

Rosie Pitt

From: Nicholas Napoli <nnapoli@adcoconstruct.com.au>
Sent: Wednesday, 9 December 2020 5:39 PM
To: Council@blacktown.nsw.gov.au
Cc: Matthew Wilson; Dean Israel; Rosie Pitt
Subject: Northbourne Public Temp School - SSD 9809 Condition D24 - Structural Inspection Certificate
Attachments: 5.0 GS Carepntry - Roofing & Balustrade Structural Cert R2.pdf; 5.0 - Progroup Certificate - Demountable Piers & Footings R2.pdf; Engineer Drawings - GS Carpentry - Rev5 210920.pdf

Hi,

In reference to SSD 9809 Condition D24 please find attached relevant Structural Inspection Certificates & Drawings for Northbourne Public Temporary School.

SSD Condition D24:

"Structural Inspection Certificate

Prior to the commencement of occupation of the relevant parts of any new or refurbished buildings, a Structural Inspection Certificate or a Compliance Certificate must be submitted to the satisfaction of the Certifier. A copy of the Certificate with an electronic set of final drawings (contact approval authority for specific electronic format) must be submitted to the approval authority and the Council after:

(a) the site has been periodically inspected and the Certifier is satisfied that the structural works is deemed to comply with the final design drawings; and

(b) the drawings listed on the Inspection Certificate have been checked with those listed on the final Design Certificate/s."

Regards,

Nicholas Napoli

Senior Project Engineer

ADCO Constructions

Level 2, 7-9 West Street, North Sydney NSW 2060

T 02 8437 5000 **M** 0428 535 423

W www.adcoconstruct.com.au



SYDNEY
MELBOURNE
BRISBANE
GOLD COAST
PERTH
PEOPLE WHO BUILD



This email is strictly confidential. If you are not the addressee indicated in this message (or responsible for delivery of the message to such person), you may not copy or deliver this message to anyone. In such case, you should destroy this message and notify us immediately. If you or your employer does not consent to email messages of this kind, please advise us immediately. ADCO does not guarantee the integrity of emails or attached files. The views or opinions expressed are the author's own and may not reflect the views or opinions of ADCO.

STRUCTURAL CERTIFICATE

REF: 20-2515.SC1
November 23, 2020

PROJECT: PROPOSED TEMPORARY WORKS

LOCATION: NORTHBOURNE DRIVE, MARSDEN PARK- STAGE 1- SCHOOL

ELEMENTS: TIMBER DECKING, HANDRAILS, BALUSTRADES, TIMBER POSTS, TIMBER STAIRS, STEEL POSTS AND LIGHTWEIGHT AWNING

On the 20th of November 2020 a qualified engineer from our office carried out a visual, non-intrusive inspection to the above-mentioned elements.

We have viewed and inspected the above structural elements during construction, and found them to be generally in accordance with the structural drawings prepared by ZAIT Engineering Solutions Pty Ltd, drawing numbers: **S101(E), S201(E), S202(E), S203(E), S301(E), S302(E), S401(E), S401(E), S402(E), S403(E), S501(F), S502(F) & S503(E)**. Refer to **Appendix A** for photos taken during the inspection.

I certify that all structural elements have been inspected and checked by a qualified Engineer from our office during construction. The above elements have been checked in accordance with the principals of BCA requirements and the following Australian Standards:

- AS1170.0 – Structural Design Actions – General Principles (Amdt 1, 3 & 4),
- AS1170.1 – Structural Design Actions – Permanent, Imposed, and other actions (Amdt 1 & 2),
- AS1170.2 – Structural Design Actions- Wind Actions,
- AS1720.1 – Timber Structures,
- AS3600 – Concrete Structures - 2018
- AS4100 – Steel Structures - 2020

This report is limited to the above structural elements and is based on our site inspection during construction and not to be misconstrued for a Formwork compliance certificate. This report does not comment on masonry walls, articulation joints or any finishes. The document is not intended to reduce the level of responsibility accepted by ZAIT Engineering Solutions Pty Ltd, but rather to ensure all parties who may rely on this report are aware of their responsibilities each assumes in so doing.

Signed _____

David Zaiter
MIEAust CPEng NER RPEQ VBA-EC
Member No. 3804362
Director

APPENDIX A



Figure 1: General photo- Lightweight awning



Figure 2: General photo- Lightweight awning



Figure 3: General photo- Awning bracing.



Figure 4: General photo- Awning bracing.



Figure 5: General photo- Awning bracing.

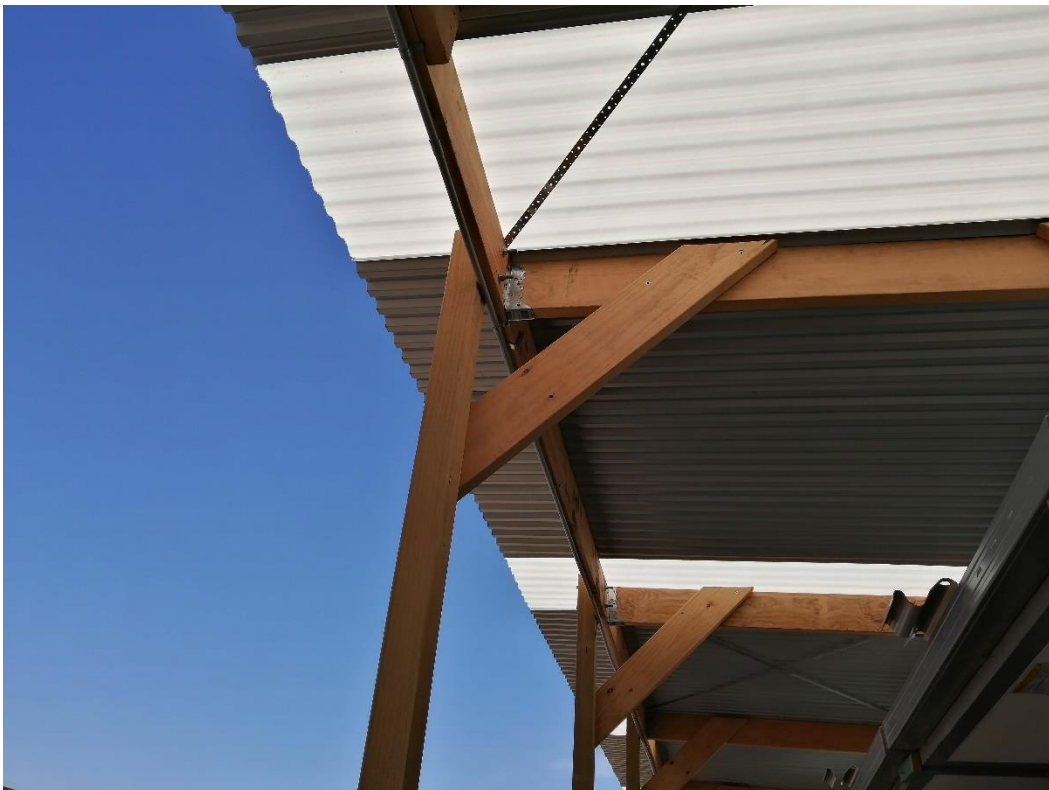


Figure 6: General photo- Awning bracing.



Figure 7: General photo- Lightweight awning



Figure 8: General photo- Lightweight awning



Figure 9: General photo- Lightweight awning



Figure 10: General photo- Lightweight awning



Figure 11: General photo- Awning bracing



Figure 12: General photo- Lightweight awning



Figure 13: General photo- Lightweight awning



Figure 14: General photo- Lightweight awning



Figure 15: General photo- Awning bracing



Figure 16: General photo- Lightweight awning



Figure 17: General photo- Lightweight awning



Figure 18: General photo- Lightweight awning



Figure 19: General photo- Lightweight awning



Figure 20: General photo- Awning bracing



Figure 21: General photo- Awning bracing



Figure 22: General photo- Ramp and handrail



Figure 23: General photo- Lightweight awning



Figure 24: General photo- Awning bracing



Figure 25: General photo- Awning bracing



Figure 26: General photo- Timber decking



Figure 27: General photo- Lightweight awning



Figure 28: General photo- Lightweight awning



Figure 29: General photo- Lightweight awning



Figure 30: General photo- Timber post and awning bracing



Figure 31: General photo- Spantec Cola



Figure 32: General photo- Lightweight awning



Figure 33: General photo- Lightweight awning



Figure 34: General photo- Lightweight awning



Figure 35: General photo- Lightweight awning



Figure 36: General photo- Lightweight awning



Figure 37: General photo- Lightweight awning



Figure 38: General photo- Lightweight awning



Figure 39: General photo- Lightweight awning



Figure 40: General photo- Lightweight awning

SAFE OZ (AUST) PTY LTD

CIVIL, STRUCTURE, DESIGN &
STORMWATER, PROJECT MANAGEMENT CONSULTING ENGINEERS
AUTHORITY APPROVALS

STRUCTURAL CERTIFICATE OF BRICK PIER FOOTING

Ref No: SAFE OZ\C200602\01_R1

Date: 03-December-2020

Attention: Andrew Kramers
Project Manager

Mobile: 0400 922 926

Tel: 029856 9300

Email: Andrew.Kramers@pgm.com.au

Web: www.pgm.com.au



Scope: Structural Certificate of Brick Pier Footings

Project: Pop up School - Demountable Classrooms, Toilets & Canteens Installation

Location: Northbourne Drive Elara Marsden Park Public School

I refer to site visits and visual inspections conducted by this office at above noted project location dated 07 September 2020 & 25 September 2020 to assess the site progress for brick pier footings for pop up school demountable installation of classrooms, toilets and canteens. The site instructions were issued, for which follow up action site photos were received on 29 September 2020 and were found to our satisfaction.

I certify that the work has been executed as per structural design issued for construction from this office, drawings numbers 200602_S0 to S11 dated 03 September 2020. The structural design complies to the relevant clauses and provisions of Building Code of Australia section B (NCC 2019), relevant Australian Standards AS 1170.0:2002, AS 1170.1:2002, AS 3600:2018, AS 3700:2018 and Demountable Piers & Footings Standard Details Drawing.

Design Engineer: Azhar M Nasir

Qualifications: BE, ME, PhD (Civil & Structural Engineering)
MIEAust, CPEng, NER, RPEQ, RBP

Business Address: Safe Australia (SafeOz) Consulting Engineers
Suite 7, 5-7 Ross Street, Parramatta NSW 2150, Australia

Phone: +61 4 3734 2436



Signature

This certificate shall not be construed as relieving any other party of their responsibilities, liabilities or contractual obligations.

GENERAL

- G1 THESE DRAWINGS ARE INCLUDED IN THE 'PARTICULAR OF WORKS' FOR INFORMATION PURPOSES ONLY. THEY ARE DIAGRAMMATIC ONLY AND DO NOT NECESSARILY FORM PART OF THE DEVELOPERS REQUIREMENTS EXCEPT SPECIFIC PROVISIONS TO THE 'FLY SYSTEM' AND OTHER THEATRICAL REQUIREMENTS.
- G2 STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION, ARCHITECTURAL, CIVIL & RELEVANT ENGINEERING SERVICES DOCUMENTS AND WITH OTHER SUCH WRITTEN INSTRUCTIONS AS MAY BE ISSUED.
- G3 ALL DIMENSIONS SHOWN SHALL BE VERIFIED ON SITE. ENGINEERS DRAWINGS MUST NOT BE SCALED.
- G4 DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION & NO PART SHALL BE OVERSTRESSED.
- G5 ALL MATERIALS & WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.
- G6 UNLESS OTHERWISE NOTED ALL LEVELS ARE IN METRES & ALL DIMENSIONS ARE IN MILLIMETRES.
- G7 U.N.O. DENOTES UNLESS NOTED OTHERWISE.
- G8 TERMITE PROTECTION TO AS3660.1

FOOTINGS

- F1 REQUIRED MINIMUM SAFE BEARING CAPACITY OF MATERIAL SHALL BE 150kPa AS PER GEOTECHNICAL REPORT BY DIRT DOCTORS, REF: DD-1170_SI, DATED: 18TH SEPTEMBER 2020.
- F2 THIS SITE HAS BEEN CLASSIFIED AS CLASS M IN ACCORDANCE WITH AS2870 TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER.
- F3 FOUNDATION MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER FOR SAFE BEARING CAPACITY BEFORE CONSTRUCTION OF THE FOOTINGS.

