom of Footing <b>BP</b> - Baseplate <b>BSMT</b> - Basement <b>BUL</b> - Bottom Upper Layer</p> <p><b>C</b> - Standard Channel <b>CA</b> - Collum Above <b>CANT</b> - Cantilever <b>CC (C)</b> - Centre to Centre <b>CJ</b> - Control Joint <b>CL</b> - Centreline <b>COL</b> - Column <b>COMP</b> - Compressive <b>CONC</b> - Concrete <b>CONST</b> - Construction <b>CONST JT (CJT)</b> - Construction Joint <b>CONT (CONTN)</b> - Continuous <b>C/W</b> - Complete With</p> <p><b>D.FIR</b> - Douglas Fir <b>DET</b> - Detail <b>DIAG</b> - Diagonal <b>Ø (DIA)</b> - Diameter <b>DIM</b> - Dimension <b>DL</b> - Dead Load <b>DO</b> - Ditto <b>DWG</b> - Drawing <b>DWEL</b> - DWELL <b>DT</b> - Double Tee</p> <p><b>E-W</b> - East-West <b>EA</b> - Each <b>EE</b> - Each End <b>EF</b> - Each Face <b>ELECT</b> - Electrical <b>ELEV (EL)</b> - Elevation / Elevator <b>EQ</b> - Equal <b>ES</b> - Each Side <b>EW</b> - Each Way <b>EXIST</b> - Existing <b>EXP.</b> - Expansion Joint <b>EXT</b> - Exterior</p> <p><b>FDN</b> - Foundation <b>FF</b> - Far Face <b>FIN</b> - Finished <b>FL</b> - Floor <b>FM</b> - Full Moment Connection <b>FT</b> - Foot / Feet <b>FG</b> - Footing <b>GA</b> - Gauge <b>GALV</b> - Galvanized <b>GEN</b> - General</p> <p><b>H (HOR)</b> - Horizontal <b>HEF</b> - Horizontal Each Face <b>HF</b> - Horizontal Inside Face <b>HOF</b> - Horizontal Outside Face <b>HSC</b> - Horizontally Slotted Connection <b>HSS</b> - Hollow Structural Section</p> <p><b>I</b> - Inside Face <b>INT</b> - Interior <b>INV</b> - Invert</p> <p><b>JT</b> - Joint</p> <p><b>kg</b> - Kilogram <b>kN/m</b> - Kilo Newton Metres <b>kN/m<sup>2</sup></b> - Kilo Newton per Square Metre <b>kPa</b> - Kilo Pascals</p> <p><b>L</b> - Angle <b>LB</b> - Pounds <b>LG</b> - Long <b>LL</b> - Long Lead / Lower Layer <b>LH</b> - Long Leg Horizontal <b>LLV</b> - Long Leg Vertical <b>LSSJ</b> - Long Span Steel Joists <b>LVL</b> - Laminated Veneer Lumber</p> <p><b>m</b> - Metre <b>MAX</b> - Maximum <b>MECH</b> - Mechanical <b>MEZZ</b> - Mezzanine <b>MIN</b> - Minimum <b>MISC</b> - Miscellaneous <b>ML</b> - Middle Layer <b>MLL</b> - Middle Lower Layer <b>mm</b> - Millimetre <b>MOM</b> - (M) - Moment <b>MPa</b> - Mega Pascals <b>MUL</b> - Middle Upper Layer</p> <p><b>N</b> - Newton <b>N-S</b> - North-South <b>NF</b> - Near Face <b>NO</b> - Not in Contact <b>NO (F)</b> - Number <b>NTS</b> - Not to Scale</p> <p><b>OWSJ</b> - Open Web Steel Joist</p> <p><b>Pa</b> - Pascal <b>PC</b> - Precast <b>PL</b> - Plate <b>PLF</b> - Pounds per Lineal Foot <b>PREL</b> - Preliminary <b>PROJ</b> - Projection <b>PSF</b> - Pounds per Square Foot <b>PSI</b> - Pounds per Square Inch <b>PSL</b> - Parallel Strand Lumber <b>PT</b> - Pressure Treated</p> <p><b>R</b> - Reaction <b>RAD</b> - Radius <b>REF</b> - Reference <b>REIN</b> - Reinforcing <b>REOD</b> - Required <b>REV</b> - Revision/Revised <b>RI</b> - Fastened Vertical Reaction <b>R/W</b> - Reinforced With</p> <p><b>S</b> - Standard Beam <b>SDF</b> - Shop Down Footing <b>SDL</b> - Superimposed Dead Load <b>SECT</b> - Section <b>SL</b> - Slab <b>SO</b> - Square <b>SOS</b> - Slab on Grade <b>S.P.F.</b> - Spruce/Pine/Fir <b>SPEC</b> - Specifications <b>ST</b> - Steel <b>STD</b> - Standard <b>STR</b> - Stright <b>STRUCT</b> - Structural</p> <p><b>T</b> - Top <b>TEMP</b> - Temperature <b>T<sub>F</sub></b> - Factored Tension Force <b>TJ</b> - Tie Joint <b>TLL</b> - Top Lower Layer <b>TML</b> - Factored Torsional Moment <b>TM</b> - Top Middle Layer <b>TOD</b> - Top of Deck <b>T.O.F.</b> - Top of Footing <b>TOS</b> - Top of Slab <b>TOST</b> - Top of Steel <b>TGF</b> - Top per Square Foot <b>TUL</b> - Top Upper Layer <b>TYP</b> - Typical</p> <p><b>UL</b> - Upper Layer <b>UN</b> - Unless Noted <b>UN.O.</b> - Unless Noted Otherwise <b>US</b> - Underside <b>USD</b> - Underside of Deck</p> <p><b>V (VERT)</b> - Vertical <b>VBF</b> - Vertically Braced Framing <b>VEF</b> - Vertical Each Face <b>VIF</b> - Vertical Inside Face <b>VOL</b> - Vertical Outside Face <b>VSC</b> - Vertically Slotted Connection</p> <p><b>W</b> - Wide Flange Beam <b>WF</b> - Wall Plate <b>W/F</b> - Widened Wide Flange Beam <b>W/F (W/W)</b> - Widened Wide Flange/ Mesh</p>	<p><b>1. GENERAL</b></p> <p>1.1. DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE 2013 ONTARIO BUILDING CODE, AND ANY APPLICABLE REQUIREMENTS OR BY-LAW OF THE AUTHORITY HAVING JURISDICTION. REFER ALSO TO TYPICAL DETAILS, NOTES UNDER PLANS AND SCHEDULES ON THE STRUCTURAL DRAWINGS, AND TO THE SPECIFICATION ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE SPECIFIC EDITION REFERENCED IN APPLICABLE BUILDING CODE INCLUDING ALL REVISIONS AND ADDENDA.</p> <p>ALL DIMENSIONS, OTHER THAN PURELY STRUCTURAL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST THE ARCHITECTURAL DRAWINGS AND ANY INCONSISTENCIES REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. STRUCTURAL DRAWINGS MUST NOT BE SCALE.</p> <p>2. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, PITS, SLUMPS, EQUIPMENT, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS SPECIFICALLY NOTED OTHERWISE, THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION.</p> <p>3. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS OF SAFE GUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR CONSULTANTS REVIEW.</p> <p>4. <b>SHOP DRAWINGS, PLACING DRAWINGS AND BAR LISTS</b></p> <p>2.1. FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED FOR REVIEW BY THE STRUCTURAL CONSULTANT. SHOP DRAWINGS TO SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS.</p> <p>2.2. REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN.</p> <p>2.3. REVIEW BY THE STRUCTURAL CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.</p> <p>3. <b>INSPECTION AND TESTING</b></p> <p>3.1. A SOILS CONSULTANT AND AN INDEPENDENT INSPECTION AND TESTING COMPANY ARE TO BE ENGAGED TO CARRY OUT THE FOLLOWING SERVICES:</p> <p>3.1.1. BEARING SOIL - REFER TO NOTES ON STRUCTURAL DRAWINGS AND ALSO TO THE SOIL REPORT.</p> <p>3.1.2. FILL UNDER SLAB-ON-GRADE - CONFORM THAT FILL MATERIAL USED IS SATISFACTORY AND THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ATTAINED.</p> <p>3.1.3. CAST-IN-PLACE AND PRECAST CONCRETE - ROUTINE INSPECTION OF MATERIALS, INCLUDING SLUMP, CYLINDER AND AIR ENTRAINMENT TESTS AND REINFORCING ROD TESTS WHEN REQUIRED, OR DIRECTED IN ACCORDANCE WITH CSA STANDARD A23.2.</p> <p>3.1.4. THE PROJECT SUPERINTENDENT IS TO ADVISE THE STRUCTURAL CONSULTANT A MINIMUM OF 24 HOURS IN ADVANCE OF A CONCRETE POUR FOR A REVIEW OF PREPARATIONS.</p> <p>3.1.5. STRUCTURAL STEEL, AND DIMS - ROUTINE SHOP AND FIELD INSPECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS CSA S16.</p> <p>3.1.6. STEEL DECK - SEE STEEL DECK NOTES.</p> <p>3.1.7. MASONRY - WHEN REQUIRED OR DIRECTED, CONCRETE BLOCKS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 BRICKS IN ACCORDANCE WITH CANCSA A82, AND MORTAR AND/OR GROUT IN ACCORDANCE WITH CSA A179.</p> <p>3.2. ALL INSPECTION AND TESTING SERVICES ARE TO BE PERFORMED BY COMPANIES CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION AND LICENSING, INSPECTORS ARE TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU.</p> <p>4. <b>FOUNDATIONS</b></p> <p>4.1. REFER TO NOTES UNDER FOUNDATION PLANS. ALL EXTERIOR FOOTINGS OR OTHER FOOTINGS EXPOSED TO FREEZING IN THE FINISHED BUILDING SHALL BE FOUNDATION AT A MINIMUM OF 1200mm (4'-0") BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED. FOOTINGS EXPOSED TO FROST ACTION DURING CONSTRUCTION SHALL BE PROTECTED BY A MINIMUM OF 1200mm (4'-0") OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING.</p> <p>4.2. THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS FOR FOOTINGS OR ALONG STEEPED FOOTINGS SHALL NOT EXCEED A RISE OF 1 IN A RUN OF 10. MAXIMUM STEEP SLOPE SHALL BE 1:1.</p> <p>4.3. PIER DEPTHS AND FOOTING ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE STRUCTURAL DRAWINGS.</p> <p>4.4. IF ACTUAL JOB SITE OR SOIL CONDITIONS VARY FROM THOSE ASSUMED, THEN WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK.</p> <p>4.5. KEEP EXCAVATIONS CONTINUOUSLY DRY BEFORE CONCRETE IS PLACED. IF THE SOIL IS SOFTENED BY WATER, THE EXCAVATION SHALL BE EXTENDED BELOW THE SOFTENED MATERIAL, AND THE BOTTOM OF THE FOOTINGS LOWERED TO SUIT.</p> <p>5. <b>BACKFILLING AND COMPACTION</b></p> <p>5.1. SLABS-ON-GRADE AND ALL STRUCTURAL ELEMENTS FRAMING INTO WALLS WHICH RETAIN EARTH MUST BE IN PLACE BEFORE BACKFILLING.</p> <p>5.2. AT FOUNDATION WALLS WITH GRADE BOTH SIDES, UNLESS ADEQUATELY SHORED, BACKFILL AND COMPACT EACH SIDE OF WALL SIMULTANEOUSLY.</p> <p>5.3. UNDER SLAB-ON-GRADE, REMOVE SOFT SPOTS, ORGANIC AND FOREIGN MATTER IN THE SUB-GRADE (WHERE SUB-GRADE CONSISTS OF COMPACTED FILL, REFER TO SPECIFIC NOTES ON THE DRAWINGS).</p> <p>5.4. BACKFILL UNDER SLAB-ON-GRADE, IN FOOTING EXCAVATIONS AND IN TRENCHES ONLY WITH APPROVED MATERIAL. UNLESS SPECIFICALLY NOTED OTHERWISE, BACKFILLING SHALL BE CARRIED OUT IN MAXIMUM OF 200mm (8") THICK LIFTS OF LOOSE FILL EACH COMPACTED TO A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.</p> <p>5.5. UNLESS OTHERWISE NOTED IN GEOTECHNICAL REPORT, PROVIDE IMMEDIATELY UNDER SLABS-ON-GRADE A MINIMUM OF 200mm (8") OF COMPACTED (MTC) GRANULAR 'B' MATERIAL COMPACTION TO ACHIEVE A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.</p>	<p>1. GENERAL</p> <p>1.1. DESIGN FABRICATION, HANDLING AND ERECTION SHALL CONFORM TO THE FOLLOWING STANDARDS:</p> <p>1.1.1. CSA S138 1.1.2. CSSBI 10M STANDARD FOR STEEL ROOF DECK 1.1.3. CSSBI 12M STANDARD FOR COMPOSITE STEEL DECK 1.1.4. ASTM A653 SPECIFICATIONS FOR STEEL SHEET, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY COATED (GALVANNEALED) BY THE HOT DIP PROCESS.</p> <p>1.1.5. WELDING SHALL CONFORM TO CSA STANDARD W59 AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA STANDARD W47.1.</p> <p>12. THE STEEL DECK SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.</p> <p>13. NO HANGERS OR BRACKETS SHALL BE HUNG DIRECTLY FROM THE FLOOR OR ROOF DECK. ALL POINT LOADS MUST BE APPLIED DIRECTLY TO STRUCTURAL STEEL FRAMING UNLESS OTHERWISE SHOWN OR APPROVED BY THE STRUCTURAL CONSULTANT.</p> <p>14. WHEREVER STRUCTURAL FRAMING MEMBERS, STEEL DECK SHALL BE DESIGNED AND FABRICATED TO SPAN CONTINUOUSLY OVER AT LEAST 4 SUPPORTS (3 SPANS). PROVIDE AN ADEQUATE INCREASE IN THICKNESS OF METAL TO COMPENSATE FOR CONTINUITY WHEREVER FEWER SUPPORTS MAY OCCUR. END LAPS TO BE 50mm (2") MIN. AND BE LOCATED OVER SUPPORTS.</p> <p>15. ROOF DECK SHALL BE FORMED WITH INTEGRAL RISRS IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. DECK THICKNESS GIVEN ON DRAWINGS IS MINIMUM ASSUMED ALLOWABLE THICKNESS AND MUST BE DESIGNED BY THE DECK SUPPLIER.</p> <p>15.1. DEFLECTION OF ROOF DECK UNDER LIVE OR SNOW/LOAD ONLY SHALL NOT EXCEED 1/100TH OF SPAN.</p> <p>16. FLOOR DECK SHALL BE FORMED WITH INTEGRAL RISRS AND EMBOSMENTS FOR COMPOSITE ACTION WITH CONCRETE SLAB IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. IN ADDITION, THE DECK SHALL SAFELY SUPPORT ALL CONSTRUCTION LOADS WITH NO SHORING UNTIL CONCRETE IS SET. DECK THICKNESS GIVEN ON DRAWINGS IS MINIMUM ALLOWED.</p> <p>16.1. DEFLECTION OF COMPOSITE FLOOR UNDER LIVE LOAD ONLY SHALL NOT EXCEED 1/100TH OF SPAN.</p> <p>17. DESIGN AND DETAIL ON SHOP DRAWINGS ALL CONNECTIONS TO SUPPORTING MEMBERS FOR ALL COMBINATIONS OF DIAPHRAGM SHEAR AND UPLIFT FORCES ACTING ON THE ROOF DECK.</p> <p>2. PRODUCTS</p> <p>2.1. UNLESS OTHERWISE NOTED ROOF DECK AND / OR COMPOSITE DECK SHALL BE FORMED OF METALLIC COATED SHEET STEEL CONFORMING TO ASTM A653 A653M STRUCTURAL QUALITY GRADE '230' WITH A ZN75 ZINC COATING (GALVANNEAL).</p> <p>2.2. UNLESS OTHERWISE NOTED DECK SHALL BE SINGLE FLUTED ELEMENT WITH INTEGRAL RISRS OF DEPTH AND MIN. BASE NOMINAL THICKNESS (BNT) AS NOTED ON THE DRAWINGS. DECK SHALL HAVE INTERLOCKING SIDE JOINTS BETWEEN PANELS (1 MIN. BNT 0.78mm (0.30").</p> <p>2.3. COVER PLATES, CELL CLOSURES, FLASHINGS AND REINFORCING STIFFENERS FOR UNSUPPORTED EDGES TO BE SUPPLIED OF SIMILAR MATERIAL AND ZINC COATING TO THAT FOR DECK, UNLESS NOTED.</p> <p>2.4. PRIMER PAINT TO BE ZINC RICH, READY MIX, CANV OWSJ 1:181 FOR FIELD 'TOUCH-UP' OF WELD BURNS AFTER DECK IS INSTALLED.</p> <p>2.5. UNLESS OTHERWISE SHOWN FOR OPENINGS THROUGH ROOF DECK FROM 150mm (6") TO 191" AFTER THE FLUTES THE DECK SUPPLIER SHALL PROVIDE NOT LESS THAN A 516X516X4 ANGLE (2"x4" x14") REINFORCEMENT TO FRAME AROUND EACH SIDE OF THE OPENING PERPENDICULAR TO THE FLUTES, WELDED TO AT LEAST TWO FLUTES EACH SIDE OF THE OPENING.</p> <p>26. FOR ROOF OPENINGS OVER 450mm (18") ACROSS THE FLUTES AND FOR AREAS OF CONCENTRATED LOAD, REINFORCE IN ACCORDANCE WITH STRUCTURAL FRAMING DETAILS SHOWN ON PLANS OR TYPICAL DETAIL.</p> <p>3. EXECUTION</p> <p>3.1. SUPPLY AND PLACE STEEL PACKING AS REQUIRED TO PROVIDE AN EVEN BEARING PRESSURE AT SUPPORTS.</p> <p>3.2. FOR STEEL ROOF DECK, UNLESS OTHERWISE DETERMINED DURING THE DIAPHRAGM AND UPLIFT CONNECTION DESIGN OR SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR ENGINEERING DRAWINGS, THE MINIMUM ATTACHMENT OF THE DECK TO THE BEARING SURFACES AND THE MINIMUM SIDE LAP CONNECTIONS BETWEEN DECK UNITS SHALL BE:</p> <p>3.2.A. FOR 38mm DEEP DECK PROFILES, CONNECT THE FIRST, THIRD, FIFTH AND SEVENTH LOW CORRUGATIONS (364 CONFIGURATION), AND EACH SUPPORT PARALLEL TO FLUTE DIRECTION AT 300mm (12") MAXIMUM CENTRES. CONNECTIONS SHALL BE MADE USING EITHER AN ARC SPOT WELD WITH 20mm (3/4") NOMINAL TOP DIAMETER, OR MECHANICALLY FASTENED USING HLTI POWDER ACTUATED FASTENERS (X-HSN24, HLTI X-EM-P19, OR EQUIVALENT).</p> <p>3.2.B. FOR 76mm DEEP DECK PROFILES, CONNECT THE FIRST, THIRD AND FIFTH LOW CORRUGATIONS (243 CONFIGURATION), AND EACH SUPPORT PARALLEL TO FLUTE DIRECTION AT 300mm (12") MAXIMUM CENTRES. CONNECTIONS SHALL BE MADE USING EITHER AN ARC SPOT WELD WITH 20mm (3/4") NOMINAL TOP DIAMETER, OR MECHANICALLY FASTENED USING HLTI POWDER ACTUATED FASTENERS (X-HSN24, HLTI X-EM-P19, OR EQUIVALENT).</p> <p>3.2.C. FOR ROOF DECK, SIDE LAPS OF ADJACENT NESTABLE UNITS SHALL BE CRIMPED TOGETHER AT 900mm (36") CENTRES, OR FASTENED WITH HLTI M HWV SCREWS (SLC1, SL02, OR EQUIVALENT).</p> <p>3.3. FOR STEEL FLOOR DECK, UNLESS OTHERWISE DETERMINED DURING THE DIAPHRAGM CONNECTION DESIGN OR SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR ENGINEERING DRAWINGS, THE MINIMUM ATTACHMENT OF THE DECK TO THE BEARING SURFACES AND THE MINIMUM SIDE LAP CONNECTIONS BETWEEN DECK UNITS SHALL BE:</p> <p>3.3.A. SIDE LAPS OF ADJACENT FLOOR UNITS SHALL BE CRIMPED TOGETHER AT 600mm (24") MAXIMUM ON CENTRE, BUT NOT EXCEEDING THE SPACING REQUIRED FOR THE APPLICABLE UL C FIRE RATED ASSEMBLY.</p> <p>3.3.B. DECK SUPPORTS PARALLEL AND PERPENDICULAR TO FLUTES SHALL BE WELDED WITH 20mm (3/4") WELDS AT 300mm (12") MAXIMUM SPACING, BUT NOT EXCEEDING THE SPACING REQUIRED FOR THE APPLICABLE UL C FIRE RATED ASSEMBLY.</p> <p>3.3.C. THE REQUIRED PUDDLE WELDS AT SUPPORTS MAY BE SUBSTITUTED WITH POWDER ACTUATED FASTENERS THAT PROVIDE EQUIVALENT DIAPHRAGM SHEAR CAPACITY PER METRE.</p> <p>3.4. INSTALL ALL POWDER ACTUATED AND SCREW FASTENERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.</p> <p>3.5. WELD STUD SHEAR CONNECTORS THROUGH DECK WHERE REQUIRED BY DRAWINGS.</p> <p>3.6. 'TOUCH-UP' GALVANIZED OR GALVANNEALED SURFACES WITH SPECIFIED PRIMER AT WELDS AND SCRAPS, ETC., BOTH UPPER AND LOWER SURFACES.</p> <p>3.7. DO NOT SUSPEND CEILING OR MECHANICAL/ELECTRICAL SERVICES FROM US OF STEEL DECK.</p> <p>4. QUALITY CONTROL</p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED TO CARRY OUT AND REPORT ON THE FOLLOWING INSPECTION SERVICES:</p> <p>4.1.a. SECTION PROFILE, GAUGE AND STEEL GRADE.</p> <p>4.1.b. ZINC COATING.</p> <p>4.1.c. WELDED JOINTS.</p> <p>4.1.d. BEARINGS.</p> <p>4.1.e. SIDE LAP CONNECTIONS.</p> <p>4.1.f. TOUCH-UP PRIMER.</p> <p>4.1.g. FIELD CUTTING AND/OR ALTERATIONS.</p> <p>4.2. REFER ALSO TO THE GENERAL NOTES, SPECIFICATIONS, AND TERMS OF REFERENCE FOR ADDITIONAL INFORMATION.</p>	<p>1. GENERAL</p> <p>1.1. PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO CARRY OUT THE WORK.</p> <p>1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND SCHEDULES, TYPICAL DETAILS AND SPECIFICATION.