



# Mobil



FUEL TECHNOLOGY  
**Synergy**

**Extra**  
Unleaded

**2.40**

**Extra**  
Diesel

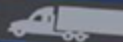
**1.80**

**Supreme<sup>+</sup>**

**Smiles**

**1.25**

Diesel  
Efficient





# PROPOSED SERVICE STATION DEVELOPMENT STATE HIGHWAY 30, WHAKATANE



Silicon Engineering Consultants Limited  
40, Spring Roads, East Tamaki,  
Auckland, New Zealand  
Tel: 09 9097860  
Mobile: 021 0296 7467

DATE FEBRUARY 2020  
STRUCTURAL  
JOB NO: 19074

CHECK ALL DIMENSIONS AND LEVEL ON SITE BEFORE COMMENCING  
CONSTRUCTION.  
ALL DRAWINGS COPYRIGHT

DRAWING NUMBER				DRAWING NAME				SCALE (A3)		AMENDMENTS		DRAWING NUMBER				DRAWING NAME				SCALE (A3)		AMENDMENTS	
ST-000				DRAWING LIST				NTS		--		ST-013				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 6				AS SHOWN		--	
ST-1001				CONSTRUCTION NOTES - 1				NTS		--		ST-014				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 7				AS SHOWN		--	
ST-1002				CONSTRUCTION NOTES - 2				NTS		--													
ST-001				FORECOURT SLAB LAYOUT & DETAILS				AS SHOWN		--													
ST-002				FOUNDATION & CENTER LINE LAYOUT OF FORECOURT				AS SHOWN		--													
ST-003				FOUNDATION SECTION & DETAILS OF FORECOURT CANOPY				AS SHOWN		--													
ST-004				ROOF FRAMING PLAN OF FORECOURT CANOPY				AS SHOWN		--													
ST-005				TOP CHORD PURLIN LAYOUT OF FORECOURT CANOPY				AS SHOWN		--													
ST-006				BOTTOM CHORD PURLIN LAYOUT OF FORECOURT CANOPY				AS SHOWN		--													
ST-007				TRUSS 1 & 2 DETAIL AND CROSS SECTION OF FORECOURT CANOPY				AS SHOWN		--													
ST-008				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 1				AS SHOWN		--													
ST-009				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 2				AS SHOWN		--													
ST-010				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 3				AS SHOWN		--													
ST-011				TYPICAL CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 4				AS SHOWN		--													
ST-012				TYPICAL FAST BRACE CONNECTION DETAILS OF FORCOURT CANOPY SHEET - 5				AS SHOWN		--													

GENERAL

- 1 THE SPECIFICATION AND DRAWINGS SHALL TAKE PRECEDENCE OVER THESE NOTES AND DETAILS.
- 2 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE NEW ZEALAND BUILDING CODE, THE CURRENT EDITION OF THE RELEVANT NEW ZEALAND STANDARDS, INCLUDING ASSOCIATED STANDARDS, AND LOCAL AUTHORITY REGULATIONS EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- 3 THE DESIGN ADEQUACY INCORPORATED IN THESE DRAWINGS IS SUBJECT TO THE REQUIREMENTS INCLUDED IN THE SPECIFICATION FOR THE WORKS AND THE DESIGN ASSUMPTIONS INCORPORATED INTO THE CALCULATIONS AND REPORTS FOR THE PROJECT.
- 4 THE DRAWINGS SHOW THE DESIGN INTENT. SHOP DETAILING IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 5 THE STRUCTURAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANTS DRAWINGS AND SPECIFICATIONS AND WITH SUCH OTHER INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL SETTING OUT, NIBS, REBATES, SETDOWNS AND THE LIKE. ALL DISCREPANCIES SHALL BE REFERRED TO THE PRINCIPAL CONSULTANT OR THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
- 6 ALL DIMENSIONS RELEVANT TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED. THE ENGINEERS DRAWINGS SHALL NOT BE SCALED.
- 7 DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES. THIS INCLUDES ALL EXISTING STRUCTURES FORMING PART OF, OR AFFECTED BY, THE WORKS. THE CONTRACTOR SHALL DESIGN AND PROVIDE PROPPING TO SUPPORT ALL CAST INSITU AND PRECAST CONCRETE WORK UNTIL SUCH CONCRETE HAS REACHED THE REQUIRED STRENGTH TO BE SELF SUPPORTING.
- 8 IF DURING CONSTRUCTION ANY PART OF THE WORKS SHOW SIGNS OF DISTRESS, EXCESSIVE DEFLECTION, CONFLICT OF COMPONENTS OR OTHER PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER WHO SHALL INVESTIGATE AND ISSUE SUCH INSTRUCTIONS AS ARE CONSIDERED NECESSARY.

INSPECTION

- 1 CONTRACTOR TO REVIEW BUILDING CONSENT AND ARRANGE INSPECTIONS BY COUNCIL AND ENGINEER AS REQUIRED BY CONSENT DOCUMENTATION
- 2 THE CONTRACTOR MUST BE SATISFIED THAT THE WORKS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS BEFORE CONFIRMING AN INSPECTION BY THE ENGINEER.

CONCRETE

- 1 ALL WORKMANSHIP AND MATERIAL SHALL BE IN ACCORDANCE WITH NZS 3109
- 2 UNLESS STATED OR DETAILED OTHERWISE ON THE DRAWINGS, ALL REINFORCEMENT MUST BE PROVIDED WITH A MINIMUM CONCRETE COVER AS SHOWN ON THE FOLLOWING TABLE.

MEMBER	CONCRETE COVER TO REINFORCEMENT (mm)				
	CAST AGAINST & PERMANENTLY EXPOSED TO EARTH	EXPOSED TO EARTH OR WEATHER		NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	
		INSITU	PRECAST	INSITU	PRECAST
FOUNDATIONS	75	50	40	---	---
BEAMS AND COLUMNS (PRIMARY REINFORCING)	75	50	40	40	35
TIES, STIRRUPS & SPIRALS	75	40	30	25	20
WALLS, SLABS & RIBS DIA <24/DIA= or >24	75	40/45	30/40	25/30	20/25

- 3 UNLESS STATED OTHERWISE ON THE DRAWINGS THE FOLLOWING CONCRETE STRENGTHS SHALL BE USED:
- |                           |        |
|---------------------------|--------|
| FOUNDATION                | 30 MPa |
| SLAB ON GRADE             | 30 MPa |
| CONCRETE BLOCK WALL GROUT | 30 MPa |
| PC STAIRS                 | 30 MPa |
| FLOOR TOPPINGS            | 30 MPa |
- 4 NO HOLES, CHASES OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE APPROVAL OF THE ENGINEER.
- 5 ALLOW FOR ALL CAST-IN CLEATS, HOLDING DOWN BOLTS AND THE LIKE.
- 6 INSITU AND PRECAST SUSPENDED SLABS AND BEAMS SHALL BE GIVEN A POSITIVE UPWARD CAMBER OF 2mm PER 1000mm OF SPAN. ALLOWANCES SHALL BE MADE FOR CAMBER WHEN SETTING OUT LEVELS.
- 7 PROVIDE D12 TRIMMER BARS TO ALL SLAB EDGES, UNLESS NOTED OTHERWISE.
- 8 CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AS DETAILED AND WHERE SHOWN ON THE DRAWINGS, OR AS SPECIFICALLY APPROVED BY THE ENGINEER.

- 9 SLABS ON GROUND SHALL BE SAWCUT AND SHALL CONSIST OF 3mm WIDE CUTS TO THE DEPTHS NOTED IN THE TABLE BELOW. THE MAXIMUM SLAB PANEL AREA BETWEEN JOINTS SHALL BE AS NOTED IN THE TABLE BELOW WITH A MAXIMUM SPACING BETWEEN JOINTS OF 6m. THESE ARE GENERAL GUIDELINES AND SHOULD BE FOLLOWED UNLESS OTHERWISE NOTED ON THE DRAWINGS.

SLAB THICKNESS	SAW CUT DEPTH	MAXIMUM PANEL AREA
100 THK	25mm	25m²
150 THK	35mm	35m²
200 THK	40mm	40m²

REINFORCEMENT

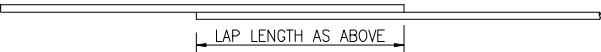
- 1 REINFORCEMENT SHALL BE NEW ZEALAND MANUFACTURED TO AS/NSZ 4671. ALL REINFORCEMENT TO BE HIGH DUCTILITY CLASS E. WIRE MESH SHALL BE IN ACCORDANCE WITH NZS 3422, TO MIN GRADE 500MPa THE INTERNAL RADIUS OF BENDS SHALL BE AS LIMITED BY AS/NZS 3109
- 2 TYPICAL BAR DESIGNATIONS ARE AS FOLLOWS:--  
16-HD30-300 EF  
DENOTES 16No PACIFIC GRADE 500E DEFORMED 20 DIA BARS AT 300 CENTRES IN EACH FACE  
9-R10 TIES-200  
DENOTES 9No GRADE 300E PLAIN ROUND 10 DIA TIES AT 200 CENTRES
- 3 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- 4 SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN THE POSITION SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY THE ENGINEER. THE FOLLOWING SPLICE LAP LENGTHS SHALL BE USED IN REINFORCED CONCRETE AND BLOCK WORK UNLESS DETAILED OTHERWISE ON THE DRAWINGS

GRADE 300 = 40xBAR DIA    GRADE 500 = 60xBAR DIA						
SPLICE LAP LENGTHS						
BAR Ø	10	12	16	20	25	32
GRADE 300 DEFORMED BARS (D)	400	480	640	800	1000	1280
GRADE 500 DEFORMED BARS (HD)	600	720	960	1200	1500	1920

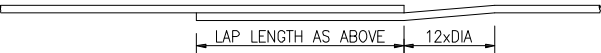
- 5 LAP SPLICE LENGTH FOR ROUND REINFORCING BARS SHALL BE TWICE THE CORRESPONDING VALUE FOR DEFORMED REINFORCING
- 6 **LAPPED AT RANDOM BARS:** WHERE LAPS ARE NOT SPECIFICALLY SHOWN BARS MAY BE LAPPED AT RANDOM IN A STAGGERED PATTERN. BARS SHALL BE 3.0m MINIMUM LENGTH BUT WHERE ACCURATE PLACING IS CRITICAL BARS LONGER THAN 3.0m MAY INCORPORATE ONE LAP COMPLYING WITH THE ABOVE TABLES.
- 7 SLAB REINFORCEMENT SHALL BE SUPPORTED ON STOOLS OR OTHER APPROVED METHODS. STARTERS SHALL BE TIED IN PLACE.

TYPE OF LAP

- 1 PARALLEL LAP – TYPICAL FOR SLABS AND BLOCK WALLS UNLESS DETAILED OTHERWISE



- 2 OFFSET LAP – TYPICAL FOR BEAMS, COLUMNS AND REINFORCED CONCRETE WALLS UNLESS DETAILED OTHERWISE



REINFORCING MESH LAPS

TO NZS3101:2006 CLAUSE 8.6.8.2 REQUIRES ONE MESH SQUARE + 50mm  
SE62-SE92 MESH LAP LENGTH = 250  
SE73-SE93 MESH LAP LENGTH = 350



BLOCKWORK

- 1 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH NZS 4210 AND TO NZS 4230 MASONRY STANDARD GRADE B.
- 2 ALL BLOCKWORK SHALL BE DIRECTLY SUPERVISED BY A REGISTERED MASON WHO SHALL PROVIDE CONTINUOUS INSPECTION.
- 3 ALL MASONRY UNITS SHALL BE OPEN END REINFORCING UNITS, THE BOTTOM COURSE TO BE PLACED UPSIDE DOWN. ALL CELLS ARE TO BE FILLED.
- 4 FOR HEIGHTS OVER 1.2m THE 'HIGH LIFT' METHOD OF GROUTING SHALL BE USED. PROVIDE CLEAN OUT PORTS AT EVERY VERTICAL BAR AND AT THE BOTTOM OF EVERY LIFT UNLESS SHOWN ON THE DRAWINGS.
- 5 CONTROL JOINTS ARE TO BE PROVIDED AT 6.0m MAXIMUM CENTRES UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