SUBGRADE PREPARATION

- SP1 THE SITE SHALL BE EXCAVATED TO THE LEVELS AS PER REQUIREMENT BY PRINCIPAL CONTRACTOR.
- SP2 ALL STRUCTURAL FILL TO BE APPROVED BY THE GEOTECHNICAL ENGINEER.

CONCRETE

- C1 ALL CONCRETE, CONCRETE WORK AND REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE SPECIFICATION.
- C2 REFER TO INDIVIDUAL CONCRETE DRAWINGS FOR CONCRETE QUALITY
- C3 ALL REINFORCEMENT TO BE AS FOLLOWS:
SYMBOL TYPE
R STRUCTURAL GRADE PLAIN BARS TO AS 1302 (230 MPa)
SL FABRIC TO AS 1304 (500 MPa)
N HOT ROLLED DEFORMED BARS TO AS 1302 (500 MPa)
NOTE THE NUMBER FOLLOWING R OR N INDICATES THE BAR DIAMETER IN MILLIMETRES.
- C4 CLEAR COVER TO REINFORCEMENT (INCLUDING FITMENTS) SHALL BE AS FOLLOWS U.N.O. WHERE NOT SPECIFICALLY DESIGNATED COVER IS TO BE IN ACCORDANCE WITH AS3600.

CONCRETE CHARACTERISTIC STRENGTH F _c	CAST AGAINST FORMWORK NOT EXPOSED TO WATER *	CAST AGAINST GROUND		
		EXPOSED TO WATER OR WEATHER	PROTECTED BY WATERPROOF MEMBRANE	NOT PROTECTED BY MEMBRANE
20	-	60	70	25
20	60	40	50	32
0	40	35	45	40
20	30	30	40	50
20	25	30	40	20

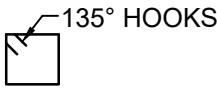
*ADD EXTRA 20mm COVER FOR COLUMNS (U.N.O.)

- C5 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF ANY APPLIED FINISHES.
- C6 BEAM DEPTHS ARE NOTED FIRST AND INCLUDE THE THICKNESS OF THE SLAB IF ANY.
- C7 CONSTRUCTION JOINTS WHERE NOT SHOWN ON THE DRAWINGS SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.
- C8 FORMS SHALL BE CHAMFERED FOR RE-ENTRANT ANGLES AND FILLETED FOR CORNERS. WHERE THESE WILL BE EXPOSED TO VIEW IN THE COMPLETED PROJECT THE FACE OF THE BEVEL IN EACH CASE SHALL BE 25mm WIDE U.N.O.
- C9 NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- C10 DISTRIBUTION BARS TO MAIN REINFORCEMENT IN SLABS SHALL BE N12 AT 250mm CENTERS U.N.O.
- C11 NO REINFORCEMENT SPLICES SHALL BE MADE IN POSITIONS OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
- C12 MINIMUM LAP FOR FABRICS SHALL BE TWO TRANSVERSE WIRES PLUS 25mm MINIMUM LAP LENGTHS FOR DEFORMED BARS INCLUDING DISTRIBUTION REINFORCEMENT SHALL BE AS FOLLOWS U.N.O.

CONCRETE (CON'T)

BAR TYPE AND SIZE	VERTICAL BARS	HORIZONTAL BARS		90° COG LENGTH *	135° or 180° COG LENGTH *
		MORE THAN 300mm OF CONC. BELOW BAR	OTHER LOCATIONS		
12	450	550	450	170	70
16	700	800	700	200	70
20	1000	1250	1000	250	80
24	1200	1500	1200	300	95
28	1400	1750	1400	350	115
32	1550	1900	1550	400	130
36	1700	2150	1700	450	145

★COG LENGTH MEASURED FROM END OF BEND.

- C13 WELDING OF REINFORCEMENT IS NOT PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER.
- C14 CLOSED FITMENTS U.N.O. SHALL HAVE CORNER SPLICES THUS:  135° HOOKS
- C15 TOP AND BOTTOM REINFORCEMENT IN SLABS SHALL BE SUPPORTED ON APPROVED PLASTIC TIPPED CHAIRS, IN BOTH DIRECTIONS AT MAXIMUM CENTRES OF 600mm FOR 10mm DIA BARS, 900mm FOR 12mm AND 16mm DIA BARS, 1200mm FOR 20mm DIA BARS AND 750mm CENTRES FOR FABRIC.
- C16 ALL FORMWORK AND PROPS UNDER SUSPENDED CONCRETE WORK SHALL BE REMOVED BEFORE ANY BRICKWORK OR BLOCKWORK IS BUILT ABOVE.
- C17 THE MINIMUM CLEAR SPACING BETWEEN CONDUITS, CABLES, PIPES AND BARS SHALL BE AS REQUIRED BY AS 3600 BUT NOT LESS THAN THREE DIAMETERS HORIZONTALLY FOR HORIZONTAL CONDUITS ETC IN SLABS WALLS, AND FOOTINGS AND NOT LESS THAN ONE DIAMETER FOR ALL OTHER CONDUITS ETC.
- C18 TYPICAL REINFORCEMENT NOTATION :- 23N24-200.2
23.....DENOTES NUMBER OF BARS REQUIRED
N.....DENOTES GRADE OF REINFORCEMENT
24.....DENOTES BAR DIAMETER IN MILLIMETRES
200.....DENOTES BAR SPACINGS IN MILLIMETRES
2DENOTES SECOND LAYER OF REINFORCEMENT LAID
TYPICAL ABBREVIATIONS :-
B.....DENOTES BARS IN BOTTOM
T.....DENOTES BARS IN TOP
ALTDENOTES BARS ALTERNATING
STAGDENOTES BARS STAGGERED
NF.....DENOTES BARS IN NEAR FACE
FF.....DENOTES BARS IN FAR FACE
EF.....DENOTES BARS IN EACH FACE
NSOP.....DENOTES NOT SHOWN ON PLAN
NSOE.....DENOTES NOT SHOWN ON ELEVATION

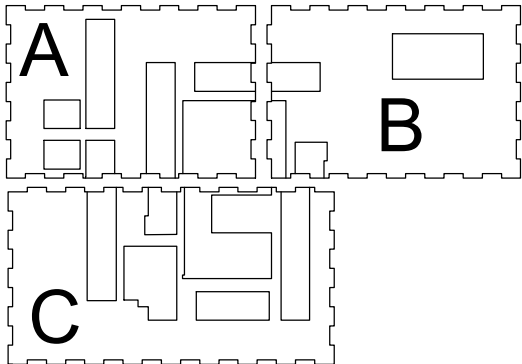
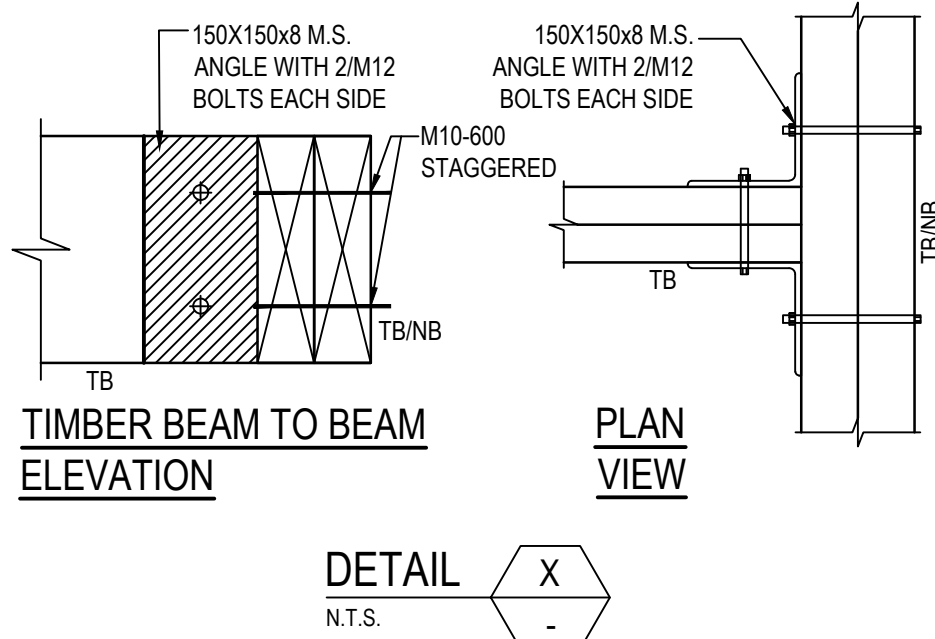
- C19 CONCRETE TO BE KEPT FREE OF SUPPORTING BRICKWORK BY 'SWAN' SLIDING JOINT OR EQUAL U.N.O.
- C20 VERTICAL FACES OF CONCRETE SHALL BE SEPERATED BY 12mm THICK 'CANEITE' OR EXPANDING CORK U.N.O.
- C21 PLACING OF REINFORCEMENT SHALL BE CO-ORDINATED TO SUIT PLACING OF PRE-STRESSING TENDONS.