</p> <p>2. PRODUCTS</p> <p>2.1. PORTLAND CEMENT, WATER AND AGGREGATES SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>2.2. PROVIDE AN APPROVED WATER REDUCING ADDITIVE MAIN CONCRETE. PROVIDE AN APPROVED AIR ENTRAINING ADDITIVE IN ALL CONCRETE WHICH WILL BE EXPOSED TO A FREEZE/THAW CYCLE AND/OR THE ACTION OF DE-ICING SALT. ADMIXTURES SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>2.3. FORMWORK SHALL CONFORM TO CSA STANDARD A23.1 AND CSA STANDARD S269.1 AND FALSEWORK SHALL CONFORM TO CSA S269.1.</p> <p>2.4. IF SO INSTRUCTED, THE DESIGNS FOR THE FORMWORK SHALL BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION. FORMWORK DRAWINGS AND DESIGN SHALL BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER.</p> <p>2.5. PROVIDE SLAB AND BEAM FORMS WITH AN UPWARD CAMBER AS INDICATED ON PLANS THUS WHERE CAMBERS ARE NOT NOTED ON PLANS, CAMBER SLABS AND BEAMS FOR SPAN/50 AT INTERIOR BAYS, AND CANTILEVER LENGTH/250 AT CANTILEVER, CAMBER BOTH THE UNDERSIDE AND TOP OF CONCRETE IN A PARABOLIC PROFILE, WHILE MAINTAINING THE INDICATED STRUCTURAL THICKNESS OF MEMBERS.</p> <p>2.6. PROVIDE STANDARD ADJUSTABLE MASONRY ANCHOR SLOTS FOR ALL MASONRY FACING OR ABUTTING CONCRETE FACES.</p> <p>2.7. PROVIDE AND/OR INSTALL STANDARD ADJUSTABLE INSERTS AND ALL OTHER CAST-IN INSERTS AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATION.</p> <p>2.8. REINFORCING STEEL UNLESS SPECIFICALLY NOTED, SHALL BE DEFORMED BARS CONFORMING TO CANCSA G30-18M GRADE 400 (58000 PSI). WELDED WIRE FABRIC TO BE SUPPLIED IN FLAT SHEETS ONLY, UNLESS APPROVED OTHERWISE.</p> <p>2.9. REINFORCING SHALL BE DETAILED, BENT, PLACED AND SUPPORTED TO CONFORM TO ADO DETAILING MANUAL AND THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.</p> <p>2.11. CURING AND SEALING COMPOUNDS WHERE APPROVED FOR USE TO CONFORM TO ASTM STANDARD C309. GENERALLY ALL CONCRETE SURFACES ARE TO BE SEALED UNLESS NOTED OTHERWISE. COMPOUNDS ARE TO BE COMPATIBLE WITH APPLIED FINISHES.</p> <p>2.15. SHEAR REINFORCEMENT AT SLAB CONNECTIONS AS SHOWN ON DRAWINGS AND DETAILS, SHALL BE STURDALS® AS MANUFACTURED BY DECON®. THE COMPLETE AND FINISHED STURDALS® SHALL BE ICC ES EVALUATED AND WELDING SHALL TAKE PLACE IN A ICC ES APPROVED AND AUDITED FACILITY. STURDALS® SHALL CONFORM TO THE LATEST UPDATE OF ASTM A1044.</p> <p>3. EXECUTION</p> <p>3.1. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE @ 28 DAYS SHALL BE AS NOTED ON THE DRAWINGS (20MPa MINIMUM).</p> <p>3.2. SLUMP AT THE POINT OF DISCHARGE SHALL BE CONSISTENT AT 80 mm ±30mm (3" ± 1.18") UNLESS NOTED OTHERWISE. GREATER SLUMPS ARE NOT ACCEPTABLE.</p> <p>3.3. CONCRETE MIXING, TRANSPORTATION, HANDLING AND PLACING SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>3.4. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 1000mm (30'-0"). UNLESS CONTROL JOINTS ARE PROVIDED AS PER DETAIL CPWV2, TOTAL LENGTH OF JOINTS TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID SPAN IF POSSIBLE AND CLEAR OF SUPPORTS AND POINT LOADS.</p> <p>3.5. INSERTS, FRAME-OUTS, SLEEVES, BRACKETS, CONDUITS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.</p> <p>3.7. ELECTRICAL CONDUIT SHALL NOT PASS THROUGH A COLUMN, SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 13 SLAB THICKNESS OR WALL OR BEAM IN WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTRE UNLESS APPROVED, AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") UNLESS SPECIFICALLY PERMITTED OTHERWISE. SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.</p> <p>3.8. OPENINGS AND DRIVEN FASTENERS REQUIRED IN THE CONCRETE AFTER THE CONCRETE IS PLACED SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE PROCEEDING.</p> <p>3.9. FINISHING, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FINISH TO EXPOSED CONCRETE. ALL HONEYCOMBING SHALL BE CUT OUT AND FILLED. FLOOR FINISHES SHALL BE AS REQUIRED BY THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>3.10. TOLERANCES FOR PLACING STRUCTURAL CONCRETE, REINFORCING STEEL, CAST-IN HARDWARE AND FOR FLOOR AND ROOF FINISHES SHALL BE AS SPECIFIED IN CSA STANDARD A23.1.</p> <p>3.11. MINIMUM REINFORCING FOR ANY CONCRETE WALL TO BE AS SHOWN ON TYPICAL DETAIL FOR CONCRETE WALLS.</p> <p>3.12. MINIMUM REINFORCING FOR ANY SUSPENDED SLAB SHALL BE TEMPERATURE BARS BOTTOM EACH WAY PLUS 10M @ 400 (16") DOWELS 600x600 (2'-0" x 2'-0") TOP AROUND PERIMETER. REFER TO TYPICAL DETAIL OF ONE WAY SLABS.</p> <p>3.13. PERFORM SURVEYS OF SLABS AS INDICATED IN SPECIFICATIONS.</p>				
<p><b>A04</b></p> <p>1. GENERAL</p> <p>1.1. STRUCTURAL STEEL AND JOIST DESIGN DETAILS AND CONNECTIONS SHALL CONFORM TO CSA STANDARD S16 AND SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK.</p> <p>1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND TO THE SPECIFICATION.</p> <p>1.3. WELDING SHALL CONFORM TO CSA STANDARD W59 AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA W47.1.</p> <p>1.4. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF FACTORED VERTICAL SHEAR FORCE OF 50% OF THE BEAM SHEAR CAPACITY, UNLESS OTHERWISE NOTED, AND IN NO CASE BE LESS THAN THE LOADS SHOWN ON OR IMPLIED BY THE DRAWINGS, WHERE BOLTED CONNECTIONS ARE UTILIZED, A MINIMUM OF TWO BOLTS PER CONNECTION SHALL BE USED.</p> <p>1.5. MEMBER CONNECTIONS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER FOR FORCES AND MOMENTS INDICATED. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF THE REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.</p> <p>2. PRODUCTS</p> <p>2.1. STRUCTURAL STEEL SECTIONS SHALL CONFORM TO CSA-G40.20/G40.21 (UNLESS NOTED OTHERWISE ON PLANS OR SECTIONS).</p> <p>2.1.1. S SHAPES, PLATES AND RODS - GRADE 300 W</p> <p>2.1.2. HSS SECTIONS - GRADE 300W (CLASS C UN)</p> <p>2.1.3. W/WF SHAPES, W SHAPES, WT SHAPES, CHANNELS, ANGLES - GRADE 300W</p> <p>2.2. JOIST CHORDS AND WEBS SHALL CONFORM TO CSA - S16.</p> <p>2.3. BOLTS FOR CONNECTIONS TO CONFORM TO ASTM F1552/F1552M, GRADE A325 UNLESS NOTED.</p> <p>2.4. ANCHOR RODS FOR BASE PLATES, BEARING PLATES AND WELD PLATES TO CONFORM TO ASTM F1554, GRADE 36, UNLESS NOTED.</p> <p>2.5. NUTS AND WASHERS TO CONFORM TO ASTM A563 AND ASTM F438.</p> <p>2.6. SHEAR STUDS WHERE REQUIRED TO CONFORM TO ASTM A118, WELDING TO CONFORM TO CSA W59.</p> <p>2.7. WELDING MATERIALS TO CONFORM TO CSA W48.</p> <p>2.8. SURFACE PREPARATION AND PRIMER PAINT FOR STRUCTURAL STEEL MEMBERS AND JOISTS INSIDE VAPOUR BARRIER TO CONFORM TO CISCP/CPMA 1.73a OR CISCP/CPMA 2.75 (IF EXPOSED TO VIEW), UNLESS NOTED ON DRAWINGS OR SPECIFICATIONS.</p> <p>2.9. HOT DIP GALVANIZING SHALL PROVIDE A MINIMUM ZINC COATING OF 80g/m<sup>2</sup> UNLESS OTHERWISE SPECIFIED.</p> <p>2.11. BRACING AND BRACING FOR JOISTS BY JOIST DESIGNER - SEE DRAWINGS AND TYPICAL DETAILS FOR MINIMUM REQUIREMENTS.</p> <p>3. EXECUTION</p> <p>3.1. FABRICATION, HANDLING AND ERECTION SHALL CONFORM TO CAN CSA - S16.</p> <p>3.2. TOLERANCES - VARIATION FROM PLUMB AND LEVELNESS OF STRUCTURAL FRAMING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND TYPICAL DETAILS.</p> <p>3.5. FIELD 'TOUCH-UP' BOLTS, WELDS, BURNED OR SCRAPED SURFACES AFTER ERECTION.</p> <p>3.6. NO HOLES OTHER THAN THOSE SHOWN ON REVIEWED SHOP DRAWINGS SHALL BE MADE IN ANY STEEL MEMBER WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL CONSULTANT.</p> <p>3.7. CO-ORDINATE WITH MECHANICAL AND ELECTRICAL CONSULTANTS AND SUB-TRADEES WHOSE WORK MAY EFFECT DETAILING, FABRICATION AND ERECTION OF THE STEEL STRUCTURE.</p> <p>3.8. WHEREVER ITEMS ARE TO BE HUNG FROM JOISTS, CONNECT TO THE TOP CHORDS AT PANEL POINTS, UNLESS OTHERWISE PERMITTED.</p> <p>3.9. PROVIDE LATERAL BRACING FOR ALL STEEL DECK AT LOCATIONS WHERE THE CONNECTION TO SUPPORTING FRAMING IS INTERRUPTED, (EG. AT COLUMNS).</p> <p>3.10. PROVIDE ALL NECESSARY TEMPORARY BRACING TO KEEP STRUCTURE SAFE AND PLUMB. BRACING SHOWN ON STRUCTURAL DRAWINGS IS PERMANENT FOR FINISHED BUILDING ONLY.</p> <p>3.11. PROVIDE A MINIMUM OF 2-12 mm (1/2") DIAMETER BY 250 (10") LONG WALL ANCHORS FOR ALL BEAM AND JOIST BEARING PLATES ON MASONRY, OR AN APPROVED EQUAL, UNLESS OTHERWISE NOTED. BEAMS AND JOIST SHOES TO BE WELDED TO BEARING PLATES.</p> <p>3.12. PROVIDE ADJUSTABLE ANCHORS TO ALL STEEL TO BE BUILT INTO, ABUTTED BY, OR FACED WITH MASONRY (REFER ALSO TO TYPICAL DETAILS IF SHOWN). SPACING OF ANCHORS TO BE:</p> <p>FOR VERTICAL SPACING _____ 600 (24") MAX. CENTRES.</p> <p>FOR HORIZONTAL SPACING _____ 10 TIMES WALL THICKNESS* (MAX. 2000 (8'-8") CENTRES)</p> <p>(* NOTE: USE BACK-UP W/ THE THICKNESS ONLY FOR CAVITY WALLS.)</p> <p>3.13. WHERE STEEL PROVIDES LATERAL BRACING ONLY TO MASONRY (I.E. DOES NOT SUPPORT MASONRY) ANCHORS SHALL PERMIT DIFFERENTIAL VERTICAL MOVEMENT BETWEEN STRUCTURAL MEMBERS AND MASONRY.</p> <p>4. QUALITY CONTROL</p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL AND STEEL DECK IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES, AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.</p> <p>4.2. SEE SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.</p>	<p><b>A04A</b></p> <p>1. GENERAL</p> <p>1.1. STRUCTURAL STEEL DESIGN DETAILS AND CONNECTIONS SHALL CONFORM TO CSA STANDARD S16 AND SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK.</p> <p>1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND TO THE SPECIFICATION.</p> <p>1.3. WELDING SHALL CONFORM TO CSA STANDARD W59 AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA W47.1.</p> <p>1.4. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF FACTORED VERTICAL SHEAR FORCE OF 50% OF THE BEAM SHEAR CAPACITY, UNLESS OTHERWISE NOTED, AND IN NO CASE BE LESS THAN THE LOADS SHOWN ON OR IMPLIED BY THE DRAWINGS, WHERE BOLTED CONNECTIONS ARE UTILIZED, A MINIMUM OF TWO BOLTS PER CONNECTION SHALL BE USED.</p> <p>1.5. MEMBER CONNECTIONS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER FOR FORCES AND MOMENTS INDICATED. SHOP DRAWINGS (AND CALCULATIONS) BEARING THE STAMP AND SIGNATURE OF THE REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.</p> <p>2. PRODUCTS</p> <p>2.1. STRUCTURAL STEEL SECTIONS SHALL CONFORM TO CSA-G40.20/G40.21</p> <p>2.1.1. S SHAPES, PLATES AND RODS - GRADE 300 W</p> <p>2.1.2. HSS SECTIONS - GRADE 300W (CLASS C UN)</p> <p>2.1.3. W/WF SHAPES, W SHAPES, WT SHAPES, CHANNELS, ANGLES - GRADE 300W</p> <p>2.2. BOLTS FOR CONNECTIONS TO CONFORM TO ASTM F1552/F1552M, GRADE A325, UNLESS NOTED.</p> <p>2.3. ANCHOR RODS FOR BASE PLATES, BEARING PLATES AND WELD PLATES TO CONFORM TO ASTM F1554, GRADE 36, UNLESS NOTED.</p> <p>2.4. NUTS AND WASHERS TO CONFORM TO ASTM A563 AND ASTM F438.</p> <p>2.5. SHEAR STUDS WHERE REQUIRED TO CONFORM TO ASTM A118, WELDING TO CONFORM TO CSA W59.</p> <p>2.6. WELDING MATERIALS TO CONFORM TO CSA W48.</p> <p>2.7. SURFACE PREPARATION AND PRIMER PAINT FOR STRUCTURAL STEEL MEMBERS INSIDE VAPOUR BARRIER TO CONFORM TO CISCP/CPMA 1.73a OR CISCP/CPMA 2.75 (IF EXPOSED TO VIEW), UNLESS NOTED ON DRAWINGS OR SPECIFICATIONS.</p> <p>2.8. HOT DIP GALVANIZING WITH A MINIMUM ZINC COATING OF 80g/m<sup>2</sup> UNLESS OTHERWISE SPECIFIED.</p> <p>3. EXECUTION</p> <p>3.1. FABRICATION, HANDLING AND ERECTION TO CONFORM TO CANI CSA - S16</p> <p>3.2. PROVIDE A MINIMUM OF 2-12 mm (1/2") DIAMETER BY 250 (10") LONG WALL ANCHORS FOR ALL BEAM AND JOIST WALL PLATES ON MASONRY, OR AN APPROVED EQUAL, UNLESS OTHERWISE NOTED. BEAMS AND JOIST SHOES TO BE WELDED TO BEARING PLATES.</p> <p>3.3. PROVIDE ADJUSTABLE ANCHORS TO ALL STEEL TO BE BUILT INTO, ABUTTED BY, OR FACED WITH MASONRY (REFER ALSO TO TYPICAL DETAILS IF SHOWN). SPACING OF ANCHORS TO BE:</p> <p>FOR VERTICAL SPACING _____ 600 (24") MAX. CENTRES.</p> <p>FOR HORIZONTAL SPACING _____ 10 TIMES WALL THICKNESS* (MAX. 2000 (8'-8") CENTRES)</p> <p>(* NOTE: USE BACK-UP W/ THE THICKNESS ONLY FOR CAVITY WALLS.)</p> <p>3.4. WHERE STEEL PROVIDES LATERAL BRACING ONLY TO MASONRY (I.E. DOES NOT SUPPORT MASONRY) ANCHORS SHALL PERMIT DIFFERENTIAL VERTICAL MOVEMENT BETWEEN STRUCTURAL MEMBERS AND MASONRY.</p> <p>3.5. PROVIDE LATERAL BRACING TO ALL STEEL DECK AT LOCATIONS WHERE THE CONNECTION TO SUPPORTING FRAMING IS INTERRUPTED, (EG. AT COLUMNS).</p> <p>3.6. CLEAN, PREPARE SURFACES AND SHOP PRIME STRUCTURAL STEEL WITH ONE COAT OF SPECIFIED PRIMER PAINT IN ACCORDANCE WITH CANCSA - S16, EXCEPT WHERE MEMBERS ARE TO BE ENCASED IN CONCRETE, OR TO RECEIVE SPRAY APPLIED FIRE PROOFING. FIELD 'TOUCH-UP' BOLTS, WELDS, BURNED OR SCRAPED SURFACES AFTER ERECTION.</p> <p>3.7. PROVIDE ALL NECESSARY TEMPORARY BRACING TO KEEP STRUCTURE SAFE AND PLUMB. BRACING SHOWN ON STRUCTURAL DRAWINGS IS PERMANENT FOR FINISHED BUILDING ONLY.</p> <p>3.8. CO-ORDINATE WITH MECHANICAL AND ELECTRICAL CONSULTANTS AND SUB-TRADEES WHOSE WORK MAY AFFECT DETAILING, FABRICATION AND ERECTION OF THE STEEL STRUCTURE.</p> <p>3.9. TOLERANCES - VARIATION FROM PLUMB AND LEVEL, EXTERIOR COLUMNS, COLUMNS AT ELEVATOR SHAFTS, AND SPANDREL BEAMS INCLUDING ANGLES</p> <p>1:1000 MAX. 25 mm (10" IN 10'-0" MAX.)</p> <p>OTHER PIECES _____ 1:500 (1/4" IN 10'-0")</p> <p>3.10. NO HOLES OTHER THAN THOSE SHOWN ON REVIEWED SHOP DRAWINGS SHALL BE MADE IN ANY STEEL MEMBER WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL CONSULTANT.</p> <p>4. QUALITY CONTROL</p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL AND STEEL DECK IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES, AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.</p> <p>4.2. SEE SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.</p>						
<p><b>A07</b></p> <p>UNLESS OTHERWISE SHOWN OR NOTED ON THE STRUCTURAL DRAWINGS, PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS, AS FOLLOWS:</p> <p>1. FOR OPENINGS UP TO 1200 mm (4'-0") CLEAR:</p> <p>1.1. ONE ANGLE 90 x 90 x 6 (3 1/2" x 3 1/2" x 1/4") FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>OR</p> <p>1.2. 200mm (8") DEEP MASONRY LINTEL, BLOCK REINFORCED WITH 1-10M BOTTOM FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>2. FOR OPENINGS FROM 1200mm (4'-0") CLEAR TO 1800mm (6'-0") CLEAR:</p> <p>2.1. ONE ANGLE 125 x 90 x 8 LONG LEG VERTICAL ( 5 x 3 1/2" x 5/16") FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>OR</p> <p>2.2. 200mm (8") DEEP MASONRY LINTEL, BLOCK REINFORCED WITH 1-15M BOTTOM FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>3. ALL LINTELS TO BEAR 150mm (6") MINIMUM AT EACH END ON SOLID MASONRY, UNLESS SHOWN OTHERWISE.</p> <p>4. PARS OF LINTEL ANGLES ARE TO BE BOLTED OR WELDED TOGETHER, PRIOR TO SHIPMENT, AT MAXIMUM 450mm (18") CENTRES.</p> <p>5. MASONRY LINTEL BLOCKS MAY ONLY BE USED IN LOAD-BEARING WALLS WITH PERMISSION AND MUST BE FILLED WITH 20 MPa CONCRETE. MORTAR IS NOT ACCEPTABLE AND WILL BE REJECTED.</p> <p>6. STEEL LINTELS ARE TO BE SUPPLIED BY STEEL CONTRACTOR BUT PLACED BY GENERAL CONTRACTOR OR MASONRY SUB- CONTRACTOR.</p> <p>7. STEEL CONTRACTOR TO SUPPLY ALL NECESSARY DIRECTIONS REQUIRED FOR PLACING STEEL LINTELS.</p> <p>8. WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ON THE STRUCTURAL DRAWINGS EACH AND EVERY LOAD, MECHANICAL AND ELECTRICAL SERVICES, RECESSES AND POCKETS ETC., THROUGH LOAD-BEARING MASONRY WALLS, IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CO-ORDINATE AND SUPPLY ALL LINTELS REQUIRED THROUGH ALL WALLS (INCLUDING NON-LOAD BEARING WALLS) THROUGHOUT THE PROJECT. UNLESS OTHERWISE DIRECTED, LINTELS SHALL CONFORM TO THE ABOVE REQUIREMENTS.</p> <p>9. REFER ALSO TO TYPICAL DETAILS.</p>	<p><b>A03.2</b></p> <p>14. GENERAL REQUIREMENTS FOR CUTTING AND DRILLING INTO CONCRETE</p> <p>(A) DO NOT DRILL INTO CORE THROUGH, SAW-CUT OR CHIP THE CONCRETE STRUCTURE WITHOUT WRITTEN AUTHORIZATION BY THE STRUCTURAL CONSULTANT.</p> <p>(B) UNLESS NOTED OTHERWISE, PRIOR TO CUTTING, CORING OR DRILLING INTO THE CONCRETE STRUCTURE, LOCATE EXISTING CONCRETE REINFORCEMENT AND EMBEDDED SERVICES AT THAT LOCATION USING SUITABLE SCANNING DEVICE (I.E. X-RAYS, GROUND PENETRATION RADAR (GPR), LOCAL CHIPPING OF SLAB - ONLY WHERE APPROVED BY THE STRUCTURAL CONSULTANT, ETC.), AS AUTHORIZED BY PROPERTY MANAGER IF APPLICABLE.</p> <p>(C) GPR SCANNING MUST BE DONE BY TRAINED TECHNICIANS WITH AT LEAST 5 YEARS OF EXPERIENCE AS SUCH.</p> <p>(D) GPR SCANNING DEVICES MUST BE CAPABLE OF ACCURATELY LOCATING REBAR IN A CONCRETE SLAB TO A MINIMUM DEPTH OF </p>						



