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# SECTION 3 - 11-12.7-22 kV AND SWER CONSTRUCTIONS

VERSION 2.0



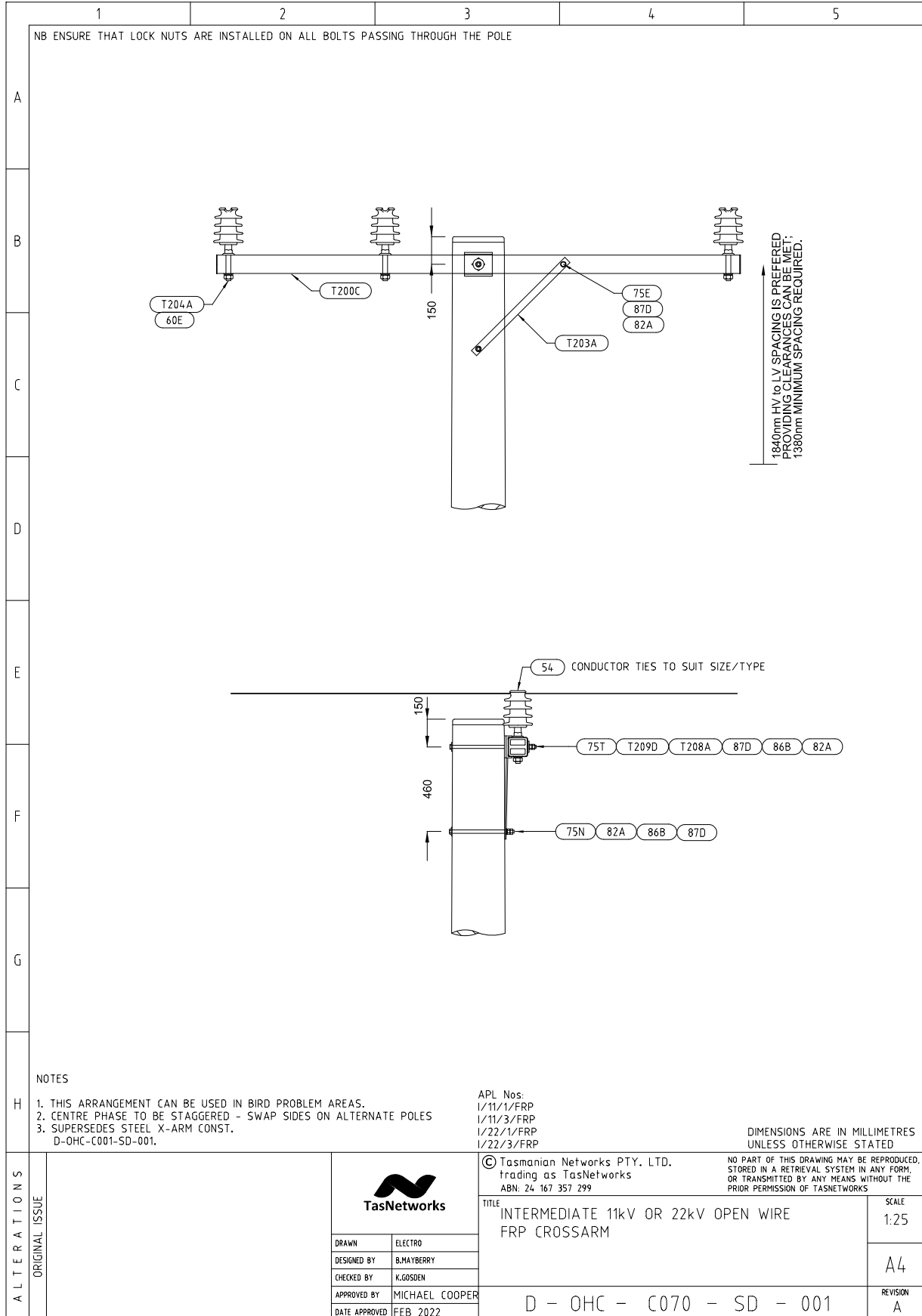
## SECTION 3 – 11-12.7-22kV AND SWER CONSTRUCTIONS

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# FRP CROSSARM CONSTRUCTIONS

## 3.1 Intermediate Open Wire FRP Crossarm




Intermediate Open Wire FRP Crossarm – Material List

	1	2	3	4	5																																																																																																							
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B	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 50%;">Stock Item Description</th> <th style="width: 10%;">Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="13" style="text-align: center;">S</td> <td>T200C</td> <td>323219</td> <td>CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM</td> <td style="text-align: center;">1</td> </tr> <tr> <td>T203A</td> <td>323316</td> <td>XARM BRACE - 716x40x8</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75T</td> <td>32293</td> <td>Bolt Hex M16 X 475 - Thread Length 75mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75N</td> <td>32287</td> <td>Bolt Hex M16 X 350 - Thread Length 57mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75E</td> <td>32279</td> <td>Bolt Hex M16 X 180 - Thread Length 57mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>82A</td> <td>40441</td> <td>Nut Hex M16</td> <td style="text-align: center;">5</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>Washer ELS M16</td> <td style="text-align: center;">2</td> </tr> <tr> <td>87D</td> <td>65616</td> <td>Washer NS M16</td> <td style="text-align: center;">4</td> </tr> <tr> <td>60E</td> <td>320531</td> <td>Insulator, Pin Type</td> <td style="text-align: center;">2</td> </tr> <tr> <td>T204A</td> <td>322717</td> <td>PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm</td> <td style="text-align: center;">2</td> </tr> <tr> <td>T208A</td> <td>323306</td> <td>GAIN BLOCK 100mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>T209D</td> <td>66807</td> <td>M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.</td> <td style="text-align: center;">1</td> </tr> <tr> <td rowspan="13" style="text-align: center;">S</td> <td>T200C</td> <td>323219</td> <td>CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM</td> <td style="text-align: center;">1</td> </tr> <tr> <td>T203A</td> <td>323316</td> <td>XARM BRACE - 716x40x8</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75T</td> <td>32293</td> <td>Bolt Hex M16 X 475 - Thread Length 75mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75N</td> <td>32287</td> <td>Bolt Hex M16 X 350 - Thread Length 57mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>75E</td> <td>32279</td> <td>Bolt Hex M16 X 180 - Thread Length 57mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>82A</td> <td>40441</td> <td>Nut Hex M16</td> <td style="text-align: center;">5</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>Washer ELS M16</td> <td style="text-align: center;">2</td> </tr> <tr> <td>87D</td> <td>65616</td> <td>Washer NS M16</td> <td style="text-align: center;">4</td> </tr> <tr> <td>60E</td> <td>320531</td> <td>Insulator, Pin Type</td> <td style="text-align: center;">3</td> </tr> <tr> <td>T204A</td> <td>322717</td> <td>PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm</td> <td style="text-align: center;">3</td> </tr> <tr> <td>T208A</td> <td>323306</td> <td>GAIN BLOCK 100mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>T209D</td> <td>66807</td> <td>M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>					Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	S	T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1	T203A	323316	XARM BRACE - 716x40x8	1	75T	32293	Bolt Hex M16 X 475 - Thread Length 75mm	1	75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	82A	40441	Nut Hex M16	5	86B	65158	Washer ELS M16	2	87D	65616	Washer NS M16	4	60E	320531	Insulator, Pin Type	2	T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2	T208A	323306	GAIN BLOCK 100mm	1	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	1	S	T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1	T203A	323316	XARM BRACE - 716x40x8	1	75T	32293	Bolt Hex M16 X 475 - Thread Length 75mm	1	75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	82A	40441	Nut Hex M16	5	86B	65158	Washer ELS M16	2	87D	65616	Washer NS M16	4	60E	320531	Insulator, Pin Type	3	T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	3	T208A	323306	GAIN BLOCK 100mm	1	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	1
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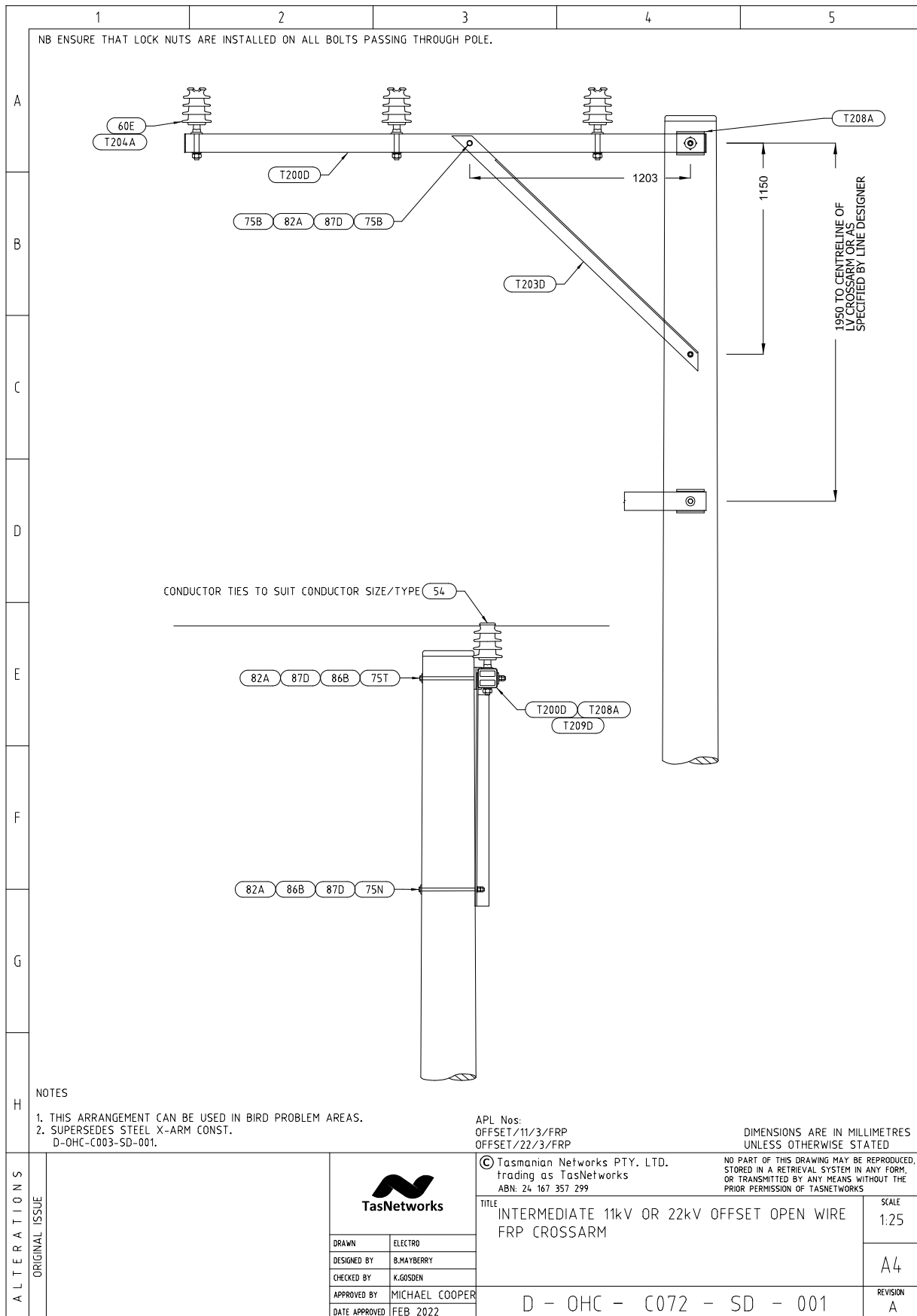


Intermediate Delta Open Wire FRP Crossarm – Material List


		1	2	3	4	5		
A								
B								
C	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>		
	DELTA V11/3/FRP and DELTA V22/3/FRP	S	60E	320531	Insulator, Pin Type	3		
			75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1		
			75S	32292	Bolt Hex M16 X 450 - Thread Length 75mm	1		
			75W	32296	Bolt Hex M16 X 550 - Thread Length 75mm	1		
			76E	32332	BOLT,Hex Head M20 x 150mm Gal. c/w Nut	1		
			82A	40441	Nut Hex M16	5		
			87D	65616	Washer NS M16	6		
			T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1		
			T202	323225	CF DELTA RISER - AOA01555 - 1833x100x100 - CA-100 SHS 1.824 RISER	1		
			T202A	323226	BRACKET, riser, HV Delta	1		
			T203A	323316	XARM BRACE - 716x40x8	1		
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	3		
			T208A	323306	GAIN BLOCK 100mm	1		
			T208D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	1		
		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	2			
D								
E								
F								
G								
H								
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					TITLE			SCALE
					INTERMEDIATE DELTA 11kV OR 22kV OPEN WIRE FRP CROSSARM MATERIAL LIST			NTS
					D - OHC - C071 - SD - 002			REVISION A
		DRAWN	ELECTRO					
		DESIGNED BY	B.MAYBERRY					
		CHECKED BY	K.GOSDEN					
		APPROVED BY	MICHAEL COOPER					
		DATE APPROVED	FEB 2022					



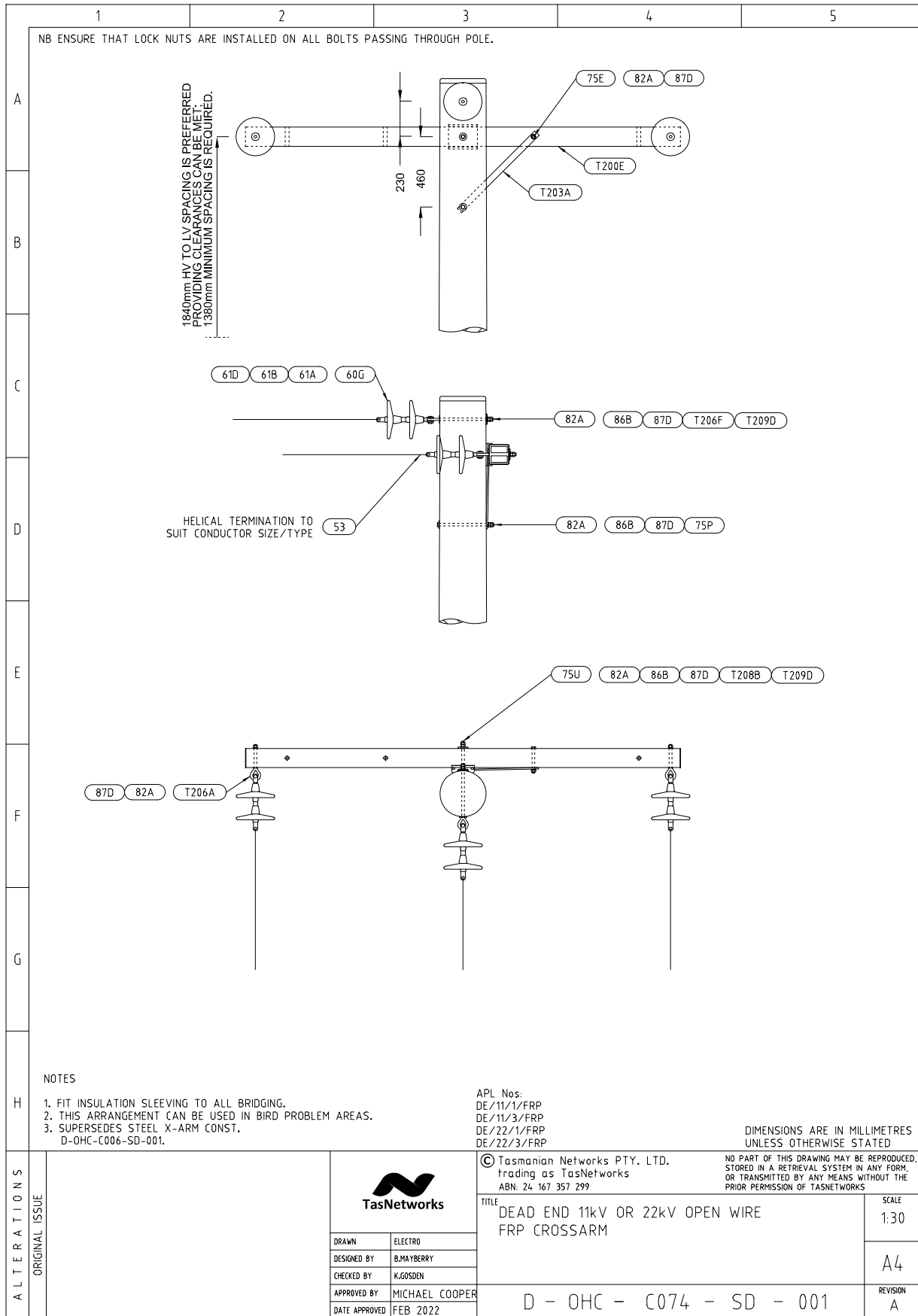
### 3.3 Intermediate Offset Open Wire FRP Crossarm




Intermediate Offset Open Wire FRP Crossarm – Material List

		1	2	3	4	5	
A							
B							
C							
D		<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>	
	OFFSET/11/3/FRP and OFFSET/22/3/FRP	S	60E	320531	INSULATOR,Pin 22kV Aero Porcelain	3	
			75E	32279	BOLT,Hex Head M16 x 180mm Gal. c/w Nut	1	
			75N	32287	BOLT,Hex Head M16 x 325mm Gal. c/w Nut	1	
			75T	32293	BOLT,Hex Head M16 x 475mm Gal. c/w Nut	1	
			82A	40441	NUT,Hex M16 Thread Galanised Steel	5	
			86B	65158	WASHER,Flat Round M16 x 50mm Gal	2	
			87D	65616	WASHER,Flat Round M16 x 30mm Gal	4	
E			T200D	323221	CROSSARM, Fibreglass 2840x100x100 Offset	1	
			T203D	323319	BRACE,Crossarm 1854x75x75x8 Thick Gal	1	
			T204A	322717	PIN,Insulator 24mmx198mm 22kV Gal Steel	3	
			T208A	323306	PLATE, Gain, Cross Arm	1	
			T209D	66807	WASHER,Flat Square M16x50x5 Gal.Steel	1	
F							
G							
H							
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				TITLE INTERMEDIATE 11kV OR 22kV OFFSET OPEN WIRE FRP CROSSARM MATERIAL LIST			SCALE NTS
				D - OHC - C072 - SD - 002			REVISION A
				DRAWN	ELECTRO	CHECKED BY	K.GORDEN

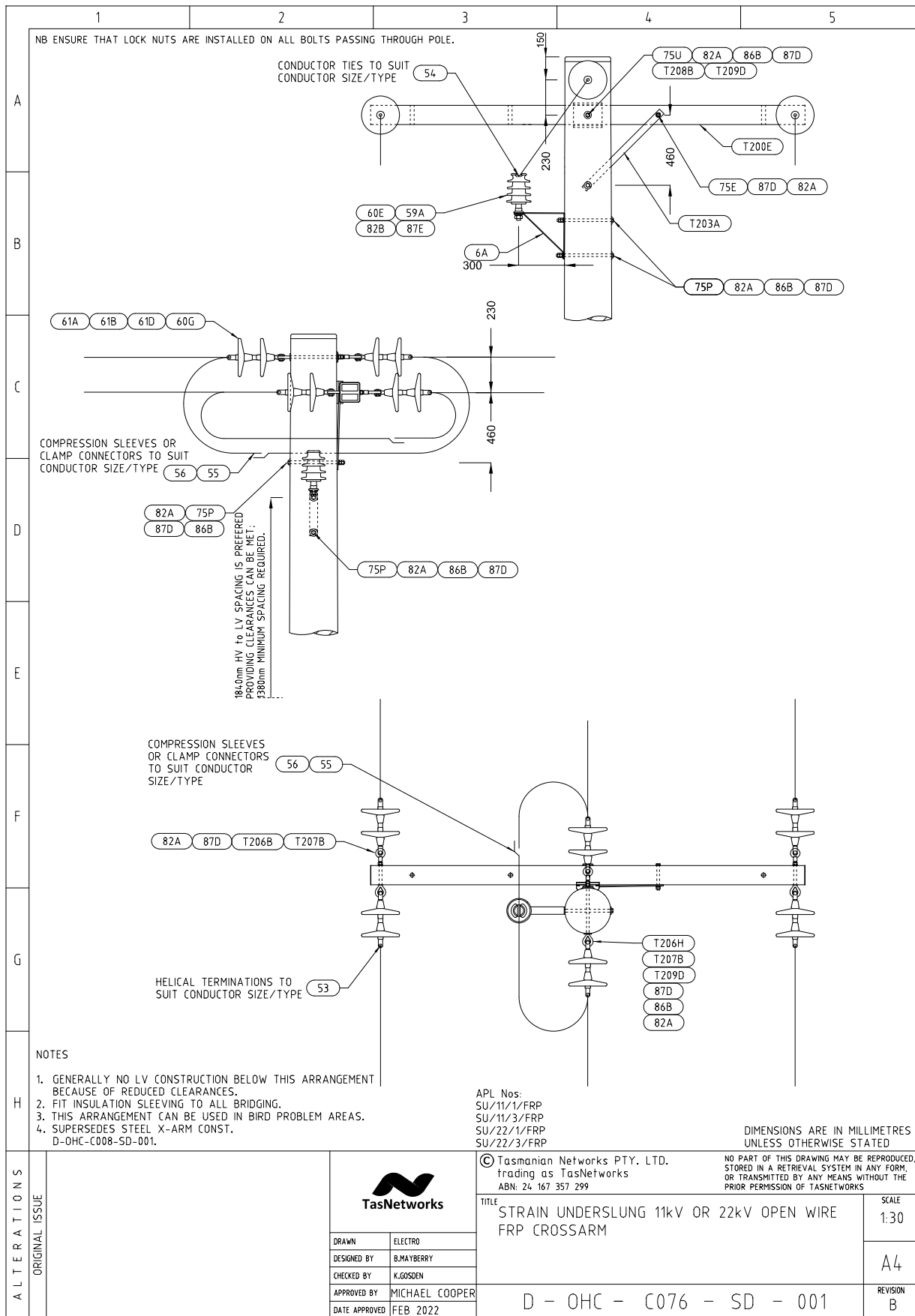
### 3.4 Dead End Open Wire FRP Crossarm




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		61A	322056	Ball Clevis & Pin 16mm	2																																																																									
		61B	322386	Socket Termination 16mm	2																																																																									
		61D	322090	'W' Clip / Kink Pin	6																																																																									
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1																																																																									
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1																																																																									
		82A	40441	Nut Hex M16	9																																																																									
		86B	65158	Washer ELS M16	3																																																																									
		87D	65616	Washer NS M16	9																																																																									
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1																																																																									
		T203A	323316	XARM BRACE - 716x40x8	1																																																																									
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2																																																																									
		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1																																																																									
		T208B	323307	GAIN BLOCK 125mm	1																																																																									
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2																																																																									
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ALTERATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS																																																																								
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### 3.5 Strain Open Wire Underslung FRP Crossarm (Preferred)