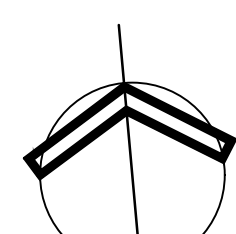
TIMBER NOTES

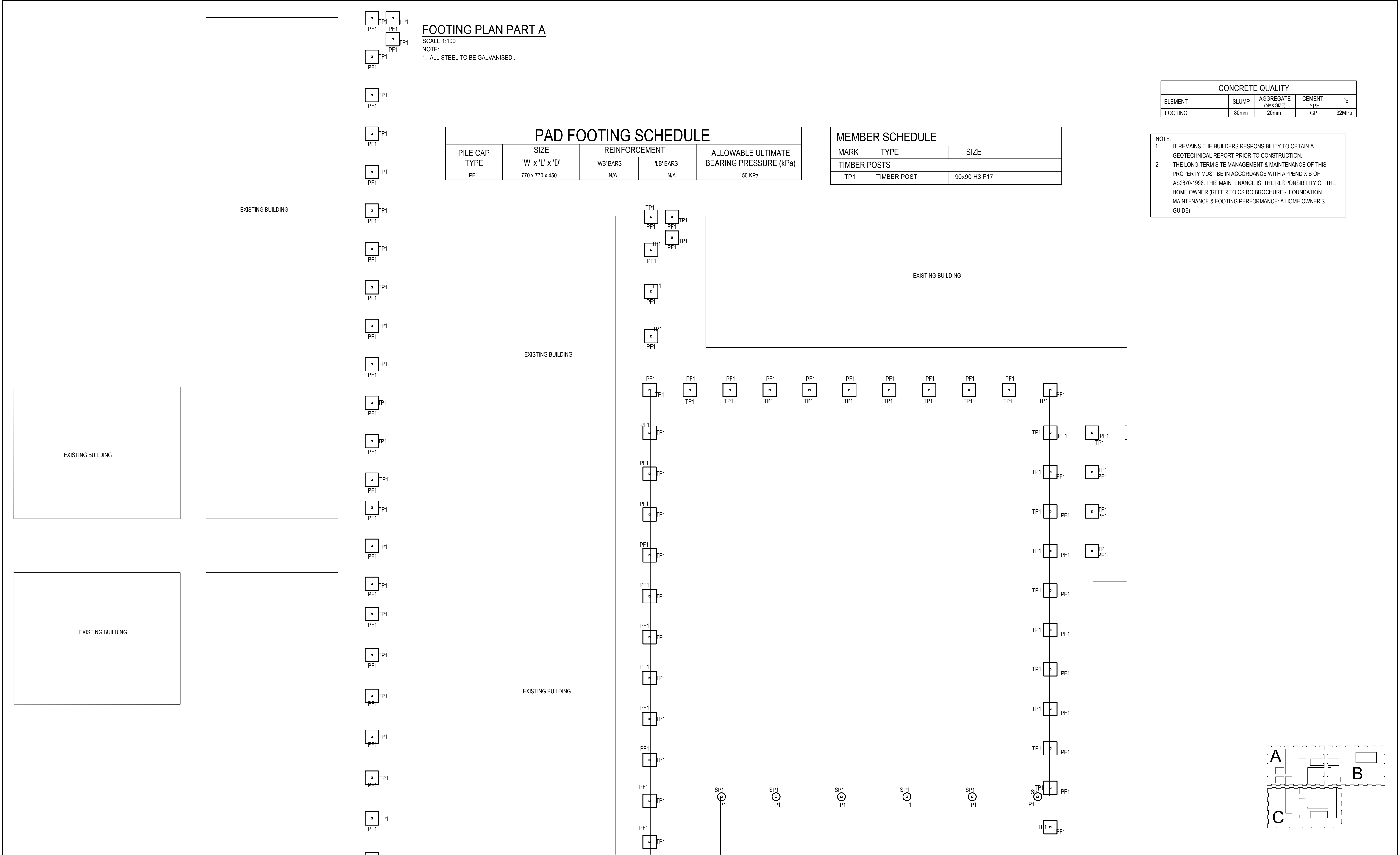
- T1 ALL TIMBER DESIGN AND CONSTRUCTION TO BE TO AS 1720 U.N.O.
- T2 AS 1684 IS RELEVANT TO DOMESTIC CONSTRUCTION IN SHELTERED LOCATIONS.
- T3 SOFTWOOD MINIMUM GRADE F7 U.N.O. HARDWOOD MINIMUM GRADE F14 U.N.O.
- T4 EXTERNAL TIMBER TO BE EITHER HARDWOOD DURABILITY CLASS I OR II OR IMPREGNATED GRADE F7, PRESSURE TREATED TO AS1684 AND RE-DRILLED PRIOR TO USE. SUPPLEMENTARY TREATMENT SHALL BE APPLIED TO ALL CUT SURFACES. PROVIDE DOCUMENTATION.
- T5 ALL BOLTS IN TIMBER CONSTRUCTION TO BE MIN. M16 U.N.O. BOLT HOLES TO BE DRILLED EXACT SIZE. WASHERS UNDER HEADS AND NUTS TO BE AT LEAST 2.5 TIMES BOLT DIAMETER.
- T6 FINISHED TIMBER SIZES:
SEASONED SOFTWOOD +5,-0mm
UNSEASONED SOFTWOOD F7+3,-3mm
F7+2,-4mm
SEASONED HARDWOOD +2,-0mm
UNSEASONED HARDWOOD -3,-3mm
(SEE ALSO CLAUSE 1.6.2 IN AS 2082)
- T7 ALL TIMBER JOINTS AND NOTCHES TO BE 100mm MINIMUM FROM LOOSE KNOTS. SEVERE SLOPING GRAIN, GUM VEINS OR OTHER MINOR DEFECTS.
- T8 TIMBER TRUSSES TO BE PRE-CAMBERED AN AMOUNT EQUAL TO DEAD LOAD DEFLECTION. TWO (2) COPIES OF SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL CLEARLY SHOWING THE DESIGN LOADS OF THE ROOF AND CEILING AND TRUSSES NODE POINT LOADS AND PRE- CAMBER.
- T9 BLOCKING IS NOT REQUIRED FOR JOISTS SPANNING LESS THAN 3m. FOR JOISTS SPANNING GREATER THAN 3m AND LESS THAN 4.2m PROVIDE ONE ROW OF BLOCKING MID-SPAN. FOR JOISTS SPANNING GREATER THAN 4.2m AND UP TO 6.0m PROVIDE TWO ROWS OF BLOCKING AT 1/3 POINTS. FOR DEEP JOISTED FLOORS WHERE A CONTINUOUS TRIMMING JOIST IS NOT PROVIDED AT END OF JOISTS. BLOCKING IS REQUIRED AT 1800 MAXIMUM CENTERS. (REFER TO AS 1684)

STRUCTURAL STEELWORK NOTES

- S1 ALL MATERIALS, WORKMANSHIP, FABRICATION AND ERECTION SHALL COMPLY WITH THE REQUIREMENTS OF AS4100, AS1538, AS1554 AND THE SPECIFICATION.
- S2 UNLESS SHOWN OTHERWISE, ALL STEEL SHALL BE IN ACCORDANCE WITH AS1204 GRADE 300. ALL STEEL HOLLOW SECTIONS SHALL BE GRADE 350 U.N.O. AND SHALL BE IN ACCORDANCE WITH AS1163. ALL PRESSED METAL PURLINS AND GIRTS SHALL BE GRADE 450 STEEL IN ACCORDANCE WITH AS1538
- S3 UNLESS SHOWN OTHERWISE ON THE DRAWINGS, ALL CONNECTIONS SHALL BE IN ACCORDANCE WITH THE FOLLOWING MINIMUM REQUIREMENTS:
(i) ALL WELDS SHALL BE 6MM CONTINUOUS FILLET WELDS ALL ROUND.
(ii) ALL BOLTS SHALL BE M20 - 8.8/S, WITH A MINIMUM OF 2 BOLTS PER CONNECTION. PURLIN BOLTS TO BE M12 - 4.6/S WITH A MINIMUM OF 2 BOLTS PER PURLIN END.
(iii) ALL GUSSET AND CLEAT PLATES SHALL BE 10mm THICK. (U.N.O.)
(iv) ALL CAP PLATES SHALL BE 10 mm THICK. (U.N.O.)
(v) ALL BASE PLATES SHALL BE 10 mm THICK. (U.N.O.)
- S4 BOLT DESIGNATION:
4.6/S REFERS TO COMMERCIAL BOLTS OF STRENGTH GRADE 4.6 TO AS1111 TIGHTENED TO A SNUG TIGHT CONDITION.
8.8/S REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 TIGHTENED TO A SNUG TIGHT CONDITION.
8.8/TB REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A BEARING JOINT.
8.8/TF REFERS TO HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS1252 FULLY TENSIONED TO AS4100 AS A FRICTION JOINT.
- S5 HIGH STRENGTH BOLTED JOINTS SHALL BE IN ACCORDANCE WITH AS1511. THE SPECIFIED BOLT TENSION SHALL BE OBTAINED BY USE OF THE "PART TURN" METHOD OF TIGHTENING.
- S6 ALL WELDS SHALL BE SP (SPECIAL PURPOSE) IN ACCORDANCE WITH AS1554. ALL ELECTRODES SHALL BE CLASS E48. ALL BUTT WELDS SHALL BE FULL STRENGTH COMPLETE PENETRATION WELDS.
- S7 SUBSTITUTIONS FOR STEEL SECTIONS SHOWN ON DRAWINGS SHALL NOT BE MADE WITHOUT THE APPROVAL OF THE ENGINEER.
- S8 ALL STEELWORK BELOW GROUND OR FINISHED SURFACE LEVEL IS TO BE ENCASED IN 75mm MIN. CONCRETE ALL ROUND.
- S9 ALL STEELWORK, EXCEPT THAT WHICH IS TO BE CONCRETE ENCASED, FIRE SPRAYED OR CONTACT SURFACES OF FRICTION TYPE JOINTS, SHALL BE SURFACE CLEANED AND PAINTED IN ACCORDANCE WITH THE SPECIFICATION.
- S10 STEELWORK THAT IS CONCRETE ENCASED, FIRE SPRAYED OR FACING SURFACES OF FRICTION TYPE JOINTS SHALL BE LEFT UNPAINTED AND FREE FROM SCALE.
- S11 THE CONTRACTOR SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL, TIMBER AND OTHER ELEMENTS TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.
- S12 THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE SUPERVISED BY QUALIFIED PERSONNEL EXPERIENCED IN SUCH SUPERVISION TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. DETAILS OF ERECTION SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF ERECTION.
- S13 COLUMNS AND MULLIONS SHALL HAVE THEIR BASE PLATES FULLY GROUTED IN ACCORDANCE WITH THE SPECIFICATIONS AFTER PLUMBING AND LEVELING ON STEEL PACKERS.
- S14 THREE (3) SETS OF STEELWORK SHOP DETAIL DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF ANY FABRICATION. THE CHECK SHALL NOT COVER LAYOUT AND MEMBER DIMENSIONS.
- S15 CONCRETE ENCASED STRUCTURAL STEELWORK TO BE ENCLOSED BY SL82 MESH PLACED CLEAR OF STEELWORK. ENCASING TO PROVIDE 50mm MIN. COVER TO STEELWORK U.N.O. ON THE DRAWINGS. COVER TO MESH TO BE 20mm MIN. MAXIMUM AGGREGATE SIZE = 10mm, CONCRETE f_c = 20 MPa.
- S16 UNLESS SPECIFIED OTHERWISE, STEELWORK SHALL BE PREPARED TO CLASS 2.5 FINISH IN ACCORDANCE WITH AS1627.4 AND GIVEN TWO (2) COATS OF ZINC PHOSPHATE TO A TOTAL DRY FILM THICKNESS OF 70 MICRONS.



	ZAIT Engineering Solutions Pty Ltd SUITE5, 5-7 VILLIERS STREET, Parramatta, NSW 2150 Phone: 02 9630 3087 Email: info@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright	DATE ISSUED		REVISION:		PROJECT: STAGE 1: SCHOOL NORTHBOURNE DRIVE, MARSDEN PARK, NSW	ARCHITECT:	DRAWING TITLE: GENERAL NOTES					ISSUE:	E	
		03-09-2020	A	ISSUE FOR REVIEW & COORDINATION									DRAWING NUMBER:	S101	
		07-09-2020	B	ISSUE FOR CONSTRUCTION									JOB NUMBER:	20-2515	
		09-09-2020	C	RE-ISSUE FOR CONSTRUCTION				APPROVED:							
		14-09-2020	D	RE-ISSUE FOR CONSTRUCTION											
		18-09-2020	E	RE-ISSUE FOR CONSTRUCTION		CLIENT: GS BUILDING NSW PTY LTD		DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ		
									J.R.	T.K.	D.Z.	SEP-20		1:100	



FOOTING PLAN PART A

SCALE 1:100
NOTE:
1. ALL STEEL TO BE GALVANISED .

PAD FOOTING SCHEDULE				
PILE CAP TYPE	SIZE	REINFORCEMENT		ALLOWABLE ULTIMATE BEARING PRESSURE (kPa)
	'W' x 'L' x 'D'	'WB' BARS	'LB' BARS	
PF1	770 x 770 x 450	N/A	N/A	150 KPa

MEMBER SCHEDULE		
MARK	TYPE	SIZE
TIMBER POSTS		
TP1	TIMBER POST	90x90 H3 F17

CONCRETE QUALITY				
ELEMENT	SLUMP	AGGREGATE (MAX SIZE)	CEMENT TYPE	f _c
FOOTING	80mm	20mm	GP	32MPa

NOTE:
1. IT REMAINS THE BUILDERS RESPONSIBILITY TO OBTAIN A GEOTECHNICAL REPORT PRIOR TO CONSTRUCTION.
2. THE LONG TERM SITE MANAGEMENT & MAINTENANCE OF THIS PROPERTY MUST BE IN ACCORDANCE WITH APPENDIX B OF AS2870-1996. THIS MAINTENANCE IS THE RESPONSIBILITY OF THE HOME OWNER (REFER TO CSIRO BROCHURE - FOUNDATION MAINTENANCE & FOOTING PERFORMANCE: A HOME OWNER'S GUIDE).