**ISSUE OR REVISION**

NO.	ISSUED FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 90% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

YORK REGION PRS #32

53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN

PROJECT:

CLIENT:



THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.

**Salas O'Brien**

2338 Sheppard Ave. E. Suite No. 1100  
Toronto, ON M2J 6B6  
Stephenson Engineering, a company of Salas O'Brien

PROFESSIONAL SEAL



DWG TITLE

**GENERAL NOTES**

ORIENTATION

DATE **JULY 2023**

SCALE **1 : 1** DRAWN BY **AE** CHECKED BY **JG**

DWG STATUS:

**IFC**

PROJECT NO. **20160759**

DRAWING NO. **S5-02** REVISION **5**

2023-07-16 09:53:34 AM

LOAD BEARING MASONRY NOTES	A06	LOAD BEARING MASONRY NOTES	A06
<p><b>1. GENERAL</b></p> <p>1.1. UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS, THE FOLLOWING INDICATES THE MINIMUM REQUIREMENTS APPLICABLE TO STRUCTURAL LOAD BEARING MASONRY.</p> <p>1.2. REFER ALSO TO ARCHITECTURAL DRAWINGS AND /OR THE SPECIFICATION FOR REQUIREMENTS OTHER THAN STRUCTURAL, AND FOR NON-LOAD BEARING WALLS AND PARTITIONS.</p> <p>1.3. MASONRY CONSTRUCTION TO CONFORM TO CSA STANDARD S304.1.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. CONCRETE BLOCKS TO BE MODULAR UNITS AS SHOWN ON THE ARCHITECTURAL DRAWINGS AND /OR SPECIFICATION, AND UNLESS OTHERWISE NOTED SHALL BE:</p> <p>2.1.1. FOR BELOW GRADE AND EXTERIOR EXPOSED WALLS USE NORMAL WEIGHT LOAD BEARING UNITS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / A / M. 75% SOLID: .....TYPE S / 15 / A / M. 100% SOLID: .....TYPE S / 15 / A / M.</p> <p>2.1.2. FOR INTERIOR ABOVE GRADE WALLS USE EITHER:</p> <p>2.1.2.1. LIGHTWEIGHT LOAD BEARING BLOCKS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / C / M. 75% AND 100% SOLID: .....TYPE S / 15 / C / M.</p> <p>2.1.2.2. ULTRA LIGHT (OR EQUIVALENT) BLOCKS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / D / M. REFER TO ARCHITECTURAL DRAWINGS AND SCHEDULES FOR LOCATIONS AND TYPES).</p> <p>2.2. CLAY BRICKS:</p> <p>TO CONFORM TO ONE OR MORE OF CSA STANDARDS A82 (SERIES) SEE ARCHITECTURAL DRAWINGS AND / OR SPECIFICATIONS FOR TYPES AND STYLES OF BRICKS REQUIRED. UNLESS OTHERWISE NOTED, THE MINIMUM COMPRESSIVE STRENGTH (BRICK FLATWISE) GROSS AREA SHALL BE 20 MPa.</p> <p>2.3. MORTAR:</p> <p>TO CONFORM TO CSA A179.</p> <p>FOR LAYING ALL LOAD BEARING CONCRETE BLOCKS ..... USE TYPE "S" MORTAR UNLESS NOTED. FOR LAYING ALL CLAY BRICKS ..... USE TYPE "N" MORTAR UNLESS NOTED.</p> <p>2.4. MASONRY GROUT:</p> <p>TO CONFORM TO CSA A179, THE SLUMP SHALL BE 200mm (8") TO 250mm (10") AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH FOR "FINE" GROUT SHALL BE 30MPa.</p> <p>2.5. MASONRY CONNECTORS (ANCHORS, FASTENERS AND TIES):</p> <p>SHALL CONFORM TO CSA A370, AND BE INSTALLED TO COMPLY WITH CSA A371.</p> <p>SPACING, STRENGTH AND GALVANIZING OF STRIP TIES, DOVETAIL ANCHORS, BAR ANCHORS, ROD ANCHORS, STRAP ANCHORS, WALL AND PARTITION ANCHORS SHALL COMPLY WITH CSA A370.</p> <p>2.6. HORIZONTAL JOINT REINFORCEMENT FOR ALL MASONRY WALLS:</p> <p>THE FOLLOWING ARE MINIMUM REQUIREMENTS:</p> <p>2.6.1. CONFORM TO CSA STANDARDS A370 AND A371.</p> <p>2.6.2. REINFORCEMENT SHALL BE AN APPROVED CONTINUOUS "LADDER" TYPE, PREFABRICATED WITH 3.6mm DIAMETER (9 GAUGE) LONGITUDINAL AND CROSS WIRES.</p> <p>2.6.3. SPACING- PROVIDE REINFORCING IN THE TOP COURSE IMMEDIATELY BELOW FLOOR AND ROOF BEARING LEVELS AND THE FIRST TWO COURSES ABOVE, AND BELOW EVERY WALL OPENING THE REINFORCING SHALL EXTEND 600mm (24") BEYOND SUCH OPENINGS. FOR THE REMAINDER OF WALLS, THE VERTICAL SPACING SHALL NOT EXCEED 400mm (16").</p> <p>2.6.4. OVERLAP SPLICES:</p> <p>SHALL BE A MIN. OF 150mm (6") FOR KNURLED WIRE AND 300mm (12") FOR PLAIN WIRE. LAPS SHALL BE STAGGERED A MINIMUM OF 750mm (30") FROM COURSE TO COURSE. REINFORCING SHALL NOT PASS THROUGH A VERTICAL CONTROL JOINT UNLESS OTHERWISE SHOWN.</p> <p>2.6.5. CORROSION RESISTANCE:</p> <p>JOINT REINFORCING FOR ALL WALLS IN CONTACT WITH SOIL, EXTERIOR WALLS AND WALLS IN A MOIST ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION TO ASTM A153, 458 g/m<sup>2</sup> meter (1.5 oz. / sq. foot).</p> <p>2.6.6. COMPOSITE AND CAVITY WALLS:</p> <p>WHERE COURSING OF WYTHES DO NOT ALIGN OF WHERE IT IS DESIRABLE AND PERMITTED TO BUILD ONE WYTHE BEFORE THE OTHER, REINFORCING SHALL BE AN APPROVED ADJUSTABLE TYPE WITH A BOX OR EYE SECTION WHICH EXTENDS INTO THE COLLAR JOINT OR CAVITY AND RESTRAINS THE TRANSVERSE MOVEMENT OF THE TWO WYTHES. FOR CAVITY WALLS WITH RIGID INSULATION EXTENSION SHALL BE DESIGNED TO HOLD THE INSULATION IN PLACE BY USE OF PLASTIC WEDGES OR APPROVED EQUAL GALVANIZED HOOK STYLE "BOX TIES" OR "PIN-TIES" SHALL EXTEND INTO THE FACE WYTHE TO COMPLETE THE ASSEMBLY.</p> <p>2.6.7. PROVIDE ALL PREFABRICATED CORNER AND TEE SECTIONS.</p> <p>2.7. COMPOSITE WALLS- SHALL HAVE THE VERTICAL COLLAR JOINTS BETWEEN WYTHES COMPLETELY FILLED WITH MORTAR OR GROUT.</p> <p>2.8. SCOM BEAMS- MADE FROM LINTEL BLOCKS, OR HALF WEB BLOCKS, WHERE SHOWN ON STRUCTURAL DRAWING SHALL CONFORM TO CSA A371.</p> <p>2.9. GROUTING- BY FILLING VOIDS OF HOLLOW UNITS AND REINFORCED HOLLOW UNITS SHALL CONFORM TO CSA A179 (MORTAR IS NOT ACCEPTABLE).</p> <p>2.10. EXPANSION AND CONTROL JOINTS:</p> <p>SHALL BE PROVIDED. SEE ARCHITECTURAL DRAWINGS AND / OR SPECIFICATION FOR DETAILS.</p>		<p><b>3. EXECUTION</b></p> <p>3.1. BEARING ON MASONRY:</p> <p>3.1.1. MINIMUM BEARING ON MASONRY UNLESS OTHERWISE NOTED:-</p> <p>BEAMS (STEEL, CONC., WOOD) ..... 200mm (8") NOMINAL LINTELS (STEEL, CONC., WOOD) ..... 150mm (6") NOMINAL JOISTS (STEEL, WOOD) ..... 100mm (4") NOMINAL SLABS (CAST-IN-PLACE, PRECAST) ..... 100mm (4") NOMINAL</p> <p>STEEL DECKING (ON WELD PLATE) ..... 100mm (4") NOMINAL</p> <p>3.1.2. MASONRY BEARINGS SHALL BE OF SOLID BLOCKS (OR GROUDED SOLID) OR BRICKS LAID IN MORTAR. ALL JOINTS ARE TO BE FULLY FILLED WITH TYPE "S" MORTAR.</p> <p>3.1.3. MIN. SIZE OF SOLID BEARINGS AT BEAMS AND LINTELS UNLESS NOTED SHALL BE EQUAL TO TWICE THE BEARING / WALL PLATE (WP) LENGTH AND FOR A DEPTH EQUAL TO THE BEARING / WALL PLATE (WP) LENGTH, AND IN NO CASE LESS THAN 400 LONG x 200 DEEP</p> <p>3.1.4. PROVIDE A MINIMUM OF ONE CONTINUOUS COURSE 200mm (8") OF SOLID OR GROUDED VOID BLOCKS OR BRICKS LAID IN MORTAR AT THE TOP COURSE IMMEDIATELY BELOW ALL FLOOR AND ROOF BEARING LEVELS.</p> <p>3.2. TOLERANCES:</p> <p>UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS AND / OR SPECIFICATION, SHALL CONFORM TO CSA A371.</p> <p>3.3. COLD WEATHER CONSTRUCTION- REQUIREMENTS AND PROTECTION SHALL CONFORM TO CSA A371 AND UNDER NO CIRCUMSTANCES SHALL MASONRY CONSTRUCTION BE PERMITTED WHEN THE AIR TEMPERATURE FALLS BELOW -12°C.</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. WHEN REQUESTED SAMPLING AND TESTING SHALL CONFORM TO CSA STANDARDS S304.1 AND ASTM C140. REFER ALSO TO GENERAL NOTES.</p>	

TYPICAL CONCRETE COVER TABLE				C01
ELEMENTS EXPOSED TO EARTH	PROJECT SPECIFIC COMMENTS	BAR SIZE	COVER (mm)	
PERMANENTLY EXPOSED TO SOIL		ALL SIZES	GREATER OF 60mm OR 2.0d	GREATER OF 40mm OR 1.5d
CAST AGAINST AND PERMANENTLY EXPOSED TO SOIL		ALL SIZES	75	

**TABLE NOTES**

- CONCRETE COVER SHALL BE MEASURED FROM THE DEEPEST POINT OF TEXTURED CONCRETE SURFACE TO THE NEAREST DEFORMATION OF REINFORCEMENT. REINFORCEMENT INCLUDES TIES, STIRRUPS AND MAIN BARS.
- THE SMALLER NUMBER IN THE TABLE CELL APPLIES TO PARKING GARAGE STRUCTURE WHERE VERTICAL ELEMENTS ARE PROTECTED BY 100mm EXTENSION OF MEMBRANE ABOVE THE FLOOR OR APPROVED SEALER. OTHERWISE THE LARGER NUMBER SHALL BE USED.
- FOR FIRE RATING INFORMATION, REFER TO ARCHITECTURAL DRAWINGS
- ALL LOAD BEARING ELEMENTS (WALLS AND COLUMNS) IMMEDIATELY BELOW A FLOOR ASSEMBLY MUST HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT FOR THE SUPPORTED ASSEMBLY.

LOAD BEARING MASONRY NOTES	A11
<p><b>1. GENERAL</b></p> <p>1.1. DESIGN, FABRICATION, HANDLING AND ERECTION SHALL CONFORM TO THE FOLLOWING STANDARDS:</p> <ol style="list-style-type: none"> <li>CSA-S136 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS.</li> <li>CSA-W59 WELDED STEEL CONSTRUCTION (METAL ARC WELDING).</li> <li>CSA-W47.1 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES.</li> <li>CSSBI S9M LIGHTWEIGHT STEEL FRAMING MANUAL.</li> </ol> <p>1.2. ERECTION DETAILS AND CONNECTIONS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK.</p> <p>1.3. SUBMIT SHOP DRAWINGS INDICATING ALL MEMBER SIZES, LOCATIONS, THICKNESS, COATINGS AND MATERIALS. INCLUDE CONNECTION DETAILS FOR ATTACHING FRAMING TO ITSELF AND FOR ATTACHMENT TO THE STRUCTURE. INDICATE DIMENSIONS, OPENINGS, REQUIREMENTS OF RELATED WORK AND CRITICAL INSTALLATION PROCEDURES. SHOW TEMPORARY BRACING REQUIRED FOR ERECTION PURPOSES.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. ALL MEMBERS SHALL BE MANUFACTURED BY BAILEY METAL PRODUCTS LTD., CSM CANADIAN STEEL MANUFACTURING INC., OR APPROVED EQUIVALENT.</p> <p>2.2. MINIMUM BASE STEEL THICKNESS SHALL BE 0.91 mm (.036") EXCEPT JOISTS SHALL BE 1.22 mm (.048").</p> <p>2.3. STEEL SHALL CONFORM TO ASTM A653/A653M WITH A MINIMUM 60 HOT DIP GALVANIZED COATING.</p> <p>2.4. SHEET METAL SCREWS SHALL HAVE A MINIMUM COATING OF .008 mm OF ZINC OR CADMIUM.</p> <p>2.5. ZINC RICH PAINT FOR TOUCHING UP WELDS AND DAMAGED COATINGS SHALL CONFORM TO C858-1 GP-181.</p> <p>2.6. STEEL THICKNESS, EXCLUSIVE OF COATING, SHALL BE MARKED ON EACH MEMBER BY EMBOSsing, OR BY COLOUR CODING.</p> <p><b>3. EXECUTION</b></p> <p>3.1. FABRICATION AND ERECTION SHALL CONFORM TO THE REVIEWED SHOP DRAWINGS. MODIFICATIONS REQUIRED TO ACCOMMODATE AS-BUILT CONDITIONS SHALL BE SUBMITTED FOR APPROVAL.</p> <p>3.2. PROVIDE CUT-OUTS CENTRED ON WEBS OF MEMBERS TO ACCOMMODATE SERVICES. REINFORCE CUT-OUTS AS REQUIRED TO MAINTAIN STRENGTH AND STIFFNESS OF MEMBERS.</p> <p>3.3. PRODUCTS SHALL BE STORED AND PROTECTED FROM CONDITIONS THAT MAY CAUSE PHYSICAL DAMAGE OR CORROSION.</p> <p>3.4. FRAMING SHALL BE ERECTED TRUE AND PLUMB WITHIN TOLERANCES SPECIFIED IN CSSBI S9M.</p> <p>3.5. TEMPORARY BRACING SHALL BE PROVIDED AND LEFT IN PLACE AS LONG AS REQUIRED FOR THE SAFETY AND INTEGRITY OF THE STRUCTURE.</p> <p>3.6. PROVIDE ADEQUATE STEEL BRIDGING FOR STUDS AND JOISTS AT 1200 mm (4'-0") MAXIMUM TO PROVIDE LATERAL SUPPORT TO MEMBERS.</p> <p>3.7. CUTTING OF MEMBERS MAY BE BY SAW OR SHEAR. TORCH CUTTING IS NOT PERMITTED.</p> <p>3.8. SPLICING OF MEMBERS IS NOT PERMITTED.</p> <p>3.9. SCREWS AND WELDING SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS AND TO REVIEWED SHOP DRAWINGS.</p> <p>3.10. SCREWS COVERED BY SHEATHING MATERIALS SHALL HAVE LOW PROFILE HEADS.</p> <p>3.11. TOUCH UP, WELDS AND DAMAGED COATINGS, WITH ZINC RICH PAINT.</p> <p>3.12. STUDS SHALL SEAT INTO TOP AND BOTTOM TRACKS. THE GAP BETWEEN THE END OF THE STUD AND THE WEB OF THE TRACK SHALL NOT EXCEED 1.5 mm.</p> <p>3.13. ALL AXIALLY LOADED MEMBERS SHALL BE ALIGNED VERTICALLY TO ALLOW FOR FULL TRANSFER OF THE LOADS DOWN TO THE FOUNDATIONS. VERTICAL ALIGNMENT SHALL BE MAINTAINED AT FLOOR/WALL INTERSECTIONS.</p> <p>3.14. JOIST AND RAFTERS OR THEIR END STIFFENERS SHALL BE LOCATED DIRECTLY OVER AXIAL LOAD BEARING STUDS. ALTERNATIVELY A LOAD DISTRIBUTION MEMBER SHALL BE PROVIDED TO TRANSFER LOADS. THE USE OF TRACK AS A LOAD DISTRIBUTION MEMBER IS NOT PERMITTED.</p> <p>3.15. HOLES SHALL NOT BE FIELD CUT IN MEMBERS WITHOUT APPROVAL.</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED TO REVIEW AND REPORT ON THE MATERIALS, FABRICATION, ERECTION AND CONNECTIONS.</p>	

COMPRESSION-TENSION DEVELOPMENT AND LAP LENGTHS Fy = 400 MPa	C02A
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FOR EMBEDMENTS ENCLOSED IN SPIRALS, MULTIPLY BY 0.75, BUT NOT LESS THAN 200mm.</p> <p><b>HEL: MINIMUM TENSION EMBEDMENT LENGTH WITH STANDARD HOOK (mm)</b></p> <table border="1"> <thead> <tr> <th colspan="9">UNCOATED BLACK BAR</th> </tr> <tr> <th rowspan="2">F<sub>c</sub></th> <th colspan="2">10M</th> <th colspan="2">15M</th> <th colspan="2">20M</th> <th colspan="2">25M</th> </tr> <tr> <th>Top</th> <th>Bottom</th> <th>Top</th> <th>Bottom</th> <th>Top</th> <th>Bottom</th> <th>Top</th> <th>Bottom</th> </tr> </thead> <tbody> <tr> <td>20MPa</td> <td>220</td> <td>340</td> <td>450</td> <td>560</td> <td>670</td> <td>780</td> <td>1010</td> <td>1230</td> </tr> <tr> <td>25MPa</td> <td>200</td> <td>300</td> <td>400</td> <td>500</td> <td>600</td> <td>700</td> <td>900</td> <td>1100</td> </tr> <tr> <td>30MPa</td> <td>180</td> <td>270</td> <td>370</td> <td>460</td> <td>550</td> <td>640</td> <td>830</td> <td>1010</td> </tr> <tr> <td>35MPa</td> <td>170</td> <td>250</td> <td>340</td> <td>420</td> <td>510</td> <td>590</td> <td>770</td> <td>930</td> </tr> <tr> <td>40MPa</td> <td>160</td> <td>240</td> <td>320</td> <td>400</td> <td>470</td> <td>550</td> <td>720</td> <td>870</td> </tr> <tr> <td>45MPa</td> <td>150</td> <td>220</td> <td>300</td> <td>370</td> <td>450</td> <td>520</td> <td>680</td> <td>820</td> </tr> <tr> <td>50MPa</td> <td>150</td> <td>210</td> <td>280</td> <td>350</td> <td>420</td> <td>490</td> <td>640</td> <td>780</td> </tr> <tr> <td>55MPa</td> <td>150</td> <td>200</td> <td>270</td> <td>340</td> <td>400</td> <td>470</td> <td>610</td> <td>750</td> </tr> </tbody> </table> <p><b>NOTES:</b></p> <p>1. 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FOR 35M AND SMALLER BARS MULTIPLY THE VALUES IN THE TABLE BY 0.8 (BUT NOT LESS THAN 150mm) WHERE THE HOOK IS ENCLOSED WITHIN AT LEAST THREE(3) TIES OR STIRRUPS SPACED ALONG A LENGTH EQUAL TO THE INSIDE DIAMETER OF THE HOOK AT A SPACING NOT MORE THAN 3 TIMES THE BAR DIAMETER.</p>	UNCOATED BLACK BAR								F <sub>c</sub>	10M		15M		20M		25M		Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	300	440	590	730	880	1030	NOT PERMITTED	NOT PERMITTED	UNCOATED BLACK BAR									F <sub>c</sub>	10M		15M		20M		25M		Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	290	340	420	540	640	770	940	1210	25MPa	220	310	370	600	570	690	840	1080	30MPa	200	280	340	440	530	630	770	990	35MPa	200	280	340	440	530	630	770	990	40MPa	200	280	340	440	530	630	770	990	> 40 MPa	SEE MINIMUM VALUES FOR F <sub>c</sub> = 40 MPa								UNCOATED BLACK BAR									F <sub>c</sub>	10M		15M		20M		25M		Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	220	340	450	560	670	780	1010	1230	25MPa	200	300	400	500	600	700	900	1100	30MPa	180	270	370	460	550	640	830	1010	35MPa	170	250	340	420	510	590	770	930	40MPa	160	240	320	400	470	550	720	870	45MPa	150	220	300	370	450	520	680	820	50MPa	150	210	280	350	420	490	640	780	55MPa	150	200	270	340	400	470	610	750
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FOR EPOXY COATED BARS THE VALUES IN THE TABLES MUST BE INCREASED:</p> <p>a. MULTIPLY BY 1.2 (WHEN CLEAR COVER GREATER THAN 3 X BAR DIAMETER AND CLEAR SPACING GREATER THAN 6 X BAR DIAMETER)</p> <p>b. MULTIPLY BY 1.5 (WHEN COVER OR SPACING ARE LESS THAN ABOVE)</p> <p>2. VALUES PROVIDED ARE BASED ON NORMAL WEIGHT CONCRETE AND MUST BE INCREASED FOR LIGHTWEIGHT CONCRETES:</p> <p>a. MULTIPLY BY 1.2 (FOR SEMI-LOW DENSITY CONCRETE)</p> <p>b. MULTIPLY BY 1.3 (FOR LOW-DENSITY CONCRETE)</p> <p>3. IF BUNDLED BARS ARE USED THE VALUES IN THE TABLES MUST BE INCREASED:</p> <p>a. MULTIPLY BY 1.1 (TWO BAR BUNDLES)</p> <p>b. MULTIPLY BY 1.2 (THREE BAR BUNDLES)</p> <p>c. MULTIPLY BY 1.33 (FOUR BAR BUNDLES)</p>	F <sub>c</sub>	UNCOATED BLACK BAR												10M		15M		20M		25M		30M		35M		Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	550	420	820	630	1090	840	1710	1310	2050	1570	2390	1840	25MPa	490	380	740	570	980	750	1530	1170	1830	1410	2130	1640	30MPa	450	350	670	520	890	690	1390	1070	1670	1290	1950	1500	35MPa	420	320	620	480	830	640	1290	990	1550	1190	1800	1390	40MPa	390	300	580	450	770	600	1210	930	1450	1110	1690	1300	45MPa	370	300	550	420	730	560	1140	880	1370	1050	1590	1230	50MPa	350	300	520	400	690	530	1080	830	1300	1000	1510	1160	55MPa	330	300	500	380	660	510	1030	790	1240	950	1440	1110	60MPa	320	300	480	370	630	490	990	760	1180	910	1380	1060	64MPa	310	300	460	360	610	470	960	740	1150	880	1340	1030	F <sub>c</sub>	UNCOATED BLACK BAR												10M		15M		20M		25M		30M		35M		Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	420	330	630	490	840	650	1310	1010	1570	1210	1840	1410	25MPa	380	300	570	440	750	580	1170	900	1410	1080	1640	1280	30MPa	350	300	520	400	690	530	1070	830	1290	990	1500	1160	35MPa	320	300	480	370	640	490	990	770	1190	920	1390	1070	40MPa	300	300	450	350	600	460	930	720	1110	860	1300	1000	45MPa	300	300	420	330	560	430	880	680	1050	810	1230	940	50MPa	300	300	400	310	530	410	830	640	1000	770	1160	900	55MPa	300	300	380	300	510	390	790	610	950	730	1110	850	60MPa	300	300	370	300	490	380	760	590	910	700	1060	820	64MPa	300	300	360	300	470	360	740	570	880	680	1030	790
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3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

**CONCRETE WALLS AND FOUNDATION WALLS (NOT SPECIFIED AS SHEAR WALLS)** **CFW01**

(READ IN CONJUNCTION WITH DETAIL CFW02)

**TYPICAL FOUNDATION WALL WITH SHORING**

**TYPICAL FOUNDATION WALL**

- LAP HORIZ. WALL REINF WITH T/S (TOP)
- WALLS AND FOOTINGS ARE DESIGNED ASSUMING BOTH FACES ARE FORMED. IF WALL AND/OR FOOTINGS ARE TO BE PLACED DIRECTLY AGAINST SOIL (i.e. NO FORM USED), PERMISSION AND INSTRUCTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT.

	150	200	250	300	350
VERT.	10@440L	10@460EF	10@480EF	10@440 EF	10@380EF
HORIZ.	10@320E	10@460EF	10@400EF	10@320 EF	10@280EF
VERT.	10@17C	10@18EF	10@18EF	10@17 EF	10@14EF
HORIZ.	10@12C	10@18EF	10@12EF	10@12 EF	10@11EF

1. REDUCE SPACING OF HORIZ. BARS BY 20% FOR UNHEATED AREAS

**TYPICAL JOINTS IN EXTERIOR CONCRETE FOUNDATION WALLS** **CFW02A**

**VERTICAL CONTROL JOINT AT EXTERIOR CONCRETE WALL**  
JOINTS @ 3000mm (10'-0") CENTERS MAX.

**VERTICAL EXPANSION JOINT AT EXTERIOR CONCRETE WALL**  
FOR LOCATIONS SEE PLAN

**ELEVATION OF EXTERIOR CONCRETE WALL AT WATERSTOP LAP JOINTS**

**TYPICAL JOINTS IN EXTERIOR CONCRETE FOUNDATION WALLS** **CFW02B**

**VERTICAL CONTROL JOINT AT EXTERIOR CONCRETE WALL**  
JOINTS @ 3000mm (10'-0") CENTERS MAX.

**HORIZONTAL CONSTRUCTION JOINT AT EXTERIOR CONCRETE WALL AND SLAB**

**SLAB ON GRADE DETAILS** **CG01A**

(READ IN CONJUNCTION WITH DETAIL CG01B, CG01C)

**EXAMPLE A** **EXAMPLE B** **EXAMPLE C** **ALTERNATE OPTION**

NOTES:

- SAWCUTTING TO BE DONE AS SOON AS POSSIBLE AFTER SLAB IS PLACED. (MAX. 24 HOURS)
- JOINTS TO BE AT MAX. 24x SLAB THICKNESS FOR MAXIMUM AGGREGATE SIZE SMALLER THAN 19mm (3/4") AND 30 TIMES SLAB THICKNESS FOR AGGREGATE SIZE LARGER THAN 19mm (3/4") BUT NOT MORE THAN 4500mm (14'-9")
- MAXIMUM RATIO BETWEEN LENGTH AND WIDTH OF ANY PANEL (CREATED BY SAWCUT) SHOULD NOT EXCEED 1.5
- COORDINATE EXACT LOCATIONS OF SAWCUTS IN SLAB ON GRADE WITH ARCHITECTURAL REQUIREMENTS.
- SAWCUT SLAB ON GRADE AT LOCATIONS SHOWN ON PLAN OR AS NOTED BELOW. ALTERNATE LOCATIONS SHALL BE SUBMITTED TO CONSULTANT FOR REVIEW, WELL IN ADVANCE OF POURING SLAB ON GRADE.
- AFTER THE SLAB IS A MINIMUM 60 DAYS OLD, REMOVE ALL DEBRIS FROM THE SAW CUTS AND FILL WITH MORTAR CONTAINING CEMENT, SAND AND LATEX BONDING AGENT, OR AS NOTED IN SPECIFICATIONS.
- PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT ROUT ALL CRACKS IN THE SLAB ON GRADE AND FILL WITH MORTAR CONTAINING CEMENT, SAND AND LATEX BONDING AGENT OR AS NOTED IN SPECIFICATIONS.
- REFER TO TYPICAL DETAIL CG01B, CG01C FOR SAW CUT DETAILS.