REMOVAL OF FORMWORK

ITEMS FROM WHICH FORMWORK IS TO BE REMOVED	ORDINARY PORTLAND CEMENT		RAPID HARDENING CEMENT	
	COLD WEATHER 7(OR LESS) DAYS	TEMPERATE WEATHER DAYS	COLD WEATHER 7(OR LESS) DAYS	TEMPERATE WEATHER DAYS
	6	2	5	1
BEAMSIDES AND WALLS				
COLUMNS AND SLABS IN BEAM AND SLAB CONSTRUCTION (PROPS TO BE LEFT UNDER SLABS OF SPANS OVER 1500mm)	10	5	7	2
REMOVAL OF PROPS FROM SLABS OF SPAN OVER 1500mm IN BEAM AND SLAB CONSTRUCTION	14	10	4	4
BEAMS, SOFFITS, ARCH RIBS, OR BARRELS AND SLAB SPANS EXCEEDING 4500mm	28	16	21	8


STEELWORK

- 1 MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH NZS 3404 WELDING SHALL COMPLY WITH AS/NZS 1554.1 IN CONJUNCTION WITH NZS 3404 APPENDIX D
- 2 ALL CONNECTIONS SPLICES AND BASEPLATES SHALL BE TO HERA REPORT R4-100 AS SHOWN TYPICALLY ON THE DRAWINGS UNLESS SPECIFICALLY NOTED OR DETAILED.
- 3 BOLTS SHALL GENERALLY BE SNUG FIT HIGH STRENGTH BOLTS TO AS/NZS 1252. BOLTS DESIGNATED Mxx/8.8 SHALL BE HIGH STRENGTH BOLTS TO AS/NZS 1252 FULLY TENSIONED IN ACCORDANCE WITH NZS 3404.
- 4 WELDS TO BE CONTINUOUS SINGLE BEVEL BUTT OR 5mm CONTINUOUS FILLET WELDS (6mm FOR MANUAL WELDS) AS APPROPRIATE UNLESS NOTED OTHERWISE. ALL WELDS SHALL BE MADE USING ELECTRODES HAVING MINIMUM NOMINAL TENSILE STRENGTH OF 480MPa.
- 5 HOLDING DOWN BOLTS AND CAST-IN ITEMS SHALL BE SET ACCURATELY BY TEMPLATE FOR POSITION, PLUMB AND LEVEL BEFORE CONCRETING.
- 6 BASEPLATES SHALL BEAR DIRECTLY ON 20 NOMINAL THICKNESS DRY PACK MORTAR UNLESS NOTED.
- 7 WASHERS, TAPERED WHERE NECESSARY, ARE TO BE USED UNDER BOLT HEADS AND NUTS
- 8 HOLLOW SECTION MEMBERS SHALL BE CAPPED AND ALL JOINTS SEALED
- 9 FOR HOT DIP GALVANISED ITEMS ALLOW FOR TOLERANCES, VENT HOLES ETC. VENT HOLES SHALL BE SEALED AFTER GALVANISING
- 10 UNLESS OTHERWISE SPECIFIED ALL STEELWORK SHALL BE PAINTED WITH ONE COAT OF AN APPROVED ZINC PHOSPHATE PRIMER IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. PREPARATION OF THE STEEL SURFACE FOR PAINTING SHALL BE IN ACCORDANCE WITH BS 7079, PART A1, CONDITION S12 UNLESS NOTED OTHERWISE IN THE MANUFACTURER'S RECOMMENDATIONS. DO NOT PAINT STEELWORK TO BE ENCASED IN CONCRETE OR SURFACES FORMING PART OF A TENSIONED BOLTED CONNECTION.
- 11 RESPONSIBILITY OF MAINTENANCE & DURABILITY OF STEEL SECTIONS SHALL BE OF OWNER/CONTRACTORS.

TIMBER

- 1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH NZS 3602 & NZS 3603
- 2 LIGHT TIMBER FRAMED CONSTRUCTION SHALL BE IN ACCORDANCE WITH NZS 3604
- 3 GRADE OF TIMBER SHALL BE S68 UNLESS OTHERWISE SPECIFIED TREATED TO HAZARD CLASS H3.2

R1

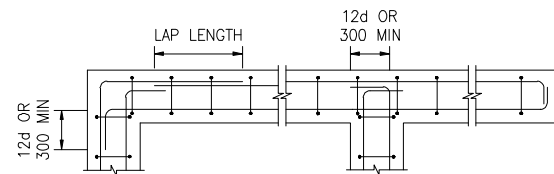
				CONSULTANT:	<div><div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div></div>		CLIENT:			PROJECT:	PROPOSED SERVICE STATION DEVELOPMENT  STATE HIGHWAY 30,  WHAKATANE		TITLE:	CONSTRUCTION NOTES - 1		NORTH:			<table><tr><td>DATE:</td><td>10-02-20</td><td rowspan="5"><table><tr><td colspan="2">PROJECT NO:</td></tr><tr><td colspan="2">19074</td></tr><tr><td>DRAWING NO:</td><td>ST-1001</td></tr><tr><td>REVISION:</td><td>R1</td></tr></table></td></tr><tr><td>---</td><td>----</td></tr><tr><td>DRAWN:</td><td>JT</td></tr><tr><td>CHECKED:</td><td>KV</td></tr><tr><td>---</td><td>----</td></tr><tr><td>SCALE:</td><td>AS SHOWN</td></tr></table>	DATE:	10-02-20	<table><tr><td colspan="2">PROJECT NO:</td></tr><tr><td colspan="2">19074</td></tr><tr><td>DRAWING NO:</td><td>ST-1001</td></tr><tr><td>REVISION:</td><td>R1</td></tr></table>	PROJECT NO:		19074		DRAWING NO:	ST-1001	REVISION:	R1	---	----	DRAWN:	JT	CHECKED:	KV	---	----	SCALE:	AS SHOWN
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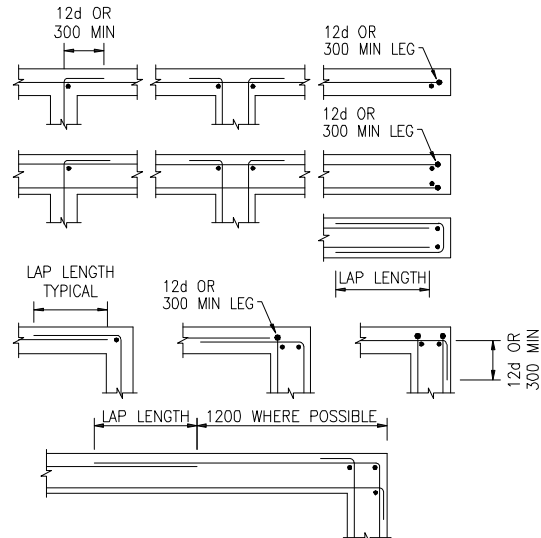
Silicon Engineering Consultants Limited  
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East Tamaki, Auckland,  
New Zealand  
Tel: 09 9097860  
Mobile: 021 0296 7467

## TIMBER

- 1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH NZS 3602 & NZS 3603
- 2 LIGHT TIMBER FRAMED CONSTRUCTION SHALL BE IN ACCORDANCE WITH NZS 3604

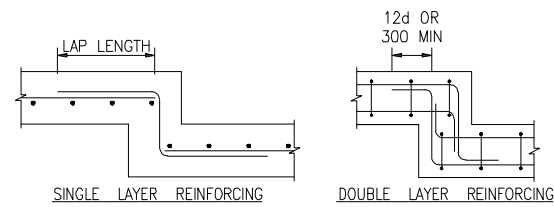


## FOUNDATION JUNCTIONS

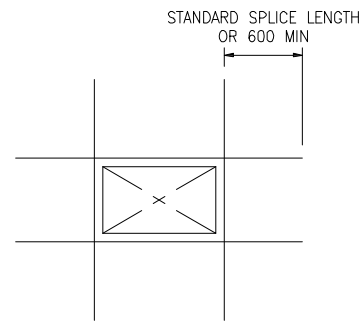


## WALL JUNCTIONS AND TERMINATIONS

THESE DETAILS APPLY UNLESS DETAILED OTHERWISE



## FOUNDATION STEPS



## WALL & SLAB PENETRATIONS

PENETRATIONS LESS THAN 300 GREATEST  
DIMENSION ARE GENERALLY NOT SHOWN ON THE  
DRAWINGS.

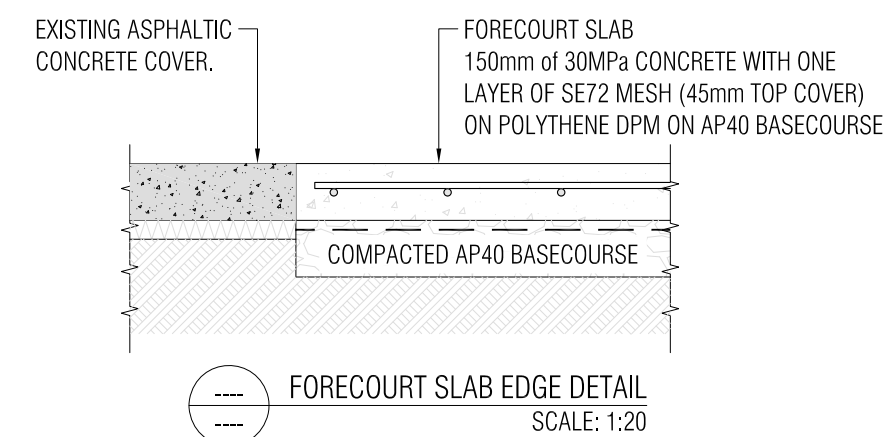
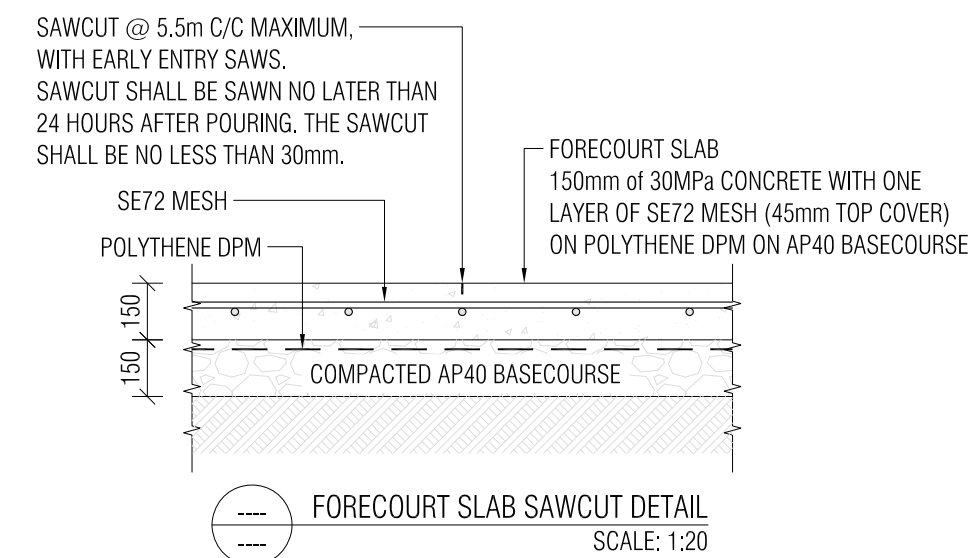
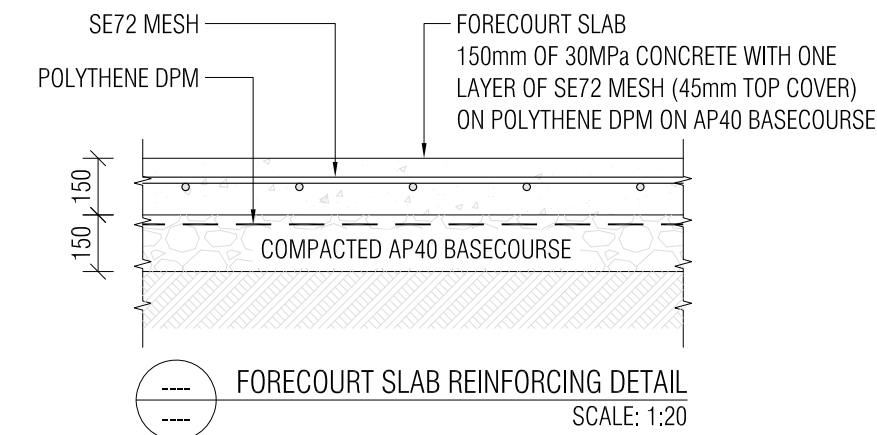
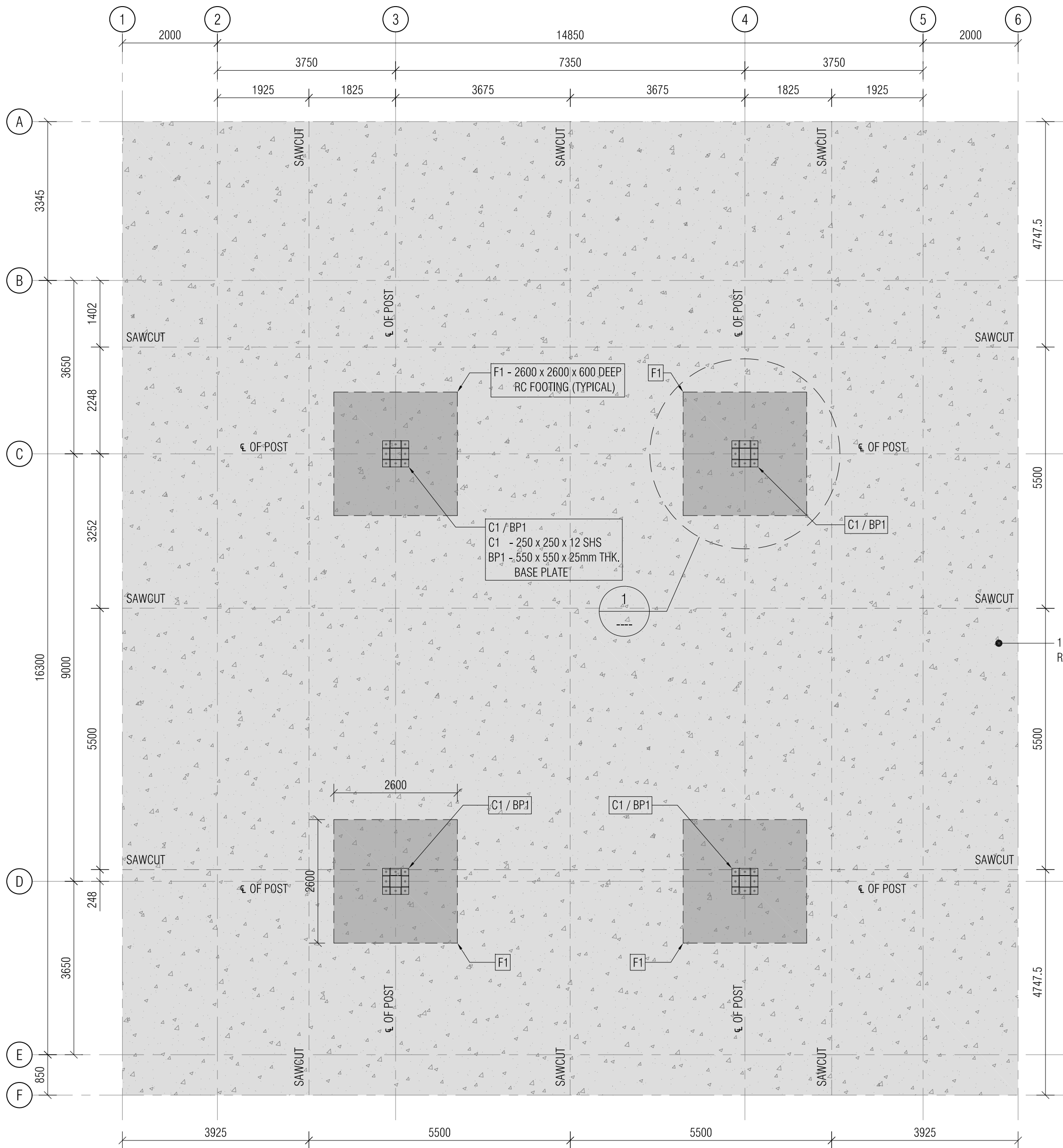
TRIMMERS SHALL BE PROVIDED FOR ALL PENETRATIONS WITH ONE DIMENSION GREATER THAN 200 OR 200 DIAMETER.