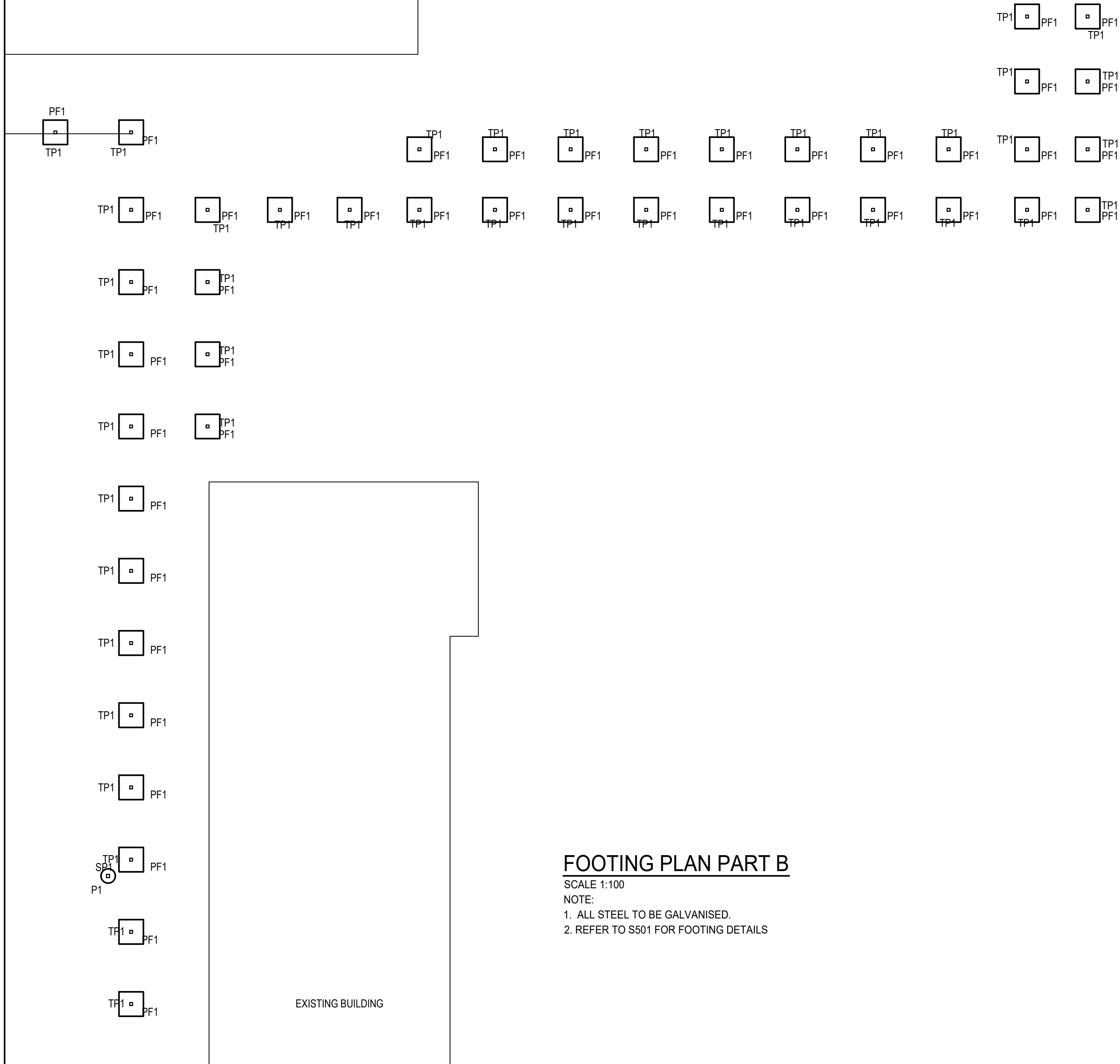
ZAiT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:	PROJECT:	ARCHITECT:	DRAWING TITLE:					ISSUE:	E	NORTH: 	
03-09-2020	A	ISSUE FOR REVIEW & COORDINATION	STAGE 1: SCHOOL NORTHBOURNE DRIVE, MARSDEN PARK, NSW	FOOTING PLAN PART A AND DETAILS					DRAWING NUMBER:	S201		
07-09-2020	B	ISSUE FOR CONSTRUCTION							JOB NUMBER:	20-2515		
09-09-2020	C	RE-ISSUE FOR CONSTRUCTION		DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	APPROVED: DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ			
14-09-2020	D	RE-ISSUE FOR CONSTRUCTION		J.R.	T.K.	D.Z.	SEP-20	1:100				
18-09-2020	E	RE-ISSUE FOR CONSTRUCTION										
			CLIENT:									
			GS BUILDING NSW PTY LTD									

CONCRETE QUALITY				
ELEMENT	SLUMP	AGGREGATE (MAX SIZE)	CEMENT TYPE	f _c
FOOTING	80mm	20mm	GP	32MPa

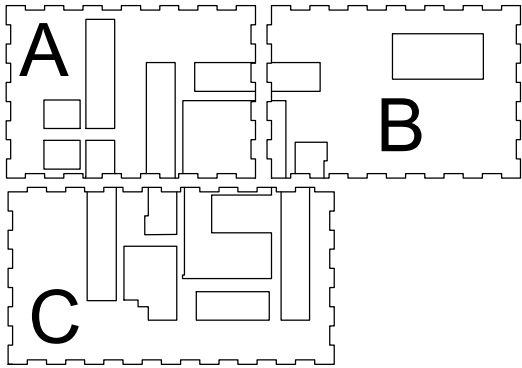
PAD FOOTING SCHEDULE				
PILE CAP TYPE	SIZE	REINFORCEMENT		ALLOWABLE ULTIMATE BEARING PRESSURE (kPa)
	'W' x 'L' x 'D'	'WB' BARS	'LB' BARS	
PF1	770 x 770 x 450	N/A	N/A	150 KPa

MEMBER SCHEDULE		
MARK	TYPE	SIZE
TIMBER POSTS		
TP1	TIMBER POST	90x90 H3 F17
STEEL POSTS		
SP1	STEEL POST	100x100x10 SHS HOT DIP GALVANISED



FOOTING PLAN PART B

SCALE 1:100
NOTE:
1. ALL STEEL TO BE GALVANISED.
2. REFER TO S501 FOR FOOTING DETAILS



 ZAIT Engineering Solutions Pty Ltd	ZAIT Engineering Solutions Pty Ltd SUITE5, 5-7 VILLIERS STREET, Parramatta, NSW 2150 Phone: 02 9630 3087 Email: info@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright	DATE ISSUED	REVISION:		PROJECT: STAGE 1: SCHOOL NORTHBOURNE DRIVE, MARSDEN PARK, NSW	ARCHITECT:	DRAWING TITLE: FOOTING PLAN PART B AND DETAILS					ISSUE:	E	NORTH: 	
		03-09-2020	A	ISSUE FOR REVIEW & COORDINATION								DRAWING NUMBER:	S202		
		07-09-2020	B	ISSUE FOR CONSTRUCTION								JOB NUMBER:	20-2515		
		09-09-2020	C	RE-ISSUE FOR CONSTRUCTION			DESIGNED: DRAWN: CHECKED: DATE: SCALE: APPROVED:								
		14-09-2020	D	RE-ISSUE FOR CONSTRUCTION											
		18-09-2020	E	RE-ISSUE FOR CONSTRUCTION											
						CLIENT: GS BUILDING NSW PTY LTD									

FOOTING PLAN PART C

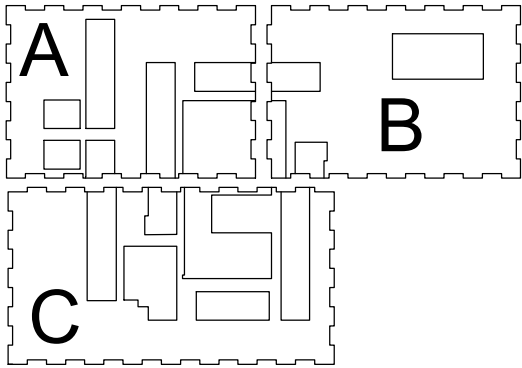
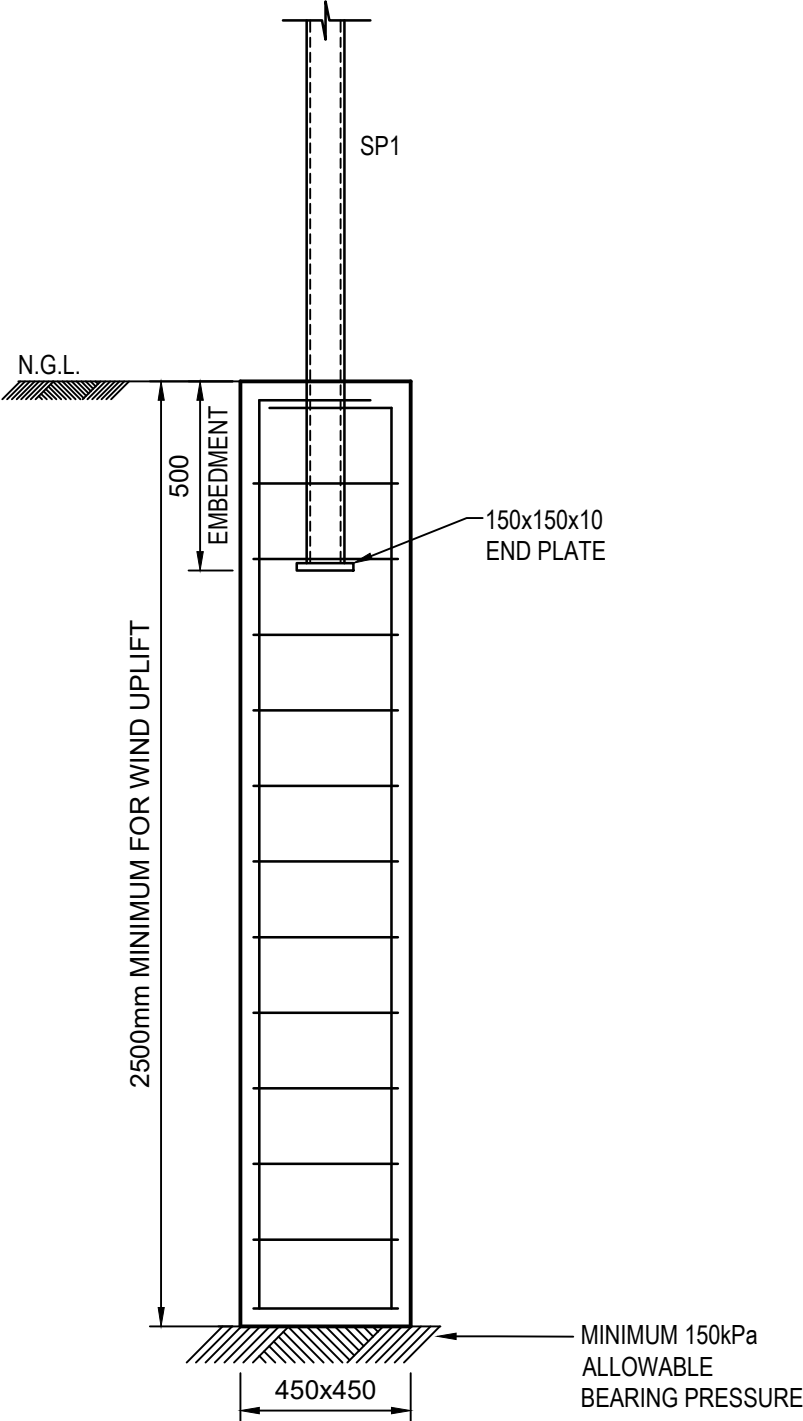
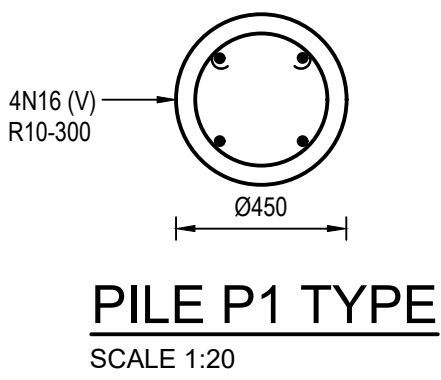
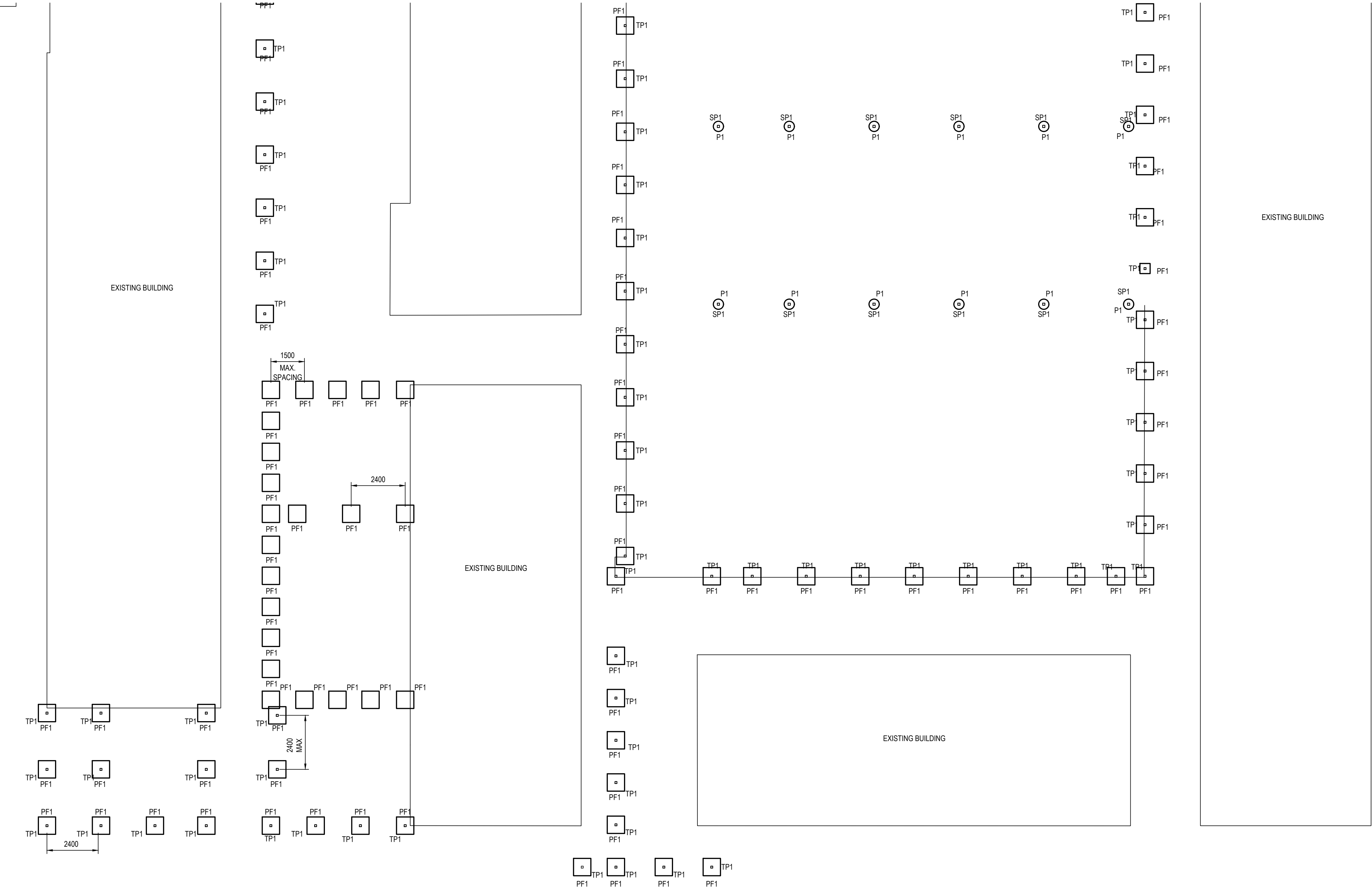
SCALE 1:100
NOTE:
1. ALL STEEL STANDARD GALVANISED
2. TP1 DENOTES 90x90 F7 H3 PRIMED STUD POSTS @ 2.4m CENTRES MAXIMUM.