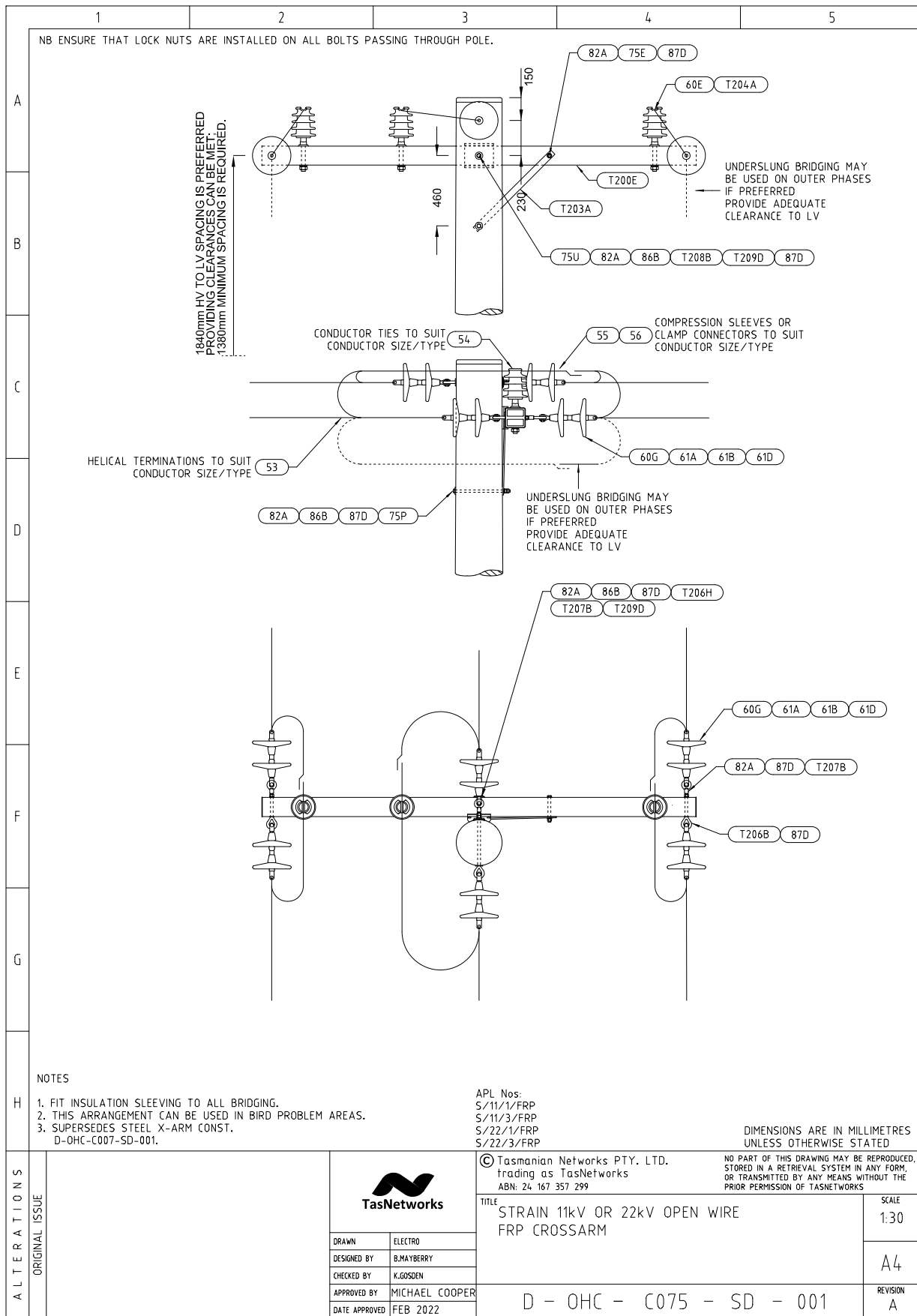
Strain Open Wire Underslung FRP Crossarm – Material List

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ALTERATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
		DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		TITLE STRAIN UNDERSLUNG 11kV OR 22kV OPEN WIRE FRP CROSSARM MATERIAL LIST		SCALE NTS A4 REVISION A
		D - OHC - C076 - SD - 002				


  

Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity		
SU/11/1/FRP and SU/22/1/FRP	S	60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	8		
		61A	322056	Ball Clevis & Pin 16mm	4		
		61B	322386	Socket Termination 16mm	4		
		61D	322090	'W' Clip / Kink Pin	12		
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1		
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1		
		82A	40441	Nut Hex M16	9		
		86B	65158	Washer ELS M16	3		
		87D	65616	Washer NS M16	9		
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1		
		T203A	323316	XARM BRACE - 716x40x8	1		
		T206B	325629	M16 EYE BOLT 180 - Thread Length 60mm	2		
		T206H	325636	M16 EYE BOLT 400 - Thread Length 75mm	1		
		T207B	325740	M16 EYE NUT	2		
		T208B	323307	GAIN BLOCK 125mm	1		
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2		
		75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1		
		SU/11/3/FRP and SU/22/3/FRP	S	59A	322721	Pin, Insulator Short Shank	1
				60E	320531	Insulator, Pin Type	1
				60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	12
61A	322056			Ball Clevis & Pin 16mm	6		
61B	322386			Socket Termination 16mm	6		
61D	322090			'W' Clip / Kink Pin	18		
6A	323315			Insulator Bracket Mk15	1		
75E	32279			Bolt Hex M16 X 180 - Thread Length 57mm	1		
75P	32288			Bolt Hex M16 X 375 - Thread Length 75mm	3		
82A	40441			Nut Hex M16	13		
86B	65158			Washer ELS M16	5		
87D	65616			Washer NS M16	11		
T200E	323223			CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1		
T203A	323316			XARM BRACE - 716x40x8	1		
T206B	325629			M16 EYE BOLT 180 - Thread Length 60mm	2		
T206H	325636			M16 EYE BOLT 400 - Thread Length 75mm	1		
T207B	325740			M16 EYE NUT	2		
T208B	323307			GAIN BLOCK 125mm	1		
T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2				
75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1				
82B	40442	Nut Hex M20	1				
87E	65617	Washer NS M20	1				

### 3.6 Strain Open Wire FRP Crossarm (Underslung Preferred)

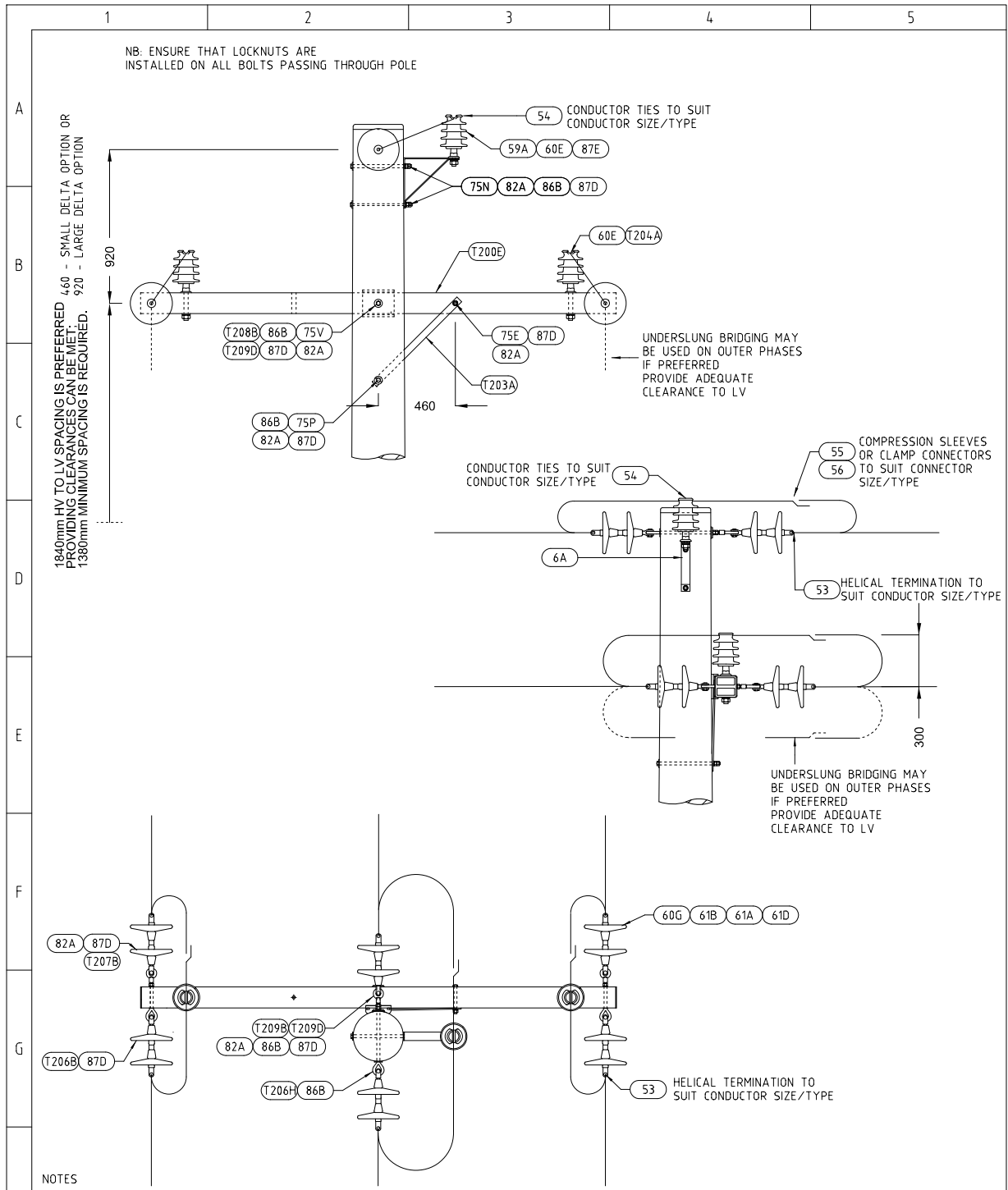


Strain Open Wire FRP Crossarm – Material List

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75P	32288			Bolt Hex M16 X 375 - Thread Length 75mm	1																																																																																																																																																																		
82A	40441			Nut Hex M16	9																																																																																																																																																																		
87D	65616			Washer NS M16	9																																																																																																																																																																		
86B	65158			Washer ELS M16	3																																																																																																																																																																		
T200E	323223			CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1																																																																																																																																																																		
T203A	323316			XARM BRACE - 716x40x8	1																																																																																																																																																																		
T204A	322717			PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2																																																																																																																																																																		
T206B	325629			M16 EYE BOLT 180 - Thread Length 60mm	2																																																																																																																																																																		
T206H	325636			M16 EYE BOLT 400 - Thread Length 75mm	1																																																																																																																																																																		
T207B	325740			M16 EYE NUT	2																																																																																																																																																																		
T208B	323307			GAIN BLOCK 125mm	1																																																																																																																																																																		
T209D	66807			M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2																																																																																																																																																																		
75U	32294			Bolt Hex M16 X 500 - Thread Length 75mm	1																																																																																																																																																																		
A B C D E F G H	ORIGINAL ISSUE					© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299																																																																																																																																																																	
A B C D E F G H	ORIGINAL ISSUE	DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS																																																																																																																																																																			
A B C D E F G H	ORIGINAL ISSUE	TITLE STRAIN 11kV OR 22kV OPEN WIRE FRP CROSSARM MATERIAL LIST		SCALE NTS	A4																																																																																																																																																																		
A B C D E F G H	ORIGINAL ISSUE	D - OHC - C075 - SD - 002		REVISION A																																																																																																																																																																			




### 3.7 Strain Delta Open Wire FRP Crossarm

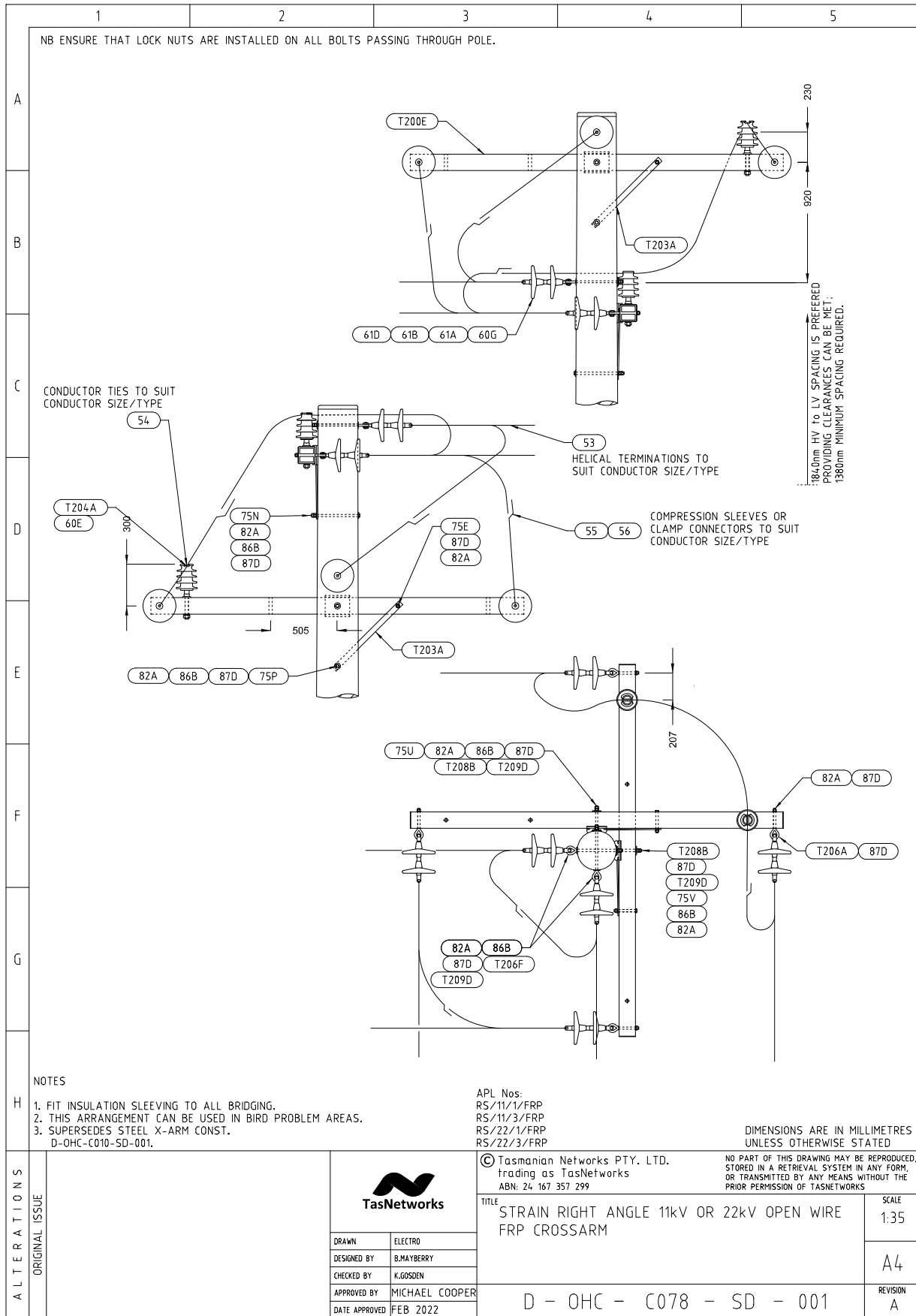


ALTERATIONS	<p>NOTES</p> <ol style="list-style-type: none"> <li>1. FIT INSULATION SLEEVING TO ALL BRIDGING.</li> <li>2. THIS ARRANGEMENT CAN BE USED IN BIRD PROBLEM AREAS.</li> <li>3. SUPERSEDES STEEL X-ARM CONST. D-OHC-C009-SD-001.</li> </ol>	<p>APL No. DELTA S/11/3/FRP DELTA S/22/3/FRP</p> <p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p>	<p>DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED</p> <p>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</p>
	<p>TITLE</p> <p>STRAIN DELTA 11KV or 22KV OPEN WIRE FRP CROSSARM</p>	<p>SCALE</p> <p>1:30</p>	
	<p>DATE APPROVED</p> <p>FEB 2022</p>	<p>REVISION</p> <p>A</p>	
	<p>D - OHC - C077 - SD - 001</p>		

Strain Delta Open Wire FRP Crossarm – Material List

		1	2	3	4	5																																																																																																								
A																																																																																																														
B																																																																																																														
C																																																																																																														
D																																																																																																														
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F																																																																																																														
G																																																																																																														
H																																																																																																														
ALTERATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS																																																																																																								
		DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022	TITLE STRAIN DELTA 11KV or 22KV OPEN WIRE FRP CROSSARM MATERIAL LIST		SCALE NTS A4 REVISION A																																																																																																									
		<table border="1"> <thead> <tr> <th>Store Type</th> <th>Item Ref</th> <th>Stock Item</th> <th>Stock Item Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="23">S</td> <td>6A</td> <td>323315</td> <td>Insulator Bracket Mk15</td> <td>1</td> </tr> <tr> <td>59A</td> <td>322721</td> <td>Pin, Insulator Short Shank</td> <td>1</td> </tr> <tr> <td>60E</td> <td>320531</td> <td>Insulator, Pin Type</td> <td>3</td> </tr> <tr> <td>60G</td> <td>321260</td> <td>Insulator Disc Porcelain 16mm 70Kn 146mm</td> <td>12</td> </tr> <tr> <td>61A</td> <td>322056</td> <td>Ball Clevis &amp; Pin 16mm</td> <td>6</td> </tr> <tr> <td>61B</td> <td>322386</td> <td>Socket Termination 16mm</td> <td>6</td> </tr> <tr> <td>61D</td> <td>322090</td> <td>'W' Clip / Kink Pin</td> <td>18</td> </tr> <tr> <td>75E</td> <td>32279</td> <td>Bolt Hex M16 X 180 - Thread Length 57mm</td> <td>1</td> </tr> <tr> <td>75N</td> <td>32287</td> <td>Bolt Hex M16 X 350 - Thread Length 57mm</td> <td>2</td> </tr> <tr> <td>75P</td> <td>32288</td> <td>Bolt Hex M16 X 375 - Thread Length 75mm</td> <td>1</td> </tr> <tr> <td>75V</td> <td>32295</td> <td>Bolt Hex M16 X 525 - Thread Length 75mm</td> <td>1</td> </tr> <tr> <td>82A</td> <td>40441</td> <td>Nut Hex M16</td> <td>13</td> </tr> <tr> <td>85B</td> <td>50250</td> <td>Coach Screw M12x100</td> <td>1</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>Washer ELS M16</td> <td>5</td> </tr> <tr> <td>87D</td> <td>65616</td> <td>Washer NS M16</td> <td>11</td> </tr> <tr> <td>T200E</td> <td>323223</td> <td>CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM</td> <td>1</td> </tr> <tr> <td>T203A</td> <td>323316</td> <td>XARM BRACE - 716x40x8</td> <td>1</td> </tr> <tr> <td>T204A</td> <td>322717</td> <td>PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm</td> <td>2</td> </tr> <tr> <td>T206B</td> <td>325629</td> <td>M16 EYE BOLT 180 - Thread Length 60mm</td> <td>2</td> </tr> <tr> <td>T206H</td> <td>325636</td> <td>M16 EYE BOLT 400 - Thread Length 75mm</td> <td>1</td> </tr> <tr> <td>T207B</td> <td>325740</td> <td>M16 EYE NUT</td> <td>3</td> </tr> <tr> <td>T208B</td> <td>323307</td> <td>GAIN BLOCK 125mm</td> <td>1</td> </tr> <tr> <td>T209D</td> <td>66807</td> <td>M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.</td> <td>2</td> </tr> <tr> <td>82B</td> <td>40442</td> <td>Nut Hex M20</td> <td>1</td> </tr> <tr> <td>87E</td> <td>65617</td> <td>Washer NS M20</td> <td>1</td> </tr> </tbody> </table>	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	S	6A	323315	Insulator Bracket Mk15	1	59A	322721	Pin, Insulator Short Shank	1	60E	320531	Insulator, Pin Type	3	60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	12	61A	322056	Ball Clevis & Pin 16mm	6	61B	322386	Socket Termination 16mm	6	61D	322090	'W' Clip / Kink Pin	18	75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	2	75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1	82A	40441	Nut Hex M16	13	85B	50250	Coach Screw M12x100	1	86B	65158	Washer ELS M16	5	87D	65616	Washer NS M16	11	T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	T203A	323316	XARM BRACE - 716x40x8	1	T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2	T206B	325629	M16 EYE BOLT 180 - Thread Length 60mm	2	T206H	325636	M16 EYE BOLT 400 - Thread Length 75mm	1	T207B	325740	M16 EYE NUT	3	T208B	323307	GAIN BLOCK 125mm	1	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2	82B	40442	Nut Hex M20	1	87E	65617	Washer NS M20	1	D - OHC - C077 - SD - 002	
Store Type	Item Ref	Stock Item	Stock Item Description	Quantity																																																																																																										
S	6A	323315	Insulator Bracket Mk15	1																																																																																																										
	59A	322721	Pin, Insulator Short Shank	1																																																																																																										
	60E	320531	Insulator, Pin Type	3																																																																																																										
	60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	12																																																																																																										
	61A	322056	Ball Clevis & Pin 16mm	6																																																																																																										
	61B	322386	Socket Termination 16mm	6																																																																																																										
	61D	322090	'W' Clip / Kink Pin	18																																																																																																										
	75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1																																																																																																										
	75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	2																																																																																																										
	75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1																																																																																																										
	75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1																																																																																																										
	82A	40441	Nut Hex M16	13																																																																																																										
	85B	50250	Coach Screw M12x100	1																																																																																																										
	86B	65158	Washer ELS M16	5																																																																																																										
	87D	65616	Washer NS M16	11																																																																																																										
	T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1																																																																																																										
	T203A	323316	XARM BRACE - 716x40x8	1																																																																																																										
	T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2																																																																																																										
	T206B	325629	M16 EYE BOLT 180 - Thread Length 60mm	2																																																																																																										
	T206H	325636	M16 EYE BOLT 400 - Thread Length 75mm	1																																																																																																										
	T207B	325740	M16 EYE NUT	3																																																																																																										
	T208B	323307	GAIN BLOCK 125mm	1																																																																																																										
	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2																																																																																																										
82B	40442	Nut Hex M20	1																																																																																																											
87E	65617	Washer NS M20	1																																																																																																											

### 3.8 Strain Right Angle Open Wire FRP Crossarm



NOTES

1. FIT INSULATION SLEEVING TO ALL BRIDGING.
2. THIS ARRANGEMENT CAN BE USED IN BIRD PROBLEM AREAS.
3. SUPERSEDES STEEL X-ARM CONST. D-OHC-C010-SD-001.