TRIMMERS TO BE:

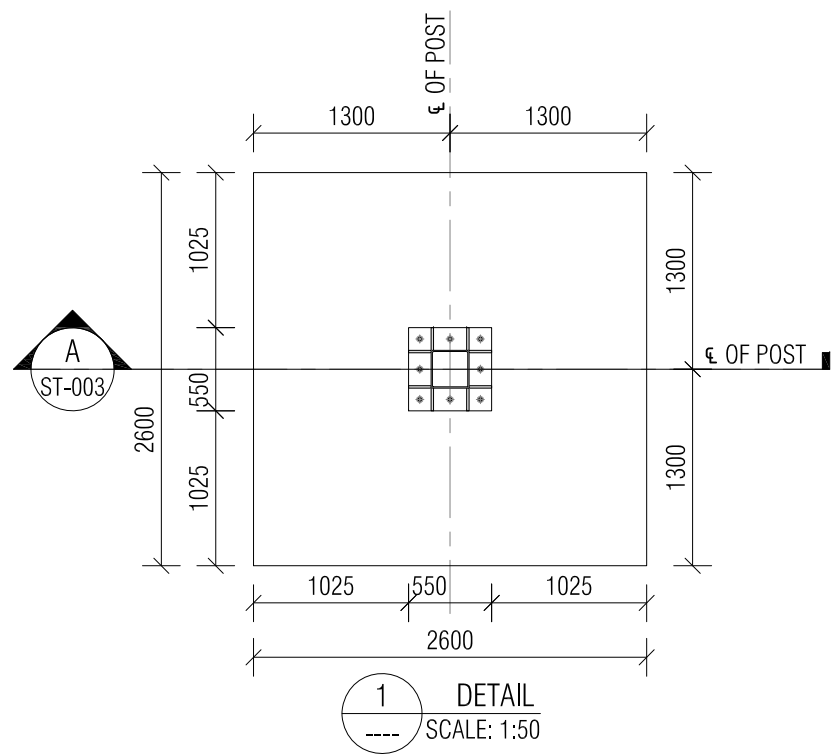
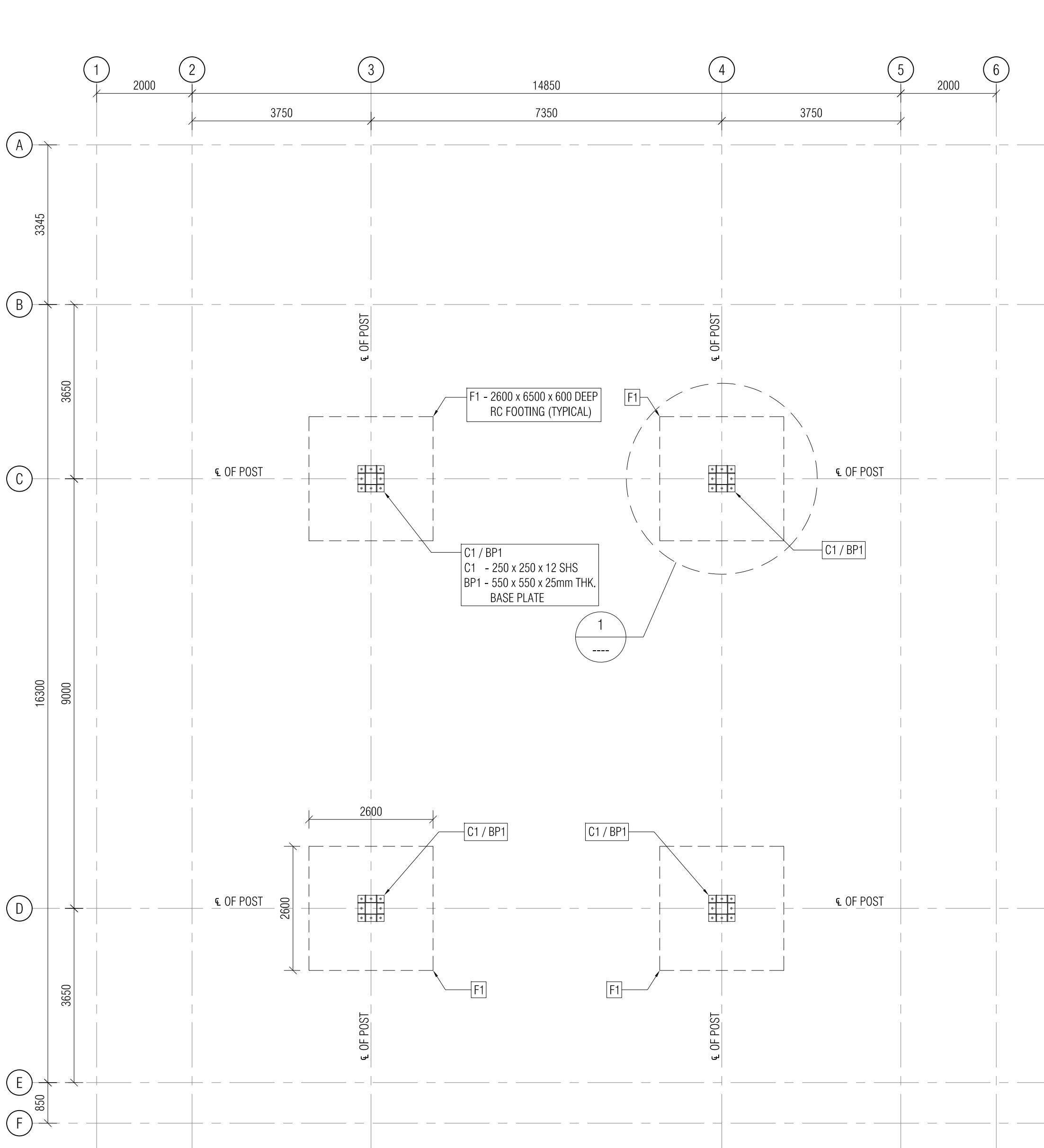
1-D16	FOR THICKNESS UP TO 150
2-D16	FOR THICKNESS 155 - 300

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														----		ST-001 (A2)	
STATUS:		REVISIONS												SCALE:		REVISION:	
														AS SHOWN		R0	



FOUNDATION & CENTER LINE LAYOUT (FORECOURT CANOPY)  
SCALE 1:75

REV	DESCRIPTION	BY	DATE
R1	GENERALLY REVISED & ISSUED FOR APPROVAL	JT	19-02-2020
R0	ISSUED FOR APPROVAL	JT	13-12-2019
REVISIONS			



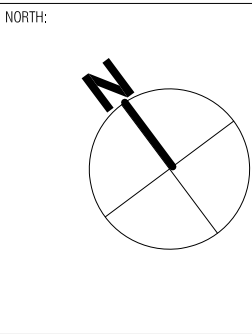
**SILICON**  
Engineering Consultants Ltd

Silicon Engineering Consultants Limited  
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CLIENT:
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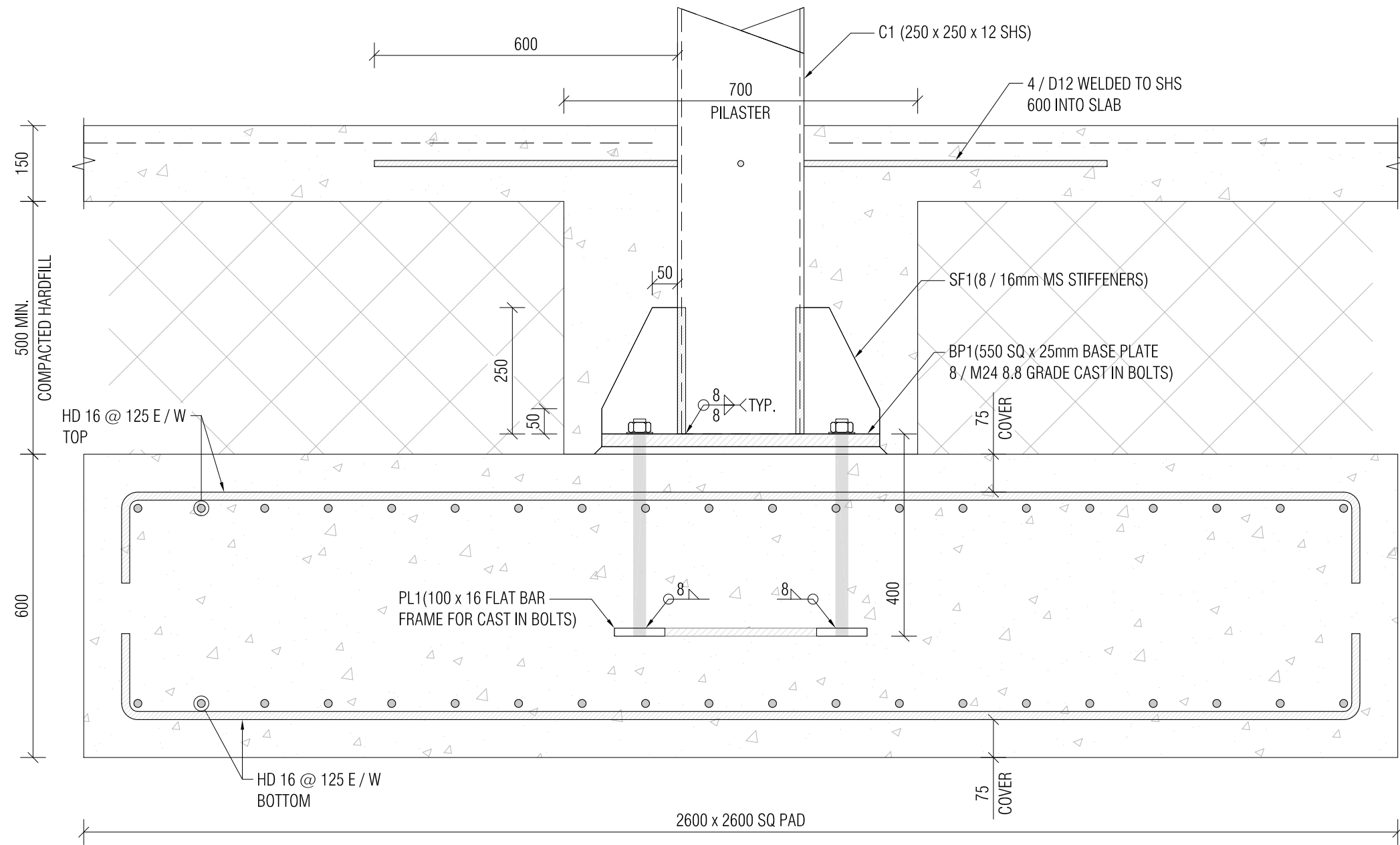
PROJECT:
PROPOSED SERVICE STATION DEVELOPMENT STATE HIGHWAY 30, WHAKATANE