**SLAB ON GRADE DETAILS** **CG01B**

(READ IN CONJUNCTION WITH DETAILS CG01A, CG01C)

**SAWCUT CONTROL JOINT FOR FIBRE REINFORCED SLAB**

**SAWCUT CONTROL JOINT FOR SLABS WITH ONE LAYER OF REINFORCEMENT**

**SAWCUT CONTROL JOINT FOR SLABS WITH TWO LAYERS OF REINFORCEMENT**

**CONSTRUCTION JOINT FOR FIBRE REINFORCED SLAB**

**CONSTRUCTION JOINT FOR SLABS WITH ONE LAYER OF REINFORCEMENT**

**CONSTRUCTION JOINT DOWELS**

SLAB THICKNESS	PLATE DOWELS	DOWEL SIZE AND SPACING
130-150mm	AS PER MANUFACTURER RECOMMENDATION	2@300x250 LG
160-200mm		2@300x300 LG
230-280mm		3@300x380 LG

**SLAB ON GRADE DETAILS** **CG01C**

(READ IN CONJUNCTION WITH DETAILS CG03)

**THICKENING OF SLAB ON GRADE** **CG02**

**THICKENING AT POURED CONCRETE STAIR**

**THICKENING AT PRECAST CONCRETE STAIR**

**THICKENING AT STEEL STAIR**

**THICKENING AT MASONRY PARTITIONS**

**YORK REGION PRS #32**  
 PROJECT: 53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN



**TYPICAL DETAILS**

DATE: **JULY 2023**

SCALE: **1 : 1** DRAWN BY: **AE** CHECKED BY: **JG**

DWG STATUS: **IFC**

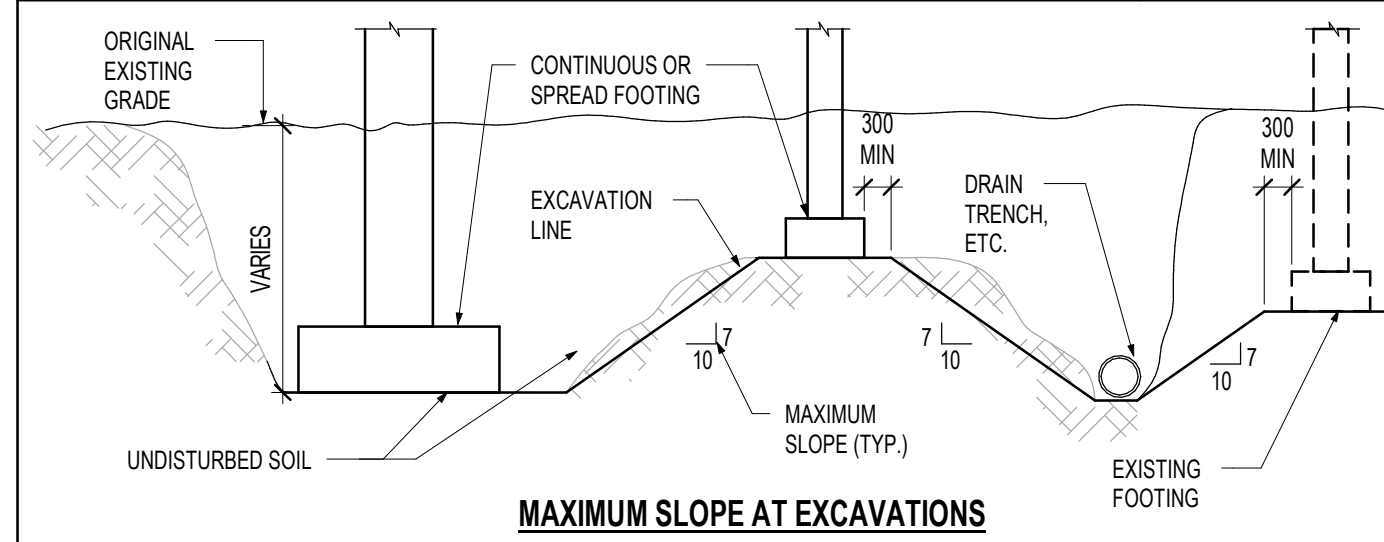
PROJECT NO: **20160759**

DRAWING NO: **S5-03** REVISION: **5**

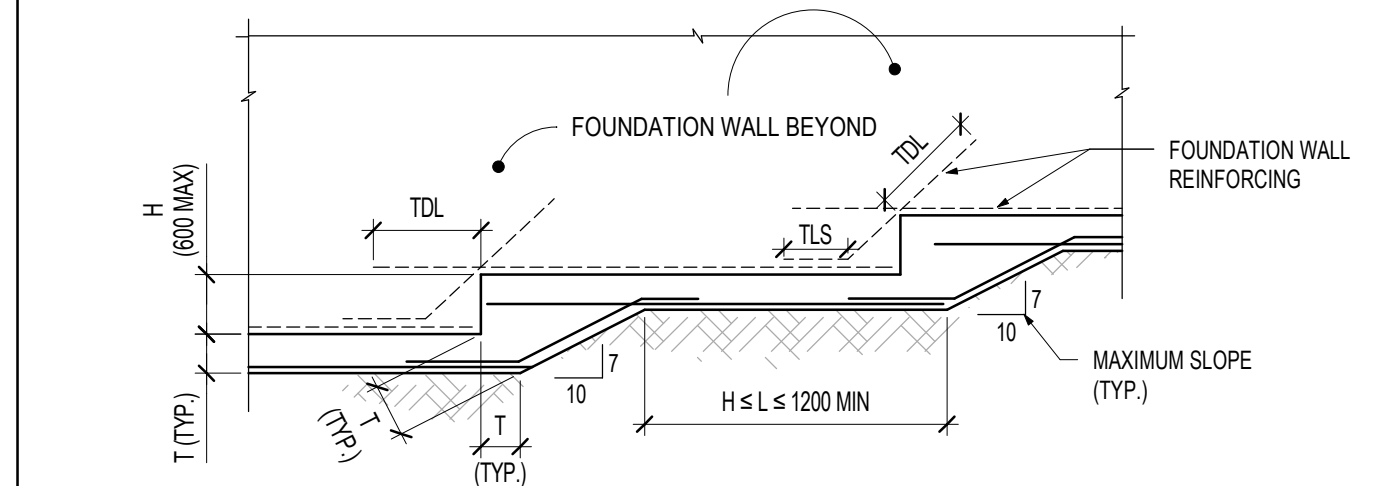
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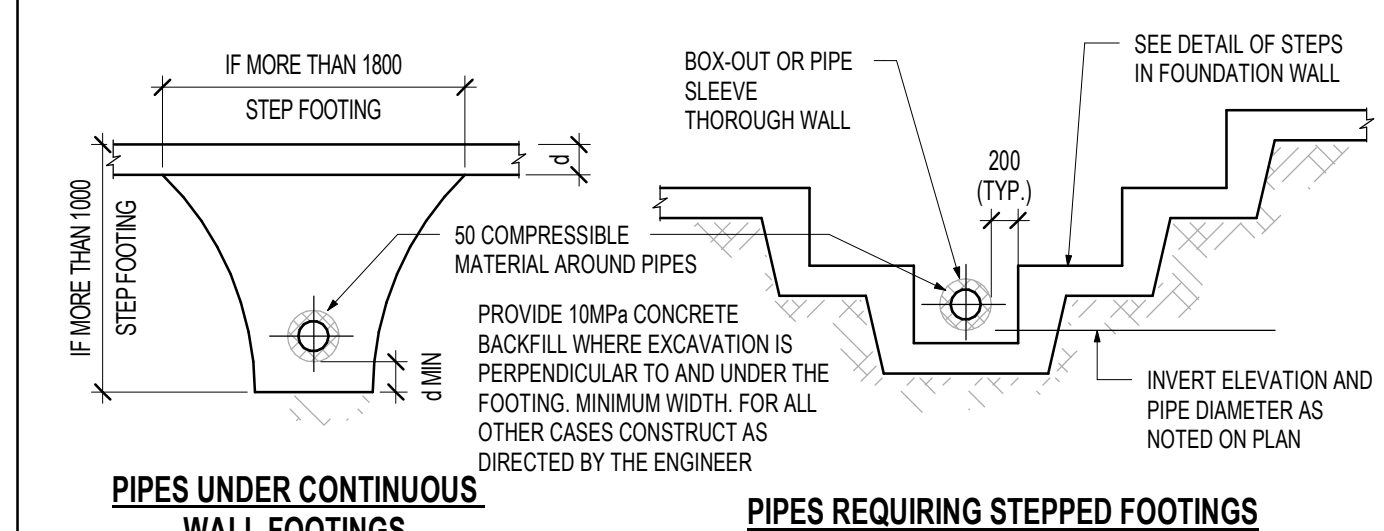
**STEPPED FOUNDATION AND CONSTRUCTION EXCAVATION F09**



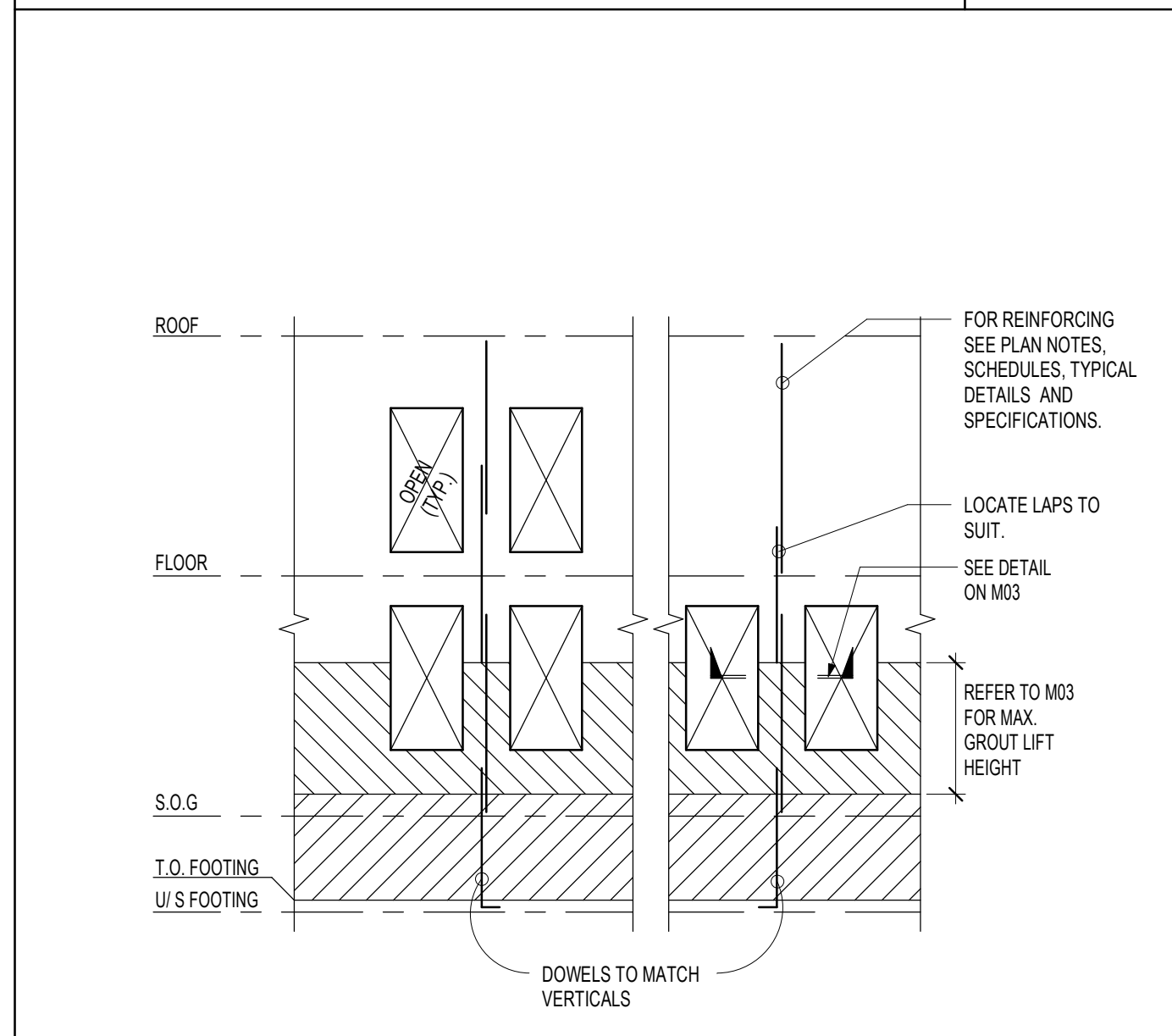
- NOTES:**
- WHERE TRENCHING OR EXCAVATING AT ADJACENT FOOTING SATISFY THE MAXIMUM SLOPE REQUIREMENT SHOWN ABOVE.
  - IF EXCAVATION REQUIREMENTS VIOLATE SLOPE REQUIREMENTS PROVIDE PLANS FOR REMEDIAL MEASURES (BRACING OR UNDERPINNING) TO THE CONSULTANT PRIOR TO PROCEEDING



- NOTES:**
- STEPS IN FOUNDATION WALLS TO FOLLOW THE GEOMETRY SHOWN ABOVE UNLESS NOTED OTHERWISE ON PLANS



**TYPICAL ELEVATION REINFORCED MASONRY WALLS AND PIERS M04**



- NOTE:**
- PROVIDE MINIMUM CLASS "B" TENSION LAP SPLICES FOR VERTICAL REINFORCING:
    - 10M - 500mm (2'0")
    - 15M - 700mm (2'-4")
    - 20M - 850mm (2'-9")
  - NOTE: WHERE MORE THAN 1 BAR PER CELL INCREASE LAP LENGTH BY 33%
  - LAP ALL HORIZONTAL LADDER TYPE REINFORCING 500mm.
  - ANY CROSSWIRES WITHIN LAP LENGTH SHALL BE REMOVED.
  - LAPS SHALL BE STAGGERED A MINIMUM OF 750mm FROM COURSE TO COURSE.

**NON-LOAD BEARING BLOCK WALL LINTELS M01A**

**STRUCTURAL STEEL LINTELS**

WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
	90 (4')	140 (6')	175mm X 8mm PL (7x5/16" PL)	240 (10')	290 (12')
300mm TO 500mm (12" TO 22')	75mm X 8mm PL (3x5/16" PL)	125mm X 8mm PL (5x5/16" PL)	175mm X 8mm PL (7x5/16" PL)	225mm X 8mm PL (9x5/16" PL)	275mm X 8mm PL (11x5/16" PL)
550mm TO 1200mm (22" TO 4'-0")	1-1.89x89x6.4 OR 2-1.44x44x4.8	1-1.127x89x7.9 (LLH) OR 2-1.64x44x4.8	2-1.89x89x6.4	L102x89x6.4 (LLH) + L127x89x6.4 (LLH)	3-1.89x89x6.4
1200mm TO 1830mm (4'-0" TO 6'-0")	1-1.127x89x7.9 (LLV) OR 2-1.51x38x6.4 (LLV)	1-1.127x127x7.9 (LLV) OR 2-1.89x64x6.4 (LLV)	2-1.89x89x6.4	L102x89x6.4 (LLH) + L127x89x6.4 (LLH)	3-1.89x89x6.4
1830mm TO 2440mm (6'-0" TO 8'-0")	1-1.127x89x7.9 (LLV)	1-1.127x127x7.9 (LLV) OR 2-1.89x64x6.4 (LLV)	2-1.127x89x7.9 (LLV)	L102x102x7.9 + L127x102x7.9 (LLH)	3-1.127x89x7.9 (LLV)
2440mm TO 3080mm (8'-0" TO 10'-0")	1-1.127x89x7.9 (LLV)	1-1.127x127x7.9 (LLV)	2-1.127x89x7.9 (LLV)	L152x102x7.9 (LLV) + L127x127x7.9 (LLH)	3-1.127x89x7.9 (LLV)
3080mm TO 3660mm (10'-0" TO 12'-0")	N/A	N/A	W200x27 + 175x6.4 PL. BOTTOM	W200x27 + 225x6.4 PL. BOTTOM	N/A

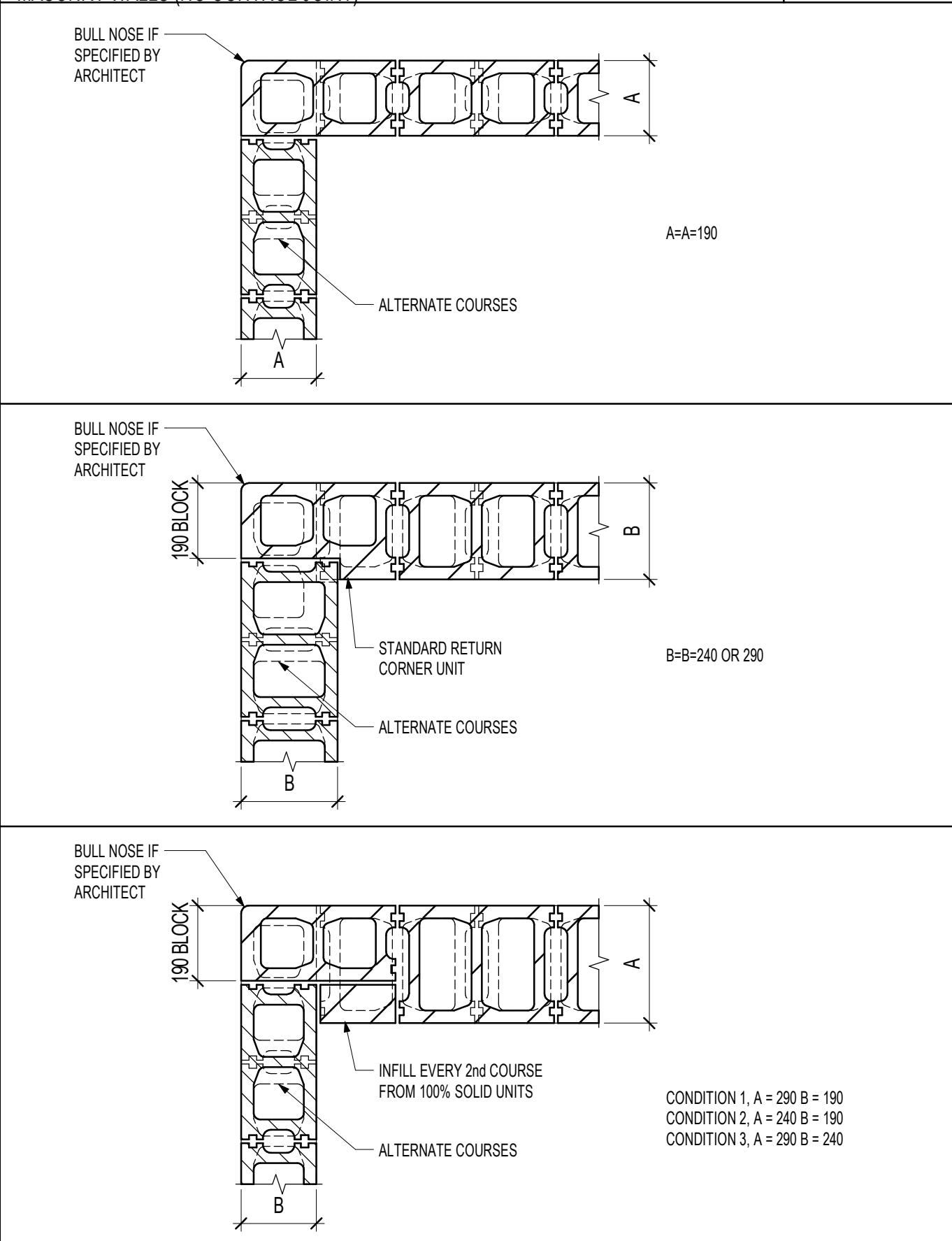
- STRUCTURAL STEEL LINTEL NOTES:**
- WHEN PROVIDING MULTIPLE ANGLES SEE DIAGRAMS FOR ORIENTATION. BOLT DOUBLE ANGLES BACK TO BACK USING 16mmØ BOLTS OR PROVIDE 6mmX30mm (1/4"x2") LONG WELDS @45mm (1 1/2") O/C STARTING AT 100mm (4") MAX FROM THE EACH END OF THE LINTEL.
  - SAWCUT WEBS OF BLOCK IN COURSE OF BLOCK OVER OPENING AS NECESSARY TO INSTALL ANGLES.
  - ALTERNATIVES PROVIDED FOR CASES WHERE EXPOSED FACE OF SINGLE ANGLE IS NOT ACCEPTABLE.