APL Nos.  
 RS/11/1/FRP  
 RS/11/3/FRP  
 RS/22/1/FRP  
 RS/22/3/FRP

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS

ALTERATIONS

ORIGINAL ISSUE



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 trading as TasNetworks  
 ABN: 24 167 357 299

TITLE  
 STRAIN RIGHT ANGLE 11kV OR 22kV OPEN WIRE FRP CROSSARM


SCALE  
 1:35

DRAWN	ELECTRO
DESIGNED BY	B.MAYBERRY
CHECKED BY	K.GOSDEN
APPROVED BY	MICHAEL COOPER
DATE APPROVED	FEB 2022

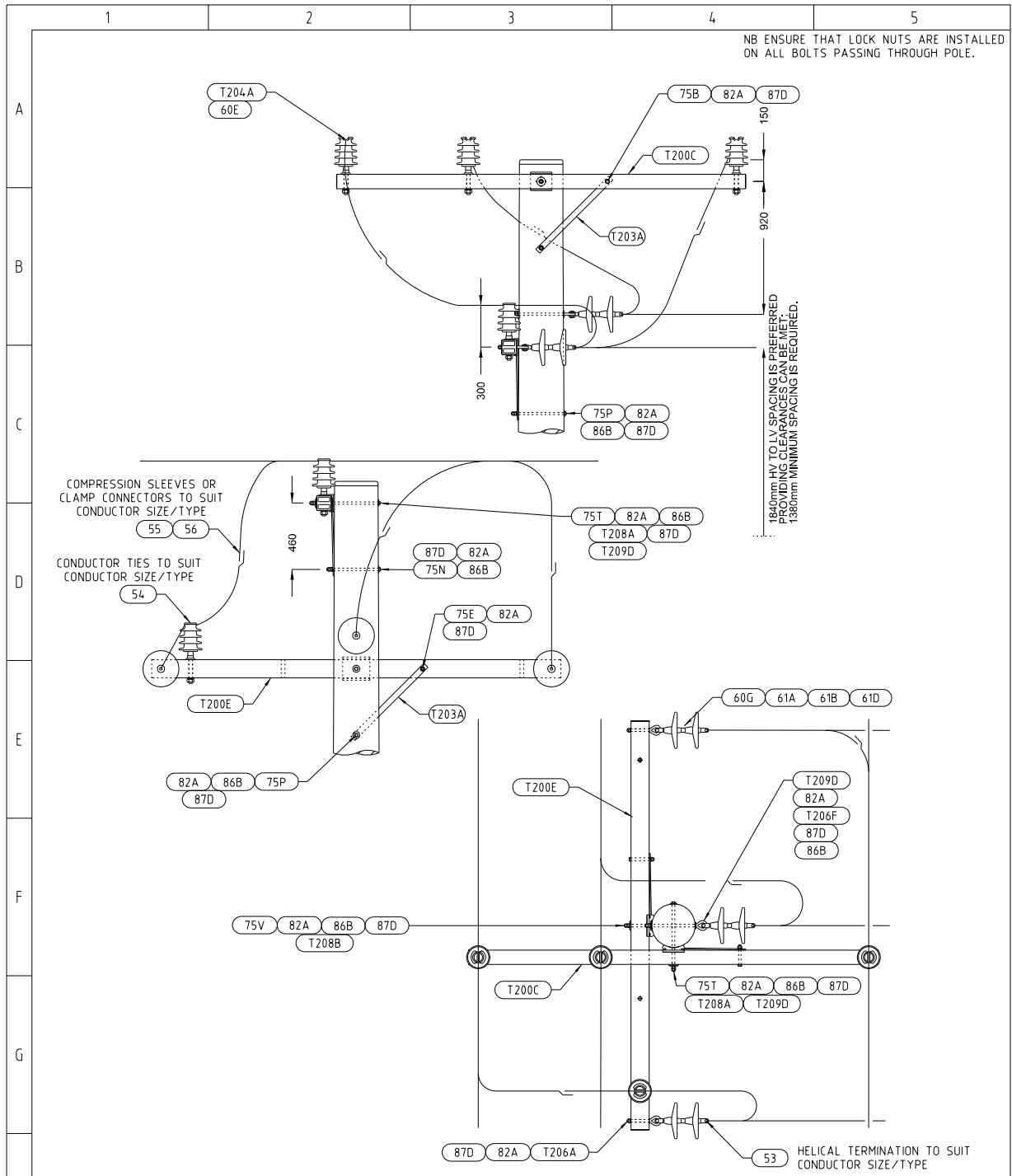
D - OHC - C078 - SD - 001

A4  
 REVISION  
 A

Strain Right Angle Open Wire FRP Crossarm – Material List

		1	2	3	4	5						
A												
B	RS/11/1/FRP and RS/22/1/FRP	S	60E	320531	Insulator, Pin Type	2						
			60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	8						
			61A	322056	Ball Clevis & Pin 16mm	4						
			61B	322386	Socket Termination 16mm	4						
			61D	322090	'W' Clip / Kink Pin	12						
			75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	2						
			75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	2						
			82A	40441	Nut Hex M16	18						
			86B	65158	Washer ELS M16	6						
			87D	65616	Washer NS M16	18						
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	2						
			T203A	323316	XARM BRACE - 716x40x8	2						
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2						
			T206A	325629	M16 EYE BOLT 150 - Thread Length 60mm	4						
			T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	2						
			T208B	323307	GAIN BLOCK 125mm	2						
			T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	4						
			C			75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1			
						75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1			
						60E	320531	Insulator, Pin Type	2			
60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm				12						
61A	322056	Ball Clevis & Pin 16mm				6						
61B	322386	Socket Termination 16mm				6						
61D	322090	'W' Clip / Kink Pin				6						
75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm				2						
75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm				2						
D	RS/11/3/FRP and RS/22/3/FRP	S				82A	40441	Nut Hex M16	18			
			86B	65158	Washer ELS M16	6						
			87D	65616	Washer NS M16	18						
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	2						
			T203A	323316	XARM BRACE - 716x40x8	2						
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2						
			T206A	325629	M16 EYE BOLT 150 - Thread Length 60mm	4						
			T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	2						
			T208B	323307	GAIN BLOCK 125mm	2						
			E			T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	4			
75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm				1						
75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm				1						
60E	320531	Insulator, Pin Type				2						
60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm				12						
61A	322056	Ball Clevis & Pin 16mm				6						
61B	322386	Socket Termination 16mm				6						
61D	322090	'W' Clip / Kink Pin				6						
75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm				2						
F						75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	2			
			82A	40441	Nut Hex M16	18						
			86B	65158	Washer ELS M16	6						
			87D	65616	Washer NS M16	18						
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	2						
			T203A	323316	XARM BRACE - 716x40x8	2						
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2						
			T206A	325629	M16 EYE BOLT 150 - Thread Length 60mm	4						
			T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	2						
			G			T208B	323307	GAIN BLOCK 125mm	2			
T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.				4						
75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm				1						
75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm				1						
60E	320531	Insulator, Pin Type				2						
60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm				12						
61A	322056	Ball Clevis & Pin 16mm				6						
61B	322386	Socket Termination 16mm				6						
61D	322090	'W' Clip / Kink Pin				6						
H						75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	2			
			75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	2						
			82A	40441	Nut Hex M16	18						
			86B	65158	Washer ELS M16	6						
			87D	65616	Washer NS M16	18						
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	2						
			T203A	323316	XARM BRACE - 716x40x8	2						
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	2						
			T206A	325629	M16 EYE BOLT 150 - Thread Length 60mm	4						
			T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	2						
ALTERATIONS	ORIGINAL ISSUE				 <p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p> <p>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</p>	<p>TITLE STRAIN RIGHT ANGLE 11kV OR 22kV OPEN WIRE FRP CROSSARM MATERIAL LIST</p> <p>SCALE NTS</p> <p>A4</p> <p>REVISION A</p>						
							DRAWN	ELECTRO				
							DESIGNED BY	B.MAYBERRY				
							CHECKED BY	K.GOSDEN				
							APPROVED BY	MICHAEL COOPER				
							DATE APPROVED	FEB 2022				
							D - OHC - C078 - SD - 002					

### 3.9 Tee Off Open Wire FRP Crossarm



**NOTES**

1. FIT INSULATION SLEEVING TO ALL BRIDGING.
2. THIS ARRANGEMENT CAN BE USED IN BIRD PROBLEM AREAS.
3. SUPERSEDES STEEL X-ARM CONST. D-OHC-C011-SD-001.


APL Nos:  
 T/11/1/FRP  
 T/11/3/FRP  
 T/22/1/FRP  
 T/22/3/FRP

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

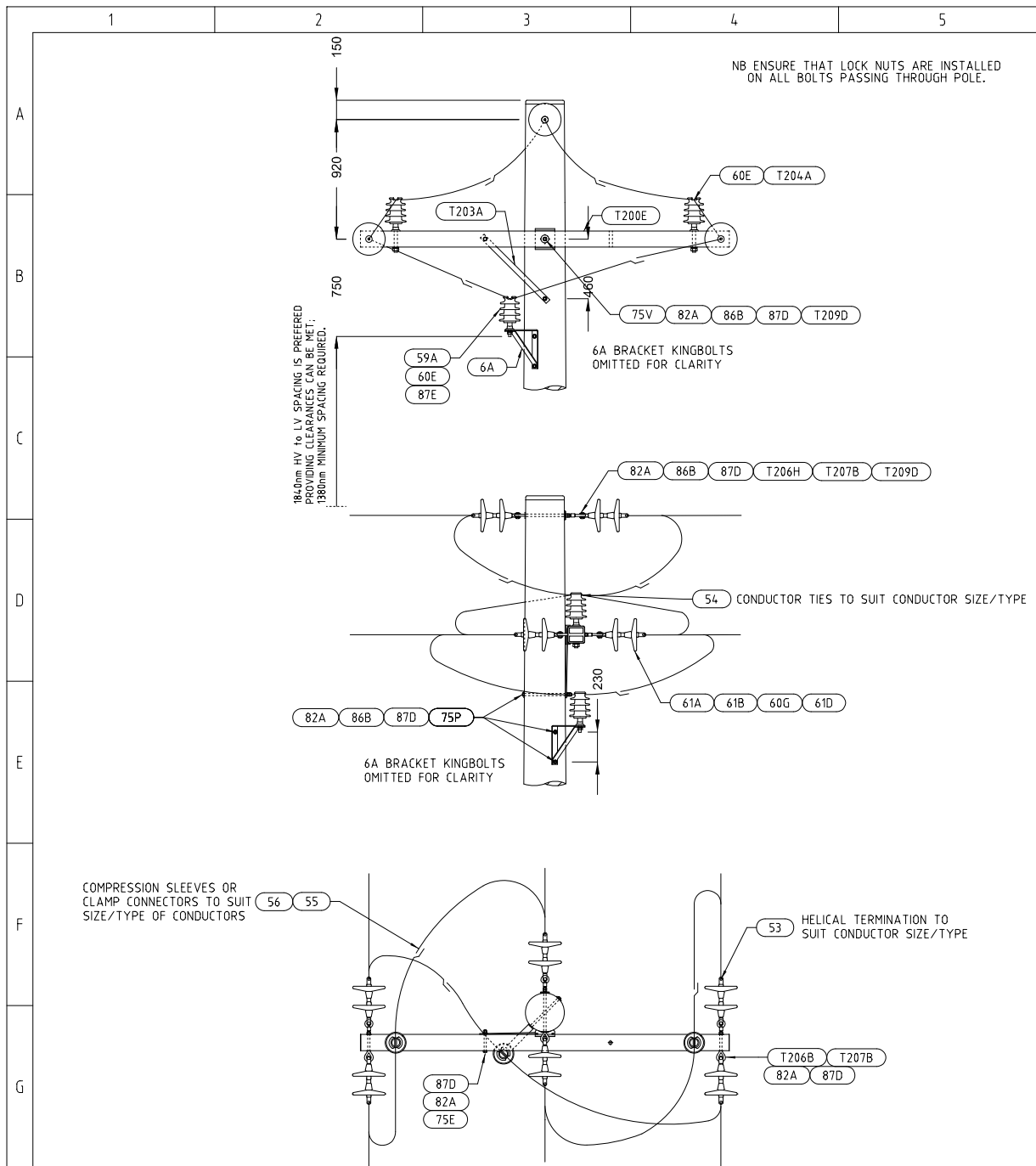
ALTERATIONS	ORIGINAL ISSUE		© Tasmanian Networks PTY. LTD. Trading as TasNetworks ABN 24 167 357 299	NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
			TITLE TEE OFF 11kV OR 22kV OPEN WIRE FRP CROSSARM	SCALE 1:30
			DRAWN: ELECTRO DESIGNED BY: B.MAYBERRY CHECKED BY: K.GOSDEN APPROVED BY: MICHAEL COOPER DATE APPROVED: FEB 2022	A4 REVISION A
			D - OHC - C079 - SD - 001	

Tee Off Open Wire FRP Crossarm – Material List

1	2	3	4	5		
A	S	60E	320531	Insulator, Pin Type	3	
		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	4	
		61A	322056	Ball Clevis & Pin 16mm	2	
		61B	322386	Socket Termination 16mm	2	
		61D	322090	'W' Clip / Kink Pin	6	
		B	75B	32274	Bolt Hex M16 X 130 - Thread Length 44mm	1
			75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1
			75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1
			75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1
			75T	32293	Bolt Hex M16 X 475 - Thread Length 75mm	1
			82A	40441	Nut Hex M16	14
			86B	65158	Washer ELS M16	5
			87D	65616	Washer NS M16	13
		C	T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1
			T203A	323316	XARM BRACE - 716x40x8	2
			T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	3
			T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2
			T206F	32638	M16 EYE BOLT 375 - Thread Length 75mm	1
			T208A	323306	GAIN BLOCK 100mm	1
T208B	323307		GAIN BLOCK 125mm	1		
D	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	3		
	75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1		
E	S	60E	320531	Insulator, Pin Type	4	
		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6	
		61A	322056	Ball Clevis & Pin 16mm	3	
		61B	322386	Socket Termination 16mm	3	
		61D	322090	'W' Clip / Kink Pin	9	
		75B	32274	Bolt Hex M16 X 130 - Thread Length 44mm	1	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	
		75T	32293	Bolt Hex M16 X 475 - Thread Length 75mm	1	
		82A	40441	Nut Hex M16	14	
		86B	65158	Washer ELS M16	5	
		87D	65616	Washer NS M16	13	
		T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	2	
		T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	3	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
		F	T206F	32638	M16 EYE BOLT 375 - Thread Length 75mm	1
			T208A	323306	GAIN BLOCK 100mm	1
T208B	323307		GAIN BLOCK 125mm	1		
T209D	66807		M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	3		
75V	32295		Bolt Hex M16 X 525 - Thread Length 75mm	1		
G	S		60E	320531	Insulator, Pin Type	4
			60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6
			61A	322056	Ball Clevis & Pin 16mm	3
		61B	322386	Socket Termination 16mm	3	
		61D	322090	'W' Clip / Kink Pin	9	
		75B	32274	Bolt Hex M16 X 130 - Thread Length 44mm	1	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	
		75T	32293	Bolt Hex M16 X 475 - Thread Length 75mm	1	
		82A	40441	Nut Hex M16	14	
		86B	65158	Washer ELS M16	5	
		87D	65616	Washer NS M16	13	
		T200C	323219	CF XARM - 2840x100x100 - CA-100 SHS 2.834m ARM	1	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	2	
		T204A	322717	PIN, INSULATOR - (MORLYNN - C20011) 198mm stem - 54mm to base of insulator from xarm	3	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
		H	T206F	32638	M16 EYE BOLT 375 - Thread Length 75mm	1
			T208A	323306	GAIN BLOCK 100mm	1
T208B	323307		GAIN BLOCK 125mm	1		
T209D	66807		M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	3		
75V	32295		Bolt Hex M16 X 525 - Thread Length 75mm	1		

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		TITLE: TEE OFF 11kV OR 22kV OPEN WIRE FRP CROSSARM MATERIAL LIST					SCALE NTS		
		DRAWN	ELECTRO	DESIGNED BY	B.MAYBERRY	CHECKED BY	K.GOSDEN	APPROVED BY	MICHAEL COOPER
		DATE APPROVED	FEB 2022	D - OHC - C079 - SD - 002				REVISION A	

### 3.10 Transposition Strain 1, Rolling FRP Crossarm



NOTES


1. FIT INSULATION SLEEVING TO ALL BRIDGING.
2. THIS ARRANGEMENT CAN BE USED IN BIRD PROBLEM AREAS.
3. SUPERSEDES STEEL X-ARM CONST. D-OHC-C012-SD-001.

APL Nos:  
TRI/11/3/FRP  
TRI/22/3/FRP


DIMENSIONS ARE IN MILLIMETRES  
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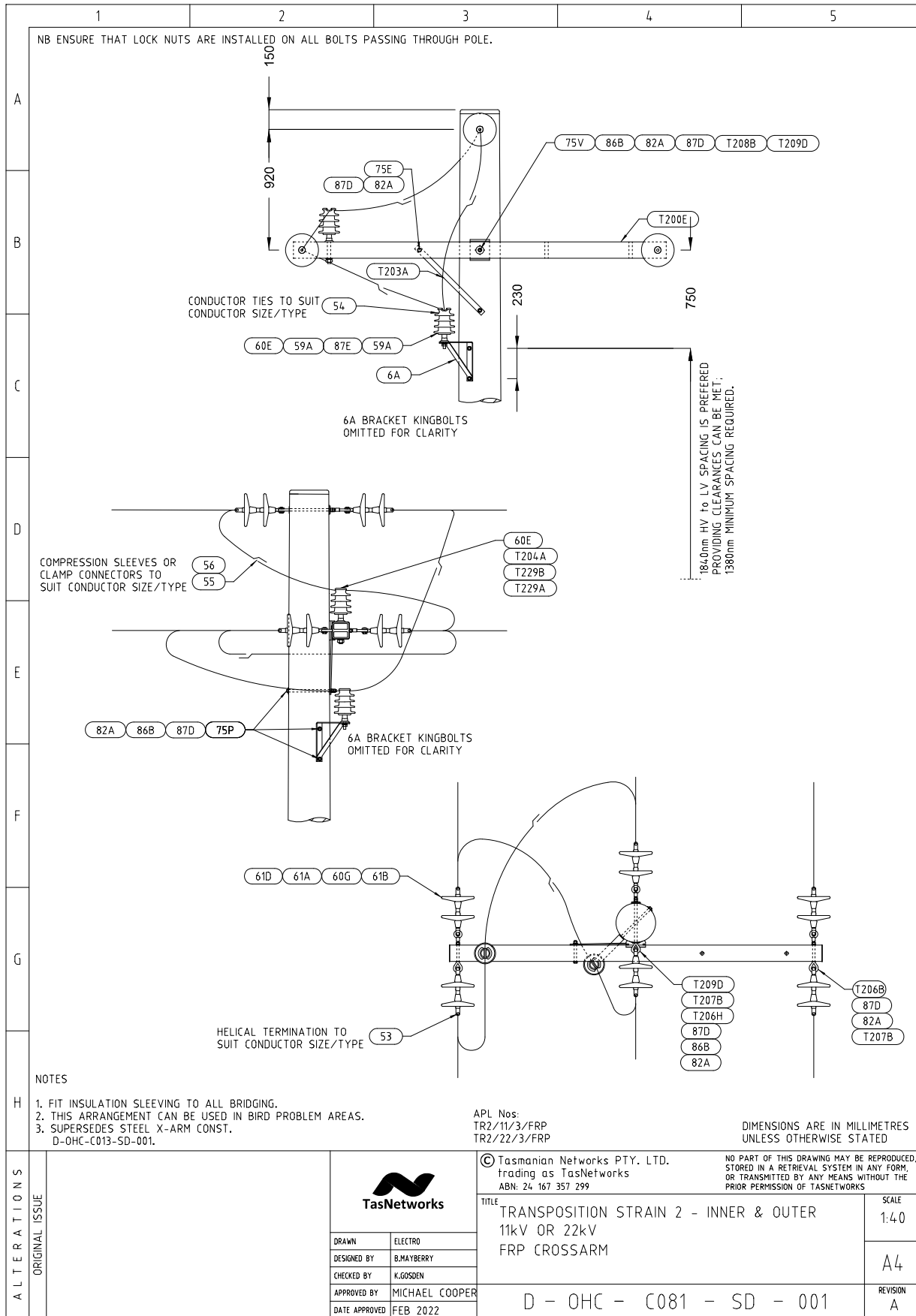
ALTERATIONS	ORIGINAL ISSUE		TITLE TRANSPOSITION STRAIN 1 - ROLLING 11kV OR 22kV FRP CROSSARM		SCALE 1:40
	DRAWN ELECTRO				A4
	DESIGNED BY B.MAYBERRY				REVISION A
	CHECKED BY K.GOSDEN				
	APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		D - OHC - C080 - SD - 001		

Transposition Strain 1, Rolling FRP Crossarm – Material List


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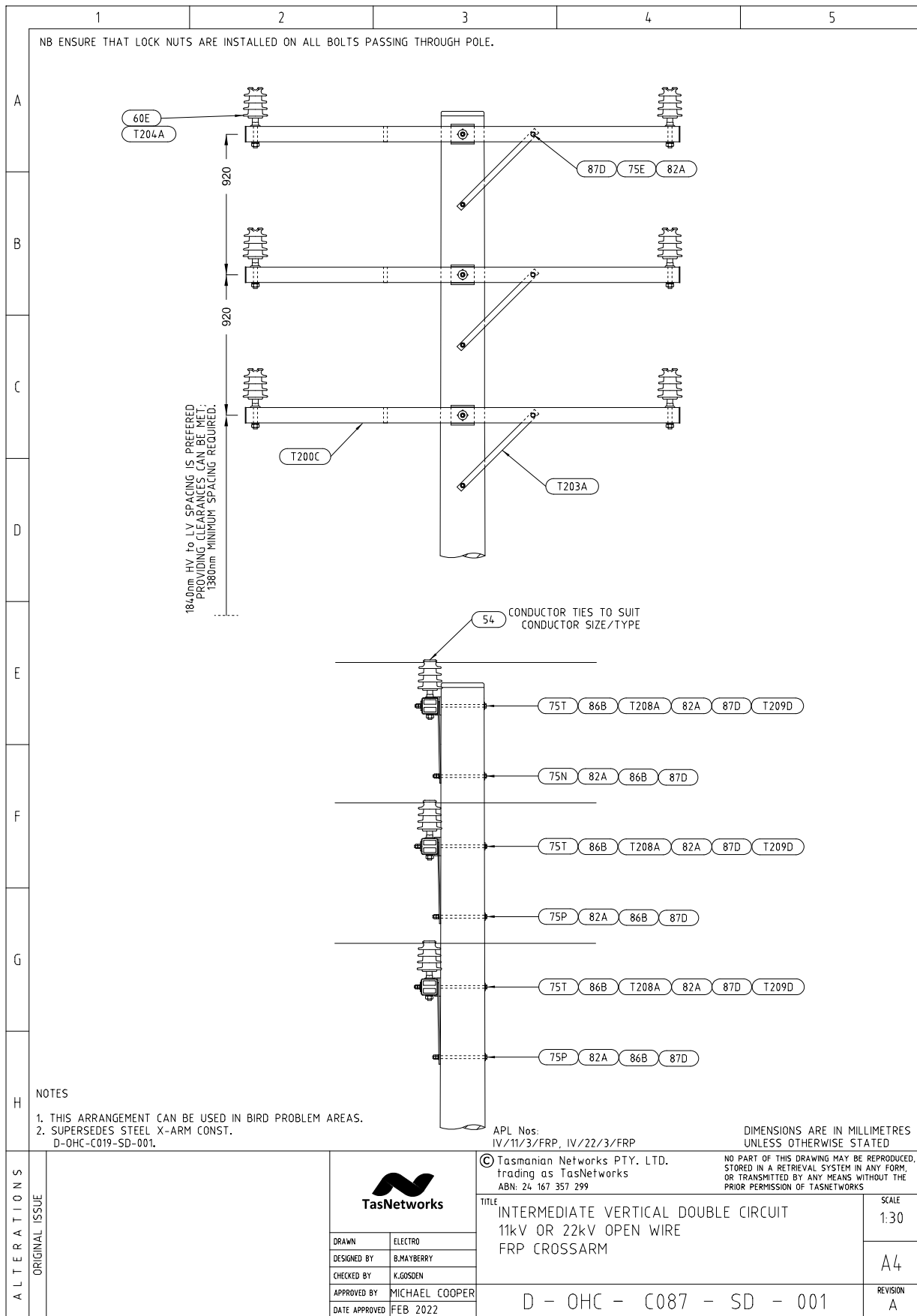
### 3.11 Transposition Strain 2, Inner & Outer FRP Crossarm