TITLE:
FOUNDATION & CENTER LINE LAYOUT OF FORECOURT

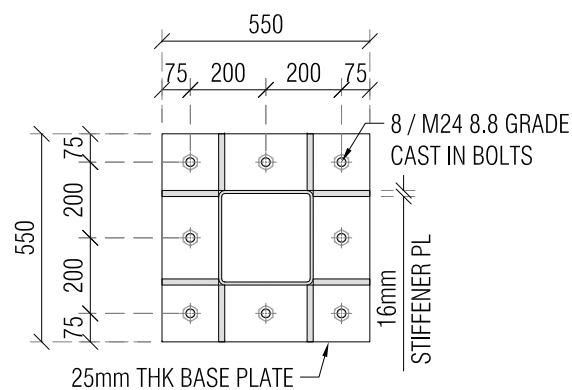


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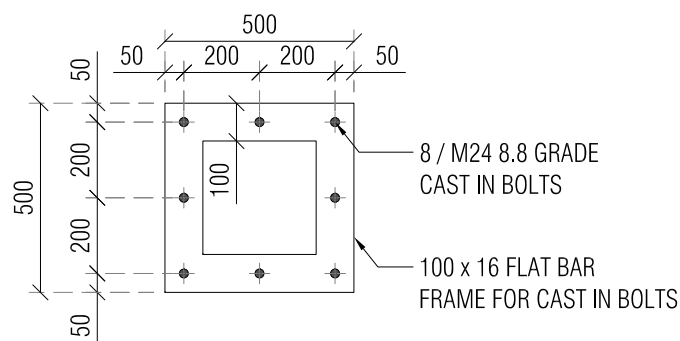


**A** DETAIL  
ST-002 SCALE: 1:10



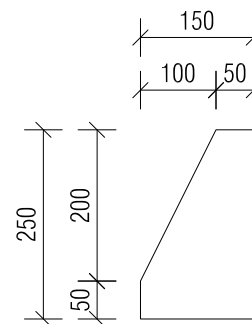
BP1 ( 25mm THK. BASE PLATE)

SCALE 1:10





PL1 ( 16mm THK. PLATE)

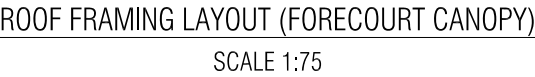
SCALE 1:10



SF1 ( 16mm THK. STIFFENER PLATE)

SCALE 1:10

				CONSULTANT:		CLIENT:		PROJECT:		TITLE:		NORTH:		DATE: 13-12-19		PROJECT NO:	
						Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467		PROPOSED SERVICE STATION DEVELOPMENT  STATE HIGHWAY 30,  WHAKATANE		FOUNDATION SECTION & DETAILS  OF FORECOURT CANOPY				<div>----</div> <div>----</div> <div>JT</div> <div>KV</div> <div>----</div> <div>AS SHOWN</div>		19074	
R1	GENERALLY REVISED & ISSUED FOR APPROVAL			JT	19-02-2020									DRAWING NO:		REVISION:	
R0	ISSUED FOR APPROVAL			JT	13-12-2019									ST-003 (A3)		R1	
REV	DESCRIPTION			BY	DATE												
STATUS: REVISIONS																	



**NOTE:-**

1. REFER DRAWING NO. ST-005 & ST-006 FOR LAYOUT OF DHS PURLINS & FAST BRACE
2. USE 2/50mm MULTIBRACE FOR BRACING OF ROOF. PROVIDE 10/ TYPE 17 TEK SCREWS FOR EACH STRAP WRAPPED AROUND AT THE ENDS AND MINIMUM 2 SCREWS FOR EACH INTERSECTING PURLIN.
3. MULTIBRACE SHALL BE CAPABLE OF RESISTING 3kN ULTIMATE TENSILE FORCE.

R2	REVISED AS MARKED	JT	26-02-2020
R1	GENERALLY REVISED & ISSUED FOR APPROVAL	AXAY	10-02-2020
R0	ISSUED FOR APPROVAL	JT	13-12-2019
REV	DESCRIPTION	BY	DATE

STATUS:

REVISIONS

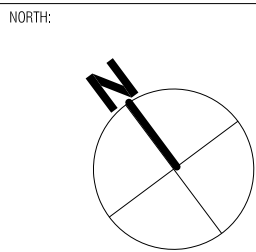
CONSULTANT:

The logo for Silicon Engineering Consultants Ltd features a stylized graphic on the left composed of three overlapping geometric shapes in green, blue, and white, resembling a modern building or a stylized 'S'. To the right of this graphic, the word 'SILICON' is written in a large, bold, green, sans-serif font. Below 'SILICON', the words 'Engineering Consultants Ltd' are written in a smaller, black, sans-serif font.

Silicon Engineering Consultants Limited  
40, Springs Roads,  
East Tamaki, Auckland,  
New Zealand  
Tel: 09 9097860  
Mobile: 021 0296 7467

CLIENT:	PROJECT: PROPOSED SERVICE STATION DEVELOPMENT STATE HIGHWAY 30, WHAKATANE
---------	--

TITLE: ROOF FRAMING LAYOUT  
OF FORECOURT CANOPY

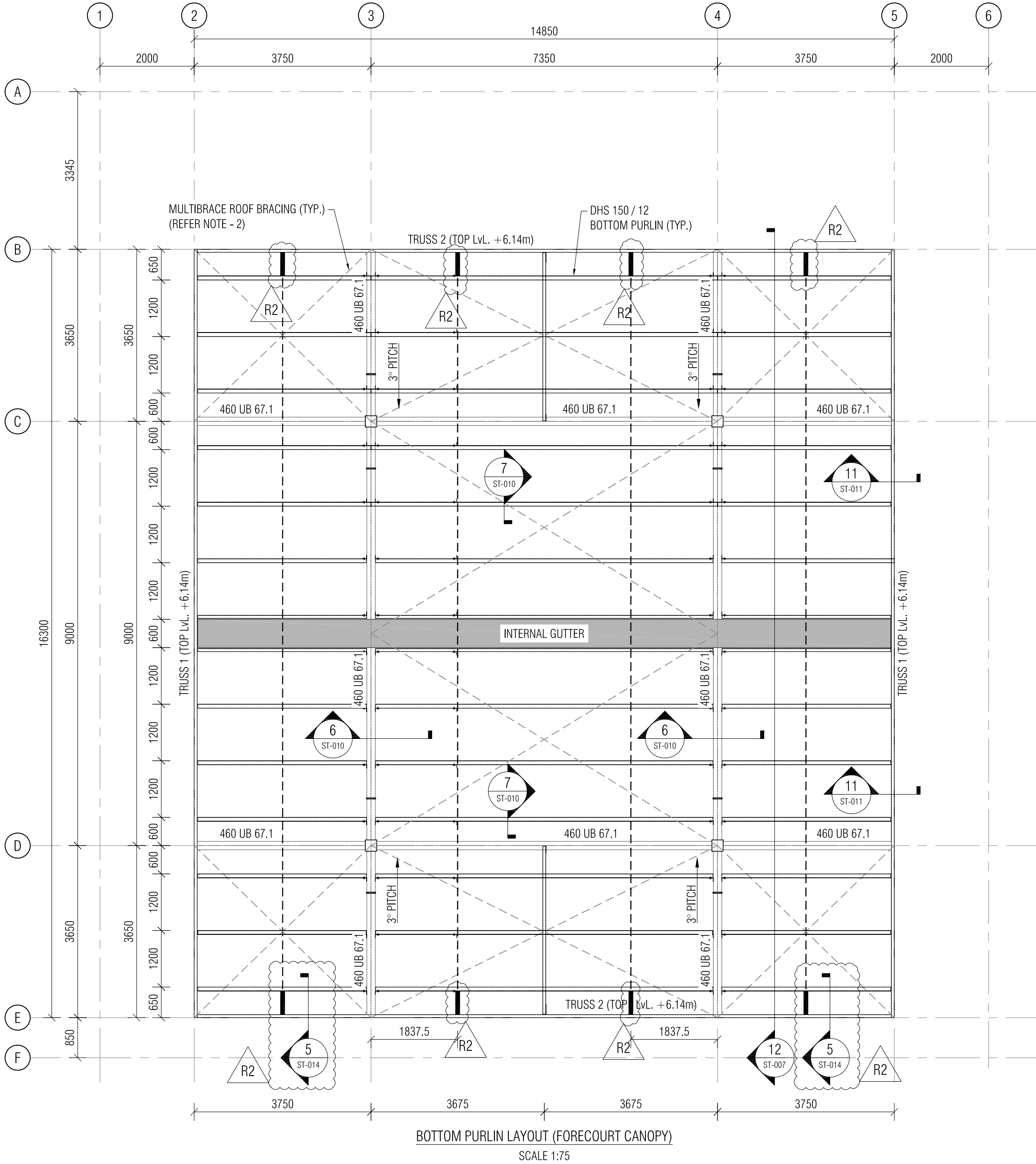


DATE:	13-12-19	PROJECT NO:  19074	
-----	----		
DRAWN:	JT		
CHECKED:	KV		
-----	----	DRAWING NO:  ST-004 (A2)	REVISION:  R2
SCALE:	AS SHOWN		



MEMBER SCHEDULE

NO.	DESCRIPTION	ITEM NAME	STEEL GRADE MIN. YIELD STRESS (Mpa)
1	COLUMN POST	250 x 250 x 12 SHS	350
2	RAFTER / BEAM	460 UB 67.1	300
3	TRUSS BOTTOM CHORD	65 x 65 x 4 SHS	350
4	TRUSS INCLINED MEMBERS	50 x 50 x 4 SHS	350
5	TRUSS TOP CHORD	100 x 100 x 5 SHS	350
6	BOTTOM PURLIN	DHS 150 / 12	500
7	TOP PURLIN	DHS 250 / 18	500



LEGEND & SYMBOLS

- DHS FAST BRACE
- TIMBER BRACE

NOTE:-

- REFER DRAWING NO. ST-004 FOR ROOF FRAMING LAYOUT.
- USE 2/50mm MULTIBRACE FOR BRACING OF ROOF. PROVIDE 10/ TYPE 17 TEK SCREWS FOR EACH STRAP WRAPPED AROUND AT THE ENDS AND MINIMUM 2 SCREWS FOR EACH INTERSECTING PURLIN.
- MULTIBRACE SHALL BE CAPABLE OF RESISTING 3kN ULTIMATE TENSILE FORCE.