**MASONRY BEAM LINTELS**

WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
	140 (6')	190 (8')	240 (10')	290 (12')	
0mm TO 1200mm (0" TO 4'-0")	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	190 (8") DEEP 1-10M B	190 (8") DEEP 1-10M B	390 (16") DEEP 1-15M B
1200mm TO 1830mm (4'-0" TO 6'-0")	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B
1830mm TO 2440mm (6'-0" TO 8'-0")	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B
2440mm TO 3080mm (8'-0" TO 10'-0")	390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B	390 (16") DEEP 3-10M B

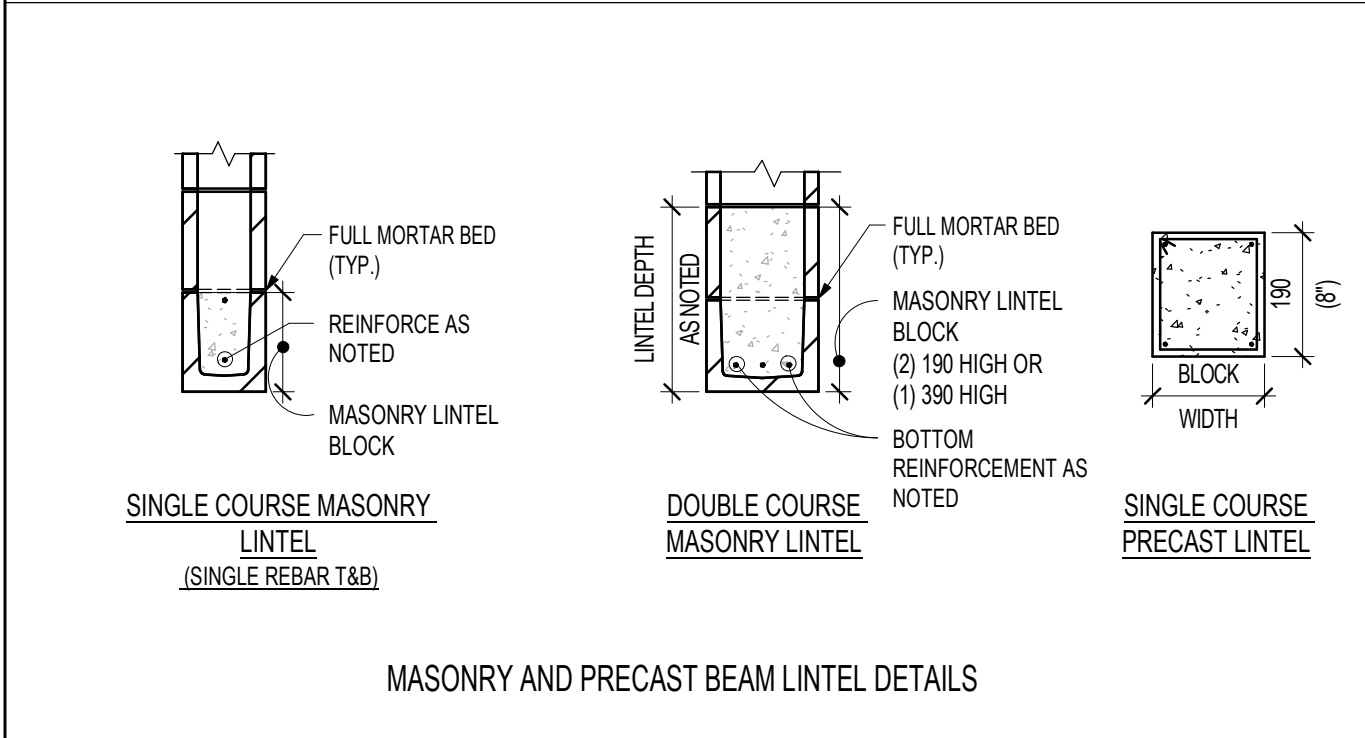
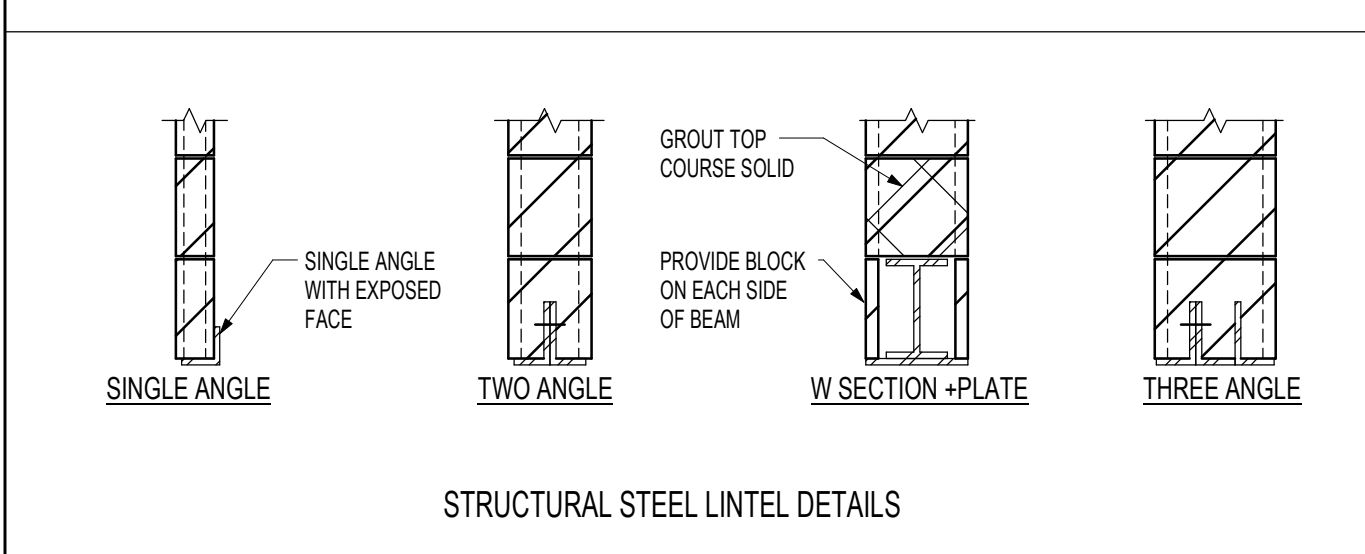
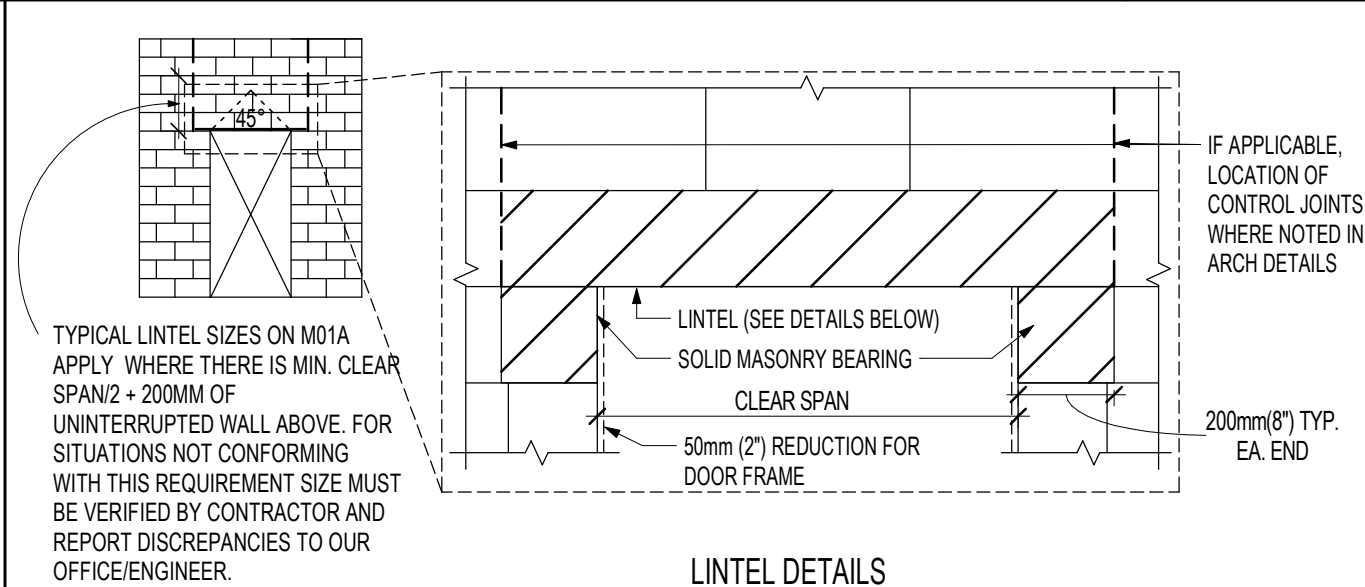
- MASONRY BEAM LINTEL NOTES:**
- BEAM MUST BE FILLED WITH MASONRY GROUT (MORTAR IS NOT ACCEPTABLE). REFER TO M03 FOR DETAILS.
  - TEMPORARILY SHORE LINTEL UNTIL GROUT HAS REACHED FULL DESIGN STRENGTH.

**TYPICAL DETAIL OF CONSTRUCTED CORNERS IN SINGLE WYTHE MASONRY WALLS (NO CONTROL JOINT) M06**

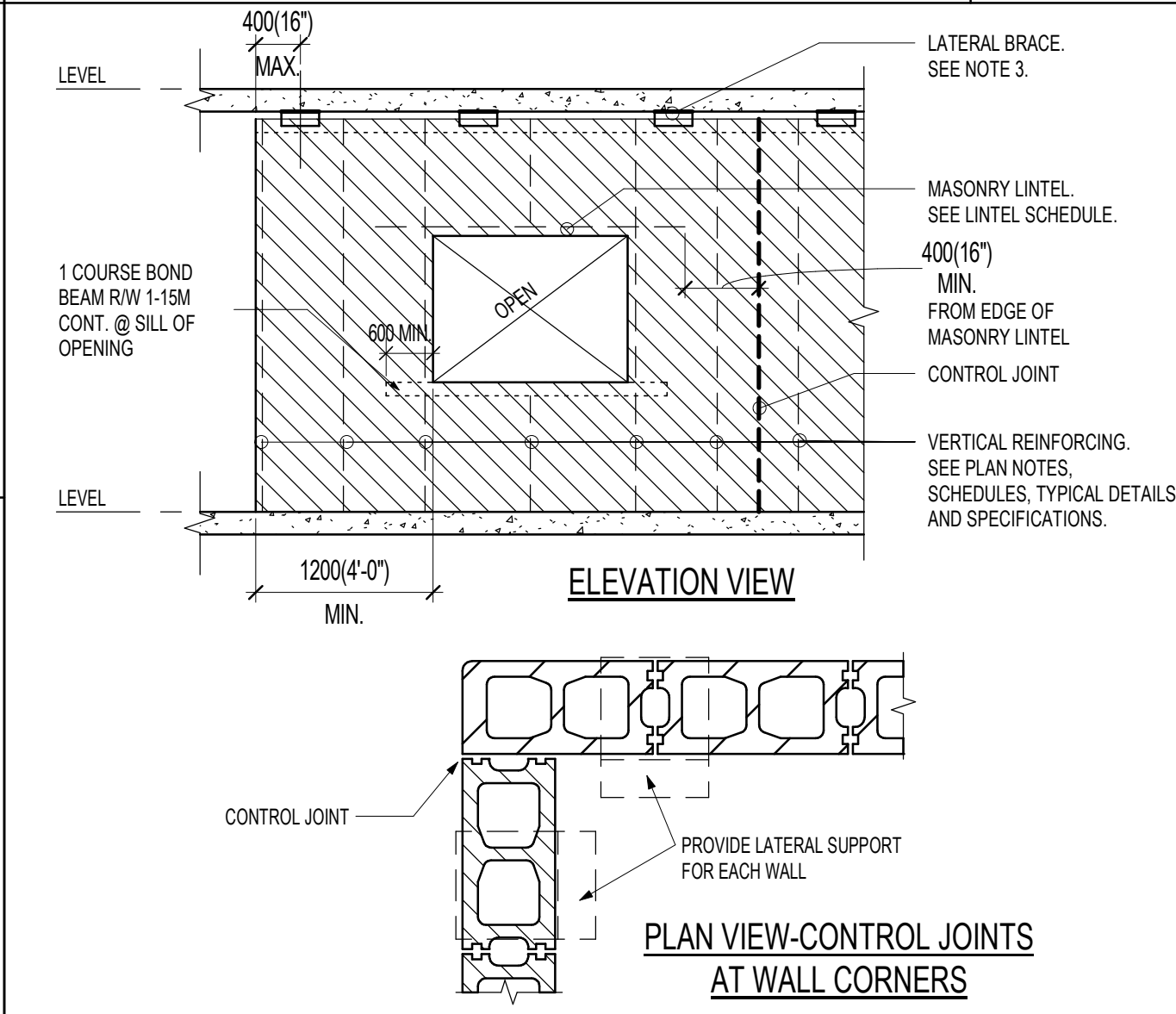


- NOTE:**
- PROVIDE PREFABRICATED CORNERS FOR HORIZONTAL JOINT REINFORCING (TYPICAL).
  - REFER TO TYPICAL LOAD BEARING MASONRY NOTES AND TO THE SPECIFICATION FOR MASONRY MATERIALS AND FOR HORIZONTAL JOINT REINFORCING

**NON-LOAD BEARING BLOCK WALL LINTEL DETAILS M01B**

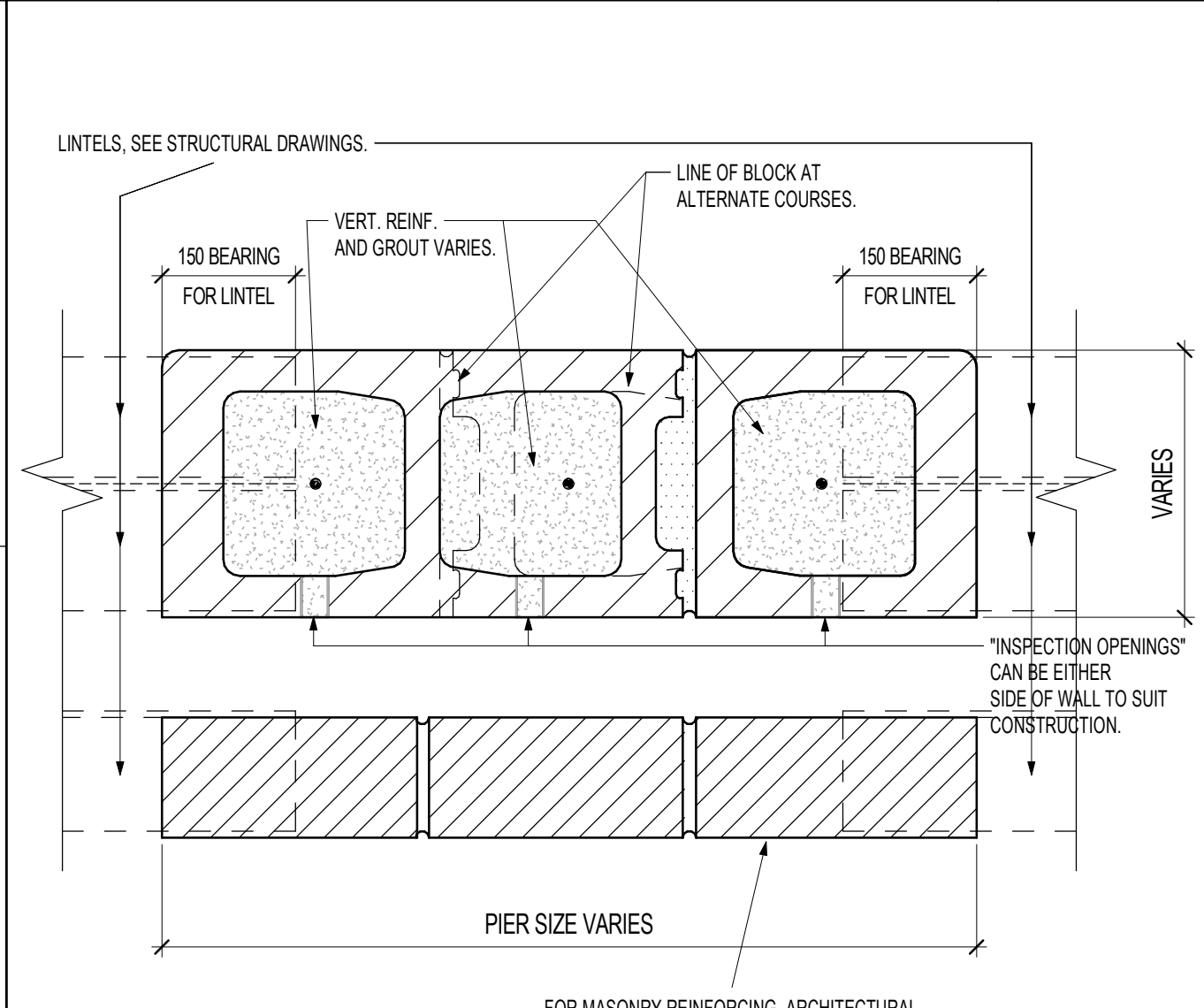


**TYPICAL MASONRY WALL REINFORCING SCHEDULE NOTES AND DETAIL M07**



- NOTES:**
- ADD 390 DEEP HORIZONTAL BOND BEAM R/W 1-15 T&B AT EACH FLOOR AND ROOF LEVEL.
  - PROVIDE VERTICAL REINFORCEMENT AS NOTED ABOVE AND ADD 1-15M AT END OR CORNER OF WALL, SIDES OF DOOR AND WINDOW OPENINGS, AND CONTROL AND EXPANSION JOINTS. VERTICAL REINFORCEMENT TO BE FULL HEIGHT OF WALL AND ALL CELLS WITH VERTICAL REINFORCEMENT TO BE FILLED SOLID WITH GROUT.
  - REFER TO M14 FOR TYPICAL LATERAL SUPPORT DETAIL AT PARTITIONS FOR STEEL STRUCTURES AND M07B FOR TYPICAL LATERAL SUPPORT DETAIL AT PARTITIONS FOR CONCRETE STRUCTURES.
  - REFER TO TYPICAL DETAIL M07B FOR CONNECTION OF MASONRY WALL ABUTTING CONCRETE OR MASONRY WALL FACING CONCRETE.
  - PROVIDE DOWELS. SIZE AND SPACING TO MATCH VERTICAL WALL REINFORCEMENT. REFER TO M04 FOR REQUIRED LAP LENGTHS.
  - COMPLETELY FILL REINFORCED CELLS WITH GROUT.

**TYPICAL REINFORCED EXTERIOR MASONRY WALLS AND PIERS PLAN DETAIL M03**



- NOTE:**
- GROUT TO CONFORM TO REQUIREMENTS OF CSA STANDARD A179-M CLAUSE 8.1 TABLE 3 "FINE GROUT". SLUMP SHALL BE ±200mm AND COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 15 MPa @ 28 DAYS.
  - COMPRESSIVE TESTING OF GROUT SHALL BE CARRIED OUT BY THE APPROVED INSPECTION AND TESTING COMPANY IN ACCORDANCE WITH CSA STANDARD A179-M. PREPARE A MINIMUM 3 TESTS FOR EACH STOREY OF CONSTRUCTION. 1 TEST SHALL COMPRISE OF 3 CUBES FOR TESTING. 1 AT 7 DAYS AND 2 AT 28 DAYS.
  - ALL CELLS CONTAINING VERTICAL REINFORCING SHALL BE COMPLETELY FILLED WITH GROUT IN LIFTS NOT EXCEEDING 1500mm. GROUT SHALL BE CONSOLIDATED BY PLODDING OR VIBRATING DURING POURING.
  - AT EACH LIFT "INSPECTION" OPENINGS SHALL BE PROVIDED AT THE BOTTOMS OF CELLS TO BE FILLED. THE CLEANOUTS SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING SEALED.
  - SEE TYPICAL DETAIL ELEVATION M04.

**NON LOAD-BEARING MASONRY PARTITION REINFORCING SCHEDULE M07A**

INTERIOR PARTITIONS IN BASEMENT (DIFFERENTIAL PRESSURE 0.25kPa)				INTERIOR PARTITIONS ABOVE GRADE (DIFFERENTIAL PRESSURE 0.5kPa)			
BLOCK	MAXIMUM HEIGHT	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT	BLOCK	MAXIMUM HEIGHT	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT
140	3000 (10'-0")		9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE	140	NA		9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE
190	4000 (14'-8")	UNREINFORCED		190	3000 (10'-0")	UNREINFORCED	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE
240	6800 (19'-4")			240	3800 (12'-8")		

INTERIOR PARTITIONS IN BASEMENT (DIFFERENTIAL PRESSURE 0.25kPa)				INTERIOR PARTITIONS ABOVE GRADE (DIFFERENTIAL PRESSURE 0.5kPa)			
BLOCK	MAXIMUM HEIGHT	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT	BLOCK	MAXIMUM HEIGHT	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT
140	4200 (13'-9")	15 @ 1200 (4'-0") o/c	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE	140	3400 (11'-4")	15 @ 1200 (4'-0") o/c	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE
190	5600 (18'-8")			190	5200 (17'-4")		
240	6800 (22'-8")	20 @ 1200 (4'-0") o/c		240	6400 (21'-4")	20 @ 1200 (4'-0") o/c	

- NOTES:**
- MINIMUM 600mm WIDE PIER BETWEEN ADJACENT OPENINGS. PIER MUST BE CONTINUOUS FROM BASE OF PARTITION TO LATERAL SUPPORT POINT AT TOP OF PARTITION.
  - AVERAGE OPENING SIZE ON EITHER SIDE OF PIER LIMITED TO 1400mm FOR REINFORCED PARTITIONS
  - FOR UNREINFORCED PARTITIONS, MAX. OPENING WIDTH MUST NOT EXCEED PIER LENGTH.
  - REINFORCING SCHEDULE APPLIES FOR PARTITIONS WALLS UP TO 100mm ABOVE GRADE.
  - PARTITION WALL REINFORCING DOES NOT APPLY FOR SHAFTS WHERE PRESSURES EXCEED NOTED DIFFERENTIAL PRESSURES NOTED ABOVE.
  - IF ANY OF THESE CONDITIONS ARE NOT MET, CONTRACTOR TO PROVIDE ENGINEER STAMPED SHOP DRAWINGS OF REINFORCING FOR CONSULTANT REVIEW.
  - REFER TO TD NOTE FOR LATERAL SUPPORT DETAILS FOR CONCRETE CONSTRUCTION, M14 FOR STEEL CONSTRUCTION. LATERAL SUPPORTS TO BE SPACED AT 10' UNLESS NOTED OTHERWISE. ALLOWABLE PARTITION HEIGHTS ARE BASED ON 15MPa NORMAL DENSITY BLOCK w/ TYPE 'S' MORTAR.