Transposition Strain 2, Inner & Outer FRP Crossarm – Material List

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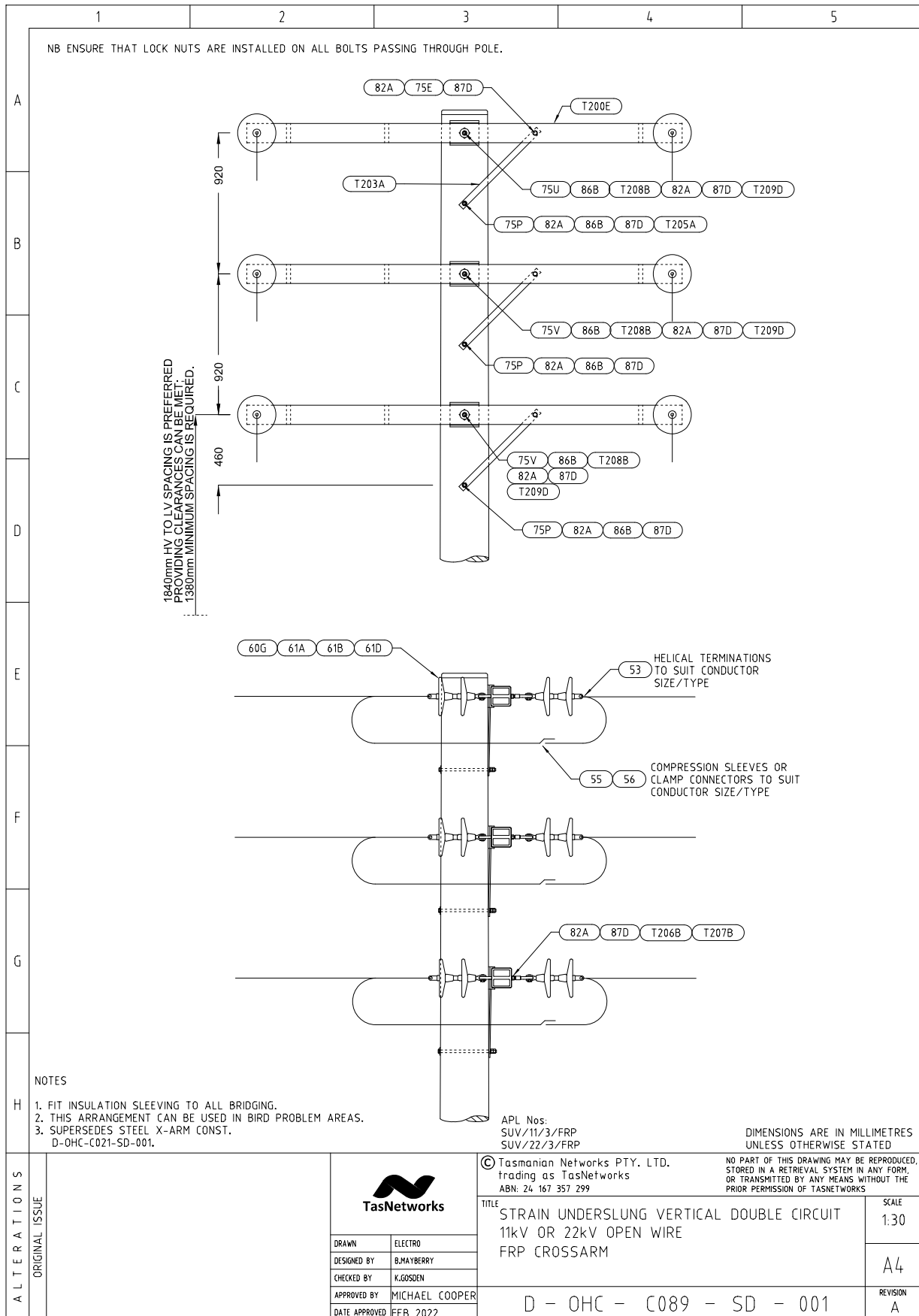
### 3.12 Intermediate Vertical Double Circuit FRP Crossarm




Intermediate Vertical Double Circuit FRP Crossarm – Material List

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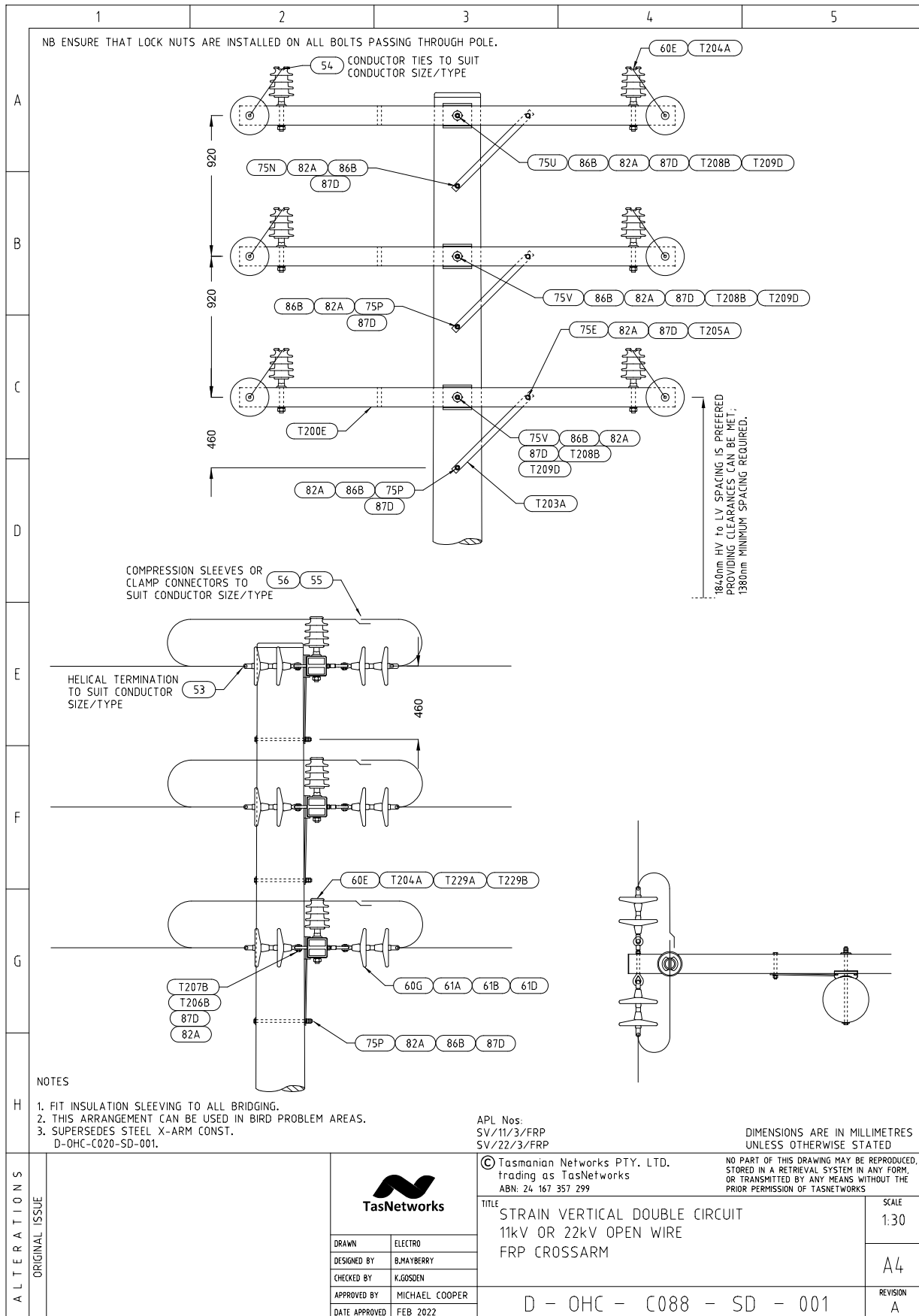
### 3.13 Strain Underslung Vertical Double Circuit Open Wire FRP Crossarm (Preferred)




Strain Underslung Vertical Double Circuit Open Wire FRP Crossarm – Material List

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### 3.14 Strain Vertical Double Circuit Open Wire, FRP Crossarm (Underslung Preferred)

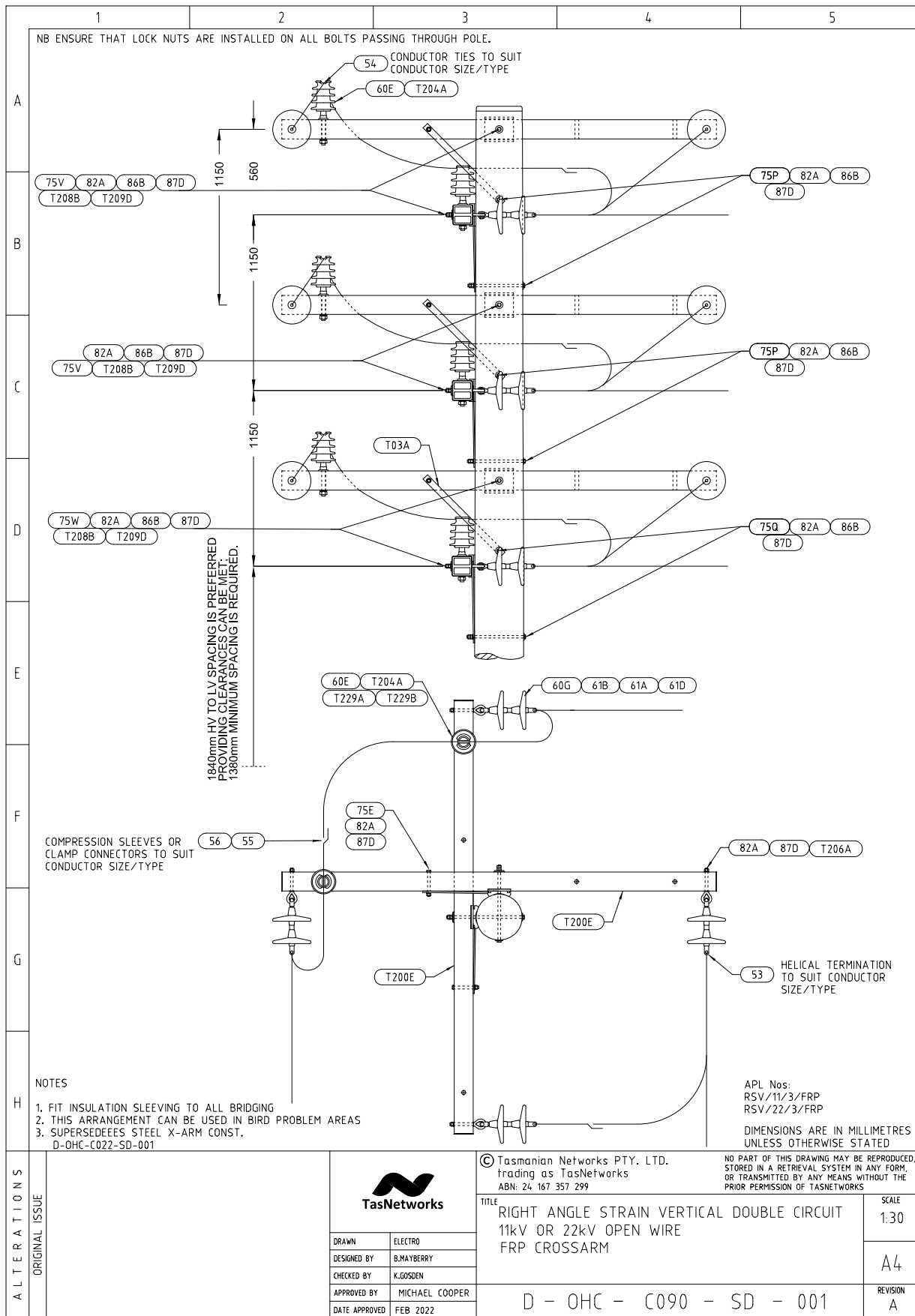


Strain Vertical Double Circuit Open Wire FRP Crossarm – Material List


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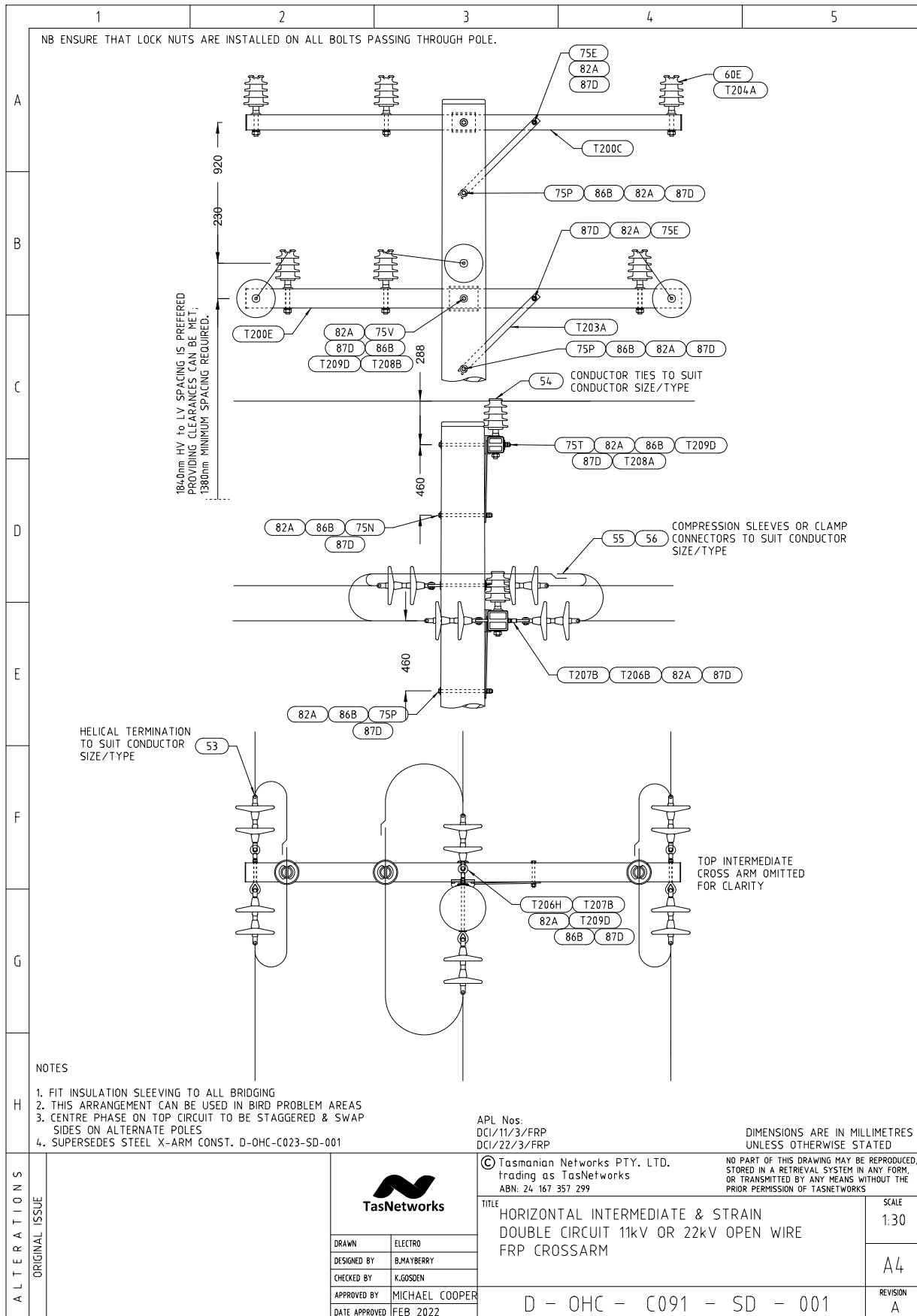
### 3.15 Right Angle Strain Vertical Double Circuit Open Wire FRP Crossarm






Right Angle Strain Vertical Double Circuit Open Wire FRP Crossarm – Material List

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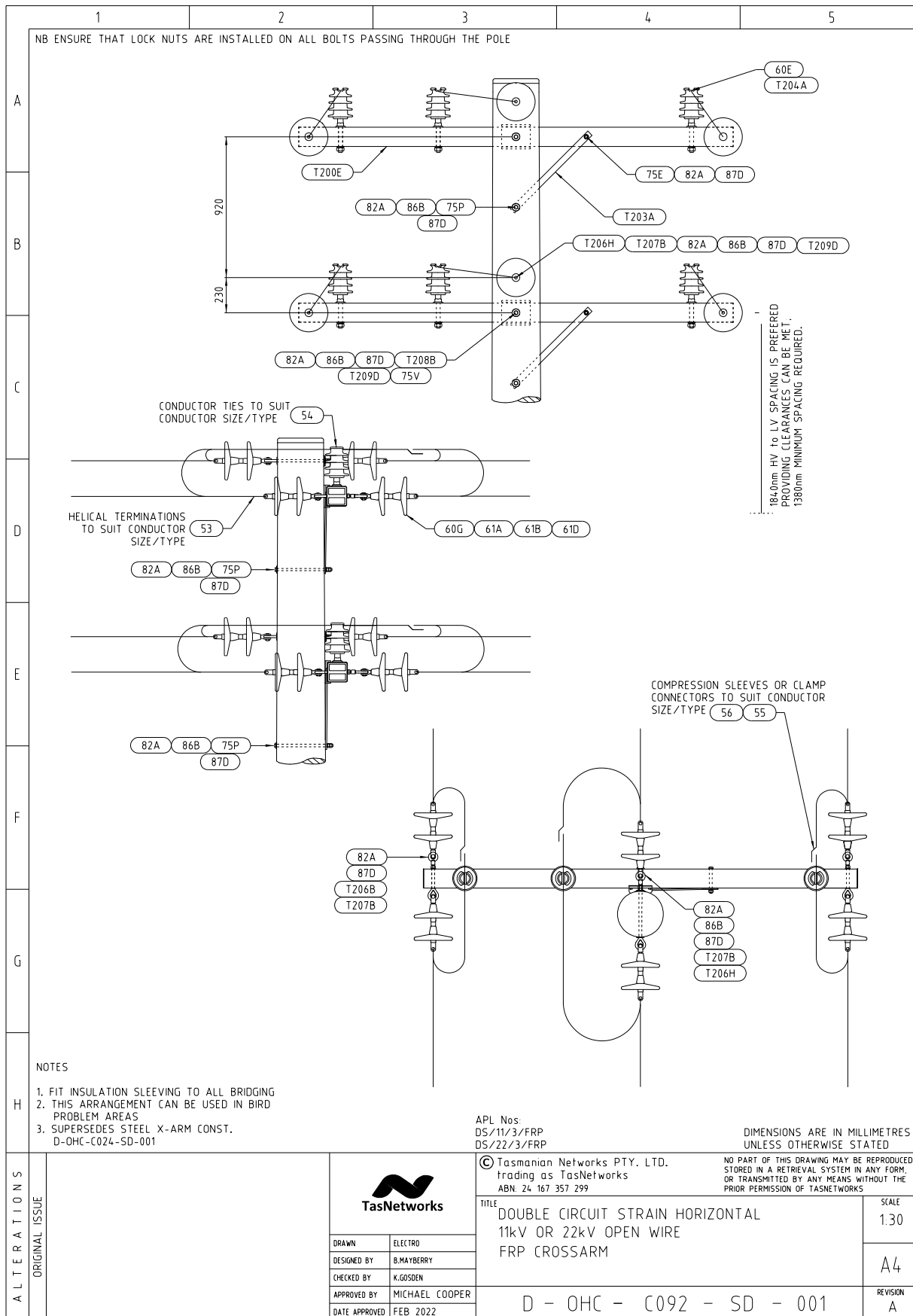
### 3.16 Horizontal Intermediate & Strain Double Circuit Open Wire FRP Crossarm




Horizontal Intermediate & Strain Double Circuit Open Wire FRP Crossarm – Material List

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### 3.17 Double Circuit Strain Horizontal Open Wire FRP Crossarm

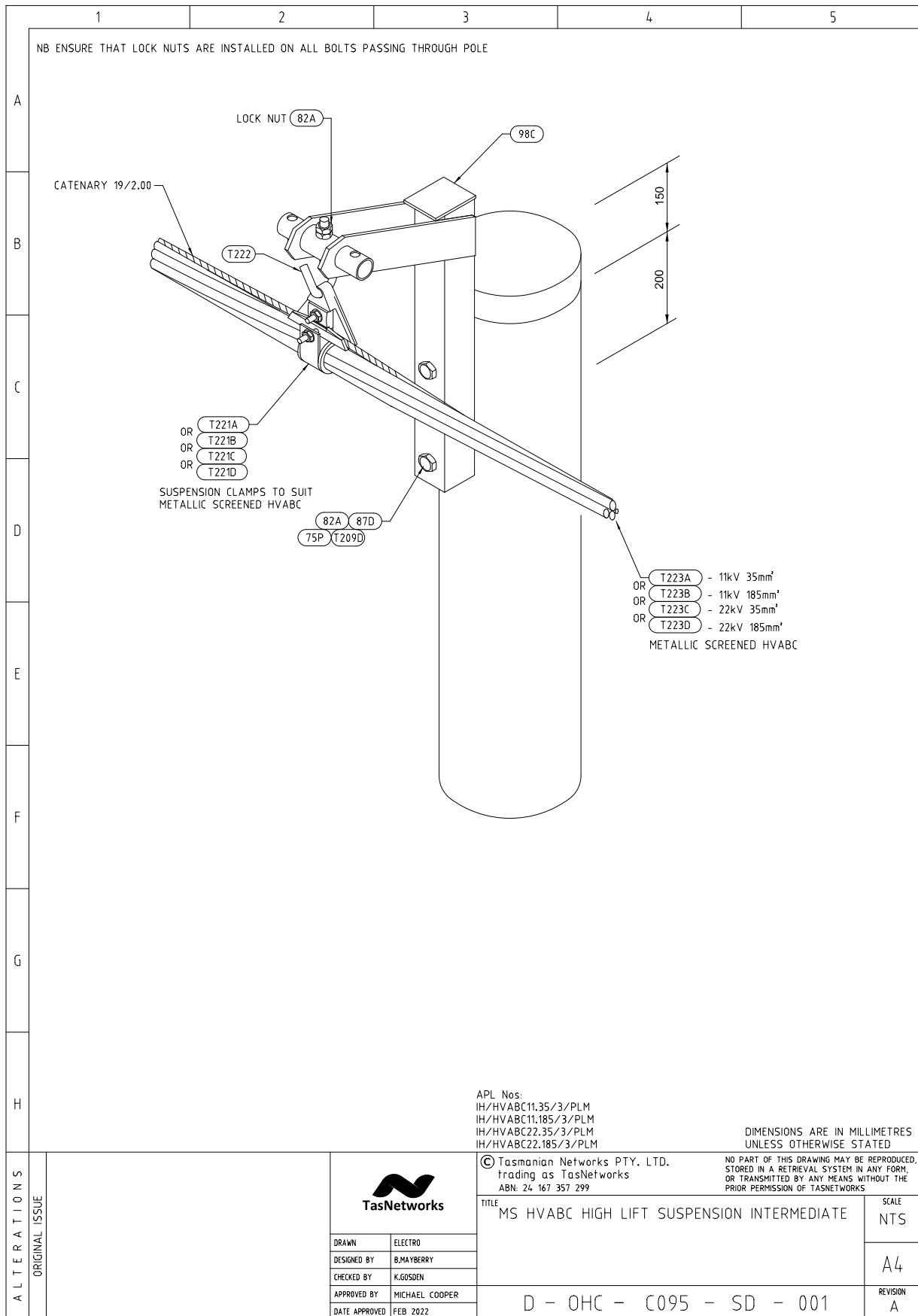


Double Circuit Strain Horizontal Open Wire FRP Crossarm – Material List


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**METALLIC SCREENED HVABC CONSTRUCTIONS**