REV	DESCRIPTION	BY	DATE
R2	REVISED AS MARKED	JT	26-02-2020
R1	GENERALLY REVISED & ISSUED FOR APPROVAL	JT	19-02-2020
R0	ISSUED FOR APPROVAL	JT	13-12-2019
STATUS:	REVISIONS		

CONSULTANT:

 Silicon Engineering Consultants Limited  
40, Springs Roads,  
East Tamaki, Auckland,  
New Zealand  
Tel: 09 9097860  
Mobile: 021 0296 7467

CLIENT:

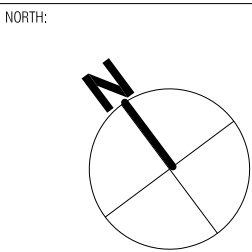
PROPOSED SERVICE STATION DEVELOPMENT  
STATE HIGHWAY 30,  
WHAKATANE

PROJECT:

PROPOSED SERVICE STATION DEVELOPMENT  
STATE HIGHWAY 30,  
WHAKATANE

TITLE:

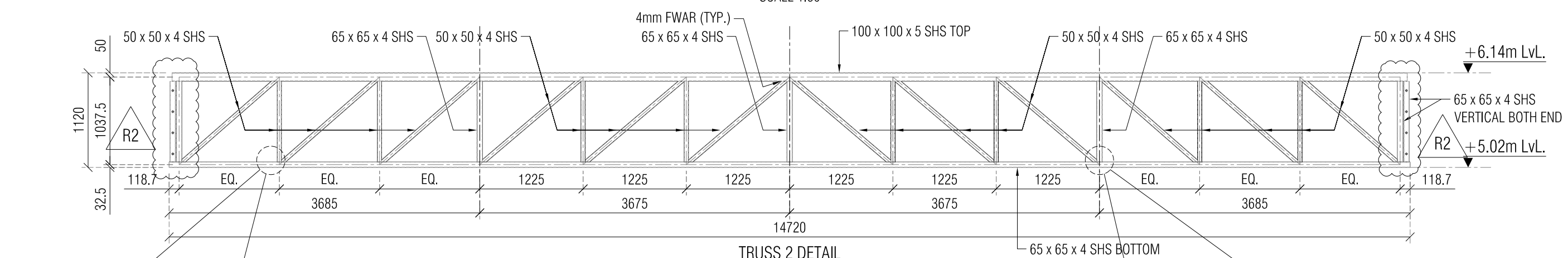
BOTTOM PURLIN LAYOUT  
OF FORECOURT CANOPY



DATE:	13-12-19
DRAWN:	JT
CHECKED:	KV
SCALE:	AS SHOWN

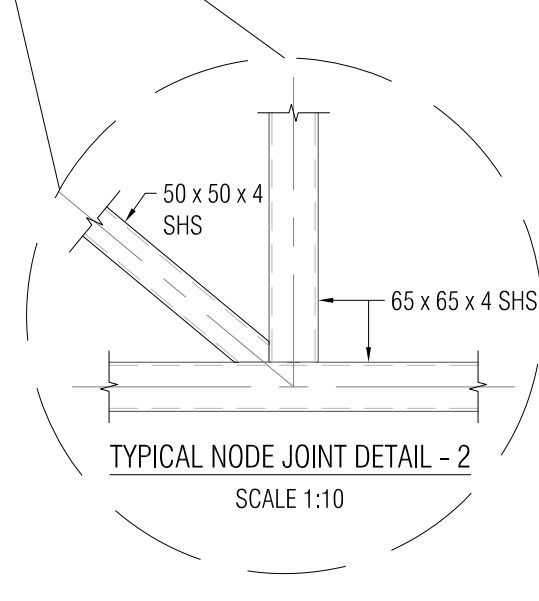
PROJECT NO:	19074
DRAWING NO:	ST-006 (A2)
REVISION:	R2





SCALE 1:50



SCALE 1:50



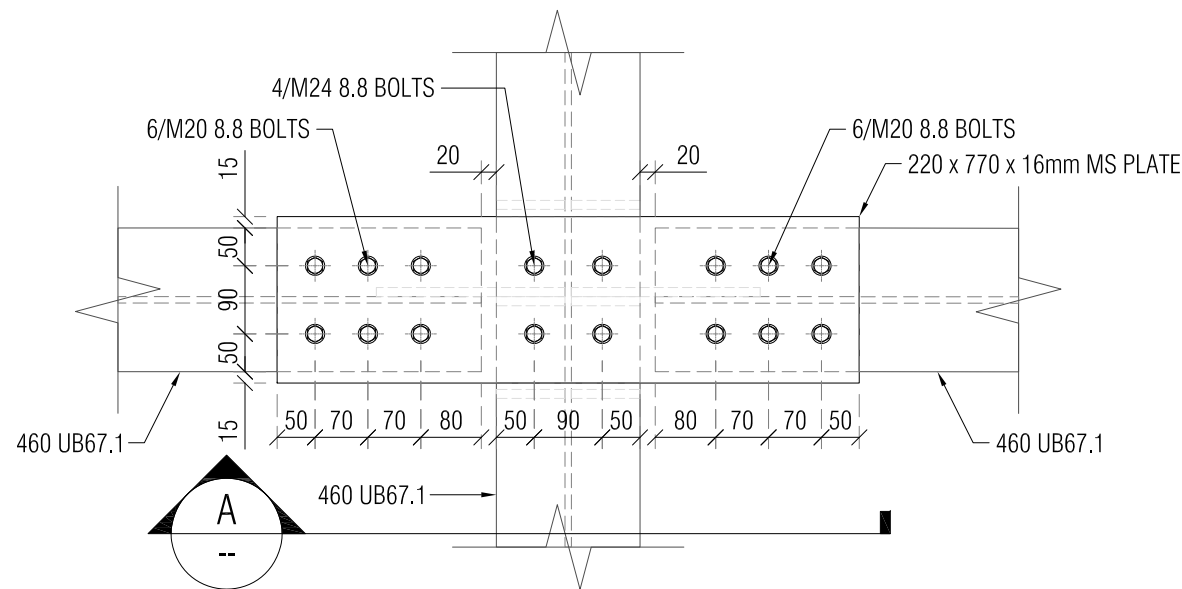
SCALE 1:10

SCALE 1:10

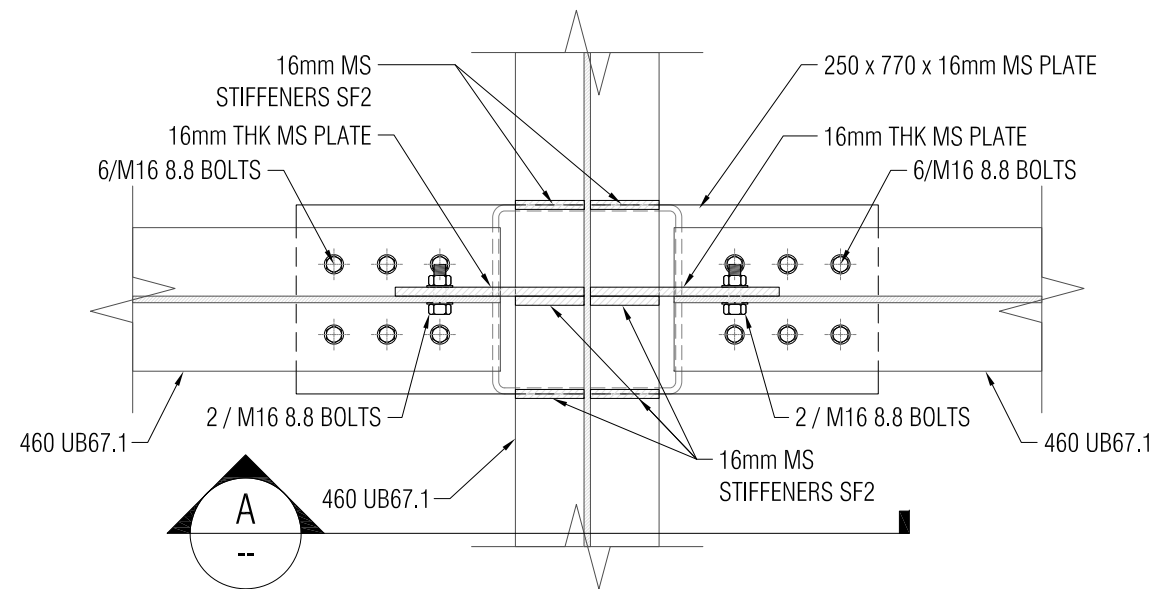


				CONSULTANT:	 Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467		CLIENT:		PROJECT:	PROPOSED SERVICE STATION DEVELOPMENT  STATE HIGHWAY 30,  WHAKATANE		TITLE:	TRUSS 1 & 2 DETAIL AND CROSS  SECTION OF FORECOURT CANOPY		NORTH: 	DATE: 13-12-19 ---- DRAWN: JT CHECKED: KV --- ----- SCALE: AS SHOWN	PROJECT NO:  19074	DRAWING NO:  ST-007 (A2)	REVISION:  R2
R2	REVISED AS MARKED	JT	26-02-2020																
R1	GENERALLY REVISED & ISSUED FOR APPROVAL.	JT	19-02-2020																
R0	ISSUED FOR APPROVAL	JT	13-12-2019																
REV	DESCRIPTION	BY	DATE																
STATUS: REVISIONS																			