PAD FOOTING SCHEDULE				
PILE CAP TYPE	SIZE	REINFORCEMENT		ALLOWABLE ULTIMATE BEARING PRESSURE (kPa)
	'W' x 'L' x 'D'	'WB' BARS	'LB' BARS	
PF1	770 x 770 x 450	N/A	N/A	150 KPa

MEMBER SCHEDULE		
MARK	TYPE	SIZE
TIMBER POSTS		
TP1	TIMBER POST	90x90 H3 F17
STEEL POSTS		
SP1	STEEL POST	100x100x10SHS HOT DIP GALVANIZED

REINFORCEMENT COVER SCHEDULE				
MEMBER	COVER (mm)			EXPOSURE CLASSIFICATION
	TOP	BOTTOM	SIDES	
FOOTING	40mm	40mm	40mm	A2

CONCRETE QUALITY				
ELEMENT	SLUMP	AGGREGATE (MAX SIZE)	CEMENT TYPE	f _c
FOOTING	80mm	20mm	GP	32MPa



ZAIT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:	
03-09-2020	A	ISSUE FOR REVIEW & COORDINATION
07-09-2020	B	ISSUE FOR CONSTRUCTION
09-09-2020	C	RE-ISSUE FOR CONSTRUCTION
14-09-2020	D	RE-ISSUE FOR CONSTRUCTION
18-09-2020	E	RE-ISSUE FOR CONSTRUCTION

PROJECT:
STAGE 1: SCHOOL
NORTHBOURNE DRIVE,
MARSDEN PARK, NSW

CLIENT:
GS BUILDING NSW PTY LTD

ARCHITECT:

DRAWING TITLE:
FOOTING PLAN PART C
AND DETAILS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:
J.R.	T.K.	D.Z.	SEP-20	1:100

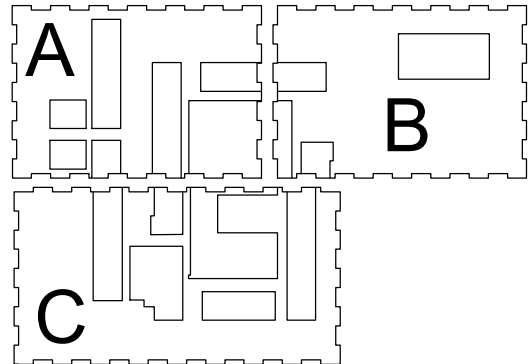
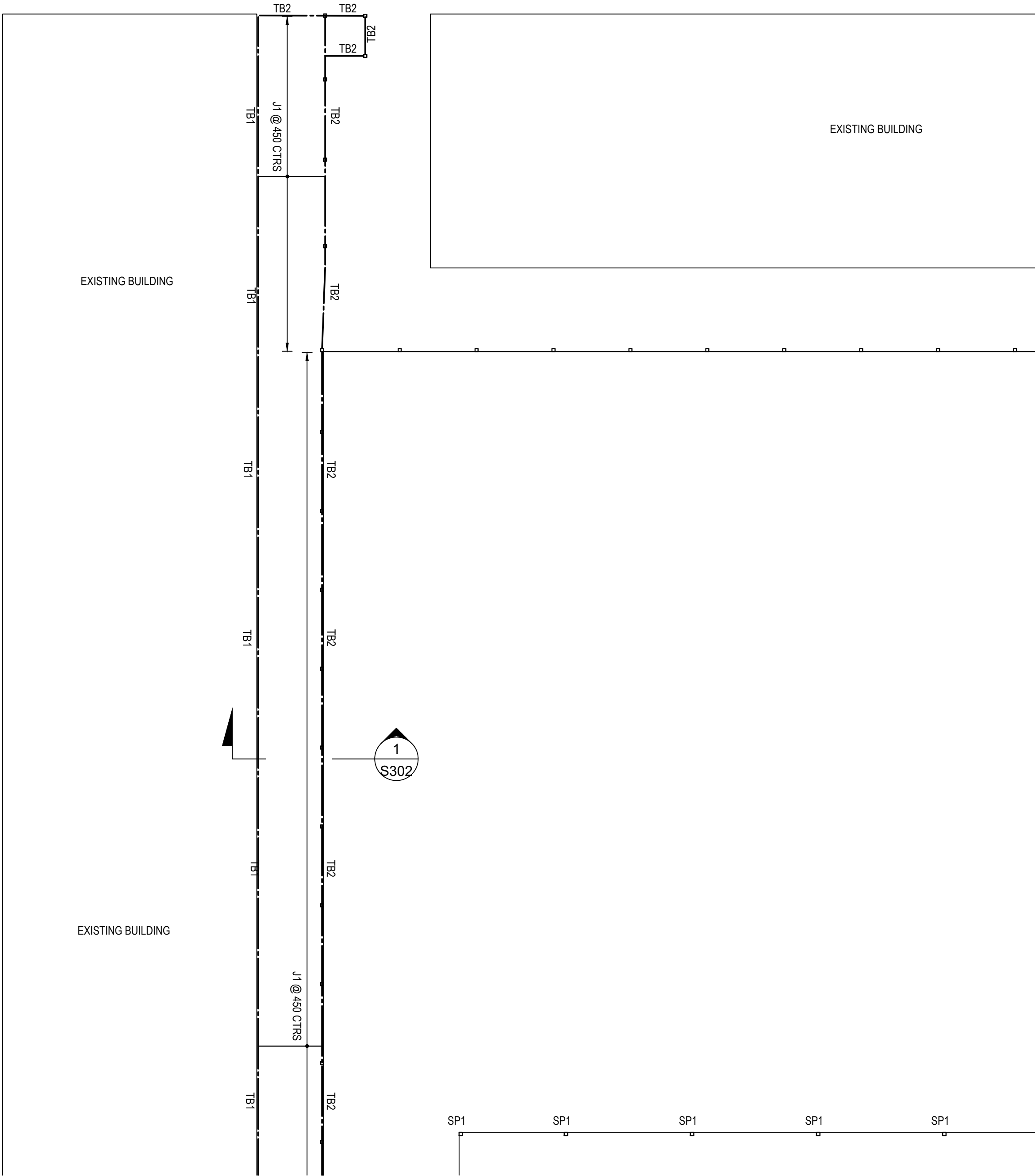
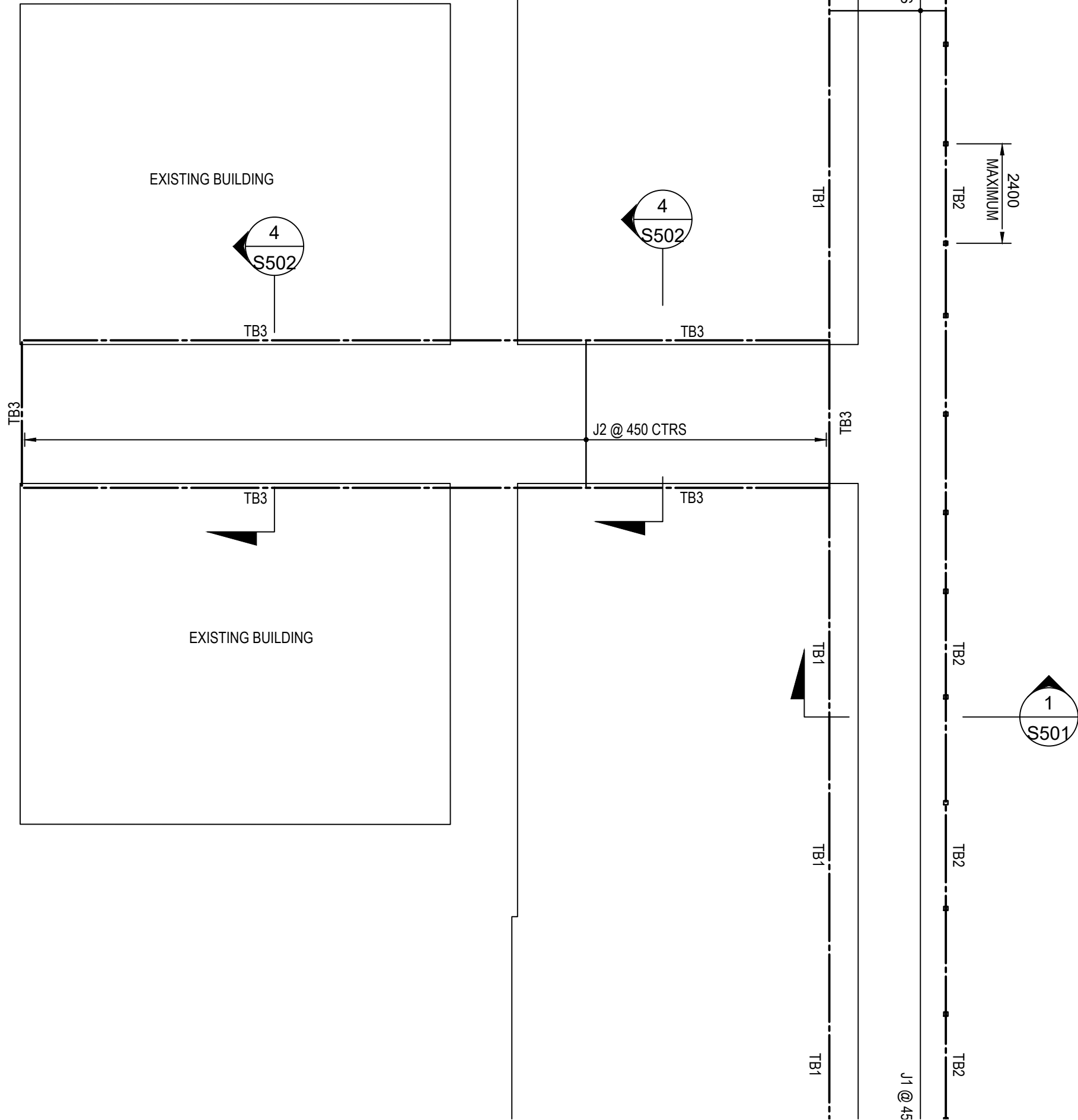
ISSUE:	E	NORTH:
DRAWING NUMBER:	S203	
JOB NUMBER:	20-2515	
APPROVED:	DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ	

GROUND LEVEL TIMBER MARKING PLAN A

SCALE 1:100
NOTE:
1. ROOF TO BE UNACCESSABLE TO ANY PERSON. STRICTLY WIND LOADING ONLY.
2. ALL STEEL TO BE GALVANISED.