**3.18 MS HVABC High Lift Suspension Intermediate**

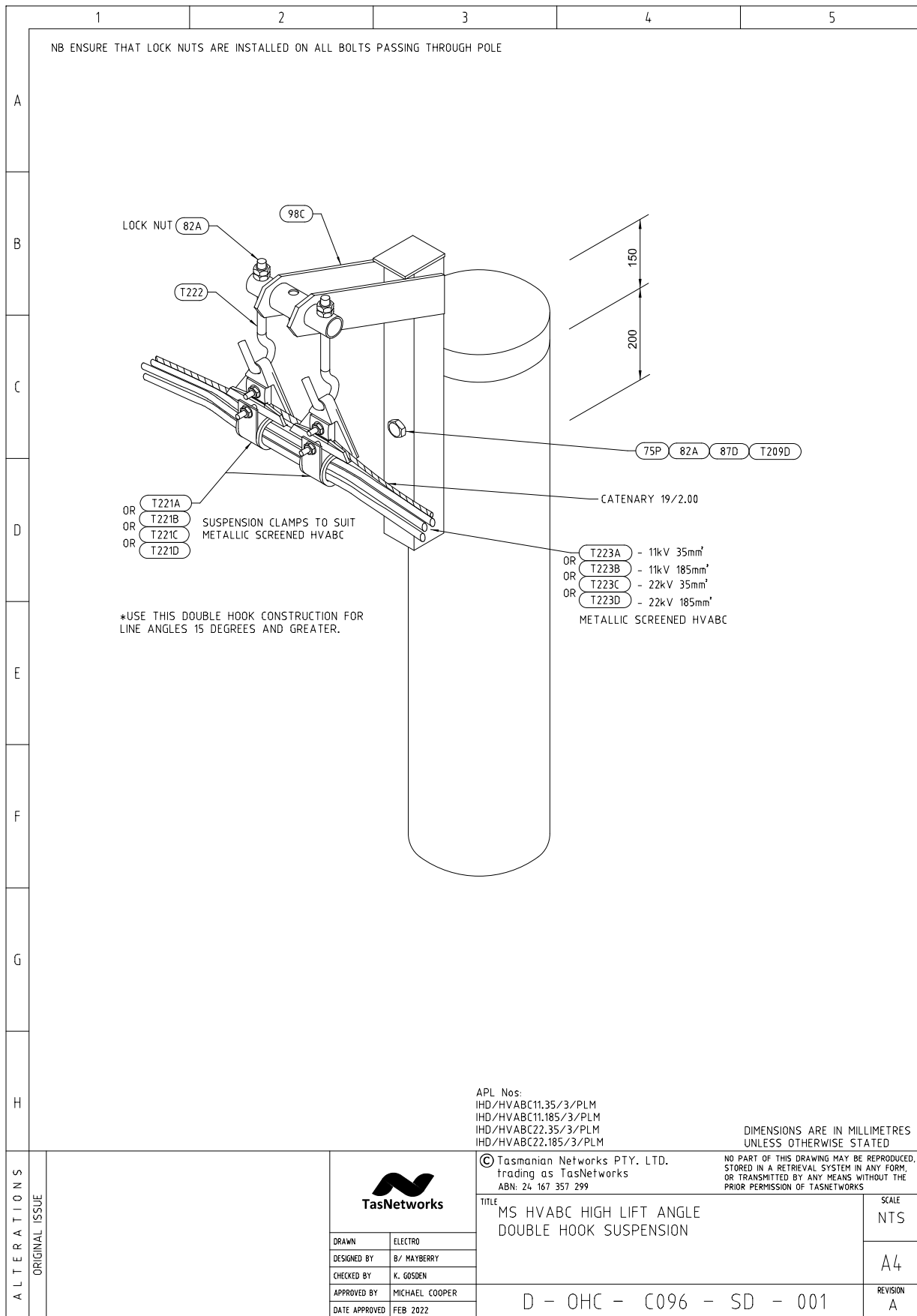


MS HVABC High Lift Suspension Intermediate - Material List


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### 3.19 MS HVABC Angle High Lift Double Hook Suspension

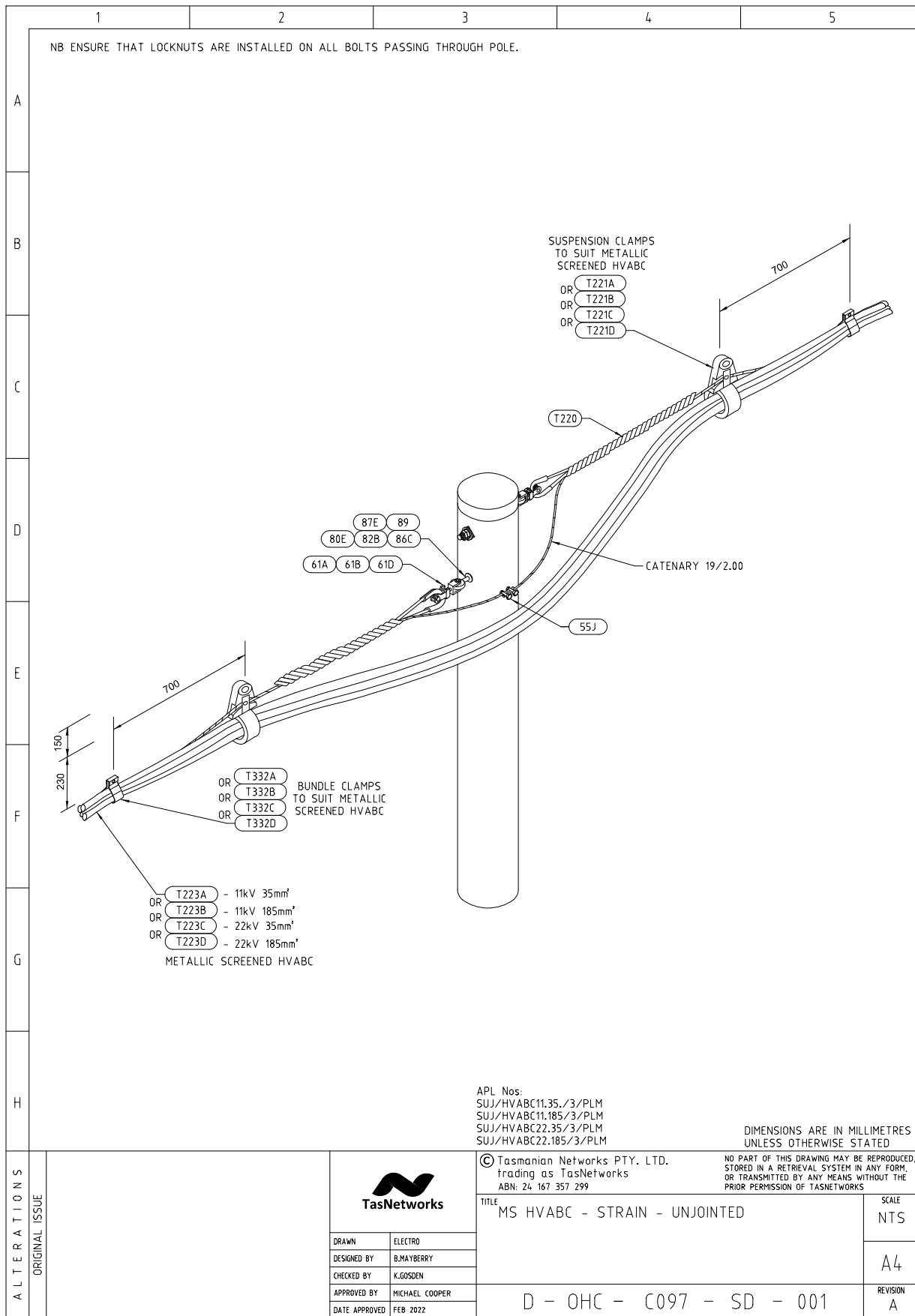


MS HVABC Angle High Lift Double Hook Suspension - Material List

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				82A	40441	Nut Hex M16			8			
				87D	65616	Washer NS M16			2			
				98C	149120	HVABC Mounting Bracket High Lift			1			
				T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.			2			
				T221A	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 35mm2 (TYCO IBSH1050)			2			
				T222	145601	HV ABC Suspension Hook M16 (TYCO HB16200)			2			
				T223A	NEW	Metallic Screen HV ABC Cable 11kV 35mm2 (Olex Product Code UJHA18AA003)			1			
C				IHD/HVABC11.1 85/3/PLM	S	Item Ref	Stock Item	Stock Item Description			Quantity	
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	82A	40441	Nut Hex M16			8						
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	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.			2						
	T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)			2						
	T222	145601	HV ABC Suspension Hook M16 (TYCO HB16200)			2						
	T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJHA25AA003)			1						
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T221C				NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)			2				
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	T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)			2						
	T222	145601	HV ABC Suspension Hook M16 (TYCO HB16200)			2						
	T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)			1						
	F											
G												
H												
A L T E R A T I O N S	O R I G I N A L I S S U E				© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299				NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS			
					TITLE MS HVABC HIGH LIFT ANGLE DOUBLE HOOK SUSPENSION MATERIALS LIST						SCALE NTS	
					D - OHC - C096 - SD - 002						REVISION A	
					DRAWN: ELECTRO DESIGNED BY: B/ MAYBERRY CHECKED BY: K. GOSDEN APPROVED BY: MICHAEL COOPER DATE APPROVED: FEB 2022							

DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED


### 3.20 MS HVABC Strain Unjointed



MS HVABC Strain Unjointed - Material List

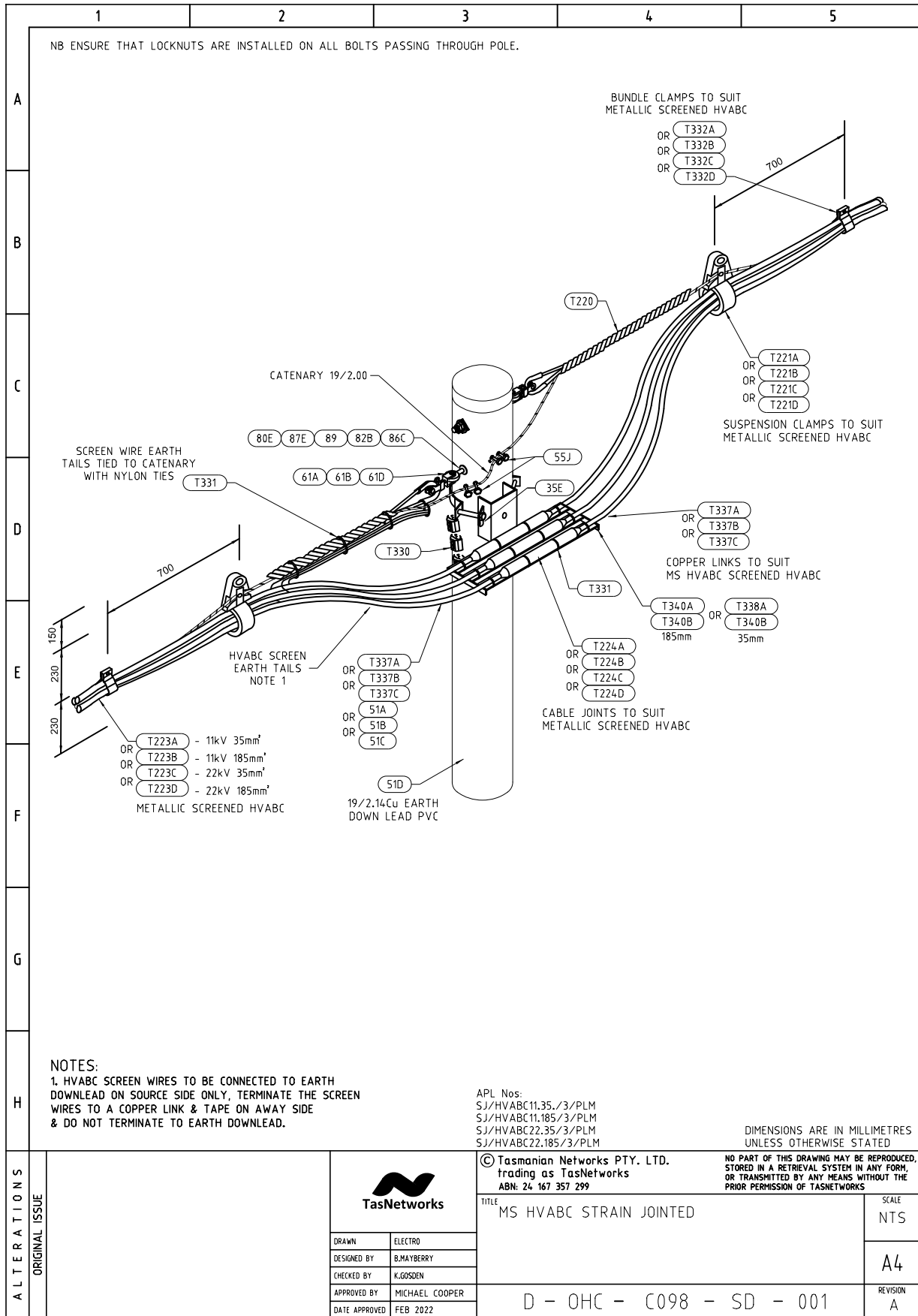
1	2	3	4	5			
A							
	B	SUJ/HVABC11 35/3/PLM	Store Type	S			
			Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
			Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2
			Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2
			Quantity	61B	322386	Socket Termination 16mm	2
				61D	322090	W' Clip / Kink Pin	2
				80E	37263	Bolt Eye M20 x 375	2
				82B	40442	Nut Hex M20	4
				86C	65159	Washer ELS M20	2
				87E	65617	Washer NS M20	2
				T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2
				T221A	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 35mm2 (TYCO IBSH1050)	2
			T223A	NEW	Metallic Screen HV ABC Cable 11kV 35mm2 (Olex Product Code UJHA18AA003)	1	
	T332A	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 35mm2 - 'Protect' Trefoil Clamp	2			
C	SUJ/HVABC11 185/3/PLM	Store Type	S				
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	
		Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
		Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2	
		Quantity	61B	322386	Socket Termination 16mm	2	
			61D	322090	W' Clip / Kink Pin	2	
			80E	37263	Bolt Eye M20 x 375	2	
			82B	40442	Nut Hex M20	4	
			86C	65159	Washer ELS M20	2	
			87E	65617	Washer NS M20	2	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
			T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)	2	
			T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJHA25AA003)	1	
	T332B	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 185mm2 - 'Protect' Trefoil Clamp	2			
D	SUJ/HVABC22 35/3/PLM	Store Type	S				
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	
		Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
		Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2	
		Quantity	61B	322386	Socket Termination 16mm	2	
			61D	322090	W' Clip / Kink Pin	2	
			80E	37263	Bolt Eye M20 x 375	2	
			82B	40442	Nut Hex M20	4	
			86C	65159	Washer ELS M20	2	
			87E	65617	Washer NS M20	2	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
			T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)	2	
			T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)	1	
	T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp	2			
E	SUJ/HVABC22 185/3/PLM	Store Type	S				
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	
		Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
		Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2	
		Quantity	61B	322386	Socket Termination 16mm	2	
			61D	322090	W' Clip / Kink Pin	2	
			80E	37263	Bolt Eye M20 x 375	2	
			82B	40442	Nut Hex M20	4	
			86C	65159	Washer ELS M20	2	
			87E	65617	Washer NS M20	2	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
			T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2	
			T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1	
	T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2			
F	SUJ/HVABC22 185/3/PLM	Store Type	S				
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	
		Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
		Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2	
		Quantity	61B	322386	Socket Termination 16mm	2	
			61D	322090	W' Clip / Kink Pin	2	
			80E	37263	Bolt Eye M20 x 375	2	
			82B	40442	Nut Hex M20	4	
			86C	65159	Washer ELS M20	2	
			87E	65617	Washer NS M20	2	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
			T221E	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2	
			T223E	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1	
	T332E	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2			
G	SUJ/HVABC22 185/3/PLM	Store Type	S				
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	
		Stock Item	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
		Stock Item Description	61A	322056	Ball Clevis & Pin 16mm	2	
		Quantity	61B	322386	Socket Termination 16mm	2	
			61D	322090	W' Clip / Kink Pin	2	
			80E	37263	Bolt Eye M20 x 375	2	
			82B	40442	Nut Hex M20	4	
			86C	65159	Washer ELS M20	2	
			87E	65617	Washer NS M20	2	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
			T221F	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2	
			T223F	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1	
	T332F	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2			
H							

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AL T E R A T I O N S	O R I G I N A L I S S U E			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
				TITLE MS HVABC - STRAIN - UNJOINTED MATERIAL LIST	SCALE NTS
		DRAWN ELECTRO			A4
		DESIGNED BY B.MAYBERRY	CHECKED BY K.GOSDEN	APPROVED BY MICHAEL COOPER	REVISION A

D - OHC - C097 - SD - 002

### 3.21 MS HVABC Strain Jointed




MS HVABC Strain Jointed - Material List 1

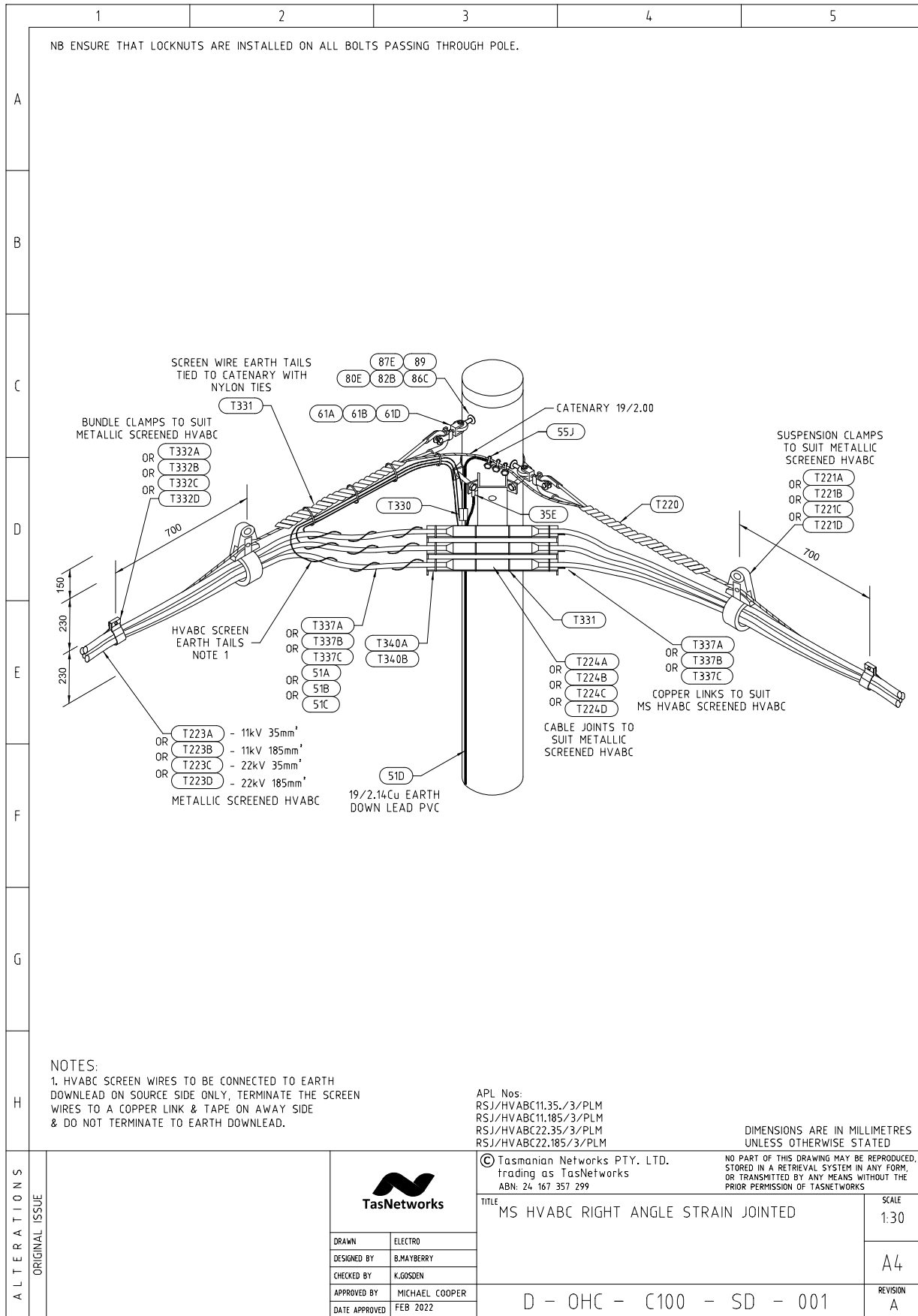
	1	2	3	4	5
A					
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G					
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A L T E R A T I O N S	O R I G I N A L I S S U E	 <b>TasNetworks</b>		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
				NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
				TITLE MS HVABC STRAIN JOINTED MATERIAL LIST - 35/185mm2 11KV ABC	
				SCALE NTS	
				REVISION A	
				D - OHC - C098 - SD - 002	
		DRAWN	ELECTRO		
		DESIGNED BY	B.MAYBERRY		
		CHECKED BY	K.GOSDEN		
		APPROVED BY	MICHAEL COOPER		
		DATE APPROVED	FEB 2022		

DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED

MS HVABC Strain Jointed - Material List 2


	1	2	3	4	5																																																																																														
A																																																																																																			
B	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 45%;">Stock Item Description</th> <th style="width: 10%;">Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="20">S</td> <td>89</td> <td>66803</td> <td>M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)</td> <td>2</td> </tr> <tr> <td>35E</td> <td>141363</td> <td>Lug Crimp Cu M12 Hole 70mm2 Cable</td> <td>1</td> </tr> <tr> <td>51B</td> <td>103209</td> <td>Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35</td> <td>12</td> </tr> <tr> <td>51D</td> <td>103212</td> <td>Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14</td> <td>10</td> </tr> <tr> <td>55J</td> <td>146857</td> <td>Conductor Connection Slit Bolt 'D' Brass Clamp</td> <td>4</td> </tr> <tr> <td>61A</td> <td>322056</td> <td>Ball Clevis &amp; Pin 16mm</td> <td>2</td> </tr> <tr> <td>61B</td> <td>322386</td> <td>Socket Termination 16mm</td> <td>2</td> </tr> <tr> <td>61D</td> <td>322090</td> <td>W' Clip / Kink Pin</td> <td>2</td> </tr> <tr> <td>80E</td> <td>37263</td> <td>Bolt Eye M20 x 375</td> <td>2</td> </tr> <tr> <td>82B</td> <td>40442</td> <td>Nut Hex M20</td> <td>4</td> </tr> <tr> <td>86C</td> <td>65159</td> <td>Washer ELS M20</td> <td>2</td> </tr> <tr> <td>87E</td> <td>65617</td> <td>Washer NS M20</td> <td>2</td> </tr> <tr> <td>T220</td> <td>149110</td> <td>HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)</td> <td>2</td> </tr> <tr> <td>T221C</td> <td>NEW</td> <td>Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)</td> <td>2</td> </tr> <tr> <td>T223C</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)</td> <td>1</td> </tr> <tr> <td>T224C</td> <td>149301</td> <td>Metallic Screen HV ABC Cable Joint, 22kV 35mm2, 3x1 Core, 19/2.00-10mm Dia Gal Catenary</td> <td>3</td> </tr> <tr> <td>T330</td> <td>144959</td> <td>Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)</td> <td>4</td> </tr> <tr> <td>T331</td> <td>NEW</td> <td>Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm</td> <td>20</td> </tr> <tr> <td>T332C</td> <td>NEW</td> <td>Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp</td> <td>2</td> </tr> <tr> <td>T337C</td> <td>141414</td> <td>Ferrule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2</td> <td>6</td> </tr> <tr> <td>T340A</td> <td>149311</td> <td>Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.</td> <td>1</td> </tr> <tr> <td>T340B</td> <td>149313</td> <td>Clamp, Band Suits 35 &amp; 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.</td> <td>1</td> </tr> </tbody> </table>					Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1	51B	103209	Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35	12	51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4	61A	322056	Ball Clevis & Pin 16mm	2	61B	322386	Socket Termination 16mm	2	61D	322090	W' Clip / Kink Pin	2	80E	37263	Bolt Eye M20 x 375	2	82B	40442	Nut Hex M20	4	86C	65159	Washer ELS M20	2	87E	65617	Washer NS M20	2	T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)	2	T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)	1	T224C	149301	Metallic Screen HV ABC Cable Joint, 22kV 35mm2, 3x1 Core, 19/2.00-10mm Dia Gal Catenary	3	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20	T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp	2	T337C	141414	Ferrule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2	6	T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1	T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1
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	T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp	2																																																																																															
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D	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 45%;">Stock Item Description</th> <th style="width: 10%;">Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="20">S</td> <td>89</td> <td>66803</td> <td>M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)</td> <td>2</td> </tr> <tr> <td>35E</td> <td>141363</td> <td>Lug Crimp Cu M12 Hole 70mm2 Cable</td> <td>1</td> </tr> <tr> <td>51C</td> <td>94180</td> <td>Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78</td> <td>12</td> </tr> <tr> <td>51D</td> <td>103212</td> <td>Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14</td> <td>10</td> </tr> <tr> <td>55J</td> <td>146857</td> <td>Conductor Connection Slit Bolt 'D' Brass Clamp</td> <td>4</td> </tr> <tr> <td>61A</td> <td>322056</td> <td>Ball Clevis &amp; Pin 16mm</td> <td>2</td> </tr> <tr> <td>61B</td> <td>322386</td> <td>Socket Termination 16mm</td> <td>2</td> </tr> <tr> <td>61D</td> <td>322090</td> <td>W' Clip / Kink Pin</td> <td>2</td> </tr> <tr> <td>80E</td> <td>37263</td> <td>Bolt Eye M20 x 375</td> <td>2</td> </tr> <tr> <td>82B</td> <td>40442</td> <td>Nut Hex M20</td> <td>4</td> </tr> <tr> <td>86C</td> <td>65159</td> <td>Washer ELS M20</td> <td>2</td> </tr> <tr> <td>87E</td> <td>65617</td> <td>Washer NS M20</td> <td>2</td> </tr> <tr> <td>T220</td> <td>149110</td> <td>HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)</td> <td>2</td> </tr> <tr> <td>T221D</td> <td>NEW</td> <td>Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)</td> <td>2</td> </tr> <tr> <td>T223D</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)</td> <td>1</td> </tr> <tr> <td>T224D</td> <td>149303</td> <td>Metallic Screen HV ABC Cable Joint, 22kV 185mm2, 3x1 Core 19/2.00-10mm Dia Gal Catenary</td> <td>3</td> </tr> <tr> <td>T330</td> <td>144959</td> <td>Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)</td> <td>4</td> </tr> <tr> <td>T331</td> <td>NEW</td> <td>Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm</td> <td>20</td> </tr> <tr> <td>T332D</td> <td>NEW</td> <td>Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp</td> <td>2</td> </tr> <tr> <td>T337B</td> <td>141412</td> <td>Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2</td> <td>6</td> </tr> <tr> <td>T340A</td> <td>149311</td> <td>Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.</td> <td>1</td> </tr> <tr> <td>T340B</td> <td>149313</td> <td>Clamp, Band Suits 35 &amp; 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.</td> <td>1</td> </tr> </tbody> </table>					Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2	35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1	51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12	51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4	61A	322056	Ball Clevis & Pin 16mm	2	61B	322386	Socket Termination 16mm	2	61D	322090	W' Clip / Kink Pin	2	80E	37263	Bolt Eye M20 x 375	2	82B	40442	Nut Hex M20	4	86C	65159	Washer ELS M20	2	87E	65617	Washer NS M20	2	T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2	T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1	T224D	149303	Metallic Screen HV ABC Cable Joint, 22kV 185mm2, 3x1 Core 19/2.00-10mm Dia Gal Catenary	3	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20	T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2	T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6	T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1	T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1
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	T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1																																																																																															
	T224D	149303	Metallic Screen HV ABC Cable Joint, 22kV 185mm2, 3x1 Core 19/2.00-10mm Dia Gal Catenary	3																																																																																															
	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4																																																																																															
	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20																																																																																															
	T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2																																																																																															
	T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6																																																																																															
T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1																																																																																																
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				D - OHC - C098 - SD - 003																																																																																															
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		DESIGNED BY	B.MAYBERRY																																																																																																
		CHECKED BY	K.GOSDEN																																																																																																
		APPROVED BY	MICHAEL COOPER																																																																																																
		DATE APPROVED	FEB 2022																																																																																																

### 3.22 MS HVABC Right Angle Strain Jointed






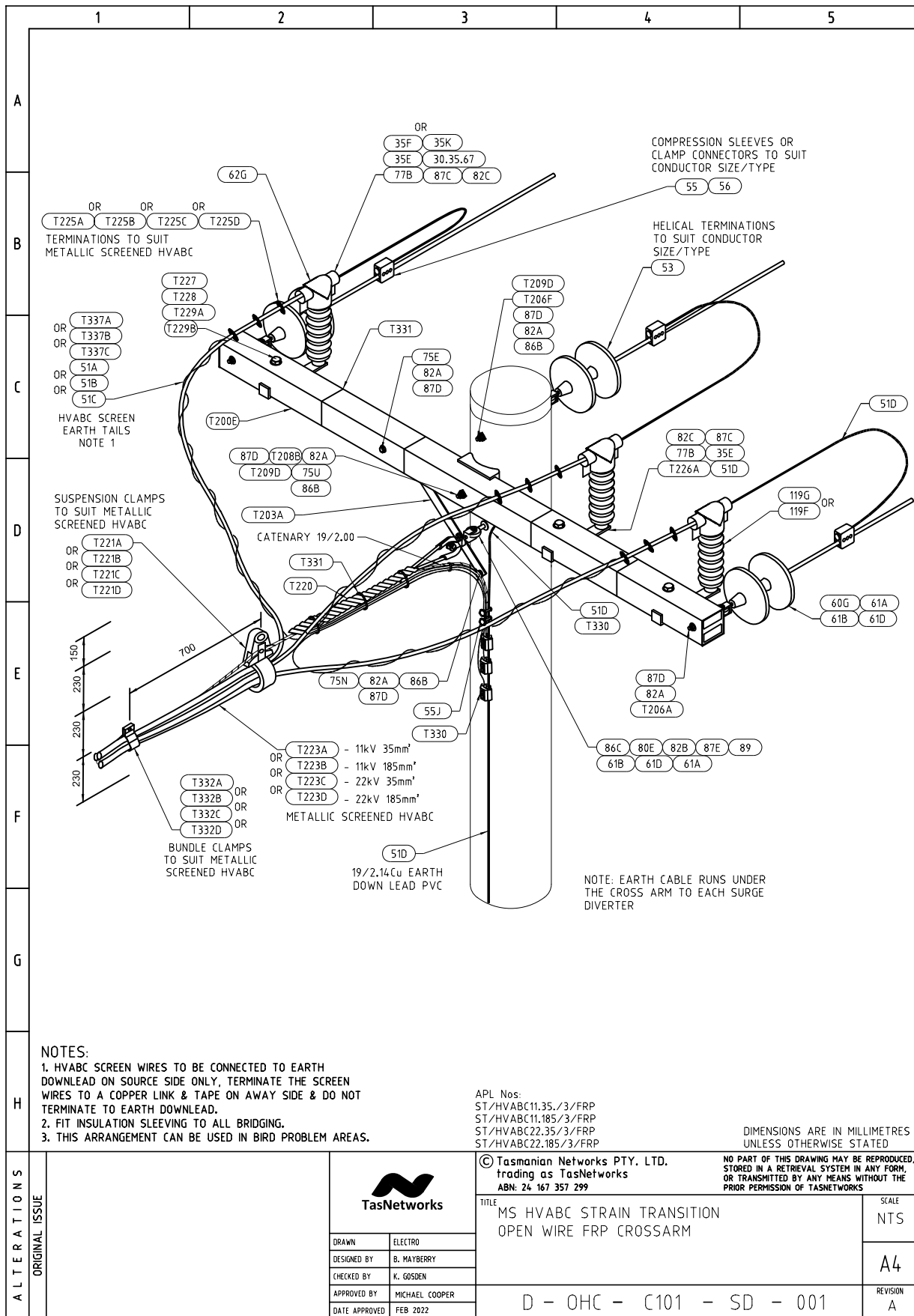
MS HVABC Right Angle Strain Jointed - Material List 1

		1	2	3	4	5				
A										
	B	RSJ/HVABC 11.35/3/PLM	S	Item Ref	Stock Item	Stock Item Description	Quantity			
				89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2			
				35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1			
				51A	103208	Conductor Cu Insulated Hard Drawn 1c 16mm2, 7/1.70	12			
				51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10			
				55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4			
				61A	322056	Ball Clevis & Pin 16mm	2			
				61B	322386	Socket Termination 16mm	2			
				61D	322090	W' Clip / Kink Pin	2			
				80E	37263	Bolt Eye M20 x 375	2			
				82B	40442	Nut Hex M20	4			
				86C	65159	Washer ELS M20	2			
				87E	65617	Washer NS M20	2			
				T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2			
				T221A	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 35mm2 (TYCO IBSH1050)	2			
				T223A	NEW	Metallic Screen HV ABC Cable 11kV 35mm2 (Olex Product Code UJHA18AA003)	1			
				T224A	149309	Metallic Screen HV ABC Cable Joint, 11kV 35mm2, 3x1 Core, 19/2.00-10mm Dia Gal Catenary	3			
				T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4			
				T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20			
				T332A	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 35mm2 - 'Protect' Trefoil Clamp	2			
T337A				141410	Ferrule - Copper, Cable Links for MS HVABC Cable 11kV 35mm2 Screen Wires - CSA 13.62mm2	6				
T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1							
T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1							
C	D	RSJ/HVABC 11.185/3/PLM	S	Item Ref	Stock Item	Stock Item Description	Quantity			
				89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2			
				35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1			
				51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12			
				51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10			
				55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4			
				61A	322056	Ball Clevis & Pin 16mm	2			
				61B	322386	Socket Termination 16mm	2			
				61D	322090	W' Clip / Kink Pin	2			
				80E	37263	Bolt Eye M20 x 375	2			
				82B	40442	Nut Hex M20	4			
				86C	65159	Washer ELS M20	2			
				87E	65617	Washer NS M20	2			
				T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2			
				T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)	2			
				T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJHA25AA003)	1			
				T224B	NEW	Metallic Screen HV ABC Cable Joint, 11kV 185mm2, 3x1 Core, 19/2.00-10mm Dia Gal Catenary	3			
				T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4			
				T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20			
				T332B	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 185mm2 - 'Protect' Trefoil Clamp	2			
				T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6			
T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1							
T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1							
E	F					DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED				
		G	H	ALTERNATIONS	ORIGINAL ISSUE	 <p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p> <p>NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS</p>	TITLE	SCALE		
							MS HVABC RIGHT ANGLE STRAIN JOINTED MATERIAL LIST - 35/185mm2 11KV ABC	1:30		
							DRAWN	ELECTRO	D - OHC - C100 - SD - 002	REVISION
							DESIGNED BY	B.MAYBERRY		A4
							CHECKED BY	K.GOSDEN		
							APPROVED BY	MICHAEL COOPER		
							DATE APPROVED	FEB 2022		A


MS HVABC Right Angle Strain Jointed - Material List 2

	1	2	3	4	5
A					
B					
C					
D					
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H					
A L T E R A T I O N S	O R I G I N A L I S S U E	 <b>TasNetworks</b>		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
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				DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED	
				TITLE MS HVABC RIGHT ANGLE STRAIN JOINTED MATERIAL LIST - 35/185mm2 22KV ABC	
				SCALE 1:30	
				REVISION A	
				D - OHC - C100 - SD - 003	
		DRAWN: ELECTRO DESIGNED BY: B.MAYBERRY CHECKED BY: K.GOSDEN APPROVED BY: MICHAEL COOPER DATE APPROVED: FEB 2022			
RSJ/HVABC 22.35/3/PLM	S	Item Ref	Stock Item	Stock Item Description	Quantity
		89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
		35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1
		51B	103209	Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35	12
		51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10
		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4
		61A	322056	Ball Clevis & Pin 16mm	2
		61B	322386	Socket Termination 16mm	2
		61D	322090	W' Clip / Kink Pin	2
		80E	37263	Bolt Eye M20 x 375	2
		82B	40442	Nut Hex M20	4
		86C	65159	Washer ELS M20	2
		87E	65617	Washer NS M20	2
		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2
		T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)	2
		T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)	1
		T224C	149301	Metallic Screen HV ABC Cable Joint, 22kV 35mm2, 3x1 Core, 19/2.00-10mm Dia Gal Catenary	3
		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20
		T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp	2
		T337C	141414	Ferrule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2	6
		T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1
		T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1
RSJ/HVABC 22.185/3/PL M	S	Item Ref	Stock Item	Stock Item Description	Quantity
		89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
		35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1
		51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12
		51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	10
		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4
		61A	322056	Ball Clevis & Pin 16mm	2
		61B	322386	Socket Termination 16mm	2
		61D	322090	W' Clip / Kink Pin	2
		80E	37263	Bolt Eye M20 x 375	2
		82B	40442	Nut Hex M20	4
		86C	65159	Washer ELS M20	2
		87E	65617	Washer NS M20	2
		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2
		T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2
		T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1
		T224D	149303	Metallic Screen HV ABC Cable Joint, 22kV 185mm2, 3x1 Core 19/2.00-10mm Dia Gal Catenary	3
		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	20
		T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2
		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6
		T340A	149311	Bracket, Tee Support, Pole Mounted 185mm2 MS HVABC Cable Tee Joints - AusNet Dwg. VX14/433/4.	1
		T340B	149313	Clamp, Band Suits 35 & 185mm2 MS HVABC Cable Tee Joint Brackets - AusNet Dwg. VX14/298.	1

### 3.23 MS HVABC Strain Transition Open Wire FRP Crossarm



MS HVABC Strain Transition Open Wire FRP Crossarm - Material List 1

	1	2	3	4	5	
A						
B						
C						
D						
E						
F						
G						
H						
A B C D E F G H	S	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>
			89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	1
			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3
			119F	225772	Surge Diverter 10kA - 11kV	3
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	7
			35F	152476	Lug Bi-Metal Compression Tinned M12 Hole 35mm2 Cable	3
			51A	103208	Conductor Cu Insulated Hard Drawn 1c 16mm2, 7/1.70	12
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	24
			55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2
			60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6
			61A	322056	Ball Clevis & Pin 16mm	4
			61B	322386	Socket Termination 16mm	4
			61D	322090	W' Clip / Kink Pin	10
			62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3
			75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1
			75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1
			75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1
			77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9
			80E	37263	Bolt Eye M20 x 375	1
			82A	40441	Nut Hex M16	9
			82B	40442	Nut Hex M20	2
			82C	40440	Nut Hex M12	9
			86B	65158	Washer ELS M16	3
			86C	65159	Washer ELS M20	1
			87C	65615	Washer NS M12	9
			87D	65616	Washer NS M16	9
			87E	65617	Washer NS M20	1
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1
			T203A	323316	XARM BRACE - 716x40x8	1
			T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2
			T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1
			T208B	323307	GAIN BLOCK 125mm	1
			T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1
			T221A	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 35mm2 (TYCO IBSH1050)	1
			T223A	NEW	Metallic Screen HV ABC Cable 11kV 35mm2 (Olex Product Code UJHA18AA003)	1
			T225A	NEW	Metallic Screen HV ABC Cable Termination 11kV 35mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary	3
			T226A	323368	Bracket,stand off mounting FRP crossarm EDO	3
			T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3
			T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3
			T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	6
			T330	144959	Conductor Clamp Cu Pair/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4
			T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9
			T332A	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 35mm2 - 'Protect' Trefoil Clamp	1
			T337A	141410	Ferrule - Copper, Cable Links for MS HVABC Cable 11kV 35mm2 Screen Wires - CSA 13.62mm2	3
DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED						
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		DRAWN ELECTRO		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS		
		DESIGNED BY B. MAYBERRY				
		CHECKED BY K. GOSDEN		TITLE MS HVABC STRAIN TRANSITION OPEN WIRE FRP CROSSARM MATERIALS LIST - 35mm2 11KV ABC		SCALE NTS
APPROVED BY MICHAEL COOPER		A4				
DATE APPROVED FEB 2022		D - OHC - C101 - SD - 002		REVISION A		

MS HVABC Strain Transition Open Wire FRP Crossarm - Material List 2

		1	2	3	4	5
A						
B	ST/HVABC 11.185/3/F RP	Store Type	S			
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	1
		Stock Item	303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3
		Stock Item Description	119F	225772	Surge Diverter 10kA - 11kV	3
		Quantity	35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	7
			35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	3
			51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	24
			55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2
			60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6
C		61A	322056	Ball Clevis & Pin 16mm	4	
		61B	322386	Socket Termination 16mm	4	
		61D	322090	W' Clip / Kink Pin	10	
		62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	
		75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1	
		77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9	
		80E	37263	Bolt Eye M20 x 375	1	
		82A	40441	Nut Hex M16	9	
D		82B	40442	Nut Hex M20	2	
		82C	40440	Nut Hex M12	9	
		86B	65158	Washer ELS M16	4	
		86C	65159	Washer ELS M20	1	
		87C	65615	Washer NS M12	9	
		87D	65616	Washer NS M16	9	
		87E	65617	Washer NS M20	1	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	1	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
E		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1	
		T208B	323307	GAIN BLOCK 125mm	1	
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2	
		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1	
		T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)	1	
		T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJHA25AA003)	1	
		T225B	NEW	Metallic Screen HV ABC Cable Termination 11kV 185mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary	3	
		T226A	323368	Bracket, stand off mounting FRP crossarm EDO	3	
		T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3	
		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3	
F		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4	
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9	
		T332B	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 185mm2 - 'Protect' Trefoil Clamp	1	
		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3	
G						
H						
ALTERNATIONS	ORIGINAL ISSUE					

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DRAWN	ELECTRO
DESIGNED BY	B. MAYBERRY
CHECKED BY	K. GOSDEN
APPROVED BY	MICHAEL COOPER
DATE APPROVED	FEB 2022

TITLE  
MS HVABC STRAIN TRANSITION  
OPEN WIRE FRP CROSSARM  
MATERIALS LIST - 185mm2 11KV ABC


SCALE  
NTS

A4


D - OHC - C101 - SD - 003

REVISION  
A

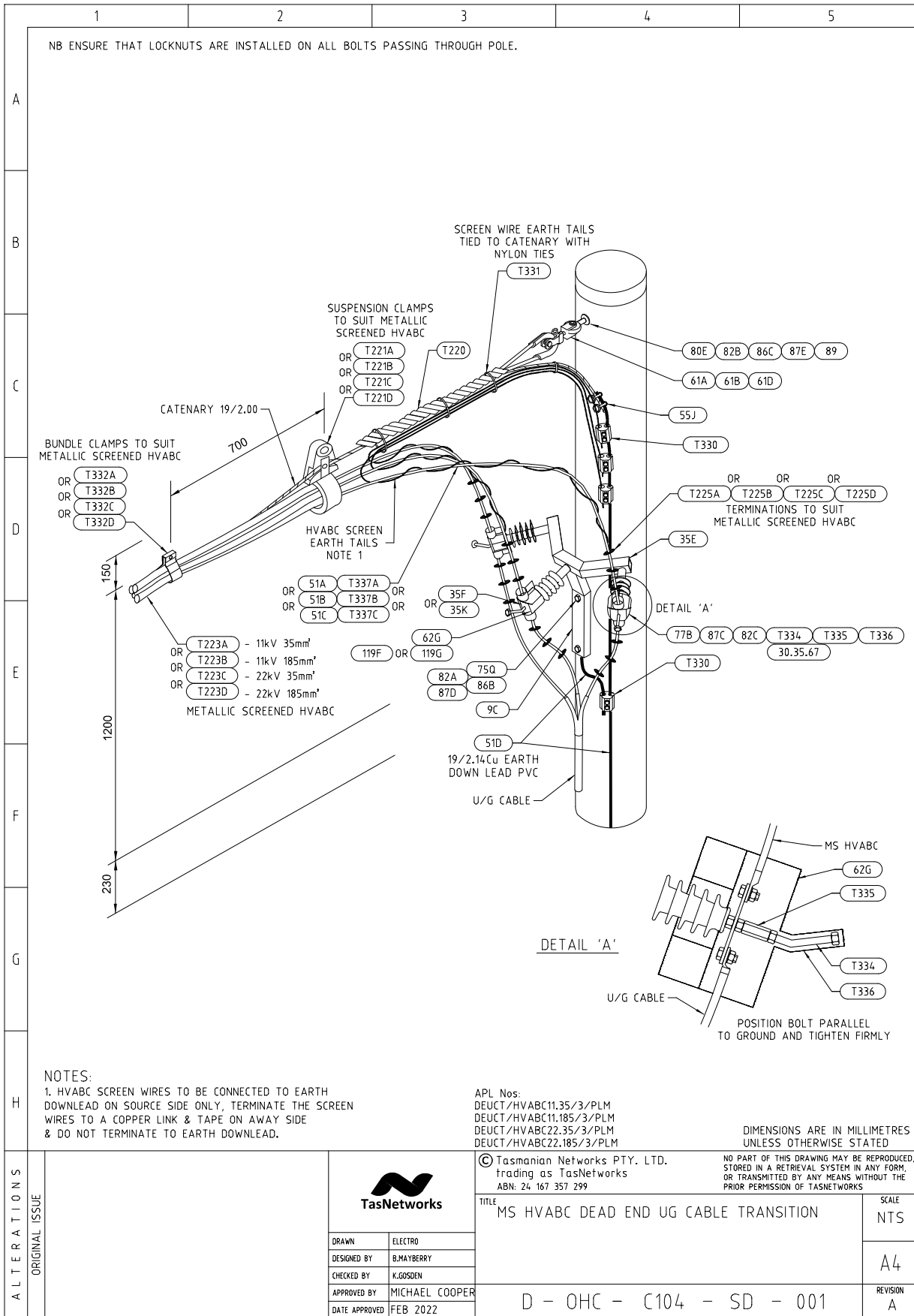
MS HVABC Strain Transition Open Wire FRP Crossarm- Material List 3