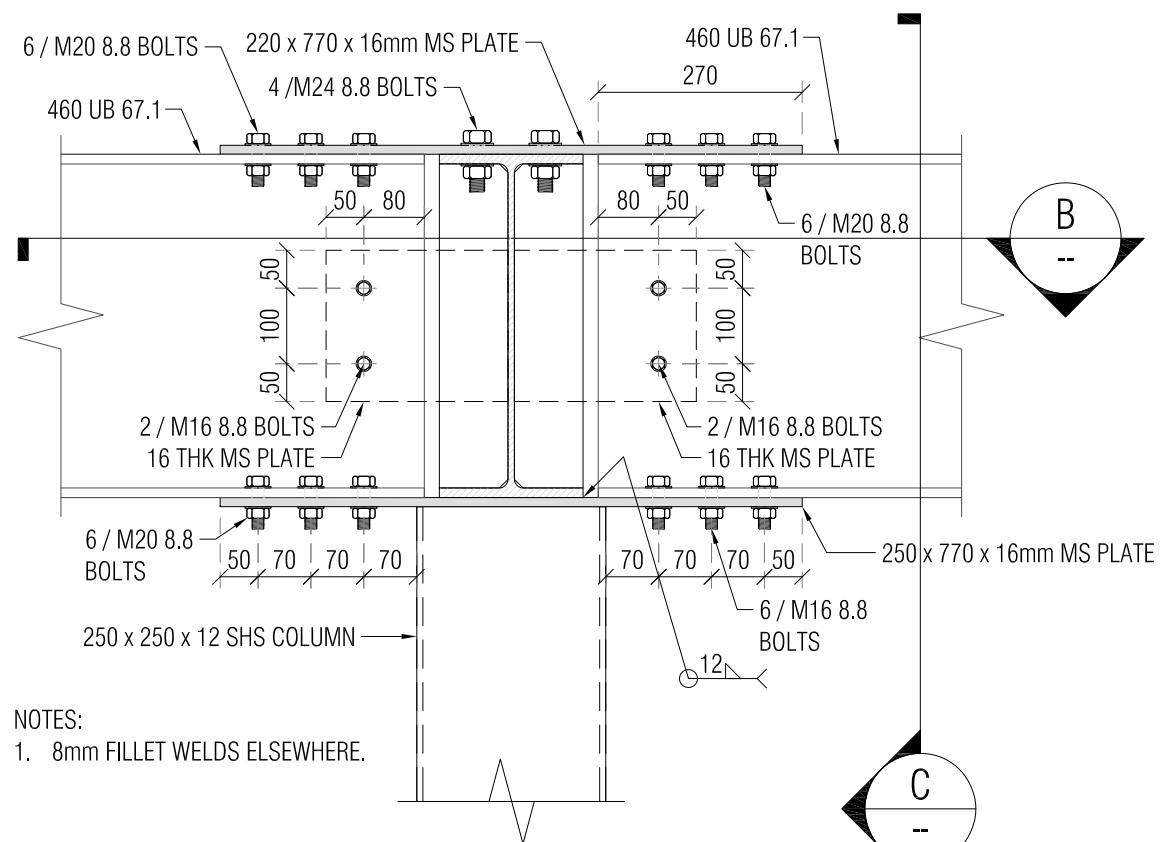




2  
ST-004  
DETAIL  
SCALE: 1:10

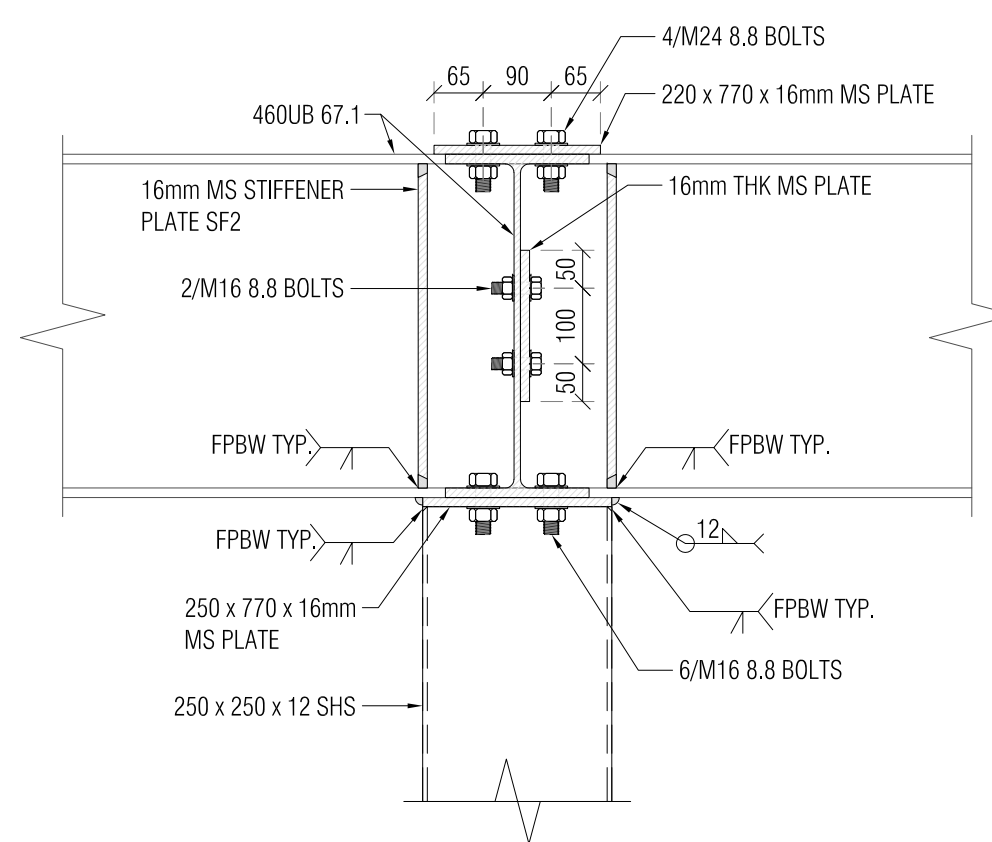


B  
SECTION  
SCALE: 1:10

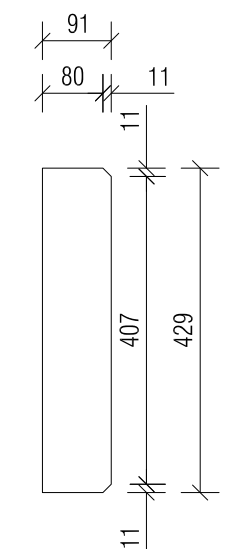


A  
SECTION  
SCALE: 1:10

NOTES:  
1. 8mm FILLET WELDS ELSEWHERE.



C  
SECTION  
SCALE: 1:10



SF2( 16mm THK.  
STIFFENER PLATE)  
SCALE 1:10

REV	DESCRIPTION	BY	DATE
R1	GENERALLY REVISED & ISSUED FOR APPROVAL	JT	21-02-2020
R0	ISSUED FOR APPROVAL	JT	13-12-2019
REVISIONS			

CONSULTANT:



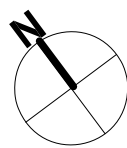
Silicon Engineering Consultants Limited  
40, Springs Roads,  
East Tamaki, Auckland,  
New Zealand  
Tel: 09 9097860  
Mobile: 021 0296 7467

CLIENT:

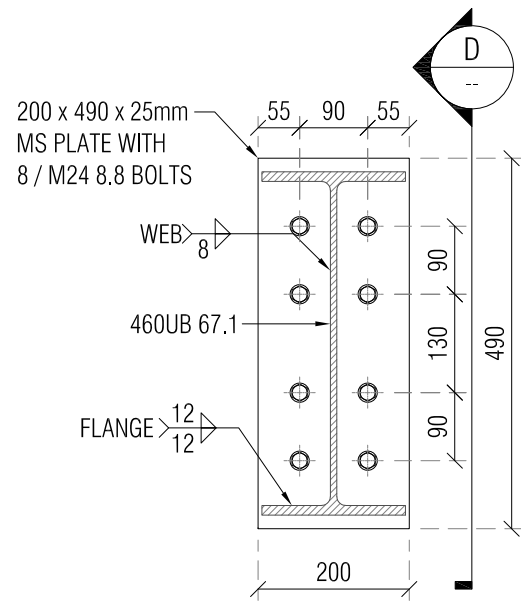
PROJECT:  
PROPOSED SERVICE STATION DEVELOPMENT  
STATE HIGHWAY 30,  
WHAKATANE

TITLE:  
TYPICAL CONNECTION DETAIL  
OF FORECOURT CANOPY SHEET - 1

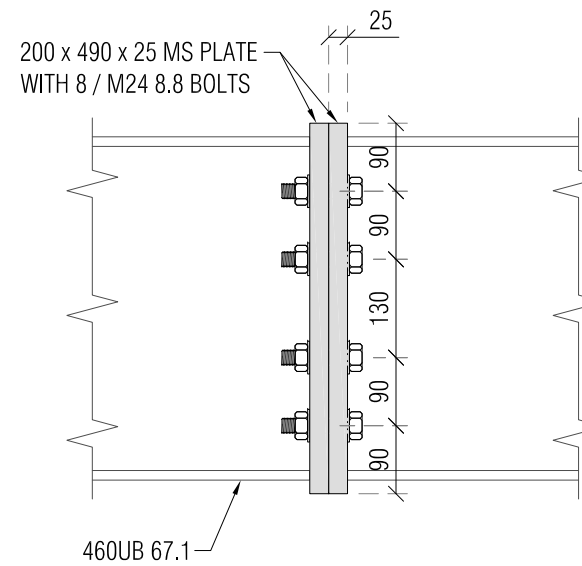
NORTH:



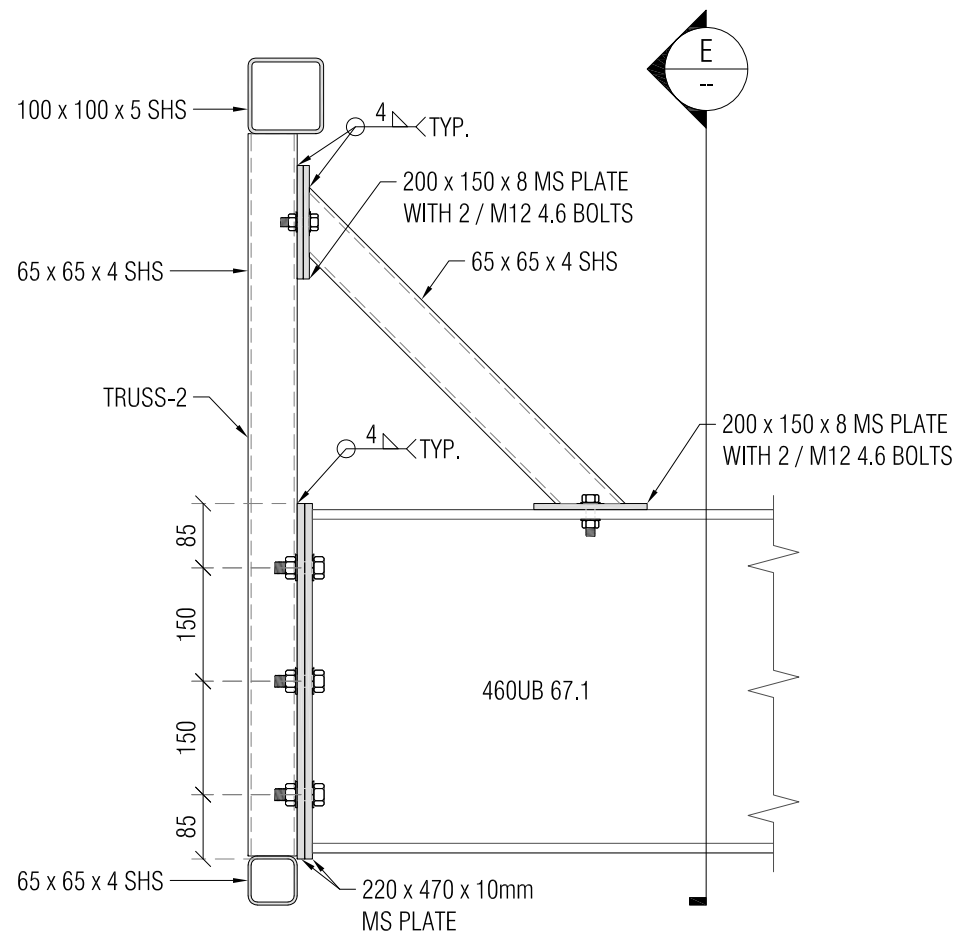
DATE: 13-12-19	PROJECT NO: 19074
DRAWN: JT	
CHECKED: KV	DRAWING NO: ST-008 (A3)
SCALE: AS SHOWN	REVISION: R1