**YORK REGION PRS #32**  
 53 JACOB KEEFFER PARKWAY, CITY OF VAUGHAN



**TYPICAL DETAILS**

DATE: **JULY 2023**

SCALE: **1 : 1** DRAWN BY: **AE** CHECKED BY: **JG**

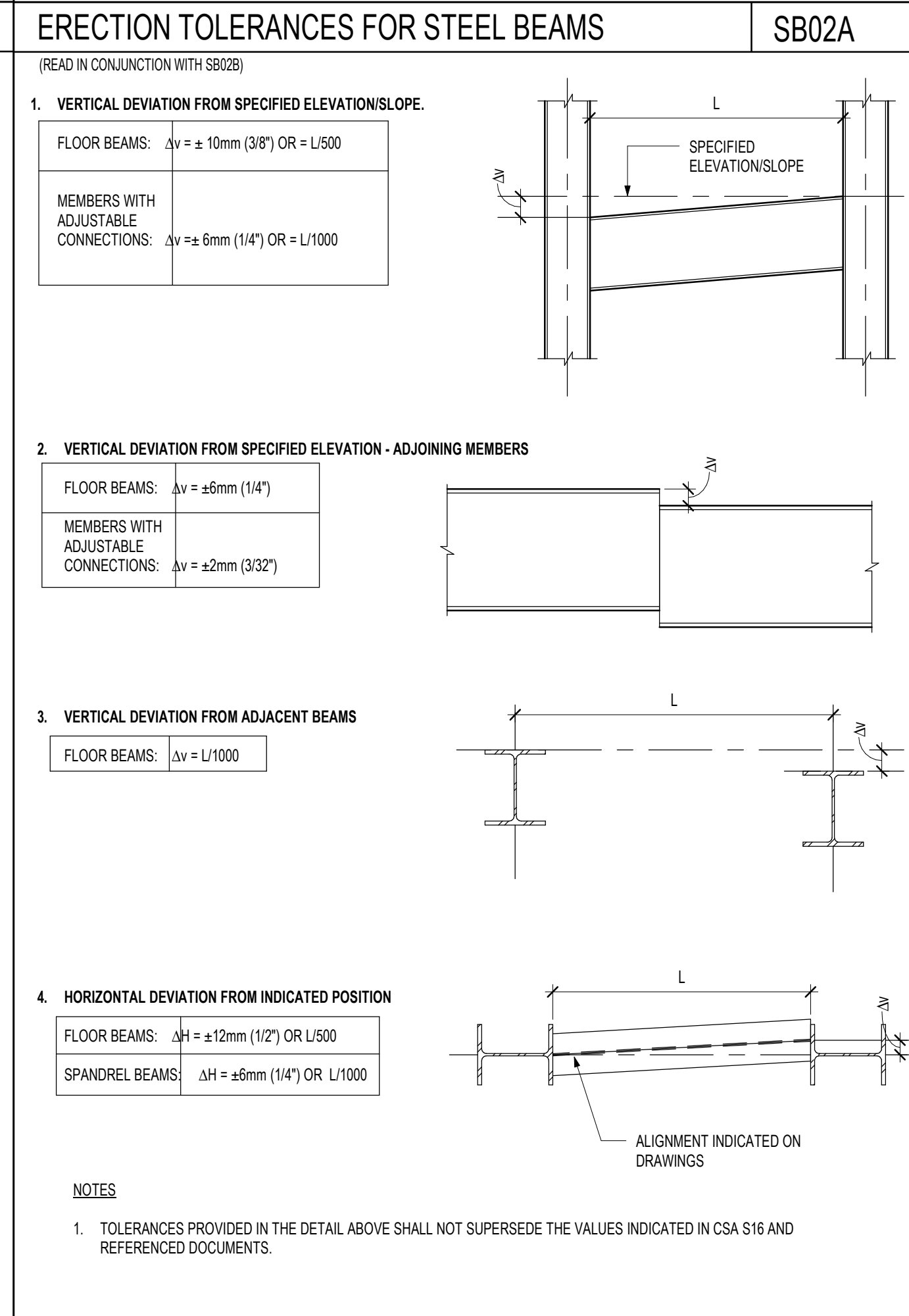
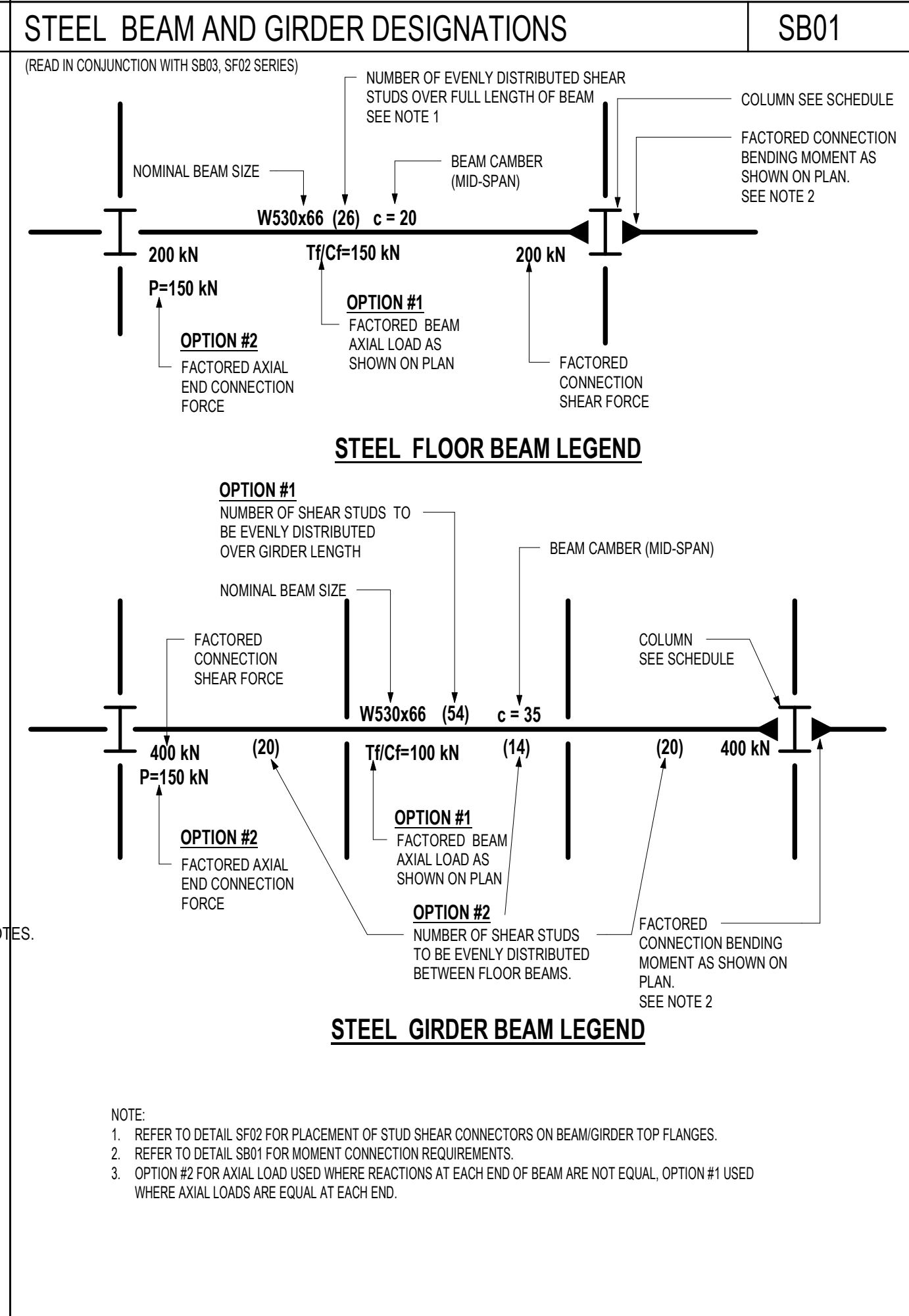
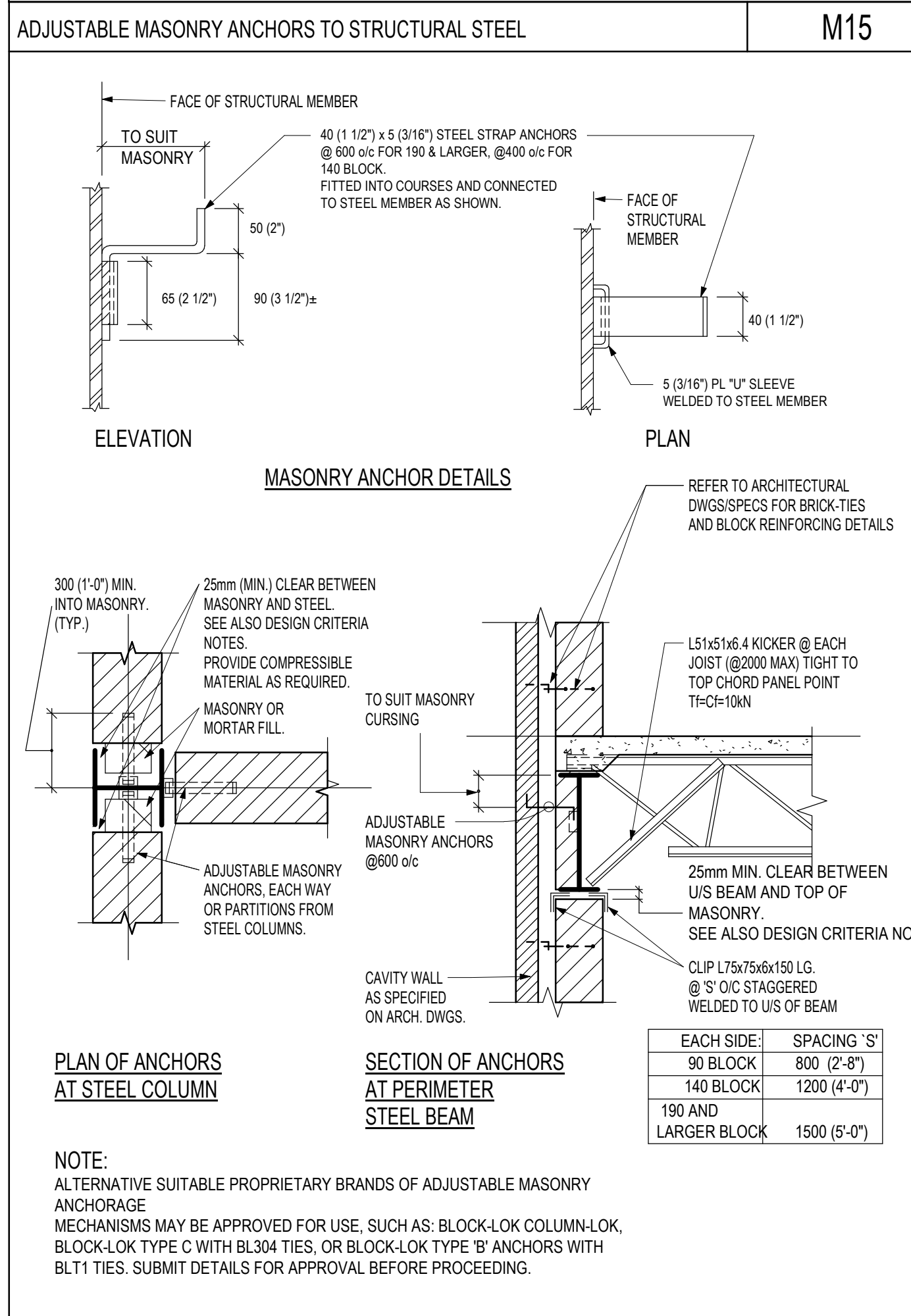
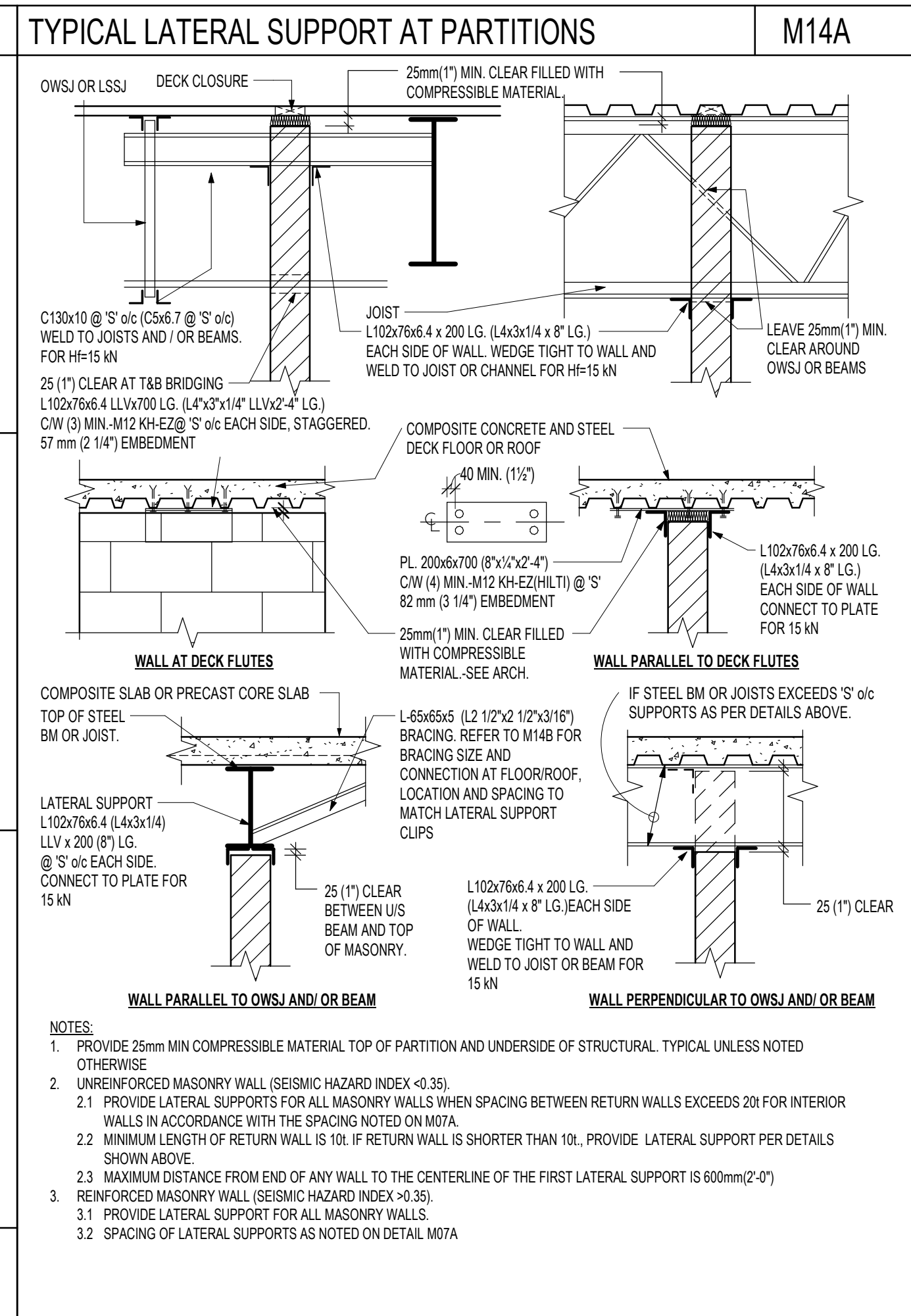
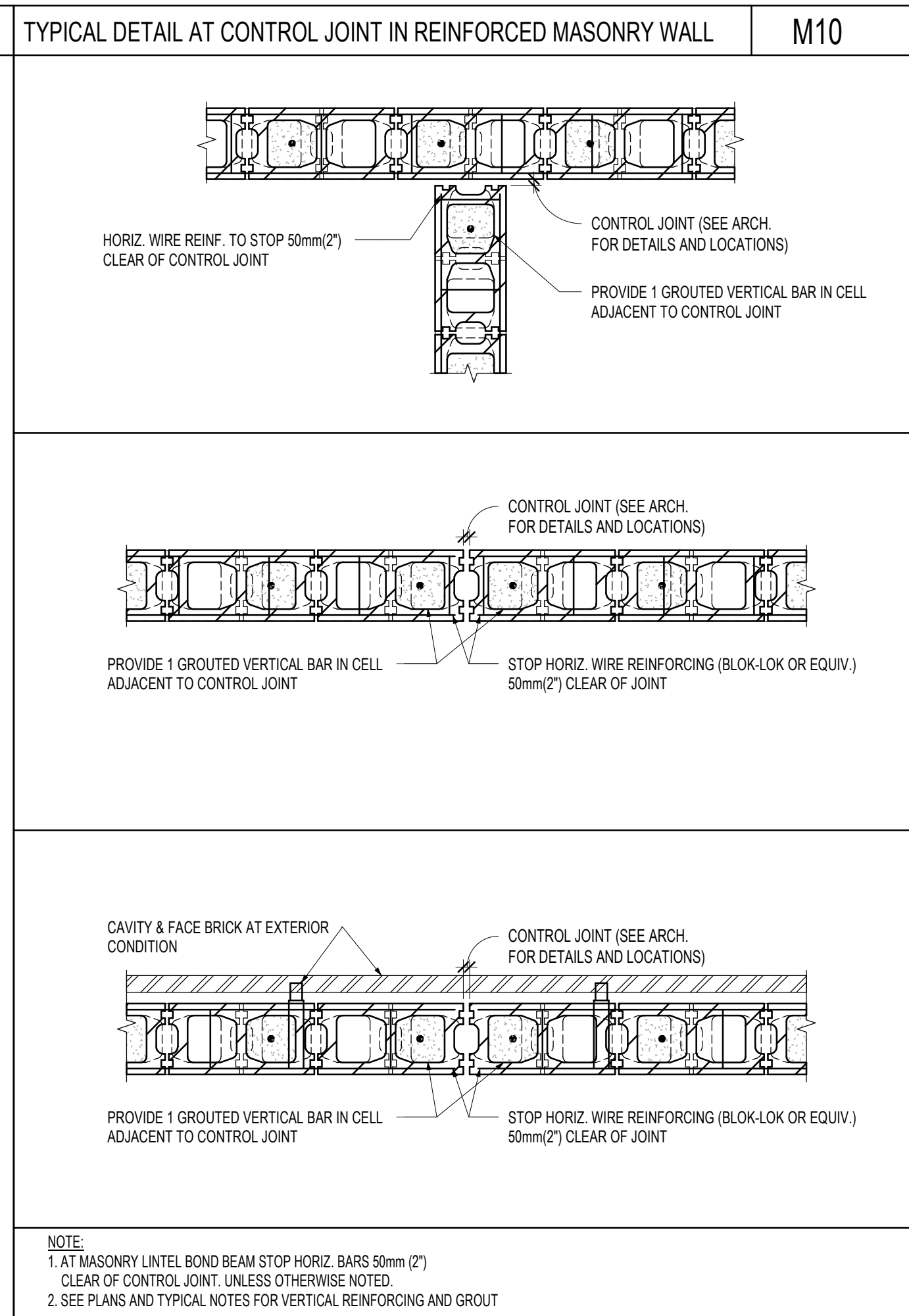
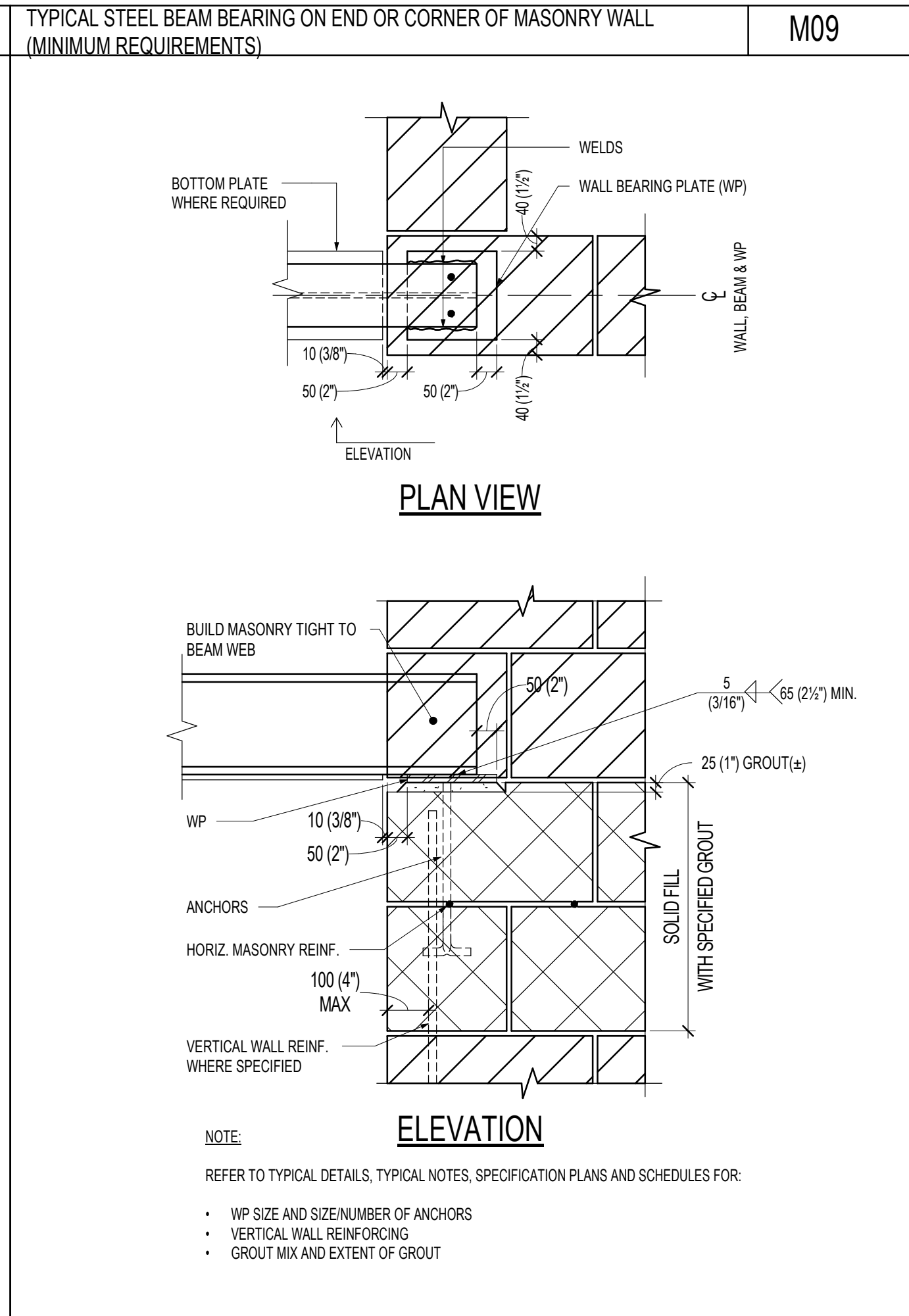
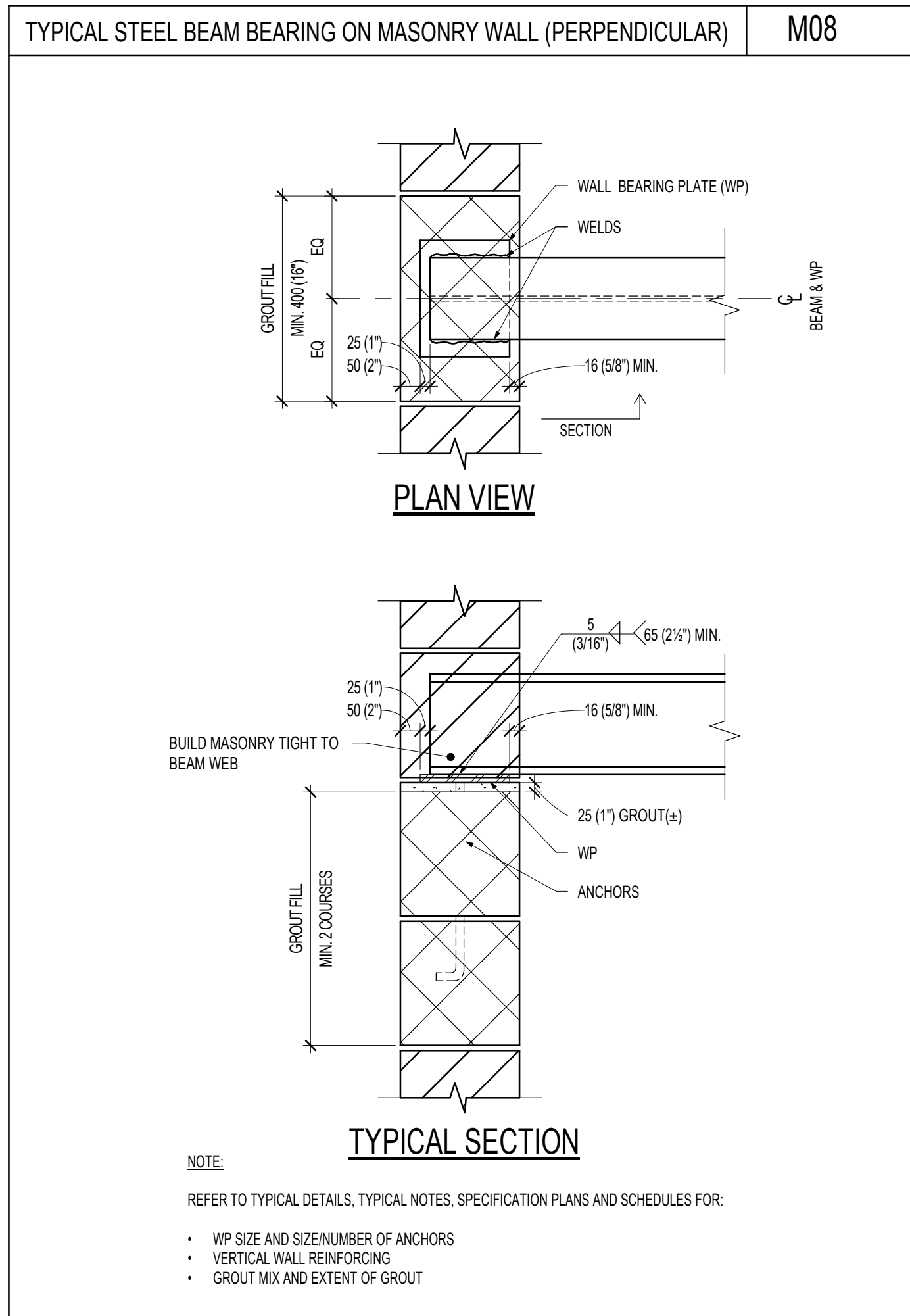
DWG STATUS: **IFC**

PROJECT NO: **20160759**

DRAWING NO: **S5-04** REVISION: **5**

**ISSUE OR REVISION**

NO.	ISSUED FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 90% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23



**YORK REGION PRS #32**  
 PROJECT:  
 CLIENT:  
**53 JACOB KEEFFER PARKWAY, CITY OF VAUGHAN**



THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.