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A L T E R A T I O N S	O R I G I N A L I S S U E	 <b>TasNetworks</b>		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
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				TITLE MS HVABC STRAIN TRANSITION OPEN WIRE FRP CROSSARM MATERIALS LIST - 35mm2 22KV HVABC	
				SCALE NTS	
				REVISION A	
				D - OHC - C101 - SD - 004	
		DRAWN ELECTRO			
		DESIGNED BY B. MAYBERRY			
		CHECKED BY K. GOSDEN			
		APPROVED BY MICHAEL COOPER			
		DATE APPROVED FEB 2022			
S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)		1
P	303567	303567	Termination Bar for Surge Arresters & Stand Off insulator		3
	119G	225773	Surge Diverter 10kA - 22kV		3
	35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable		7
	35F	152476	Lug Bi-Metal Compression Tinned M12 Hole 35mm2 Cable		3
	51B	103209	Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35		12
	51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14		24
	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp		2
	60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm		6
	61A	322056	Ball Clews & Pin 16mm		4
	61B	322386	Socket Termination 16mm		4
	61D	322090	W' Clip / Kink Pin		10
	62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm		3
	75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm		1
	75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm		1
	75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm		1
	77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm		9
	80E	37263	Bolt Eye M20 x 375		1
	82A	40441	Nut Hex M16		9
	82B	40442	Nut Hex M20		2
	82C	40440	Nut Hex M12		9
	86B	65158	Washer ELS M16		4
	86C	65159	Washer ELS M20		1
	87C	65615	Washer NS M12		9
	87D	65616	Washer NS M16		9
	87E	65617	Washer NS M20		1
	T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM		1
	T203A	323316	XARM BRACE - 716x40x8		1
	T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm		2
	T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm		1
	T208B	323307	GAIN BLOCK 125mm		1
	T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.		2
	T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)		1
	T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)		1
	T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)		1
	T225C	NEW	Metallic Screen HV ABC Cable Termination 22kV 35mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary		3
	T226A	323368	Bracket, stand off mounting FRP crossarm EDO		3
	T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm		3
	T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)		3
	T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)		6
	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)		4
	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm		9
	T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp		1
	T337C	141414	Ferrule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2		3

MS HVABC Strain Transition Open Wire FRP Crossarm - Material List 4


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		<table border="1"> <thead> <tr> <th>Store Type</th> <th>Item Ref</th> <th>Stock Item</th> <th>Stock Item Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>ST/HVABC</td> <td>89</td> <td>66803</td> <td>M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)</td> <td>1</td> </tr> <tr> <td>22.185/3/F</td> <td>303567</td> <td>303567</td> <td>Termination Bar for Surge Arresters &amp; Stand Off insulator</td> <td>3</td> </tr> <tr> <td>RP</td> <td>119G</td> <td>225773</td> <td>Surge Diverter 10kA - 22kV</td> <td>3</td> </tr> <tr> <td></td> <td>35E</td> <td>141363</td> <td>Lug Crimp Cu M12 Hole 70mm2 Cable</td> <td>7</td> </tr> <tr> <td></td> <td>35K</td> <td>152482</td> <td>Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable</td> <td>3</td> </tr> <tr> <td></td> <td>51C</td> <td>94180</td> <td>Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78</td> <td>12</td> </tr> <tr> <td></td> <td>51D</td> <td>103212</td> <td>Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14</td> <td>24</td> </tr> <tr> <td></td> <td>55J</td> <td>146857</td> <td>Conductor Connection Slit Bolt 'D' Brass Clamp</td> <td>2</td> </tr> <tr> <td></td> <td>60G</td> <td>321260</td> <td>Insulator Disc Porcelain 16mm 70Kn 146mm</td> <td>6</td> </tr> <tr> <td></td> <td>61A</td> <td>322056</td> <td>Ball Clevis &amp; Pin 16mm</td> <td>4</td> </tr> <tr> <td></td> <td>61B</td> <td>322386</td> <td>Socket Termination 16mm</td> <td>4</td> </tr> <tr> <td></td> <td>61D</td> <td>322090</td> <td>W' Clip / Kink Pin</td> <td>10</td> </tr> <tr> <td></td> <td>62G</td> <td>225771</td> <td>Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm</td> <td>3</td> </tr> <tr> <td></td> <td>75E</td> <td>32279</td> <td>Bolt Hex M16 X 180 - Thread Length 57mm</td> <td>1</td> </tr> <tr> <td></td> <td>75N</td> <td>32287</td> <td>Bolt Hex M16 X 350 - Thread Length 57mm</td> <td>1</td> </tr> <tr> <td></td> <td>75U</td> <td>32294</td> <td>Bolt Hex M16 X 500 - Thread Length 75mm</td> <td>1</td> </tr> <tr> <td></td> <td>77B</td> <td>33771</td> <td>Bolt Tower M12 x 35 - Thread Length 20mm</td> <td>9</td> </tr> <tr> <td></td> <td>80E</td> <td>37263</td> <td>Bolt Eye M20 x 375</td> <td>1</td> </tr> <tr> <td></td> <td>82A</td> <td>40441</td> <td>Nut Hex M16</td> <td>9</td> </tr> <tr> <td></td> <td>82B</td> <td>40442</td> <td>Nut Hex M20</td> <td>2</td> </tr> <tr> <td></td> <td>82C</td> <td>40440</td> <td>Nut Hex M12</td> <td>9</td> </tr> <tr> <td></td> <td>86B</td> <td>65158</td> <td>Washer ELS M16</td> <td>4</td> </tr> <tr> <td></td> <td>86C</td> <td>65159</td> <td>Washer ELS M20</td> <td>1</td> </tr> <tr> <td></td> <td>87C</td> <td>65615</td> <td>Washer NS M12</td> <td>9</td> </tr> <tr> <td></td> <td>87D</td> <td>65616</td> <td>Washer NS M16</td> <td>9</td> </tr> <tr> <td></td> <td>87E</td> <td>65617</td> <td>Washer NS M20</td> <td>1</td> </tr> <tr> <td></td> <td>T200E</td> <td>323223</td> <td>CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM</td> <td>1</td> </tr> <tr> <td></td> <td>T203A</td> <td>323316</td> <td>XARM BRACE - 716x40x8</td> <td>1</td> </tr> <tr> <td></td> <td>T206A</td> <td>325628</td> <td>M16 EYE BOLT 150 - Thread Length 60mm</td> <td>2</td> </tr> <tr> <td></td> <td>T206F</td> <td>325638</td> <td>M16 EYE BOLT 375 - Thread Length 75mm</td> <td>1</td> </tr> <tr> <td></td> <td>T208B</td> <td>323307</td> <td>GAIN BLOCK 125mm</td> <td>1</td> </tr> <tr> <td></td> <td>T209D</td> <td>66807</td> <td>M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.</td> <td>2</td> </tr> <tr> <td></td> <td>T220</td> <td>149110</td> <td>HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)</td> <td>1</td> </tr> <tr> <td></td> <td>T221D</td> <td>NEW</td> <td>Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)</td> <td>1</td> </tr> <tr> <td></td> <td>T223D</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)</td> <td>1</td> </tr> <tr> <td></td> <td>T225D</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary</td> <td>3</td> </tr> <tr> <td></td> <td>T226A</td> <td>323368</td> <td>Bracket, stand off mounting FRP crossarm EDO</td> <td>3</td> </tr> <tr> <td></td> <td>T227</td> <td>32334</td> <td>Bolt Hex M24 X 180 - Thread Length 75mm</td> <td>3</td> </tr> <tr> <td></td> <td>T228</td> <td>40448</td> <td>Nut Hex M24 (36mm across Flats, 21mm Thick)</td> <td>3</td> </tr> <tr> <td></td> <td>T229A</td> <td>NEW</td> <td>M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)</td> <td>6</td> </tr> <tr> <td></td> <td>T330</td> <td>144959</td> <td>Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)</td> <td>4</td> </tr> <tr> <td></td> <td>T331</td> <td>NEW</td> <td>Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm</td> <td>9</td> </tr> <tr> <td></td> <td>T332D</td> <td>NEW</td> <td>Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp</td> <td>1</td> </tr> <tr> <td></td> <td>T337B</td> <td>141412</td> <td>Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2</td> <td>3</td> </tr> </tbody> </table>				Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	ST/HVABC	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	1	22.185/3/F	303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3	RP	119G	225773	Surge Diverter 10kA - 22kV	3		35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	7		35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	3		51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12		51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	24		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6		61A	322056	Ball Clevis & Pin 16mm	4		61B	322386	Socket Termination 16mm	4		61D	322090	W' Clip / Kink Pin	10		62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1		75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1		75U	32294	Bolt Hex M16 X 500 - Thread Length 75mm	1		77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9		80E	37263	Bolt Eye M20 x 375	1		82A	40441	Nut Hex M16	9		82B	40442	Nut Hex M20	2		82C	40440	Nut Hex M12	9		86B	65158	Washer ELS M16	4		86C	65159	Washer ELS M20	1		87C	65615	Washer NS M12	9		87D	65616	Washer NS M16	9		87E	65617	Washer NS M20	1		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1		T203A	323316	XARM BRACE - 716x40x8	1		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1		T208B	323307	GAIN BLOCK 125mm	1		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1		T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	1		T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1		T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	3		T226A	323368	Bracket, stand off mounting FRP crossarm EDO	3		T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3		T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	6		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9		T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	1		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3
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	51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12																																																																																																																																																																																																																																		
	51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	24																																																																																																																																																																																																																																		
	55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2																																																																																																																																																																																																																																		
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	77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9																																																																																																																																																																																																																																		
	80E	37263	Bolt Eye M20 x 375	1																																																																																																																																																																																																																																		
	82A	40441	Nut Hex M16	9																																																																																																																																																																																																																																		
	82B	40442	Nut Hex M20	2																																																																																																																																																																																																																																		
	82C	40440	Nut Hex M12	9																																																																																																																																																																																																																																		
	86B	65158	Washer ELS M16	4																																																																																																																																																																																																																																		
	86C	65159	Washer ELS M20	1																																																																																																																																																																																																																																		
	87C	65615	Washer NS M12	9																																																																																																																																																																																																																																		
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	T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1																																																																																																																																																																																																																																		
	T203A	323316	XARM BRACE - 716x40x8	1																																																																																																																																																																																																																																		
	T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2																																																																																																																																																																																																																																		
	T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1																																																																																																																																																																																																																																		
	T208B	323307	GAIN BLOCK 125mm	1																																																																																																																																																																																																																																		
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	T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1																																																																																																																																																																																																																																		
	T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	1																																																																																																																																																																																																																																		
	T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1																																																																																																																																																																																																																																		
	T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	3																																																																																																																																																																																																																																		
	T226A	323368	Bracket, stand off mounting FRP crossarm EDO	3																																																																																																																																																																																																																																		
	T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3																																																																																																																																																																																																																																		
	T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3																																																																																																																																																																																																																																		
	T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	6																																																																																																																																																																																																																																		
	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4																																																																																																																																																																																																																																		
	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9																																																																																																																																																																																																																																		
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	T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3																																																																																																																																																																																																																																		

### 3.24 MS HVABC Dead End UG Cable Transition







MS HVABC Dead End UG Cable Transition – Material List 1

		1	2	3	4	5	
A							
B		<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>	
	DE/HVABC 22.185/3/FR P	S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	1	
			119G	225773	Surge Diverter 10kA - 22kV	3	
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	4	
			35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	3	
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	15	
			55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2	
			61B	322386	Socket Termination 16mm	1	
			61D	322090	W' Clip / Kink Pin	1	
			62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3	
C			75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
			75N	32287	Bolt Hex M16 X 350 - Thread Length 57mm	1	
			77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	3	
			80E	37263	Bolt Eye M20 x 375	1	
			82A	40441	Nut Hex M16	5	
			82B	40442	Nut Hex M20	2	
			82C	40440	Nut Hex M12	3	
			86B	65158	Washer ELS M16	2	
			86C	65159	Washer ELS M20	1	
D			87C	65615	Washer NS M12	3	
			87D	65616	Washer NS M16	4	
			87E	65617	Washer NS M20	1	
			T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
			T203A	323316	XARM BRACE - 716x40x8	1	
			T205A	NEW	M16 Spring Washer - Galvanised Spring Steel DIN127B (OD: 27mm, ID: 16.2 - 17.0mm, Thickness: 3.5)	2	
			T206C	325639	M16 EYE BOLT 500 - Thread Length 75mm	1	
			T208B	323307	GAIN BLOCK 125mm	1	
			T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	1	
			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1	
E			T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	1	
			T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1	
			T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	3	
			T226A	323368	Bracket,stand off mounting FRP crossarm EDO	3	
			T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3	
			T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3	
			T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm,Thickness 4.0mm)	6	
			T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	1	
			T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	4	
F			T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	1	
			T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3	
G	DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED						
H							
A L T E R A T I O N S	O R I G I N A L I S S U E			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
				TITLE MS HVABC DEAD END UG CABLE TRANSITION MATERIAL LIST - 35mm2 11KV ABC			SCALE NTS
				DRAWN ELECTRO			A4
				DESIGNED BY B.MAYBERRY			
CHECKED BY K.GOSDEN							
APPROVED BY MICHAEL COOPER		D - OHC - C104 - SD - 002	REVISION A				
DATE APPROVED FEB 2022							




MS HVABC Dead End UG Cable Transition - Material List 2

1		2		3		4		5								
A																
	B															
		C														
			D													
				E												
					F											
						G										
							H									
								DEUCT/HV		Store Type	Item Ref	Stock Item	Stock Item Description			Quantity
								ABC11.185		S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)			1
								/3/FRP			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator			3
											119F	225772	Surge Diverter 10kA - 11kV			3
											35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable			1
											35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable			6
											51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78			18
											51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14			12
											55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp			2
											61A	322056	Ball Clevis & Pin 16mm			1
											61B	322386	Socket Termination 16mm			1
											61D	322090	W' Clip / Kink Pin			1
											62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm			3
											75Q	32290	Bolt Hex M16 X 400 - Thread Length 75mm			2
											77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm			6
											80E	37263	Bolt Eye M20 x 375			1
											82A	40441	Nut Hex M16			4
											82B	40442	Nut Hex M20			2
											82C	40440	Nut Hex M12			9
											86B	65158	Washer ELS M16			2
											86C	65159	Washer ELS M20			1
											87C	65615	Washer NS M12			6
											87D	65616	Washer NS M16			2
											87E	65617	Washer NS M20			1
											9C	322063	Stand Off Bracket, UG Cable Termination used with Synthetic Insulators			1
									T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)			1		
									T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)			1		
								T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJHA25AA003)			1			
			T225B					NEW	Metallic Screen HV ABC Cable Termination 11kV 185mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary			3				
			T330	144959				Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)			4					
			T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm					4						
			T332B	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 185mm2 - 'Protect' Trefoil Clamp			1								
			T334	NEW	Bolt Hex Angled M12 X 180 + Nut, Tinned Brass - Thread Length 50mm - Earthing Point 11/22kV S/Arresters			3								
			T335	154486	Coupling Hex M12 Female Threaded Coupling Tinned Brass - Earthing Point 11/22kV Surge Arresters			3								
			T336	NEW	Wildlife Cover for 11/22kV Surge Arrester Earthing Point Bolt (Bolt Length 150mm)			3								
			T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2			3								
DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED																
AL T E R A T I O N S	O R I G I N A L I S S U E			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299				NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNWORKS								
				T I T L E MS HVABC DEAD END UG CABLE TRANSITION MATERIAL LIST - 185mm2 11kV ABC				S C A L E N T S								
				D R A W N E L E C T R O				R E V I S I O N A								
				D E S I G N E D B Y B.MAYBERRY												
		C H E C K E D B Y K.GOSDEN														
		A P P R O V E D B Y M I C H A E L C O O P E R														
		D A T E A P P R O V E D F E B 2 0 2 2				D - OHC - C104 - SD - 003										

MS HVABC Dead End UG Cable Transition - Material List 3

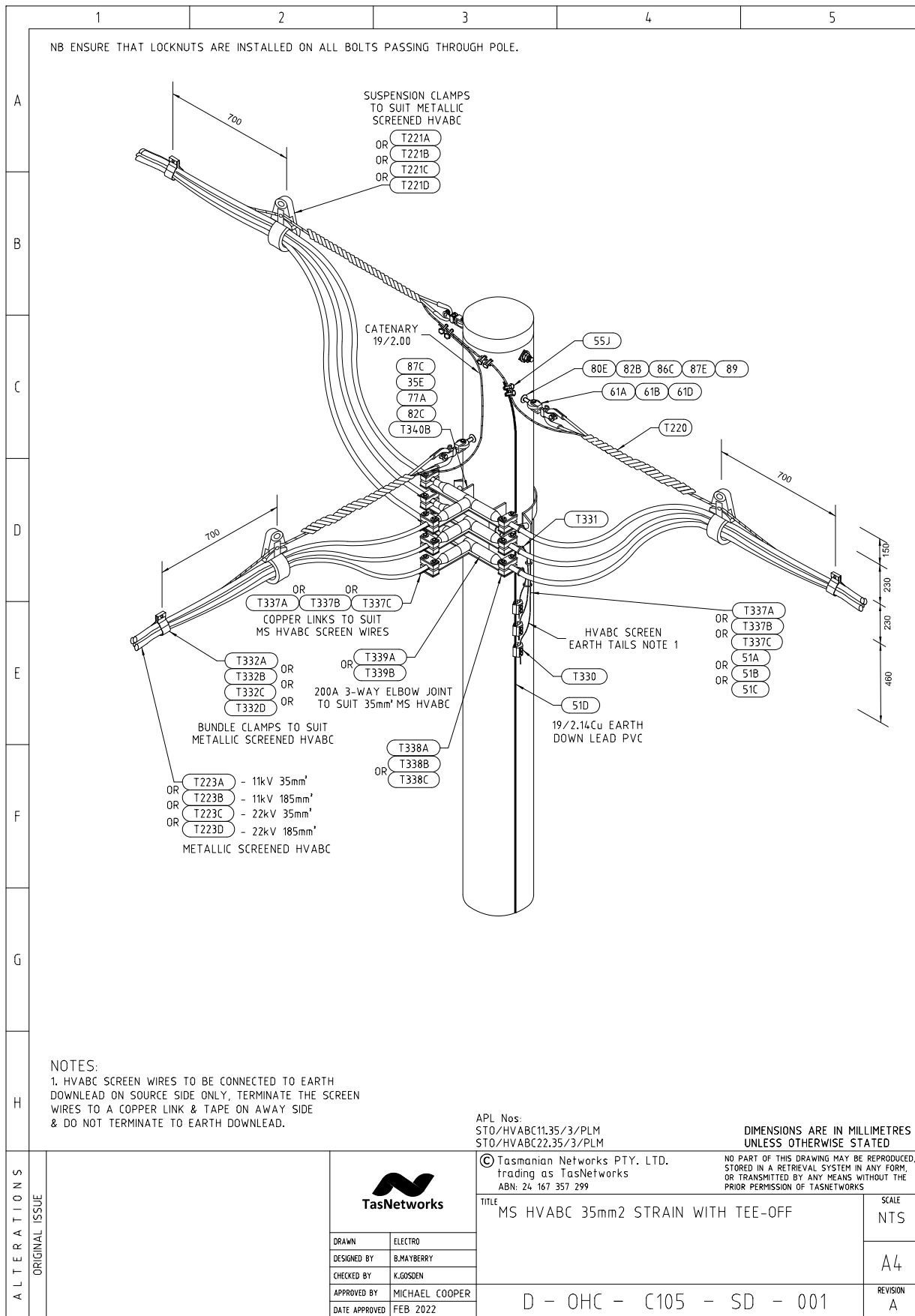
		1	2	3	4	5				
A										
	B	S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)		1			
			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator		3			
			119G	225773	Surge Diverter 10kA - 22kV		3			
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable		1			
			35F	152476	Lug Bi-Metal Compression Tinned M12 Hole 35mm2 Cable		6			
			51B	103209	Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35		18			
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14		12			
			55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp		2			
			C	61A	322056	Ball Clevis & Pin 16mm		1		
				61B	322386	Socket Termination 16mm		1		
				61D	322090	W' Clip / Kink Pin		1		
				62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm		3		
				75Q	32290	Bolt Hex M16 X 400 - Thread Length 75mm		2		
				77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm		6		
				80E	37263	Bolt Eye M20 x 375		1		
				82A	40441	Nut Hex M16		4		
				82B	40442	Nut Hex M20		2		
				82C	40440	Nut Hex M12		9		
				D	86B	65158	Washer ELS M16		2	
					86C	65159	Washer ELS M20		1	
					87C	65615	Washer NS M12		6	
					87D	65616	Washer NS M16		2	
					87E	65617	Washer NS M20		1	
			9C		322063	Stand Off Bracket, UG Cable Termination used with Synthetic Insulators		1		
T220			149110		HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)		1			
T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)			1					
T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)			1					
T225C	NEW	Metallic Screen HV ABC Cable Termination 22kV 35mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary			3					
E	T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)		4					
	T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm		4					
	T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp		1					
	T334	NEW	Bolt Hex Angled M12 X 180 + Nut, Tinned Brass - Thread Length 50mm - Earthing Point 11/22kV S/Arresters		3					
	T335	154486	Coupling Hex M12 Female Threaded Coupling Tinned Brass - Earthing Point 11/22kV Surge Arresters		3					
	T336	NEW	Wildlife Cover for 11/22kV Surge Arrester Earthing Point Bolt (Bolt Length 150mm)		3					
	T337C	141414	Ferule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2		3					
F										
	G									
		H								
			DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED							
			A L T E R A T I O N S	O R I G I N A L I S S U E			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
							TITLE MS HVABC DEAD END UG CABLE TRANSITION MATERIAL LIST - 35mm2 22KV ABC			SCALE NTS
							DRAWN	ELECTRO		A4
							DESIGNED BY	B.MAYBERRY		
							CHECKED BY	K.GOSDEN		
							APPROVED BY	MICHAEL COOPER		
DATE APPROVED							FEB 2022	D - OHC - C104 - SD - 004		REVISION A