MEMBER SCHEDULE

MARK	TYPE	SIZE
BEAMS		
TB1	TIMBER BEAM	240x45 F7 H3 TREATED
TB2	TIMBER BEAM	2/190x45 F7 H3 TREATED
TB3	TIMBER BEAM	240x45 F7 H3 TREATED PINE
TIMBER POSTS		
TP1	TIMBER POST	90x90 H3 F17 H3 TREATED TIMBER POSTS
JOIST		
J1	TIMBER JOIST	190x45 F7 H3 TREATED PINE
J2	TIMBER JOIST	200x45 LVL
STEEL POSTS		
SP1	STEEL POST	100x100x6.0 SHS GALVANISED
DECK COVERING		
17mm F17 ANTI-SLIP PLYWOOD		



ZAIT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:
03-09-2020	A ISSUE FOR REVIEW & COORDINATION
07-09-2020	B ISSUE FOR CONSTRUCTION
09-09-2020	C RE-ISSUE FOR CONSTRUCTION
14-09-2020	D RE-ISSUE FOR CONSTRUCTION
18-09-2020	E RE-ISSUE FOR CONSTRUCTION

PROJECT:
STAGE 1: SCHOOL
NORTHBOURNE DRIVE,
MARSDEN PARK, NSW

CLIENT:
GS BUILDING NSW PTY LTD

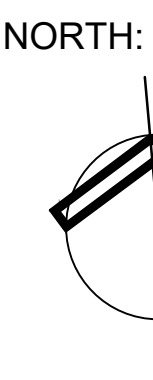
ARCHITECT:

DRAWING TITLE:

GROUND LEVEL
TIMBER MARKING PLAN
AND DETAILS

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:
J.R.	T.K.	D.Z.	SEP-20	1:100

ISSUE:	E
DRAWING NUMBER:	S301
JOB NUMBER:	20-2515
APPROVED:	
DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ	

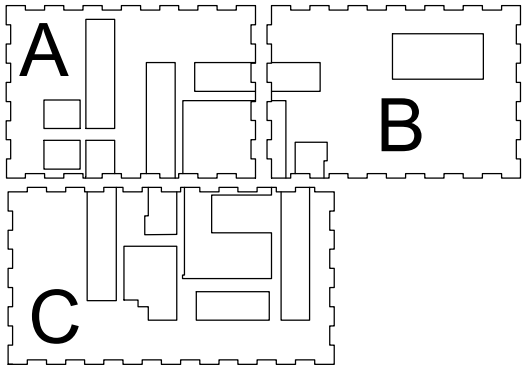
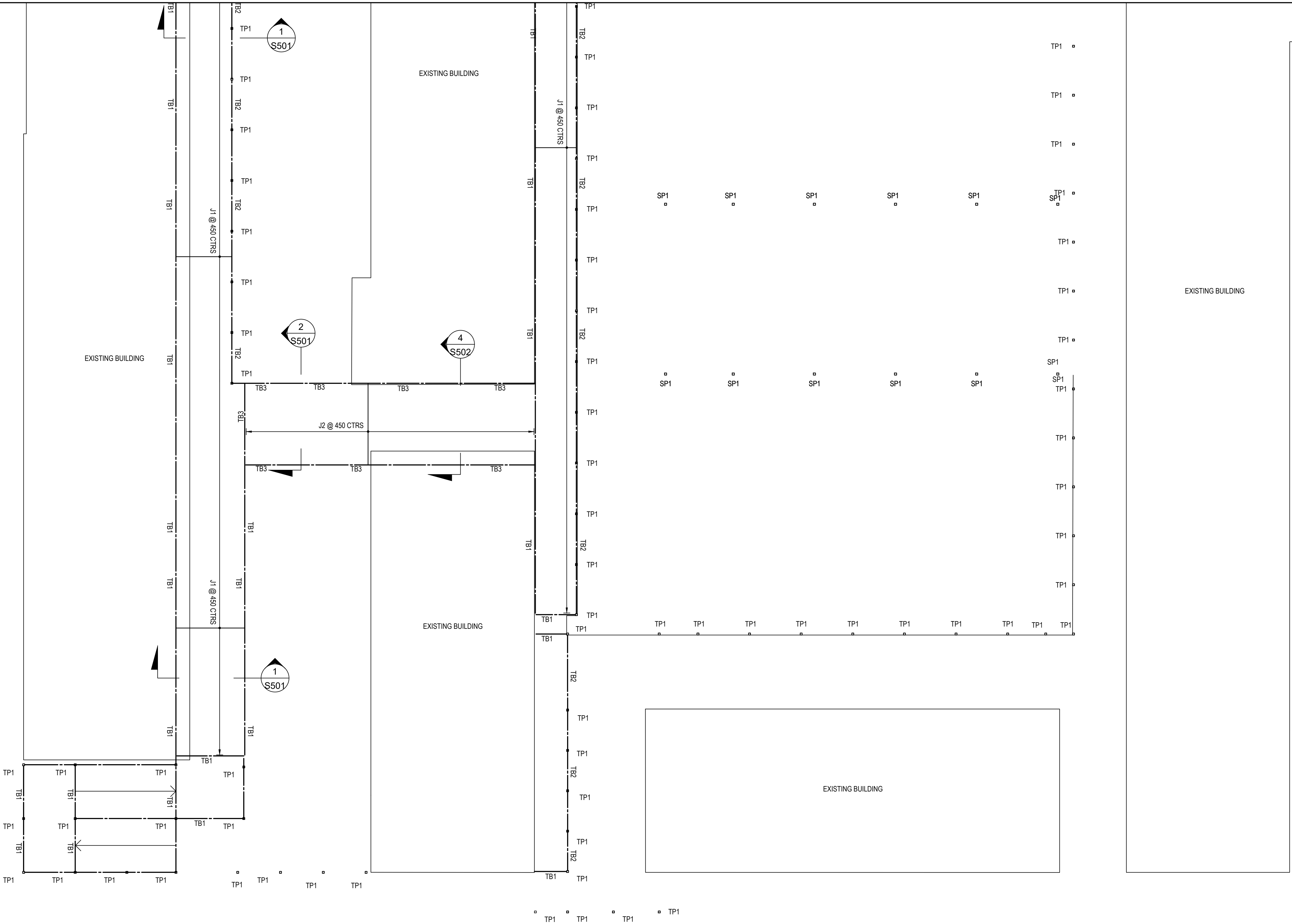


GROUND LEVEL TIMBER MARKING
PLAN C

SCALE 1:100
NOTE:
1. ROOF TO BE UNACCESSABLE TO ANY PERSON. STRICTLY WIND LOADING ONLY.
2. ALL STEEL TO BE HOT DIP GALVANISED.

MEMBER SCHEDULE

MARK	TYPE	SIZE
BEAMS		
TB1	TIMBER BEAM	240x45 F7 H3 TREATED
TB2	TIMBER BEAM	2/190x45 F7 H3 TREATED
TB3	TIMBER BEAM	240x45 F7 H3 TREATED PINE
TIMBER POSTS		
TP1	TIMBER POST	90x90 H3 F17 H3 TREATED TIMBER POSTS
JOIST		
J1	TIMBER JOIST	190x45 F7 H3 TREATED PINE
J2	TIMBER JOIST	200x45 LVL
STEEL POSTS		
SP1	STEEL POST	100x100x6.0 SHS GALVANISED
DECK COVERING		
17mm F17 ANTI-SLIP PLYWOOD		



ZAIT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:
03-09-2020	A ISSUE FOR REVIEW & COORDINATION
07-09-2020	B ISSUE FOR CONSTRUCTION
09-09-2020	C RE-ISSUE FOR CONSTRUCTION
14-09-2020	D RE-ISSUE FOR CONSTRUCTION
18-09-2020	E RE-ISSUE FOR CONSTRUCTION

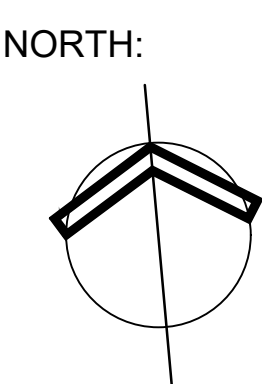
PROJECT:
STAGE 1: SCHOOL
NORTHBOURNE DRIVE,
MARSDEN PARK, NSW

CLIENT:
GS BUILDING NSW PTY LTD

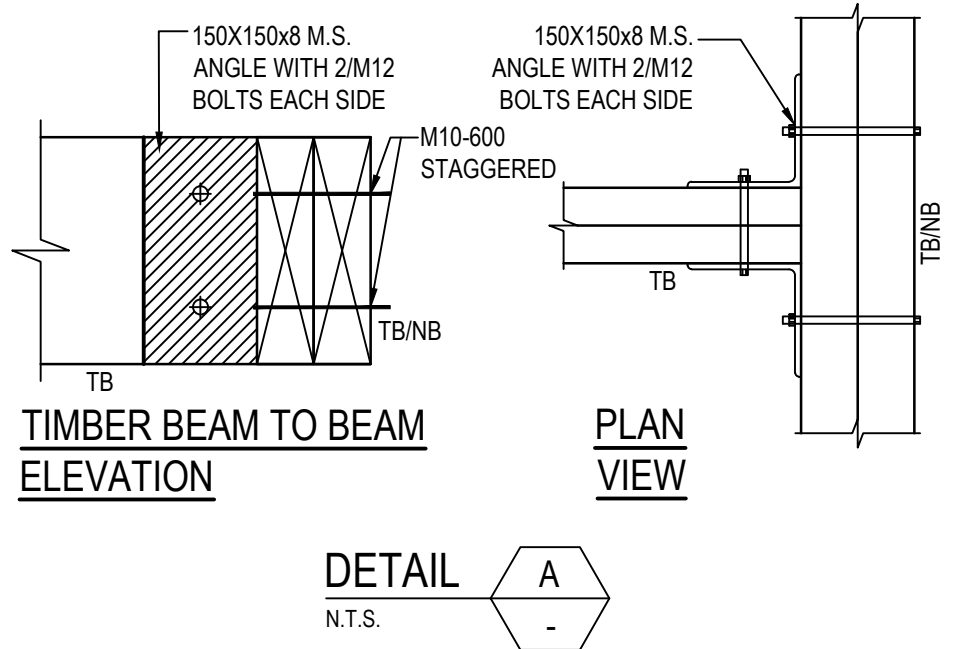
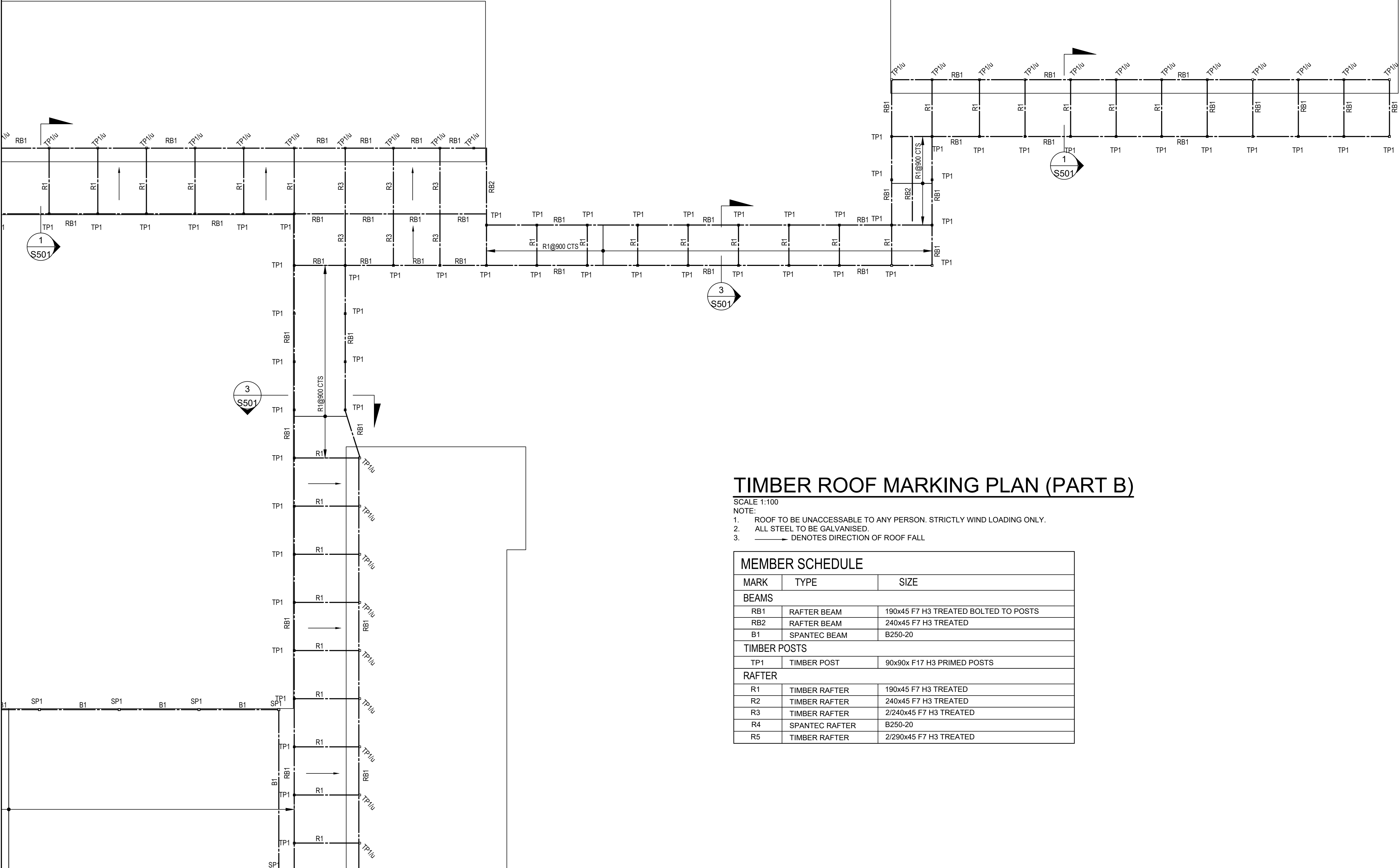
ARCHITECT:

DRAWING TITLE:				
GROUND LEVEL TIMBER MARKING PLAN AND DETAILS				
DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:
J.R.	T.K.	D.Z.	SEP-20	1:100

ISSUE:	E
DRAWING NUMBER:	S302
JOB NUMBER:	20-2515
APPROVED:	
DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ	



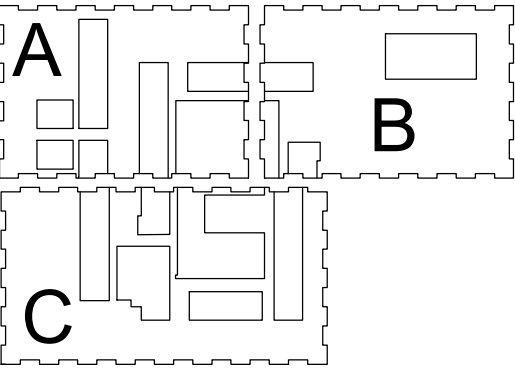
NOTE:
ROOF TO BE TIED DOWN &
BRACED TO AS1684



TIMBER ROOF MARKING PLAN (PART B)

SCALE 1:100
NOTE:
1. ROOF TO BE UNACCESSABLE TO ANY PERSON. STRICTLY WIND LOADING ONLY.
2. ALL STEEL TO BE GALVANISED.
3. ———> DENOTES DIRECTION OF ROOF FALL

MEMBER SCHEDULE		
MARK	TYPE	SIZE
BEAMS		
RB1	RAFTER BEAM	190x45 F7 H3 TREATED BOLTED TO POSTS
RB2	RAFTER BEAM	240x45 F7 H3 TREATED
B1	SPANTEC BEAM	B250-20
TIMBER POSTS		
TP1	TIMBER POST	90x90x F17 H3 PRIMED POSTS
RAFTER		
R1	TIMBER RAFTER	190x45 F7 H3 TREATED
R2	TIMBER RAFTER	240x45 F7 H3 TREATED
R3	TIMBER RAFTER	2/240x45 F7 H3 TREATED
R4	SPANTEC RAFTER	B250-20
R5	TIMBER RAFTER	2/290x45 F7 H3 TREATED



ZAIT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:	
03-09-2020	A	ISSUE FOR REVIEW & COORDINATION
07-09-2020	B	ISSUE FOR CONSTRUCTION
09-09-2020	C	RE-ISSUE FOR CONSTRUCTION
14-09-2020	D	RE-ISSUE FOR CONSTRUCTION
18-09-2020	E	RE-ISSUE FOR CONSTRUCTION

PROJECT:
STAGE 1: SCHOOL
NORTHBOURNE DRIVE,
MARSDEN PARK, NSW

CLIENT:
GS BUILDING NSW PTY LTD

ARCHITECT:

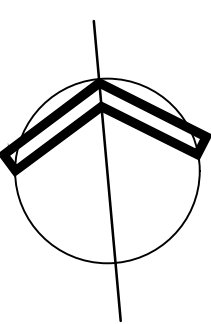
DRAWING TITLE:

TIMBER ROOF MARKING PLAN
(PART B)
SHEET 2

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:
J.R.	T.K.	D.Z.	SEP-20	1:100

ISSUE:	E
DRAWING NUMBER:	S402
JOB NUMBER:	20-2515
APPROVED:	
DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ	

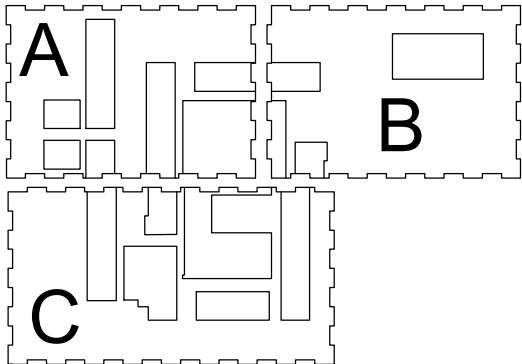
NORTH:



TIMBER ROOF MARKING PLAN
(PART C)

SCALE 1:100
NOTE:
1. ROOF TO BE UNACCESSABLE TO ANY PERSON. STRICTLY WIND LOADING ONLY.
2. ALL STEEL TO BE GALVANISED.

MEMBER SCHEDULE		
MARK	TYPE	SIZE
BEAMS		
RB1	RAFTER BEAM	190x45 F7 H3 TREATED BOLTED TO POSTS
RB2	RAFTER BEAM	240x45 F7 H3 TREATED
B1	SPANTEC BEAM	B250-20
TIMBER POSTS		
TP1	TIMBER POST	90x90x F17 H3 PRIMED POSTS
RAFTER		
R1	TIMBER RAFTER	190x45 F7 H3 TREATED
R2	TIMBER RAFTER	240x45 F7 H3 TREATED
R3	TIMBER RAFTER	2/240x45 F7 H3 TREATED
R4	SPANTEC RAFTER	B250-20



ZAIT Engineering Solutions Pty Ltd
SUITE5, 5-7 VILLIERS STREET,
Parramatta, NSW 2150
Phone: 02 9630 3087
Email: info@zait.com.au
ABN 40 608 862 899
ACN 608 862 899
Copyright

DATE ISSUED	REVISION:	
03-09-2020	A	ISSUE FOR REVIEW & COORDINATION
07-09-2020	B	ISSUE FOR CONSTRUCTION
09-09-2020	C	RE-ISSUE FOR CONSTRUCTION
14-09-2020	D	RE-ISSUE FOR CONSTRUCTION
18-09-2020	E	RE-ISSUE FOR CONSTRUCTION

PROJECT:
STAGE 1: SCHOOL
NORTHBOURNE DRIVE,
MARSDEN PARK, NSW

CLIENT:
GS BUILDING NSW PTY LTD

ARCHITECT:

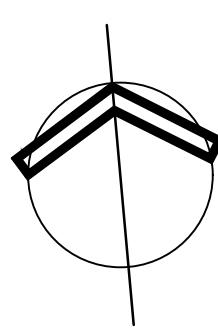
DRAWING TITLE:

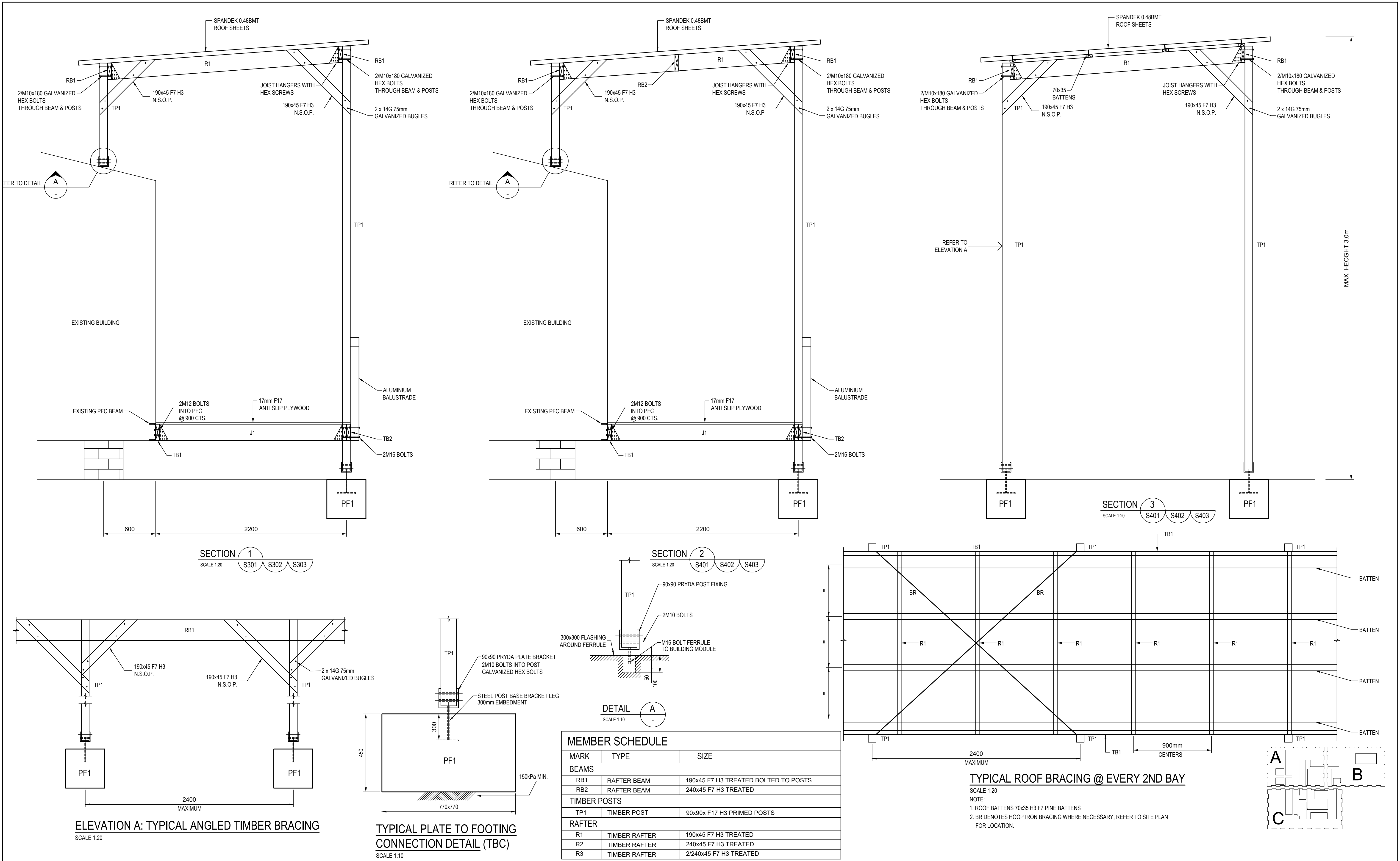
TIMBER ROOF MARKING PLAN
(PART C)
SHEET 3

DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:
J.R.	T.K.	D.Z.	SEP-20	1:100