DWG TITLE  
**TYPICAL DETAILS**

ORIENTATION

DATE  
**JULY 2023**

SCALE: **1 : 1** DRAWN BY: **AE** CHECKED BY: **JG**

DWG STATUS: **IFC**

PROJECT NO.: **20160759**

DRAWING NO.: **S5-05** REVISION: **5**

2023-07-16 09:39 AM

**ISSUE OR REVISION**

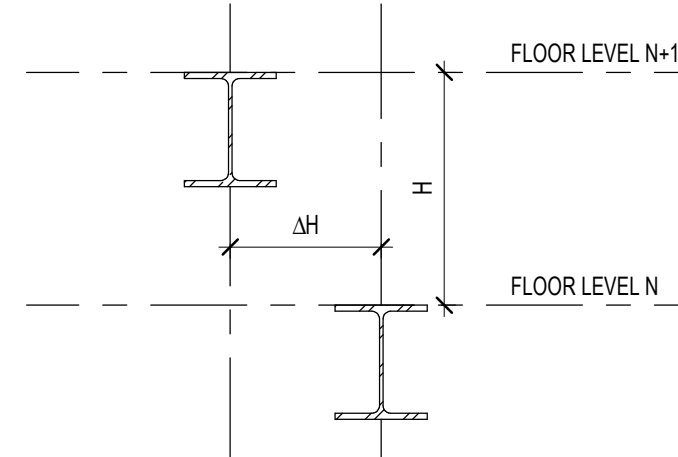
NO.	ISSUED FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 90% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

**ERECTION TOLERANCES FOR STEEL BEAMS** SB02B

(READ IN CONJUNCTION WITH SB802A)

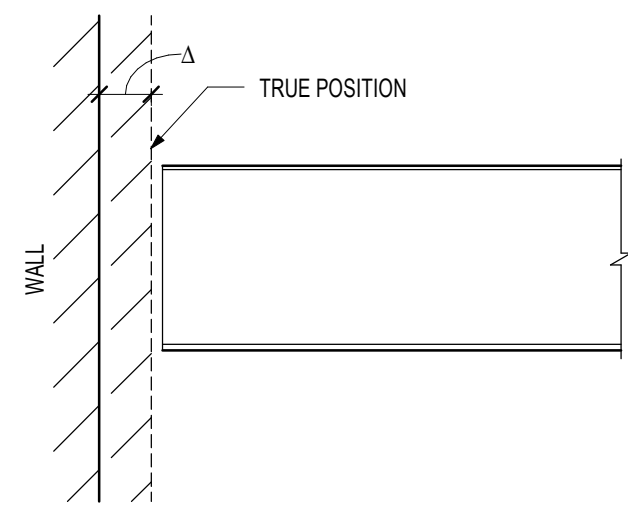
5. HORIZONTAL DEVIATION FROM ADJACENT BEAMS

FOR H < 3000mm (10'-0")	$\Delta H = \pm 5mm$ (3/16")
FOR H > 3000mm (10'-0")	$\Delta H = H/600$



6. HORIZONTAL DEVIATION FROM SUPPORT POINT AT VERTICAL WALL

$\Delta = \pm 25mm$  (1")

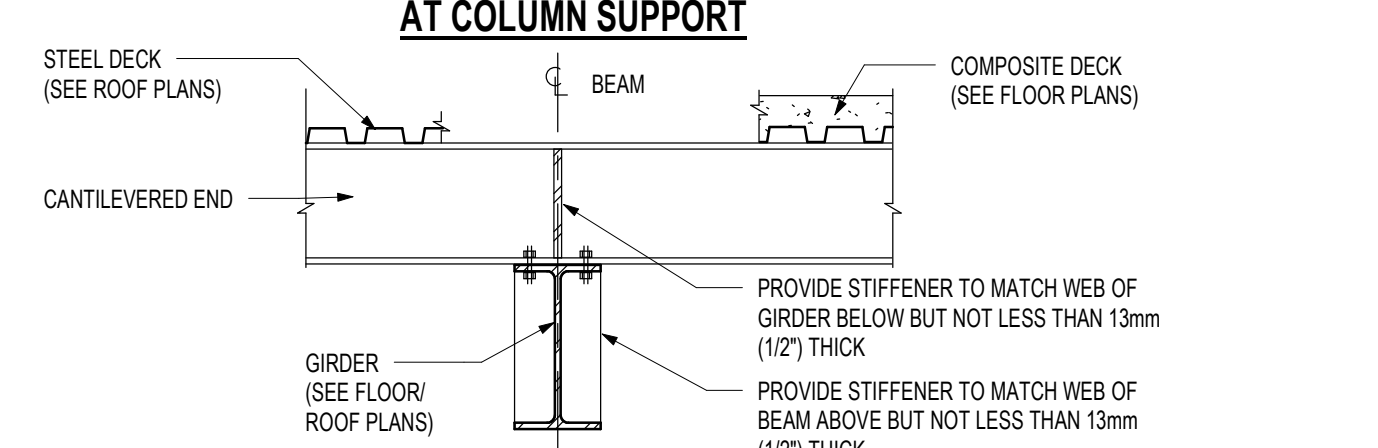
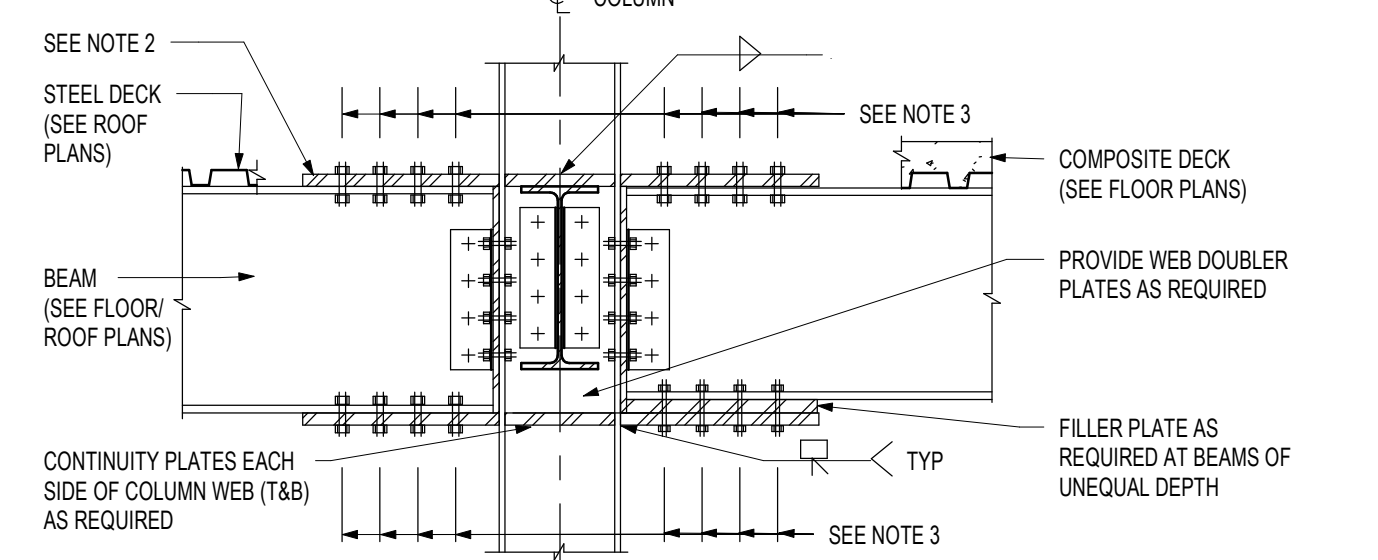
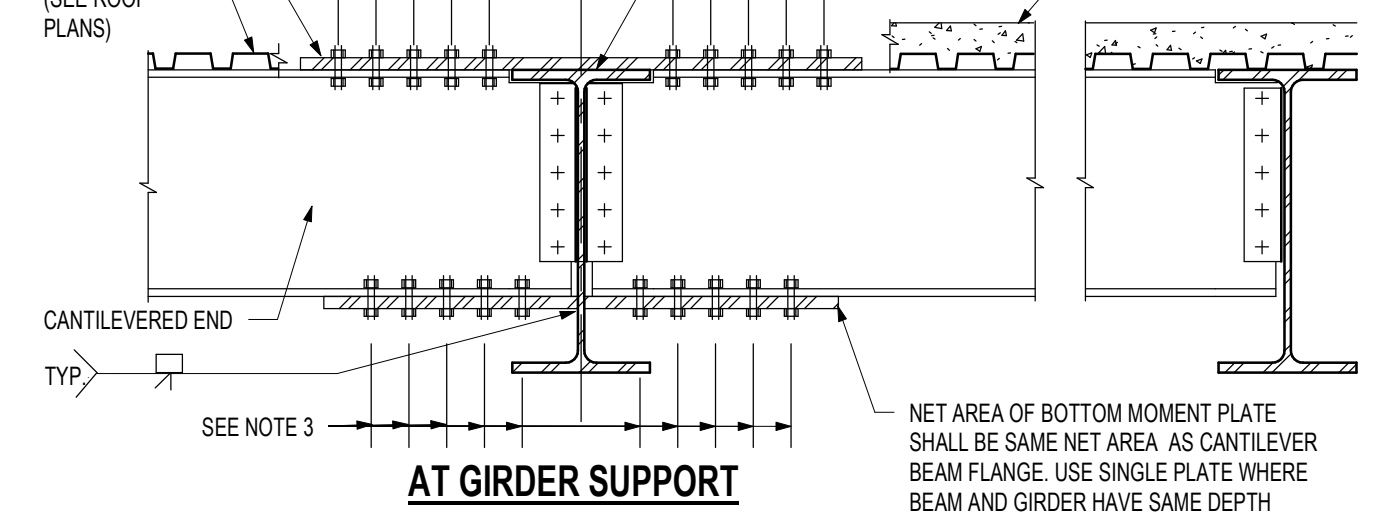


**NOTES**

- TOLERANCES PROVIDED IN THE DETAIL ABOVE SHALL NOT SUPERSEDE THE VALUES INDICATED IN CSA S16 AND REFERENCED DOCUMENTS.
- FOR ERECTION TOLERANCES OF SPECIAL MEMBERS SUCH AS CRANE GIRDERS, CRANE RAILS AND MONORAIL BEAMS, SEE THE APPROPRIATE CODE RECOMMENDATIONS.
- DEVIATIONS SHOWN FOR W-SHAPES ALSO APPLY TO BUILT-UP SECTIONS, HOLLOW STRUCTURAL SECTIONS, CHANNEL AND ANGLE SHAPES.
- ERECTION TOLERANCES ARE TO BE MEASURED IN CALM WEATHER. RECORD AMBIENT TEMPERATURE AT TIME TOLERANCES ARE VERIFIED.

**STEEL BEAM AND GIRDER MOMENT CONNECTIONS** SB03

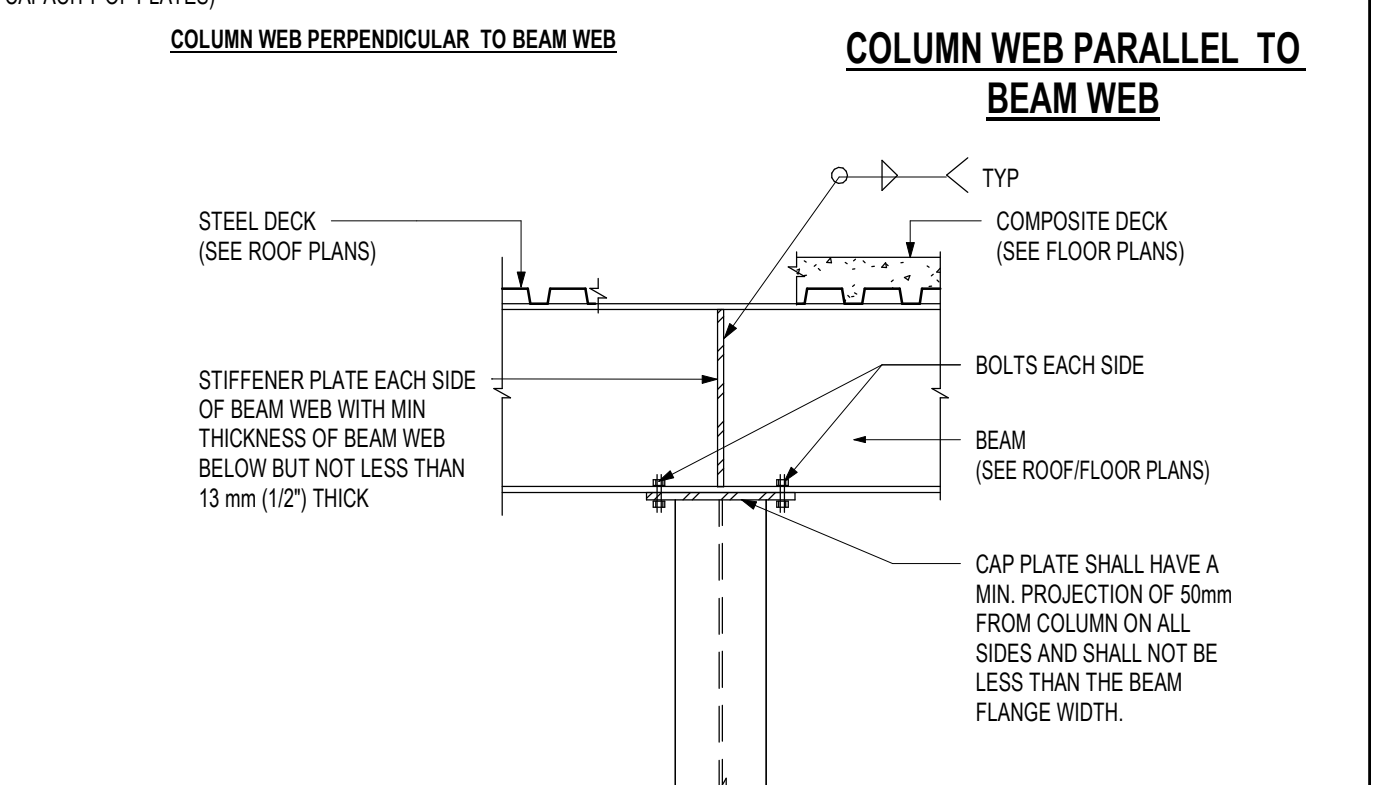
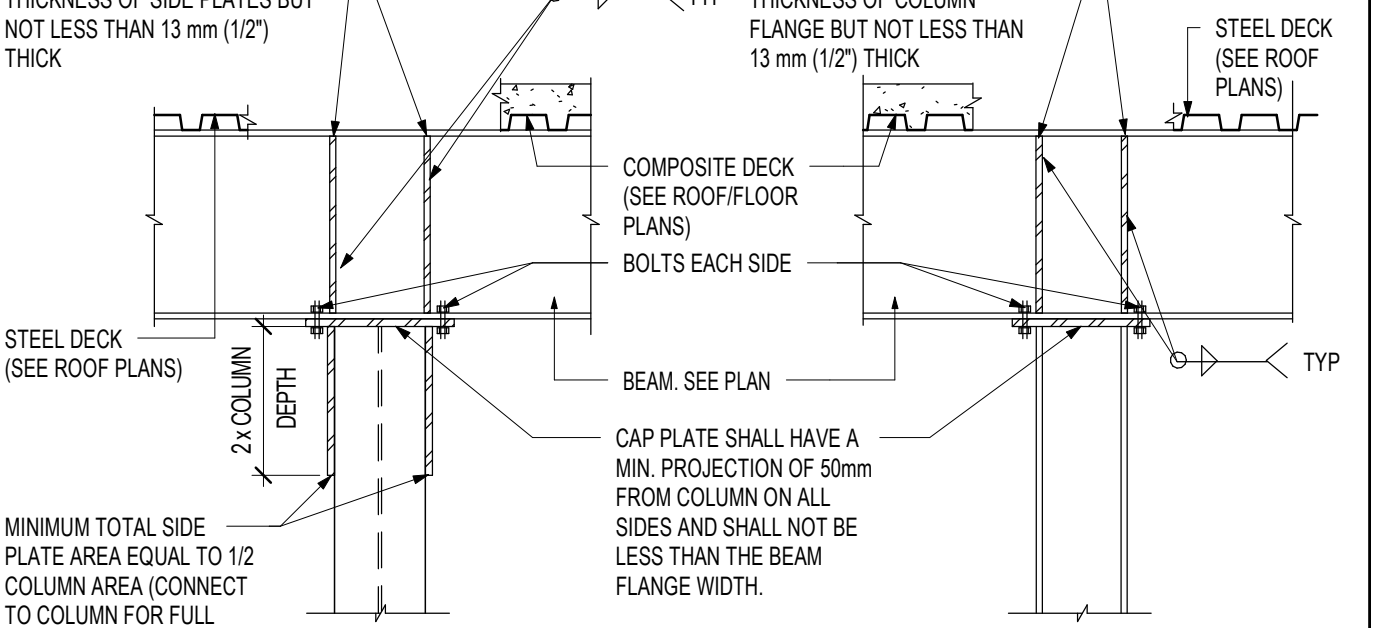
(READ IN CONJUNCTION WITH SB802A)



- NOTE:**
- THE STRUCTURAL STEEL CONTRACTOR IS SOLELY RESPONSIBLE FOR THE FINAL CONNECTION CONFIGURATION, DESIGN AND DETAILING OF THE CONNECTION DETAILED DESIGN CALCULATIONS SHALL BE SUBMITTED FOR REVIEW WITH THE SUBMISSION OF THE SHOP DRAWINGS.
  - PROVIDE DECK SUPPORT IN AREA OF MOMENT CONNECTION AS REQUIRED.
  - PRETENSIONED BOLTS IN SLIP CRITICAL CONNECTION TO DEVELOP FULL MOMENT CAPACITY OF BEAM, UNLESS NOTED OTHERWISE.

**STEEL BEAM BEARING ON STEEL COLUMN** SB04

(READ IN CONJUNCTION WITH SB01B, SB802)



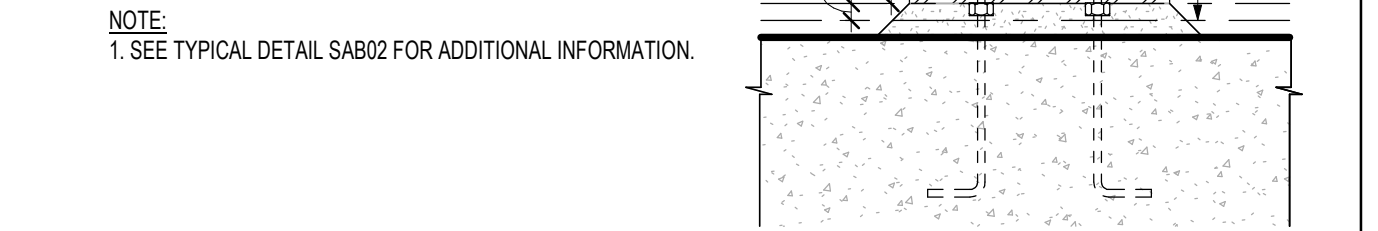
- NOTES:**
- THE DESIGN OF THE STRUCTURAL STEEL CONNECTIONS ARE THE RESPONSIBILITY OF THE STEEL CONTRACTOR. DESIGN CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS FOR REVIEW. ANY ALTERATIONS TO THE BASIC CONFIGURATIONS SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL CONSULTANT.
  - PROVIDE SQUARED MILL END OF COLUMNS MEETING CODE REQUIREMENTS FOR TOLERANCE LIMIT.

**ERECTION TOLERANCES FOR STEEL COLUMNS** SC01A

(READ IN CONJUNCTION WITH SC01B, SB802)

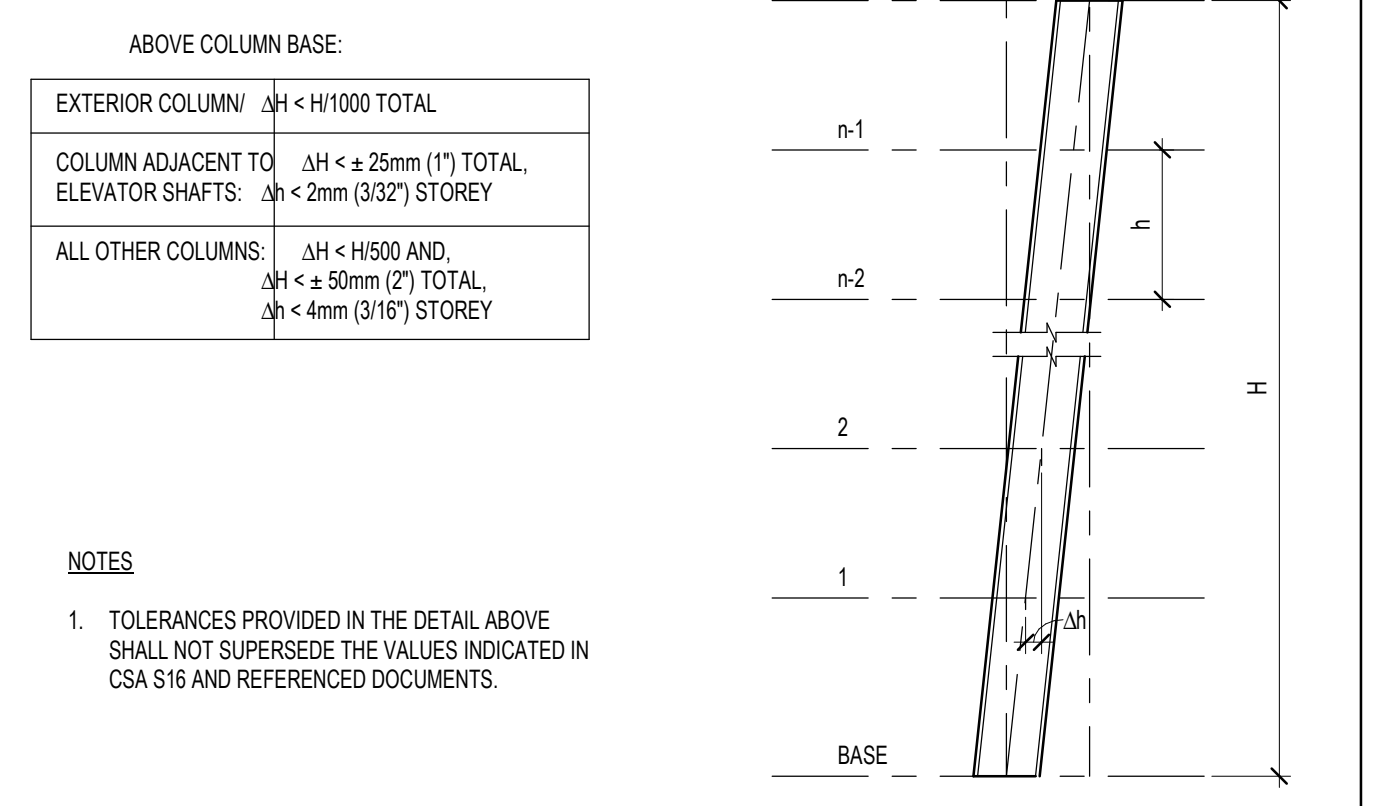
1. VERTICAL DEVIATION FROM SPECIFIED ELEVATION.

ANCHOR BOLTS:	$\Delta P = + 30mm$ (1-3/16") $- 5mm$ (3/16")
	$\Delta H = 3mm$ (1/8")
BASE PLATE:	$\Delta V = \pm 5mm$ (3/16") SIMPLE CONSTRUCTION
	$= \pm 3mm$ (1/8") CONTINUOUS CONSTRUCTION



2. HORIZONTAL DEVIATION FROM SPECIFIED POSITION.

AT COLUMN BASE:	$\Delta x / \Delta y = \pm 5mm$ (3/16")
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- NOTES:**
- TOLERANCES PROVIDED IN THE DETAIL ABOVE SHALL NOT SUPERSEDE THE VALUES INDICATED IN CSA S16 AND REFERENCED DOCUMENTS.