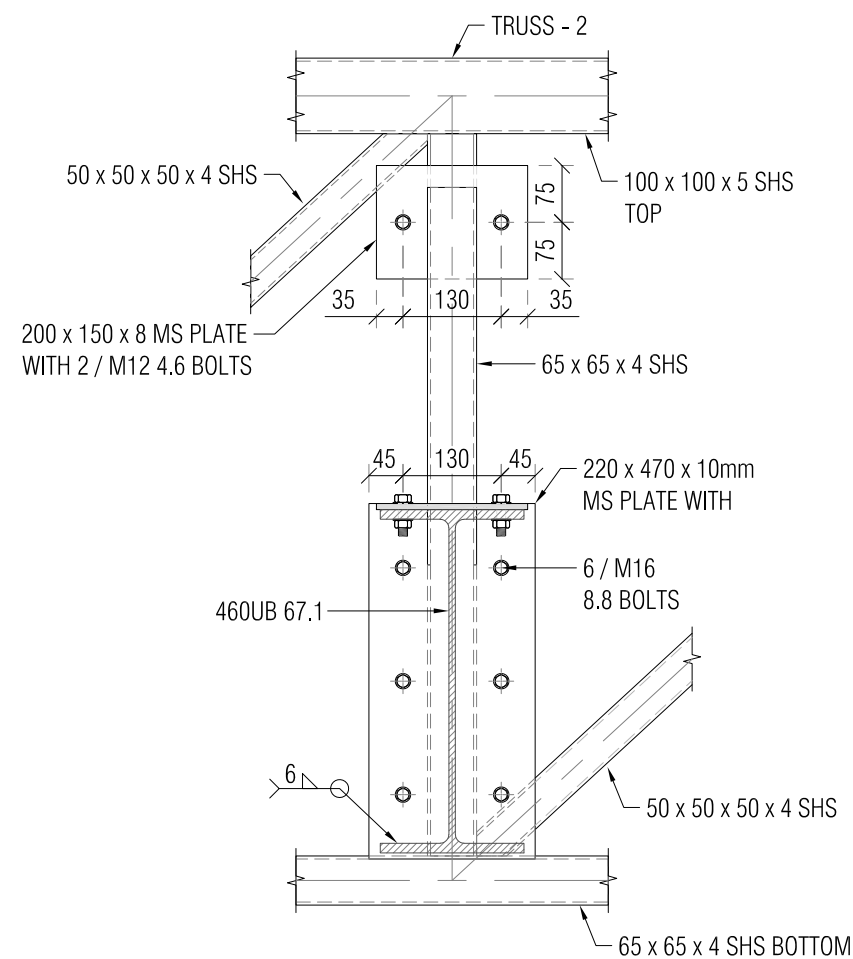
3 SECTION  
ST-004 SCALE: 1:10





D SECTION  
SCALE: 1:10





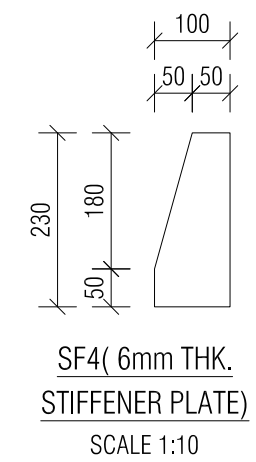
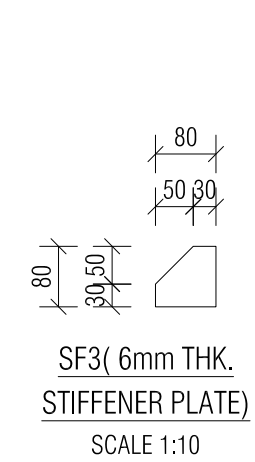
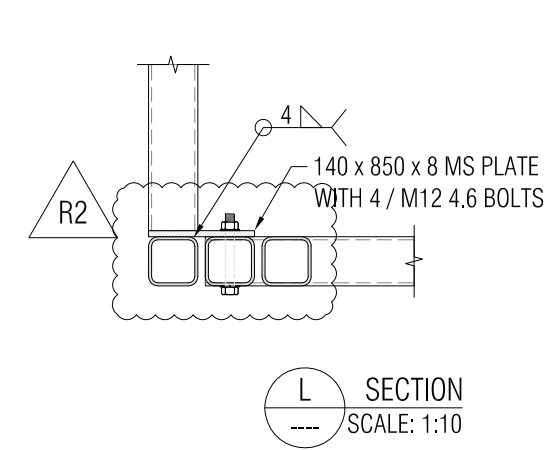
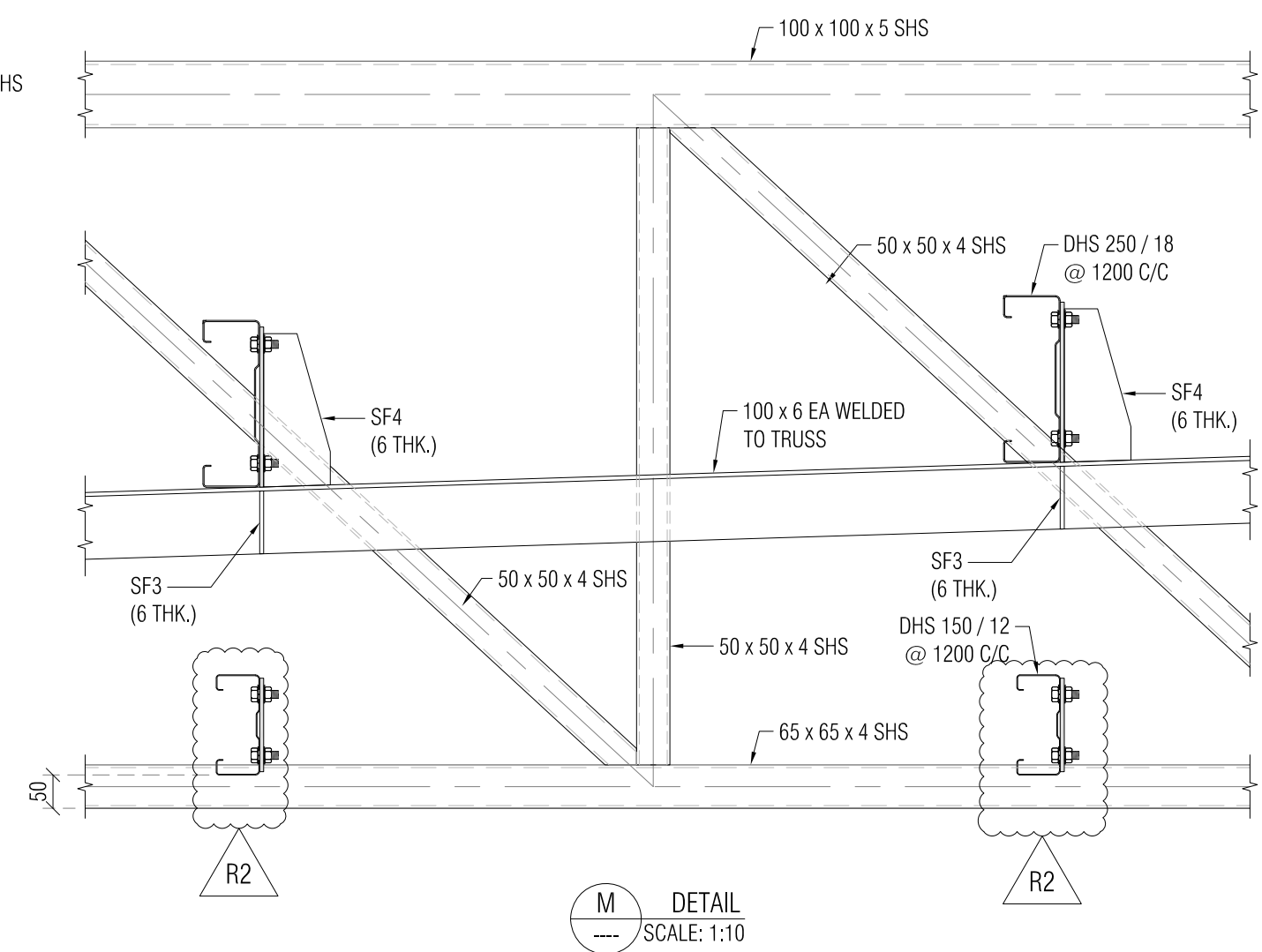
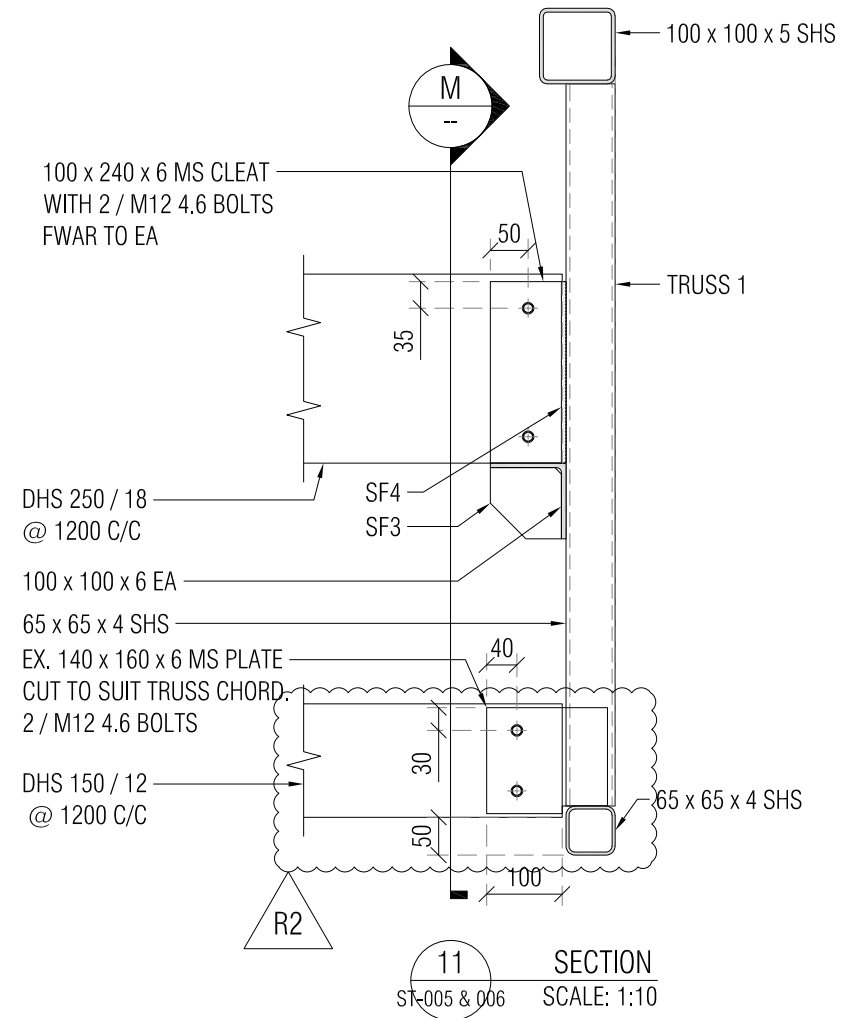
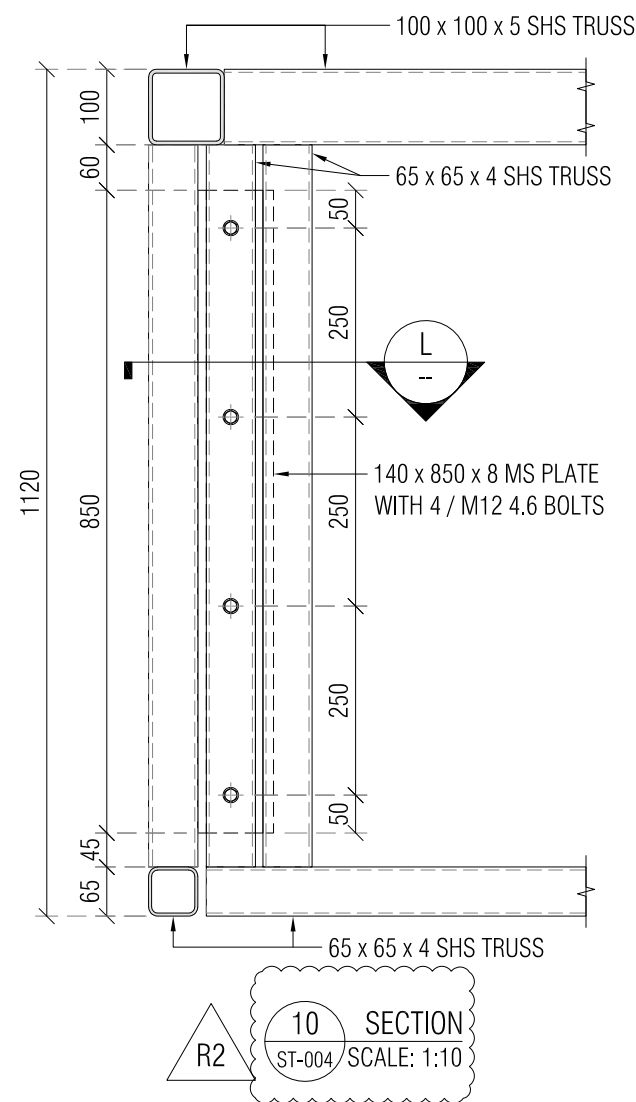
4 SECTION  
ST-004 SCALE: 1:10





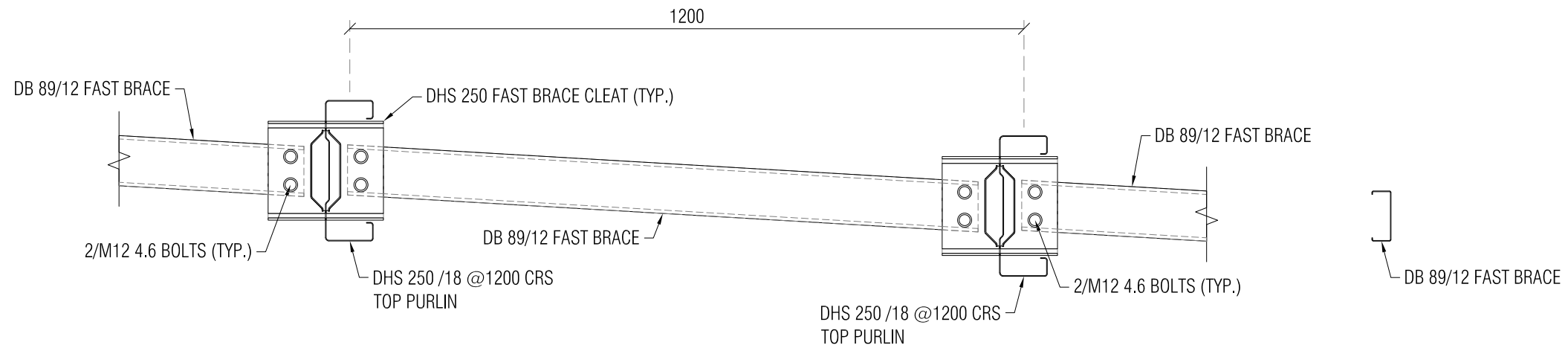
E SECTION  
SCALE: 1:10

				CONSULTANT:	<div></div> <div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div>	CLIENT:	PROJECT:	TITLE:	NORTH:		DATE: 13-12-19	PROJECT NO:  19074	
										---			
R1	GENERALLY REVISED & ISSUED FOR APPROVAL		JT	21-02-2020							JT	DRAWING NO:	REVISION:
R0	ISSUED FOR APPROVAL		JT	13-12-2019							KV	ST-009 (A3)	R1
REV	DESCRIPTION		BY	DATE							---		
STATUS:	REVISIONS										AS SHOWN		