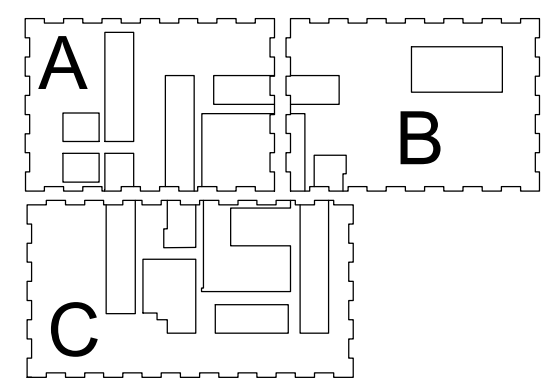
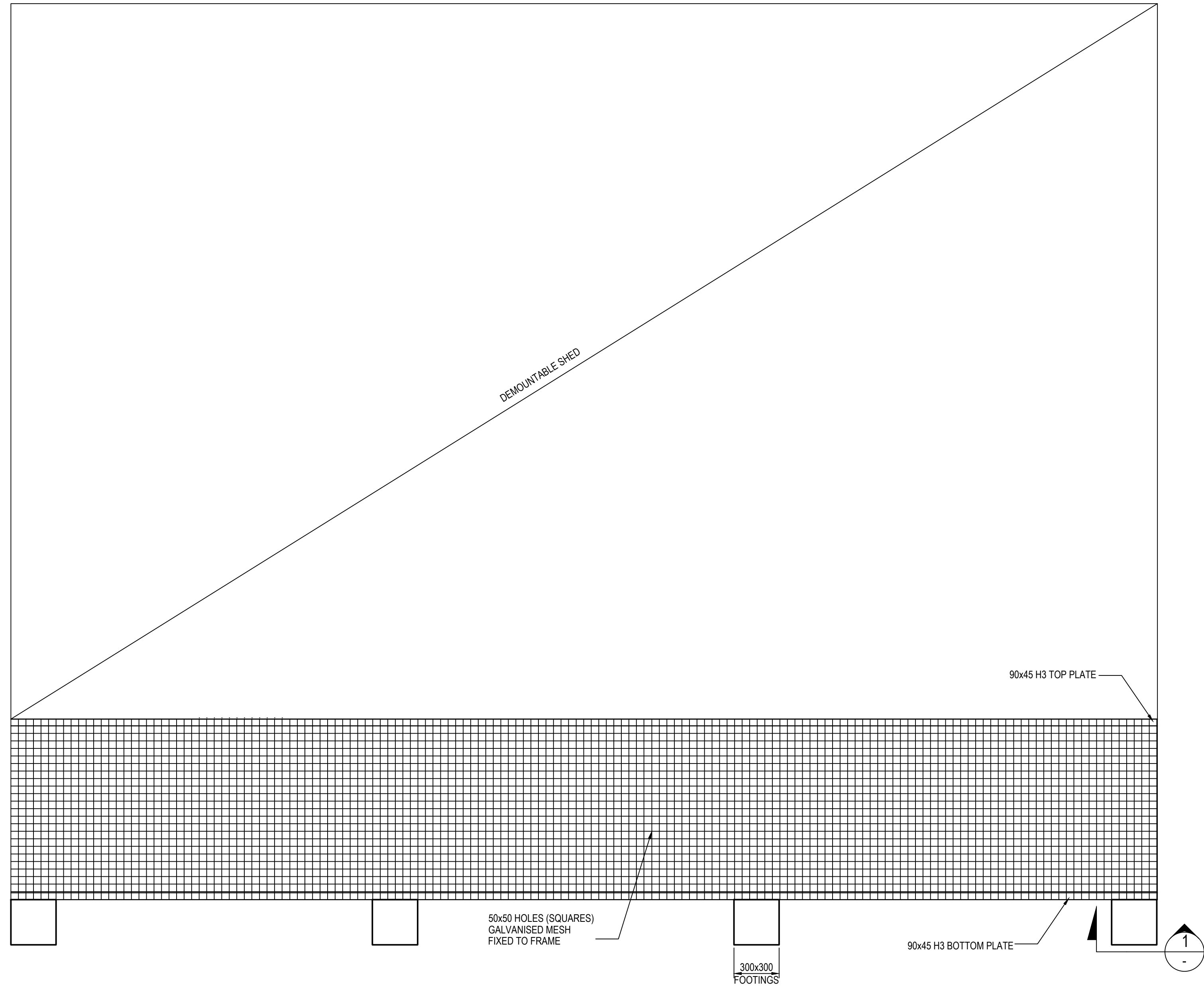
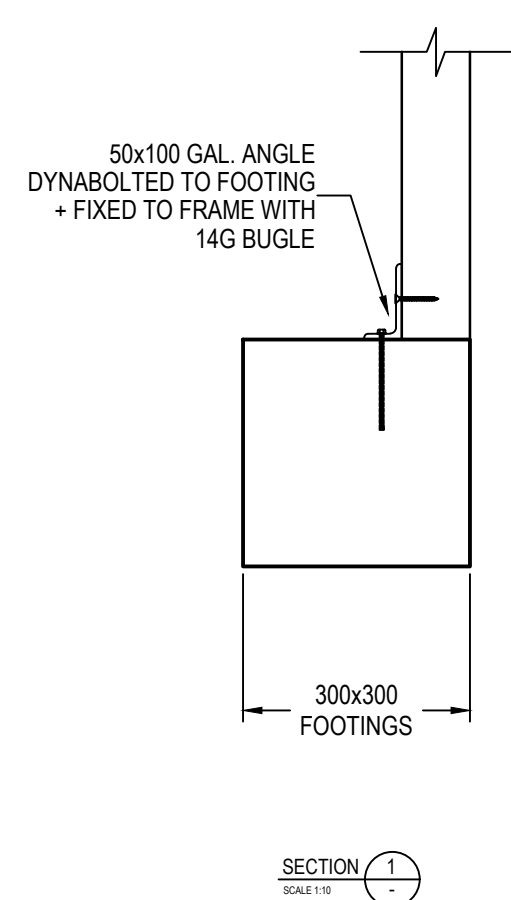
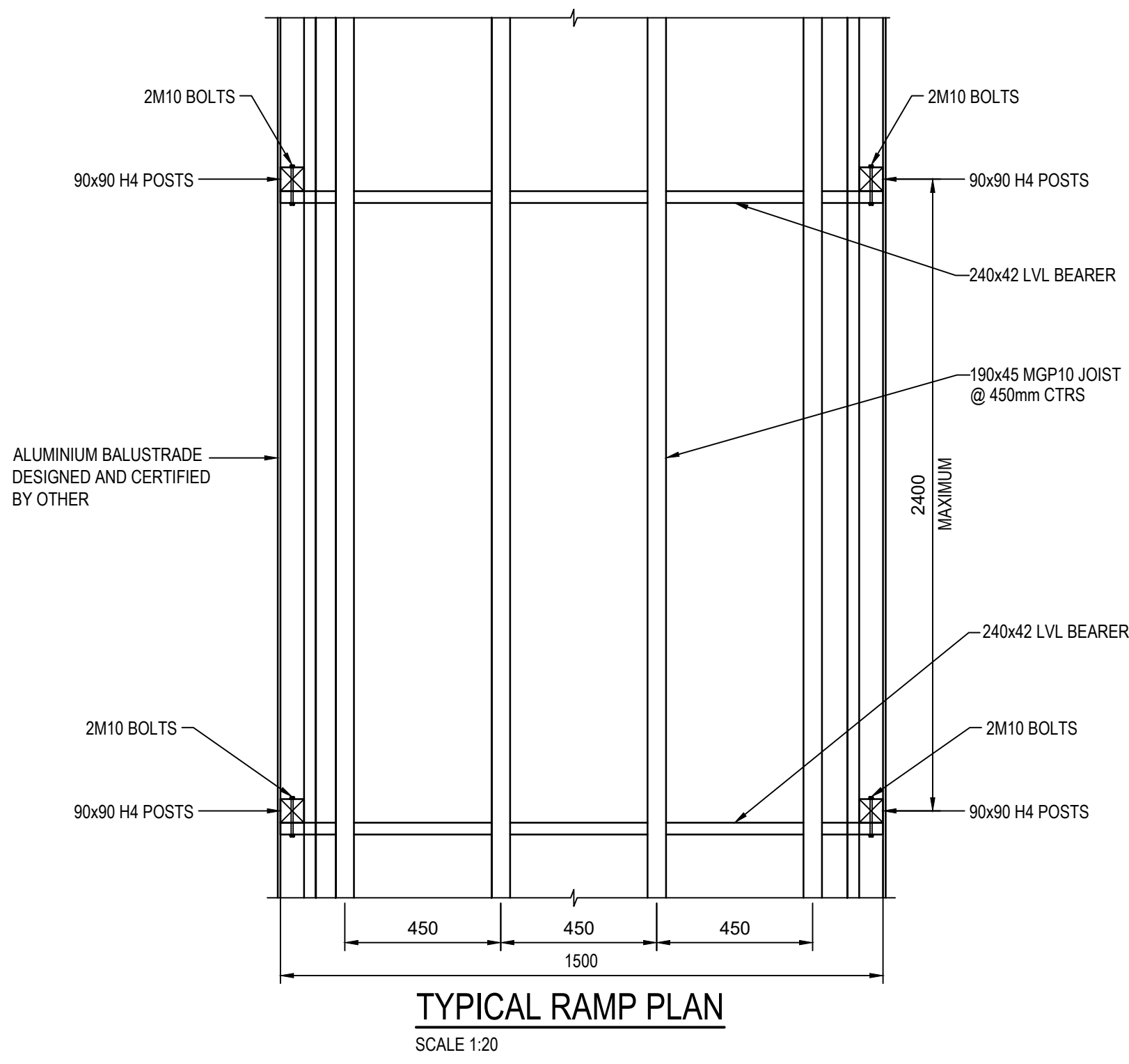
ISSUE:	E
DRAWING NUMBER:	S403
JOB NUMBER:	20-2515
APPROVED:	
DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ	

NORTH:





 Engineering Solutions Pty Ltd	ZAIT Engineering Solutions Pty Ltd SUITE5, 5-7 VILLIERS STREET, Parramatta, NSW 2150 Phone: 02 9630 3087 Email: info@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright	DATE ISSUED	REVISION:		PROJECT: STAGE 1: SCHOOL NORTHBOURNE DRIVE, MARSDEN PARK, NSW	ARCHITECT:	DRAWING TITLE:					ISSUE:	E												
		03-09-2020	A	ISSUE FOR REVIEW & COORDINATION			GROUND FLOOR SECTIONS AND DETAILS SHEET 1					DRAWING NUMBER:	S501												
		07-09-2020	B	ISSUE FOR CONSTRUCTION			DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	APPROVED:	DAVID ZAITER BEng (Hons), MIEAust, CPEng NER RPEQ												
		09-09-2020	C	RE-ISSUE FOR CONSTRUCTION																					
		14-09-2020	D	RE-ISSUE FOR CONSTRUCTION																					
		18-09-2020	E	RE-ISSUE FOR CONSTRUCTION							CLIENT: GS BUILDING NSW PTY LTD														



 Engineering Solutions Pty Ltd	ZAIT Engineering Solutions Pty Ltd SUITE5, 5-7 VILLIERS STREET, Parramatta, NSW 2150 Phone: 02 9630 3087 Email: info@zait.com.au ABN 40 608 862 899 ACN 608 862 899 Copyright	DATE ISSUED	REVISION:		PROJECT: STAGE 1: SCHOOL NORTHBOURNE DRIVE, MARSDEN PARK, NSW	ARCHITECT:	DRAWING TITLE: GROUND FLOOR SECTIONS AND DETAILS SHEET 3					ISSUE:	E		
		03-09-2020	A	ISSUE FOR REVIEW & COORDINATION								DRAWING NUMBER:	S503		
		07-09-2020	B	ISSUE FOR CONSTRUCTION								JOB NUMBER:	20-2515		
		09-09-2020	C	RE-ISSUE FOR CONSTRUCTION		CLIENT: GS BUILDING NSW PTY LTD		DESIGNED:	DRAWN:	CHECKED:	DATE:	SCALE:	APPROVED:		
		14-09-2020	D	RE-ISSUE FOR CONSTRUCTION				J.R.	T.K.	D.Z.	SEP-20	1:100	DAVID ZAITER		
		18-09-2020	E	RE-ISSUE FOR CONSTRUCTION				BEng (Hons), MIEAust, CPEng NER RPEQ							