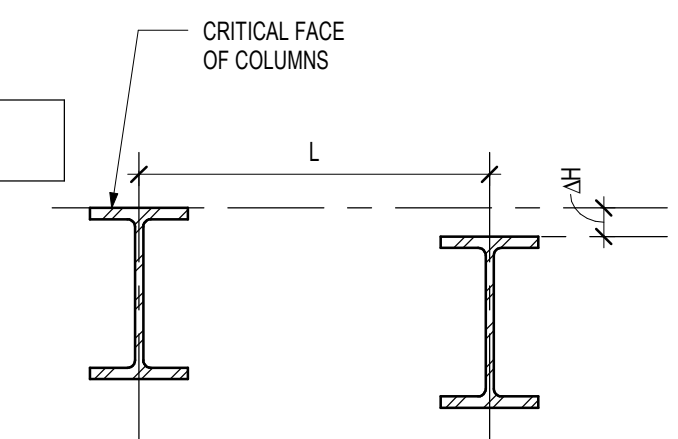
**ERECTION TOLERANCES FOR STEEL COLUMNS** SC01B

(READ IN CONJUNCTION WITH SC01A)

3. HORIZONTAL DEVIATION FROM ADJACENT COLUMNS.

BASE LEVEL OR SPLICE LEVEL:  
OR L/1000

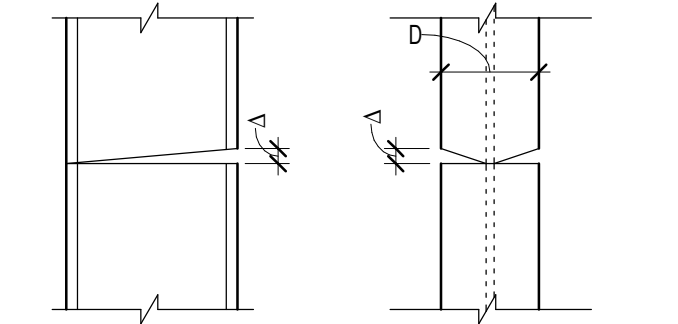
$\Delta H = 10mm$  (3/8")



4. GAP BETWEEN BEARING SURFACES.

$\Delta_{MAX} = 6mm$  (1/4")

\* PACK GAP WITH NON TAPERED STEEL SHIMS UNTIL AT LEAST 85% OF THE CROSS SECTIONAL AREA IS BEARING.

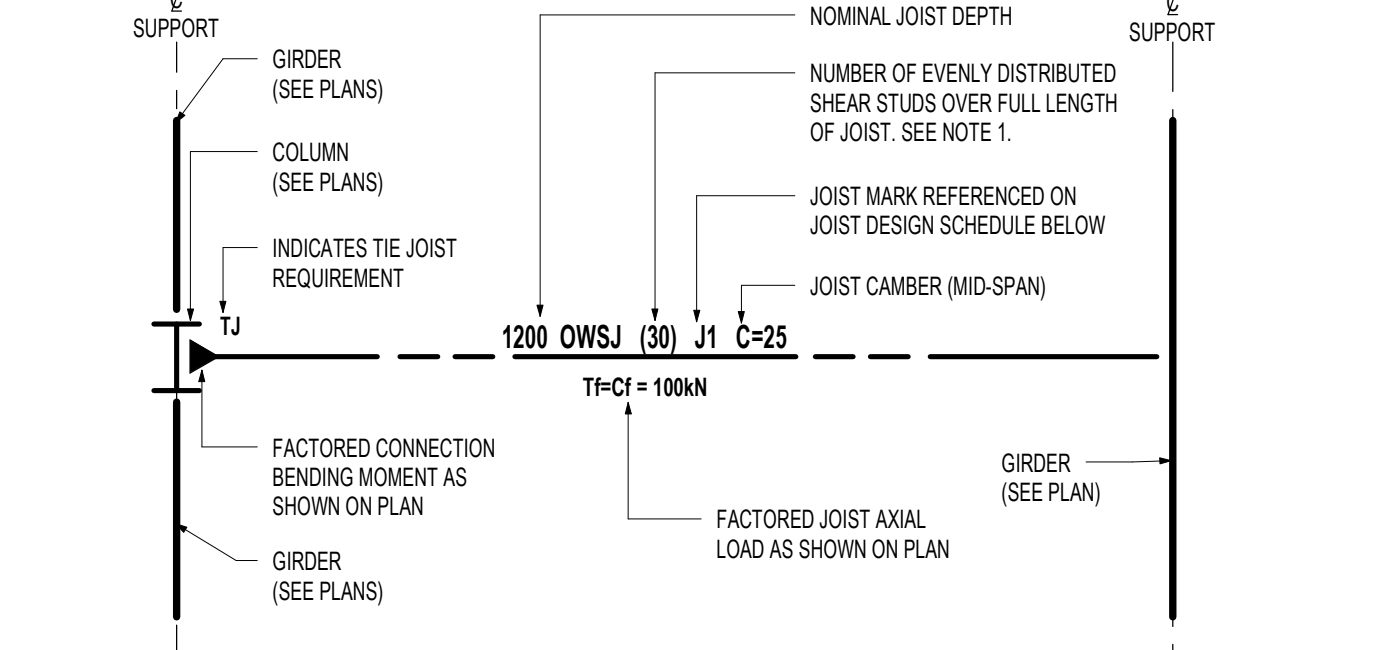


**NOTES**

- TOLERANCES PROVIDED IN THE DETAIL ABOVE SHALL NOT SUPERSEDE THE VALUES INDICATED IN CSA S16 AND REFERENCED DOCUMENTS.
- FOR ERECTION TOLERANCES OF SPECIAL MEMBERS SUCH AS CRANE GIRDERS, CRANE RAILS AND MONORAIL BEAMS, SEE THE APPROPRIATE CODE RECOMMENDATIONS.
- DEVIATIONS SHOWN FOR W-SHAPES ALSO APPLY TO BUILT-UP SECTIONS, HOLLOW STRUCTURAL SECTIONS, CHANNEL AND ANGLE SHAPES.
- ERECTION TOLERANCES ARE TO BE MEASURED IN CALM WEATHER. RECORD AMBIENT TEMPERATURE AT TIME TOLERANCES ARE VERIFIED.

**OWSJ DESIGNATIONS AND DESIGN INFORMATION** SJ01A

(READ IN CONJUNCTION WITH SF AND SJ SERIES DETAILS)



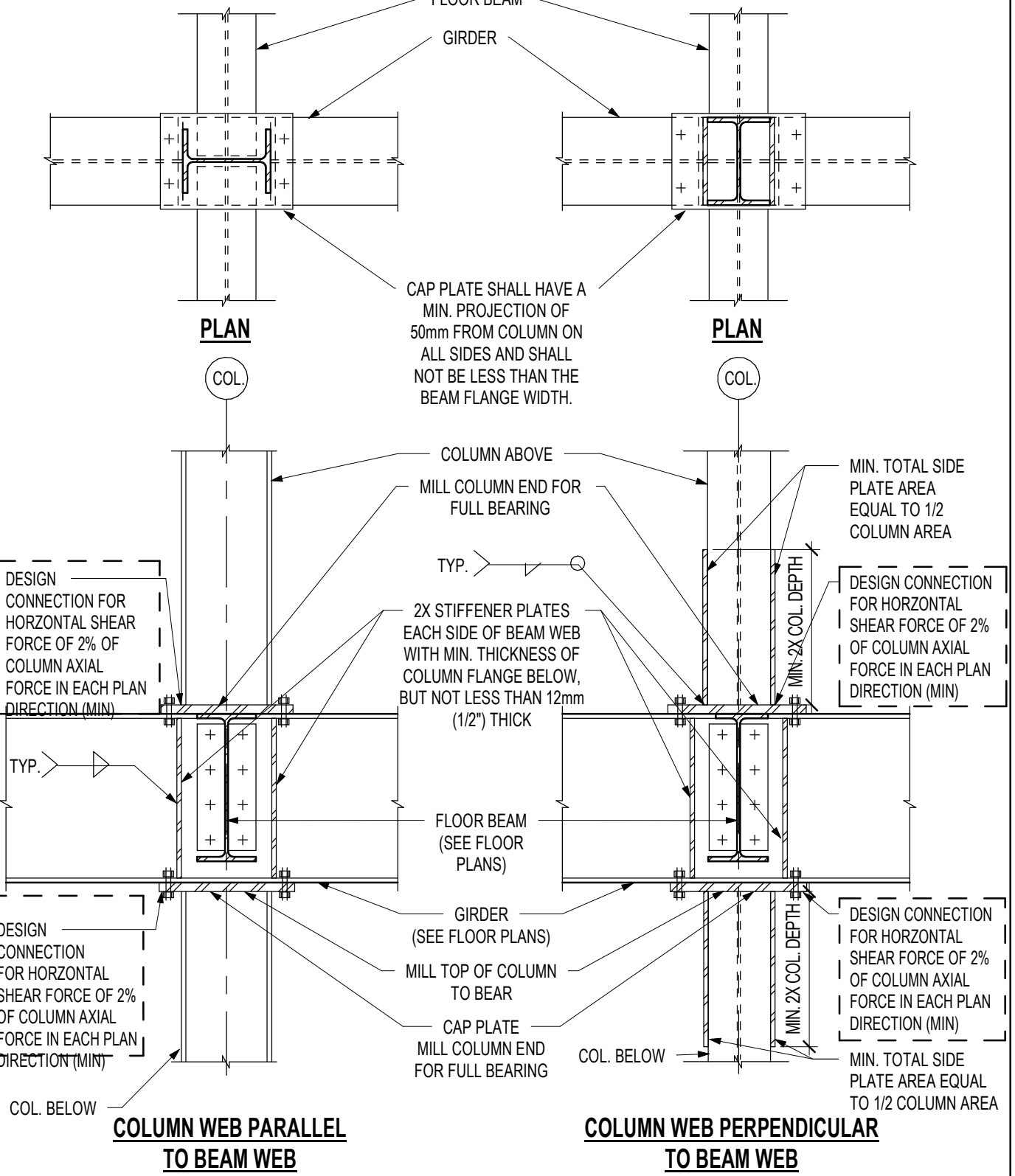
**JOIST DESIGN SCHEDULE**

MARK	ADDITIONAL JOIST LOADING REQUIREMENTS (READ IN CONJUNCTION WITH ROOF LOADING SCHEDULE)			ADDITIONAL GEOMETRIC REQUIREMENTS		
	TYPE	LOCATION	INFORMATION	ADDITIONAL NOTES	STIFFNESS AND SERVICEABILITY	GEOMETRIC VARIATIONS

- NOTES:**
- REFER TO SF SERIES DETAILS FOR PLACEMENT OF STUD SHEAR COLLECTORS ON JOIST TOP CHORDS.

**STEEL COLUMN BEARING THROUGH BEAM** SC06

(READ IN CONJUNCTION WITH SC01B, SB802)



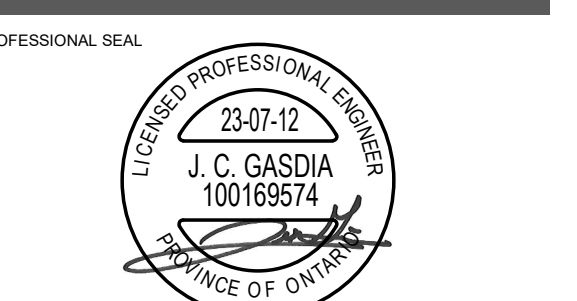
- NOTES:**
- DETAILS ARE REPRESENTATIVE ONLY. THE DESIGN OF THE STRUCTURAL STEEL CONNECTIONS ARE THE RESPONSIBILITY OF THE STEEL CONTRACTOR. DESIGN CALCULATIONS SHALL BE SUBMITTED ALONG WITH THE SHOP DRAWINGS FOR REVIEW. ANY ALTERATIONS TO THE BASIC CONFIGURATIONS SHALL BE SUBMITTED FOR REVIEW BY THE STRUCTURAL CONSULTANT.

**YORK REGION PRS #32**  
 PROJECT:  
 CLIENT:  
 53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN



THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.

**Salas O'Brien**  
 238 Sheppard Ave. E. Suite No. 1100  
 Toronto, ON M2J 8B8  
 Stephenson Engineering, a company of Salas O'Brien



DWG TITLE: **TYPICAL DETAILS**

ORIENTATION:

DATE: **JULY 2023**

SCALE: **1:1** DRAWN BY: **AE** CHECKED BY: **JG**

DWG STATUS: **IFC**

PROJECT NO.: **20160759**

DRAWING NO.: **S5-06** REVISION: **5**

**ISSUE OR REVISION**

NO.	ISSUED FOR	DATE
1	ISSUED FOR 60% REVIEW	AUG. 03/21
2	ISSUED FOR 80% REVIEW	SEP. 20/21
3	ISSUED FOR PERMIT	JAN. 17/22
4	ISSUED FOR TENDER	DEC. 20/22
5	ISSUED FOR CONSTRUCTION	JULY 12/23

**YORK REGION PRRS #32**

53 JACOB KEFFER PARKWAY, CITY OF VAUGHAN

PROJECT:

CLIENT:



THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO COMMENCEMENT OF THE WORK. ANY DISCREPANCIES ARE TO BE REPORTED TO THE CONSULTANT.



2258 Sheppard Ave. E. Suite No. 1100  
Toronto, ON M2J 8S8

PROFESSIONAL SEAL



DWG TITLE

**TYPICAL DETAILS**

ORIENTATION

DATE **JULY 2023**

SCALE **1:1** DRAWN BY **AE** CHECKED BY **JG**

DWG STATUS: **IFC**

PROJECT NO. **20160759**

DRAWING NO. **S5-07** REVISION **5**

### OWSJ ROOF FRAMING DETAILS SJ01B

NOTES

- THE REPRESENTATIVE BRIDGING SHOWN DOES NOT INCLUDE ERECTION OR CONSTRUCTION BRIDGING WHICH MAY BE REQUIRED BASED ON PROJECT SPECIFIC CONDITIONS.
- EACH LINE OF BRIDGING SHALL BE ADEQUATELY ANCHORED AT EACH END TO BRACED WALLS OR TO MAIN COMPONENTS OF THE STRUCTURAL FRAME. IF PRACTICABLE, IF NOT PRACTICABLE, DIAGONAL AND HORIZONTAL BRIDGING SHALL BE PROVIDED IN COMBINATION BETWEEN ADJACENT JOISTS NEAR THE ENDS OF BRIDGING LINES.
- SIZE AND SPACING OF BRIDGING SHALL BE AS REQUIRED BY THE ONTARIO BUILDING CODE (LATEST EDITION). BRIDGING INDICATED ON THE STRUCTURAL DRAWINGS TO BE CONSIDERED AS A REPRESENTATIVE MINIMUM ONLY.
- BRIDGING SHALL BE COMPLETELY INSTALLED BEFORE ANY CONSTRUCTION LOADS ARE PLACED ON THE JOINTS.
- ALL BRIDGING SHALL BE ADEQUATELY CONNECTED TO THE JOIST CHORDS BY WELD OR BY APPROVED MECHANICAL MEANS, CAPABLE OF RESISTING AN AXIAL FORCE OF AT LEAST 500 lbs. (2.22 kN), OR AS NOTED IN SECTIONS OR TYPICAL DETAILS.

### OWSJ SUPPORTING DECKING SJ01C

**CASE 1: STEEL BEAM SUPPORT**

**CASE 2: STEEL BEAM SUPPORT**

**CASE 3: MASONRY WALL SUPPORT**

**CASE 4: MASONRY WALL SUPPORT**

NOTES

- FABRICATION AND ERECTION OF O.W.S.J. SHALL CONFORM TO THE REQUIREMENTS OF THE ONTARIO BUILDING CODE (LATEST EDITION).
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS WHEN PLACING DECKING OVER O.W.S.J. TO AVOID LATERAL DEFLECTION AND TWISTING OF JOISTS. THIS APPLIES PARTICULARLY TO FREE ENDS OF JOINT RUNS.
- METAL DECK SHALL BE INSTALLED DIRECTLY ON TOP OF JOISTS WITH FLAT TOP CHORDS ONLY.
- EACH LINE OF BRIDGING SHALL BE ADEQUATELY ANCHORED AT EACH END TO STURDY WALLS OR TO MAIN COMPONENTS OF THE STRUCTURAL FRAME. IF PRACTICABLE, IF NOT PRACTICABLE, DIAGONAL AND HORIZONTAL BRIDGING SHALL BE PROVIDED IN COMBINATION BETWEEN ADJACENT JOISTS NEAR THE ENDS OF BRIDGING LINES.
- SIZE AND SPACING OF BRIDGING SHALL BE AS REQUIRED BY THE ONTARIO BUILDING CODE (LATEST EDITION). BRIDGING INDICATED ON THE STRUCTURAL DRAWINGS TO BE CONSIDERED AS A REPRESENTATIVE MINIMUM ONLY.
- BRIDGING SHALL BE COMPLETELY INSTALLED BEFORE ANY CONSTRUCTION LOADS ARE PLACED ON THE JOINTS.
- ALL BRIDGING SHALL BE ADEQUATELY CONNECTED TO THE JOIST CHORDS BY WELD OR BY APPROVED MECHANICAL MEANS, CAPABLE OF RESISTING AN AXIAL FORCE OF AT LEAST 500 lbs. (2.22 kN), OR AS NOTED IN SECTIONS OR TYPICAL DETAILS.
- WHEN BRIDGING IS INTERRUPTED BY OPENINGS THROUGH DECKING OR BY OUCTWORK, PROVIDE A COMBINATION OF HORIZONTAL AND DIAGONAL BRIDGING (AS NOTE NO.5) IN FIRST BAYS BETWEEN JOINTS EACH SIDE OF INTERRUPTION.
- ALTERNATIVE DETAILS ARE TO BE SUBMITTED FOR COMMENT BEFORE PROCEEDING.
- IN CASE OF UNBALANCED JOIST REACTIONS ON SUPPORTING STRUCTURE (BEAMS, TRUSSES, WALLS) THE JOISTS ARE TO BE DESIGNED AND/OR STAGGERED SO THAT THEIR RESULTANT REACTIONS ARE LOCATED AT THE CENTRELINE OF SUPPORTING STRUCTURE.
- REFER TO PLANS AND SR09 FOR SHEAR CONNECTION DETAILS WHERE APPLICABLE. ALSO SEE PLANS AND SR03 FOR CHANGE OF DECK DIRECTIONS DETAILS.
- JOIST SHOES TO BE CONNECTED TO SUPPORTING BEAMS WITH THE FOLLOWING FILLET WELDS:

SUPPORTED AREA	FILLET WELDS
A < 10m <sup>2</sup> (100ft <sup>2</sup> )	2-3mm x 25
A > 10m <sup>2</sup> (100ft <sup>2</sup> )	2-5mm x 40

### OWSJ SUPPORTING DECKING SJ01D

**TIE JOISTS FOR STEEL STRUCTURES**

**TIE JOISTS FOR MASONRY STRUCTURES**

NOTES

- AS A MINIMUM AND UNLESS OTHERWISE NOTED, CENTERED UNDER EACH OWSJ BEARING PROVIDE ONE OF:
  - 3 COURSES OF BRICKS x 400mm (16") LONG MIN.
  - 1 COURSE OF SOLID BLOCK x 400mm (16") LONG MIN.
  - 1 COURSE OF GROUT FILLED BLOCK x 400mm (16") LONG MIN.
  - 1 COURSE OF GROUT FILLED MASONRY UNIT BLOCK x 400mm (16") LONG MIN.
- IN CASE OF UNBALANCED JOIST REACTIONS ON SUPPORTING STRUCTURE (BEAMS, TRUSSES, WALLS) THE JOISTS ARE TO BE DESIGNED AND/OR STAGGERED SO THAT THEIR RESULTANT REACTIONS ARE LOCATED AT THE CENTRELINE OF SUPPORTING STRUCTURE.
- JOIST SHOES TO BE CONNECTED TO SUPPORTING BEAMS WITH THE FOLLOWING FILLET WELDS:

SUPPORTED AREA	FILLET WELDS
A < 10m <sup>2</sup> (100ft <sup>2</sup> )	2-3mm x 25
A > 10m <sup>2</sup> (100ft <sup>2</sup> )	2-5mm x 40

### TIE JOISTS SJ01E

**TIE JOISTS FOR STEEL STRUCTURES**

**TIE JOISTS FOR MASONRY STRUCTURES**

### OWSJ BRIDGING DETAILS SJ02

**DISCONTINUOUS BRIDGING AT OBSTRUCTION / OPENINGS**

**BRIDGING TERMINATION AT WALL**

**BRIDGING TERMINATION AT BEAM (NOT SUBJECT TO TORSION)**

### FREE OPENINGS IN STEEL JOISTS (SEE NOTE 1) SJ03

H	JOIST					
	P	D	S	L	R	
WARREN GEOMETRY						
200	250	110	95	70	150	
250	250	150	120	90	182	
300	305	190	150	110	232	
350	305	220	175	120	258	
MODIFIED WARREN GEOMETRY						
400	610	240	220	140	410	
450	610	320	265	200	420	
500	610	360	290	220	454	
550	610	390	315	240	484	
600	610	420	340	250	512	
650	610	440	350	260	526	
700	610	460	375	270	550	
750	610	490	395	280	572	
800	610	510	410	290	592	
900	610	550	440	310	622	
1,000	610	580	465	320	646	
1,100	650	630	505	340	694	
1,200	700	690	555	380	762	
1,300	800	750	605	410	838	
1,500	900	880	705	480	972	
JOIST GIRDER						
750	600	430	345	240	500	
900	600	500	400	280	564	
1,050	600	560	450	300	616	
1,200	600	610	490	330	658	
1,350	600	650	530	340	694	
1,500	600	680	560	360	726	

**WARREN GEOMETRYs H 350 mm (14 in.)**

**MODIFIED WARREN GEOMETRY ≥ H 400 mm (16 in.)**

NOTES

- THE TABLES ABOVE IS PROVIDED AS PRELIMINARY GUIDANCE FOR CONSULTANTS RUNNING SERVICES THROUGH TRUSSES. IF SERVICES ARE TO BE LOCATED WITHIN THE DEPTH OF THE JOISTS THIS MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEERING DURING THE DESIGN PHASE AND THE JOIST SUPPLIER DURING SHOP DRAWING REVIEW.

### ROOF FRAMING AT OPENINGS IN ROOF DECK SR01

**TYPICAL ROOF OPENINGS IN DECK**

SPAN (mm)	BEAM 1 (B1)		BEAM 2 (B2)	
	SIZE	CONNECTION	SIZE	CONNECTION
0-1500	C100x8	5 kN	C150x8	10 kN
1500-3000	C100x8	10 kN	C150x12	20 kN

**TYPICAL SKYLIGHT OPENINGS IN DECK**

SPAN (mm)	SKYLIGHT OPENING 2	
	SIZE	CONNECTION
0-1500	C100x8	10 kN
1500-3000	C100x8	10 kN

NOTES

- TOP OF ALL TRIMMING STEEL AT UNDERSIDE OF STEEL DECK UNLESS OTHERWISE NOTED.
- OPENINGS FRAMES ARE DESIGNED FOR THE FOLLOWING LOADS (MAX.)
  - DL=1.2 kPa
  - SDL=1.21 kPa
  - SNOW=1.6 kPa
- LOCATION OF ALL MECHANICAL UNITS AND OPENINGS THROUGH ROOF IS BASED ON INFORMATION SHOWN ON MECHANICAL DRAWINGS. THE STRUCTURAL STEEL SUB-CONTRACTOR MUST CONFIRM ALL THESE DIMENSIONS AND SIZES WITH THE MECHANICAL CONTRACTOR.
- O.W.S.J MUST BE DESIGNED FOR ADDITIONAL LOADS FROM MECHANICAL UNITS.
- IF ACTUAL LOCATIONS OR DETAILS VARY FROM THOSE SHOWN, THE STRUCTURAL CONSULTANT MUST BE INFORMED AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH THE WORK.
- THE STRUCTURAL STEEL SUB-CONTRACTOR IS TO SUBMIT ERECTION DRAWINGS TO THE MECHANICAL ENGINEER AND/OR CONTRACTOR FOR APPROVAL OF SIZE AND LOCATION OF OPENINGS FOR MECHANICAL UNITS.

### CHANGE OF DECK DIRECTION DETAILS SR03

**OPTION 1**

**OPTION 2**

PROVIDE AT MINIMUM CONTINUOUS MEMBER BETWEEN OWSJ SHOES TO SUPPORT PERPENDICULAR DECK:

OPTION 1: W150x15 (150 JOIST SHOE), HSS127x127x6.4 (125 JOIST SHOE), HSS102x102x6.4 (100 JOIST SHOE) (UNLESS NOTED OTHERWISE ON PLAN)

OPTION 2: L125x152x6.4 (150 JOIST SHOE), L127x127x6.4 (125 JOIST SHOE), L102x102x6.4 (100 JOIST SHOE) (UNLESS NOTED OTHERWISE ON PLAN)