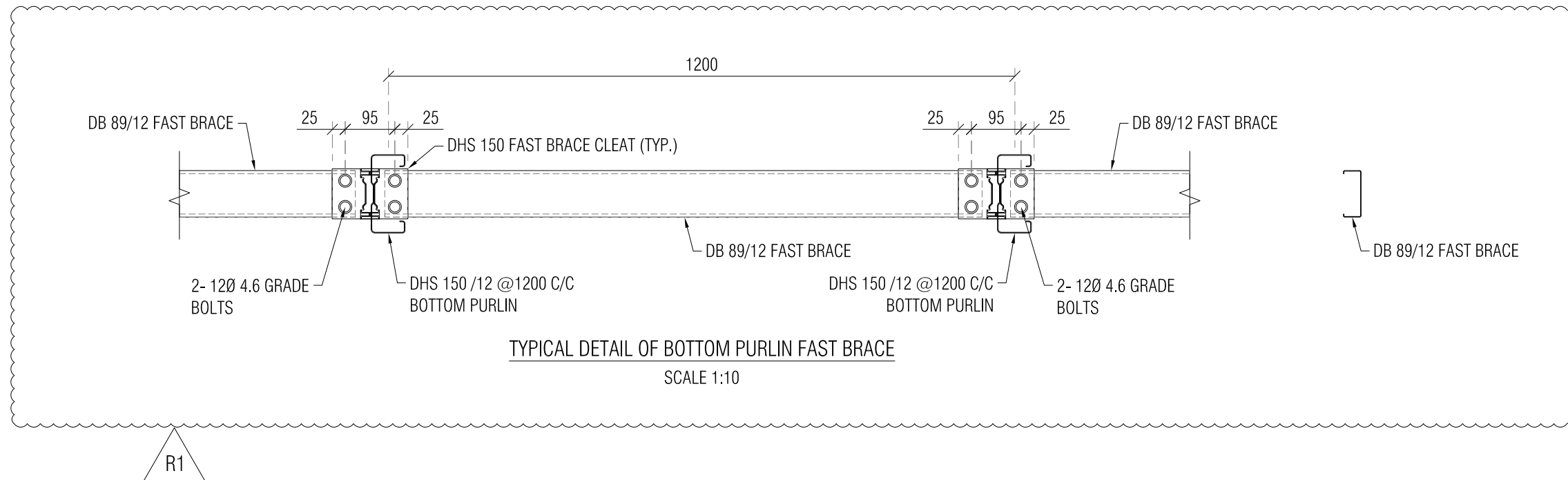
				CONSULTANT:		<div></div> <div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div>		CLIENT:		PROJECT:		TITLE:		NORTH:		<div></div>		DATE: 13-12-19		PROJECT NO:	
										PROPOSED SERVICE STATION DEVELOPMENT		TYPICAL CONNECTION DETAIL						19074			
										STATE HIGHWAY 30,		OF FORECOURT CANOPY SHEET - 3									
										WHAKATANE											
R1	GENERALLY REVISED & ISSUED FOR APPROVAL			JT	21-02-2020																
R0	ISSUED FOR APPROVAL			JT	13-12-2019																
REV	DESCRIPTION			BY	DATE																
STATUS: REVISIONS																		DRAWING NO: ST-010 (A3)		REVISION: R1	



				CONSULTANT:		 <div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div>		CLIENT:		PROJECT: PROPOSED SERVICE STATION DEVELOPMENT  STATE HIGHWAY 30,  WHAKATANE		TITLE: TYPICAL CONNECTION DETAIL  OF FORECOURT CANOPY SHEET - 4		NORTH: 		DATE: 00-02-20 --- ----		PROJECT NO:  19074	
R2	REVISED AS MARKED		JT	26-02-2020															
R1	GENERALLY REVISED & ISSUED FOR APPROVAL		JT	21-02-2020															
R0	ISSUED FOR APPROVAL		JT	13-12-2019															
REV	DESCRIPTION		BY	DATE															
STATUS:				REVISIONS															



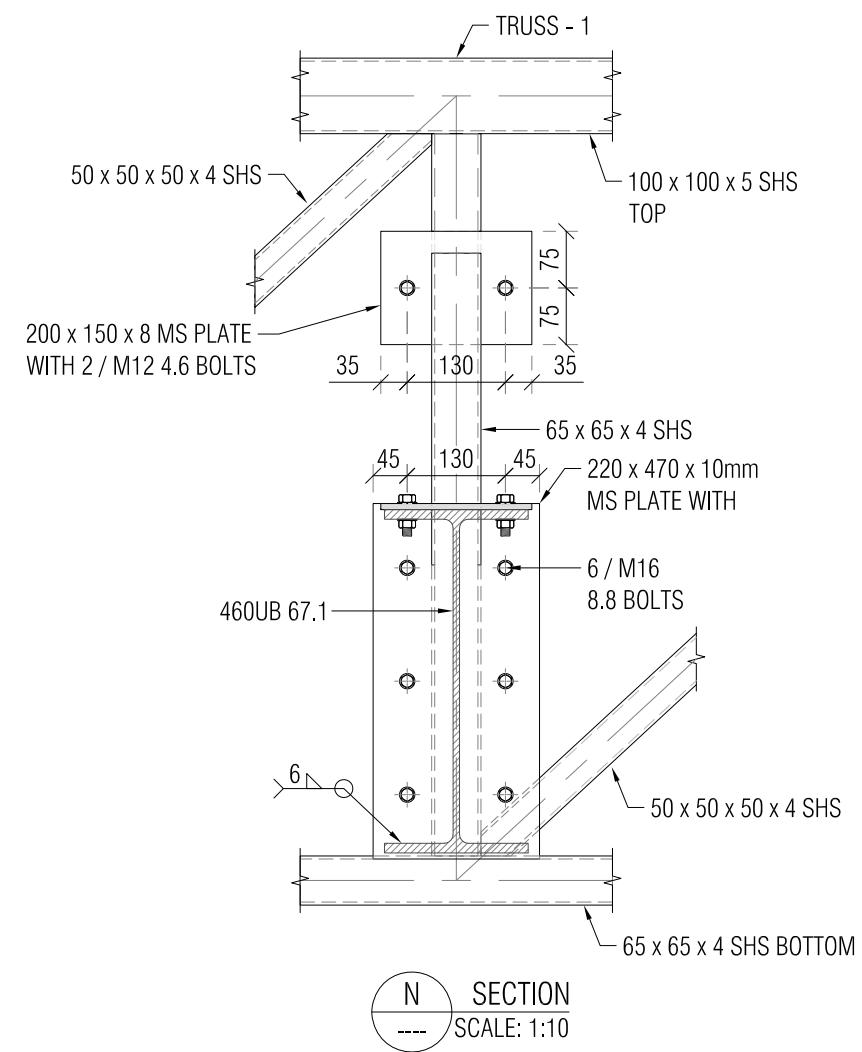
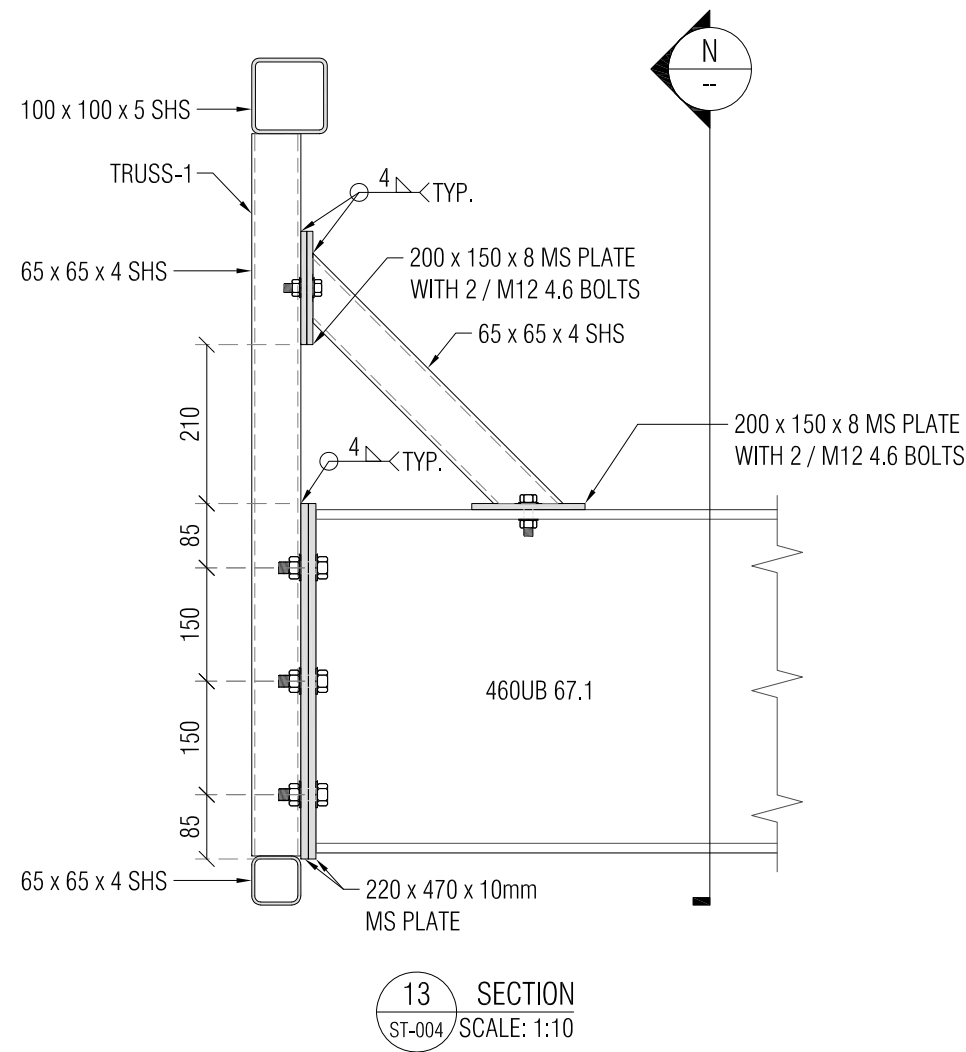
TYPICAL DETAIL OF TOP PURLIN FAST BRACE  
SCALE 1:10



TYPICAL DETAIL OF BOTTOM PURLIN FAST BRACE  
SCALE 1:10



				CONSULTANT:		<div><div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div></div>		CLIENT:		PROJECT:		TITLE:		NORTH:		<div><div>DATE: 21-02-20</div><div>---: ---</div><div>DRAWN: JT</div><div>CHECKED: KV</div><div>---: ---</div><div>SCALE: AS SHOWN</div></div>		PROJECT NO:		DRAWING NO:		REVISION:	
								PROPOSED SERVICE STATION DEVELOPMENT		TYPICAL FAST BRACE CONNECTION						19074							
								STATE HIGHWAY 30,															
								WHAKATANE															
R1 REVISED AS MARKED JT 26-02-2020																							
R0 ISSUED FOR APPROVAL JT 21-02-2020																							
REV DESCRIPTION BY DATE																							
STATUS: REVISIONS																							





				CONSULTANT:				CLIENT:				PROJECT:				TITLE:				NORTH:				DATE: 26-02-20		PROJECT NO: 19074	
				 <div>Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467</div>								PROPOSED SERVICE STATION DEVELOPMENT  STATE HIGHWAY 30,  WHAKATANE				TYPICAL CONNECTION DETAILS  OF FORECOURT CANOPY  SHEET - 6								<div>---</div> <div>DRAWN: JT</div> <div>CHECKED: KV</div> <div>---</div> <div>SCALE: AS SHOWN</div>			
RO	ISSUED FOR APPROVAL			JT	26-02-2020															DRAWING NO: ST-013 (A3)		REVISION: R0					
REV	DESCRIPTION			BY	DATE																						
STATUS: REVISIONS																											



				CONSULTANT:		CLIENT:		PROJECT:		TITLE:		NORTH:		DATE: 26-02-20		PROJECT NO:	
								PROPOSED SERVICE STATION DEVELOPMENT		TYPICAL CONNECTION DETAILS						19074	
				Silicon Engineering Consultants Limited 40, Springs Roads, East Tamaki, Auckland, New Zealand Tel: 09 9097860 Mobile: 021 0296 7467				STATE HIGHWAY 30,  WHAKATANE		OF FORECOURT CANOPY							
										SHEET - 7				DRAWN: JT		DRAWING NO:	
														CHECKED: KV		REVISION:	
														--- ----		ST-014 (A3)	
														SCALE: AS SHOWN		R0	