MS HVABC Dead End UG Cable Transition - Material List 4

	1	2	3	4	5																																																																																																																																																																																																																																																																																															
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B	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 50%;">Stock Item Description</th> <th style="width: 15%;">Quantity</th> </tr> </thead> <tbody> <tr> <td>DEUCT/HV</td> <td>S</td> <td>89</td> <td>66803</td> <td>M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>303567</td> <td>303567</td> <td>Termination Bar for Surge Arresters &amp; Stand Off insulator</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>119G</td> <td>225773</td> <td>Surge Diverter 10kA - 22kV</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>35E</td> <td>141363</td> <td>Lug Crimp Cu M12 Hole 70mm2 Cable</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>35K</td> <td>152482</td> <td>Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>51C</td> <td>94180</td> <td>Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78</td> <td>18</td> </tr> <tr> <td></td> <td></td> <td>51D</td> <td>103212</td> <td>Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14</td> <td>12</td> </tr> <tr> <td></td> <td></td> <td>55J</td> <td>146857</td> <td>Conductor Connection Slit Bolt 'D' Brass Clamp</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>61A</td> <td>322056</td> <td>Ball Clevis &amp; Pin 16mm</td> <td>1</td> </tr> <tr> <td style="text-align: center;">C</td> <td></td> <td>61B</td> <td>322386</td> <td>Socket Termination 16mm</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>61D</td> <td>322090</td> <td>W' Clip / Kink Pin</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>62G</td> <td>225771</td> <td>Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>75Q</td> <td>32290</td> <td>Bolt Hex M16 X 400 - Thread Length 75mm</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>77B</td> <td>33771</td> <td>Bolt Tower M12 x 35 - Thread Length 20mm</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>80E</td> <td>37263</td> <td>Bolt Eye M20 x 375</td> <td>1</td> </tr> <tr> <td style="text-align: center;">D</td> <td></td> <td>82A</td> <td>40441</td> <td>Nut Hex M16</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>82B</td> <td>40442</td> <td>Nut Hex M20</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>82C</td> <td>40440</td> <td>Nut Hex M12</td> <td>9</td> </tr> <tr> <td></td> <td></td> <td>86B</td> <td>65158</td> <td>Washer ELS M16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>86C</td> <td>65159</td> <td>Washer ELS M20</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>87C</td> <td>65615</td> <td>Washer NS M12</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>87D</td> <td>65616</td> <td>Washer NS M16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>87E</td> <td>65617</td> <td>Washer NS M20</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>9C</td> <td>322063</td> <td>Stand Off Bracket, UG Cable Termination used with Synthetic Insulators</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>T220</td> <td>149110</td> <td>HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>T221D</td> <td>NEW</td> <td>Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>T223D</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>T225D</td> <td>NEW</td> <td>Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary</td> <td>3</td> </tr> <tr> <td style="text-align: center;">E</td> <td></td> <td>T330</td> <td>144959</td> <td>Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>T331</td> <td>NEW</td> <td>Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>T332D</td> <td>NEW</td> <td>Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>T334</td> <td>NEW</td> <td>Bolt Hex Angled M12 X 180 + Nut, Tinned Brass - Thread Length 50mm - Earthing Point 11/22kV S/Arresters</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>T335</td> <td>154486</td> <td>Coupling Hex M12 Female Threaded Coupling Tinned Brass - Earthing Point 11/22kV Surge Arresters</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>T336</td> <td>NEW</td> <td>Wildlife Cover for 11/22kV Surge Arrester Earthing Point Bolt (Bolt Length 150mm)</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>T337B</td> <td>141412</td> <td>Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2</td> <td>3</td> </tr> <tr> <td style="text-align: center;">F</td> <td colspan="5"></td> </tr> <tr> <td style="text-align: center;">G</td> <td colspan="5"></td> </tr> <tr> <td style="text-align: center;">H</td> <td colspan="5"></td> </tr> <tr> <td style="text-align: center;">A L T E R A T I O N S</td> <td style="text-align: center;">O R I G I N A L I S S U E</td> <td colspan="2" style="text-align: center;">   <b>TasNetworks</b> </td> <td colspan="2" style="text-align: center;">                 © Tasmanian Networks PTY. LTD.                  trading as TasNetworks                  ABN: 24 167 357 299             </td> </tr> <tr> <td colspan="4"></td> <td colspan="2" style="text-align: center;">                 NO PART OF THIS DRAWING MAY BE REPRODUCED,                  STORED IN A RETRIEVAL SYSTEM IN ANY FORM,                  OR TRANSMITTED BY ANY MEANS WITHOUT THE                  PRIOR PERMISSION OF TASNETWORKS             </td> </tr> <tr> <td colspan="4"></td> <td style="text-align: center;">                 TITLE                  MS HVABC DEAD END UG CABLE TRANSITION                  MATERIAL LIST - 185mm2 22KV ABC             </td> <td style="text-align: center;">                 SCALE                  NTS                   A4             </td> </tr> <tr> <td colspan="4"></td> <td style="text-align: center;">                 D - OHC - C104 - SD - 005             </td> <td style="text-align: center;">                 REVISION                  A             </td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">                 DRAWN                  ELECTRO             </td> <td colspan="3"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">                 DESIGNED BY                  B.MAYBERRY             </td> <td colspan="3"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">                 CHECKED BY                  K.GOSDEN             </td> <td colspan="3"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">                 APPROVED BY                  MICHAEL COOPER             </td> <td colspan="3"></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">                 DATE APPROVED                  FEB 2022             </td> <td colspan="3"></td> </tr> </tbody></table>					Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	DEUCT/HV	S	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	1			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3			119G	225773	Surge Diverter 10kA - 22kV	3			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	1			35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	6			51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	18			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	12			55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	2			61A	322056	Ball Clevis & Pin 16mm	1	C		61B	322386	Socket Termination 16mm	1			61D	322090	W' Clip / Kink Pin	1			62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3			75Q	32290	Bolt Hex M16 X 400 - Thread Length 75mm	2			77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	6			80E	37263	Bolt Eye M20 x 375	1	D		82A	40441	Nut Hex M16	4			82B	40442	Nut Hex M20	2			82C	40440	Nut Hex M12	9			86B	65158	Washer ELS M16	2			86C	65159	Washer ELS M20	1			87C	65615	Washer NS M12	6			87D	65616	Washer NS M16	2			87E	65617	Washer NS M20	1			9C	322063	Stand Off Bracket, UG Cable Termination used with Synthetic Insulators	1			T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1			T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	1			T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1			T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	3	E		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4			T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	4			T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	1			T334	NEW	Bolt Hex Angled M12 X 180 + Nut, Tinned Brass - Thread Length 50mm - Earthing Point 11/22kV S/Arresters	3			T335	154486	Coupling Hex M12 Female Threaded Coupling Tinned Brass - Earthing Point 11/22kV Surge Arresters	3			T336	NEW	Wildlife Cover for 11/22kV Surge Arrester Earthing Point Bolt (Bolt Length 150mm)	3			T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3	F						G						H						A L T E R A T I O N S	O R I G I N A L I S S U E	 <b>TasNetworks</b>		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299						NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS						TITLE MS HVABC DEAD END UG CABLE TRANSITION MATERIAL LIST - 185mm2 22KV ABC	SCALE NTS  A4					D - OHC - C104 - SD - 005	REVISION A			DRAWN ELECTRO						DESIGNED BY B.MAYBERRY						CHECKED BY K.GOSDEN						APPROVED BY MICHAEL COOPER						DATE APPROVED FEB 2022			
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		87C	65615	Washer NS M12	6																																																																																																																																																																																																																																																																																															
		87D	65616	Washer NS M16	2																																																																																																																																																																																																																																																																																															
		87E	65617	Washer NS M20	1																																																																																																																																																																																																																																																																																															
		9C	322063	Stand Off Bracket, UG Cable Termination used with Synthetic Insulators	1																																																																																																																																																																																																																																																																																															
		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	1																																																																																																																																																																																																																																																																																															
		T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	1																																																																																																																																																																																																																																																																																															
		T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	1																																																																																																																																																																																																																																																																																															
		T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	3																																																																																																																																																																																																																																																																																															
E		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	4																																																																																																																																																																																																																																																																																															
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	4																																																																																																																																																																																																																																																																																															
		T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	1																																																																																																																																																																																																																																																																																															
		T334	NEW	Bolt Hex Angled M12 X 180 + Nut, Tinned Brass - Thread Length 50mm - Earthing Point 11/22kV S/Arresters	3																																																																																																																																																																																																																																																																																															
		T335	154486	Coupling Hex M12 Female Threaded Coupling Tinned Brass - Earthing Point 11/22kV Surge Arresters	3																																																																																																																																																																																																																																																																																															
		T336	NEW	Wildlife Cover for 11/22kV Surge Arrester Earthing Point Bolt (Bolt Length 150mm)	3																																																																																																																																																																																																																																																																																															
		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	3																																																																																																																																																																																																																																																																																															
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				NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS																																																																																																																																																																																																																																																																																																
				TITLE MS HVABC DEAD END UG CABLE TRANSITION MATERIAL LIST - 185mm2 22KV ABC	SCALE NTS  A4																																																																																																																																																																																																																																																																																															
				D - OHC - C104 - SD - 005	REVISION A																																																																																																																																																																																																																																																																																															
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		CHECKED BY K.GOSDEN																																																																																																																																																																																																																																																																																																		
		APPROVED BY MICHAEL COOPER																																																																																																																																																																																																																																																																																																		
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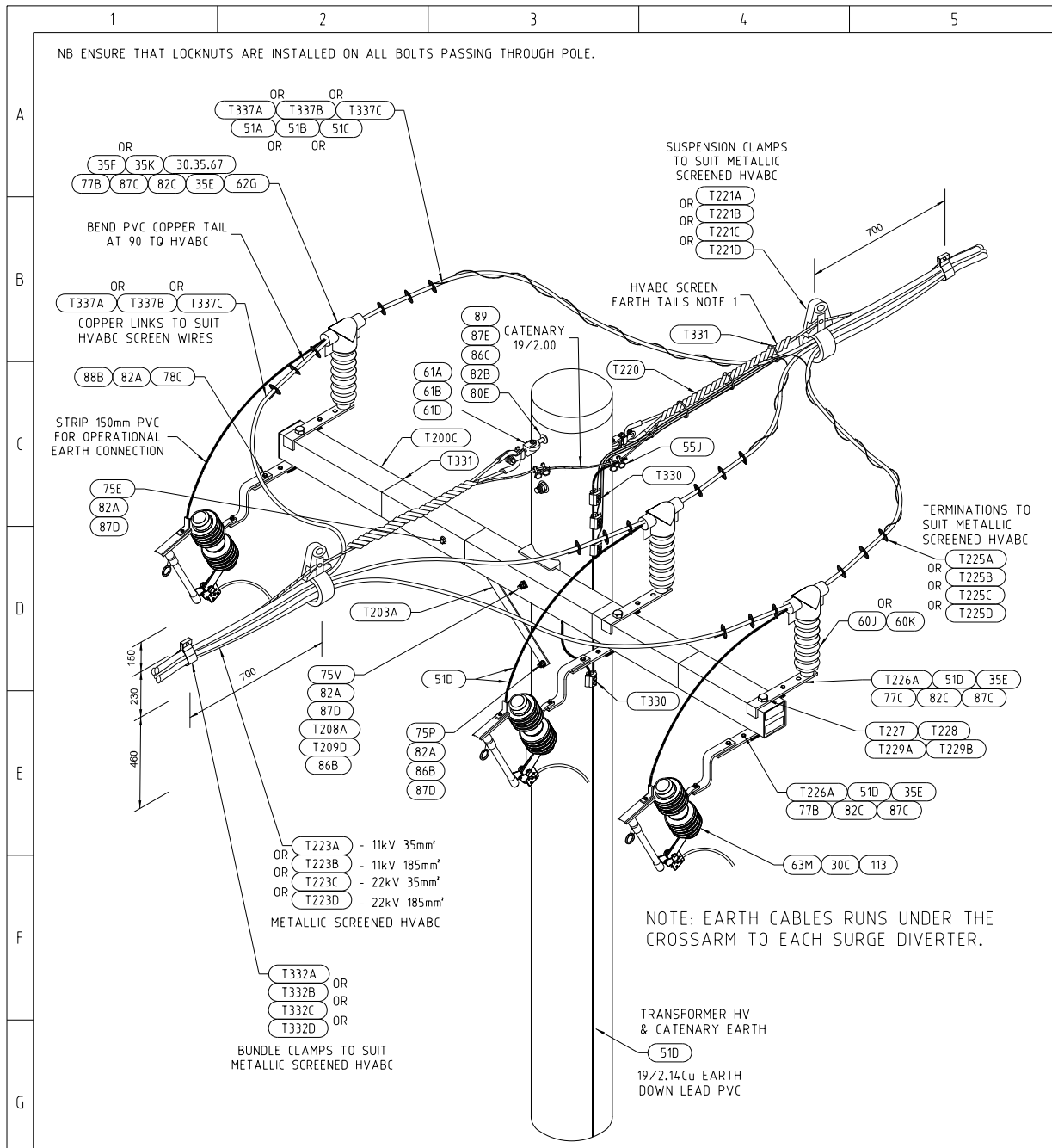
DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED

### 3.25 MS HVABC 35mm<sup>2</sup> Strain with Tee-off





### 3.26 MS HVABC Strain with Transformer Tee-off Including EDOS, FRP Crossarm




**NOTES:**  
 1. HVABC SCREEN WIRES TO BE CONNECTED TO EARTH DOWNLEAD ON SOURCE SIDE ONLY, TERMINATE THE SCREEN WIRES TO A COPPER LINK & TAPE ON AWAY SIDE & DO NOT TERMINATE TO EARTH DOWNLEAD.  
 2. FIT INSULATION SLEEVING TO ALL BRIDGING.

APL Nos:  
 STTO/HVABC11.35/3/FRP  
 STTO/HVABC11.185/3/FRP  
 STTO/HVABC22.35/3/FRP  
 STTO/HVABC22.185/3/FRP

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED


ALTERATIONS		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS		
	ORIGINAL ISSUE	TITLE MS HVABC STRAIN WITH TRANSFORMER TEE - OFF INCLUDING EDOS FRP CROSSARM			SCALE NTS	
	DRAWN	ELECTRO	D - OHC - C107 - SD - 001		A4	
	DESIGNED BY	B.MAYBERRY			REVISION	A
CHECKED BY	K.GOSDEN					
APPROVED BY	MICHAEL COOPER					
DATE APPROVED	FEB 2022					

MS HVABC Strain with Transformer Tee-off Including EDOS, FRP Crossarm - Material List 1


		1	2	3	4	5
A						
B						
C						
D						
E						
F						
G						
H						
ALTERNATIONS	ORIGINAL ISSUE					© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299
				NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS		TITLE MS HVABC STRAIN WITH TRANSFORMER TEE - OFF INCLUDING EDOS, FRP X-ARM MATERIAL LIST - 35mm2 11KV ABC
				DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED		SCALE NTS
				DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		REVISION A4
				D - OHC - C107 - SD - 002		



MS HVABC Strain with Transformer Tee-off Including EDOS, FRP Crossarm - Material List 2


		1	2	3	4	5
A						
B						
C						
D						
E						
F						
G						
H						
ALTERNATIONS						
ORIGINAL ISSUE					© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
			DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS  TITLE MS HVABC STRAIN WITH TRANSFORMER TEE - OFF INCLUDING EDOS, FRP X-ARM MATERIAL LIST - 185mm2 11KV ABC  D - OHC - C107 - SD - 003	
					DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED  SCALE NTS  A4  REVISION A	

MS HVABC Strain with Transformer Tee-off Including EDOS, FRP Crossarm - Material List 3

		1	2	3	4	5
A						
B						
C						
D						
E						
F						
G						
H						
ALTERNATIONS						
ORIGINAL ISSUE					© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
			DRAWN ELECTRO DESIGNED BY B.MAYBERRY CHECKED BY K.GOSDEN APPROVED BY MICHAEL COOPER DATE APPROVED FEB 2022		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
			TITLE MS HVABC STRAIN WITH TRANSFORMER TEE - OFF INCLUDING EDOS, FRP X-ARM MATERIAL LIST - 185mm2 11KV ABC		SCALE NTS A4	
			D - OHC - C107 - SD - 003		REVISION A	

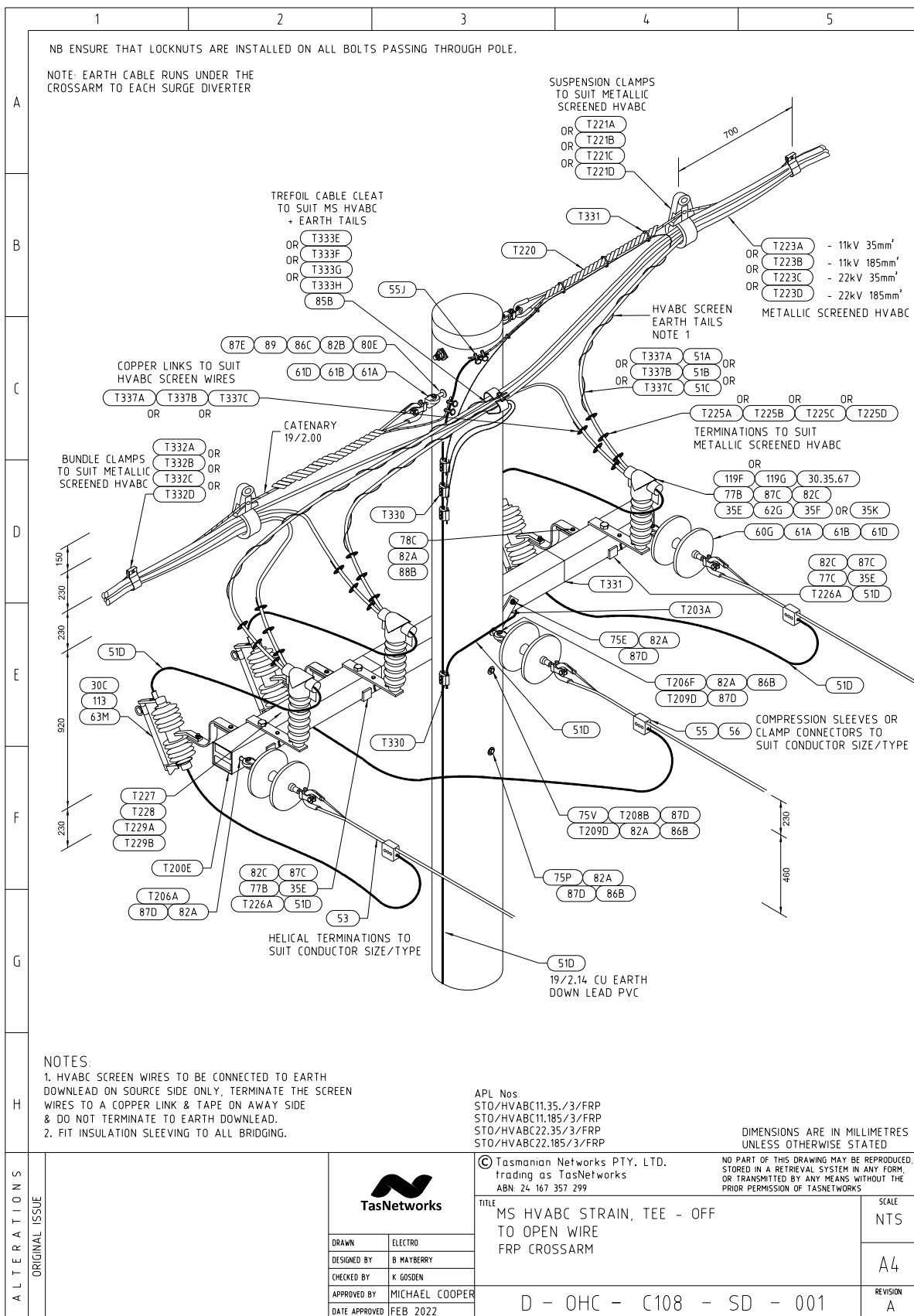
DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED

MS HVABC Strain with Transformer Tee-off Including EDOS, FRP Crossarm - Material List 4


		1	2	3	4	5
A						
B						
C						
D						
E						
F						
G						
H						
ALTERNATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
				TITLE MS HVABC STRAIN WITH TRANSFORMER TEE - OFF INCLUDING EDOS, FRP X-ARM MATERIAL LIST - 185mm2 22KV ABC		
		DRAWN ELECTRO				
		DESIGNED BY B.MAYBERRY				
		CHECKED BY K.GOSDEN				
		APPROVED BY MICHAEL COOPER				
		DATE APPROVED FEB 2022			REVISION A	
		D - OHC - C107 - SD - 005				

DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED


### 3.27 MS HVABC Strain Tee-off to Open Wire FRP Crossarm




MS HVABC Strain Tee-off to Open Wire FRP Crossarm - Material List 1

		1	2	3	4	5	
A							
B							
C							
D							
E							
F							
G							
H							
DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED							
A L T E R A T I O N S	O R I G I N A L I S S U E			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
				TITTLE MS HVABC STRAIN, TEE - OFF TO OPEN WIRE FRP CROSSARM MATERIALS LIST - 35mm2 11KV ABC			SCALE NTS
				DRAWN ELECTRO			A4
				DESIGNED BY B MAYBERRY			
CHECKED BY K GOSDEN							
APPROVED BY MICHAEL COOPER		D - OHC - C108 - SD - 002	REVISION A				
DATE APPROVED FEB 2022							


MS HVABC Strain Tee-off to Open Wire FRP Crossarm - Material List 2

		1	2	3	4	5
A						
B	STO/HVABC 11.185/3/FR P	Store Type	S			
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
		Stock Item	113		Expulsion Drop Out Fuse Element AK1 - Size as Required	3
		Stock Item Description	303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3
		Quantity	119F	225772	Surge Diverter 10kA - 11kV	3
			30C	235501	Fuse Tube EDO, Suits NGK and ABB Fuse Carriers	3
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	13
			35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	6
			51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	35
C		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4	
		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6	
		61A	322056	Ball Clews & Pin 16mm	5	
		61B	322386	Socket Termination 16mm	5	
		61D	322090	W' Clip / Kink Pin	11	
		62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3	
		63M	236323	Switch Fuse EDO 24kV 8kA	3	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	
		75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1	
D		77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9	
		77C	33772	Bolt Tower M12 x 40 - Thread Length 20mm	3	
		78C	33782	Bolt Tower M16 x 45 - Thread Length 24mm	3	
		80E	37263	Bolt Eye M20 x 375	2	
		82A	40441	Nut Hex M16	12	
		82B	40442	Nut Hex M20	4	
		82C	40440	Nut Hex M12	12	
		85B	50250	Coach Screw M12x100	1	
		86B	65158	Washer ELS M16	3	
		86C	65159	Washer ELS M20	2	
E		87C	65615	Washer NS M12	12	
		87D	65616	Washer NS M16	9	
		87E	65617	Washer NS M20	2	
		88B	66413	Washer Tower M16	3	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	1	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1	
		T208B	323307	GAIN BLOCK 125mm	1	
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2	
F		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
		T221B	NEW	Metallic Screen HV ABC Suspension Clamp 11kV 185mm2 (TYCO IBSH1075)	2	
		T223B	NEW	Metallic Screen HV ABC Cable 11kV 185mm2 (Olex Product Code UJ-HA25AA003)	2	
		T225B	NEW	Metallic Screen HV ABC Cable Termination 11kV 185mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary	6	
		T226A	323368	Bracket, stand off mounting FRP crossarm EDO	6	
		T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3	
		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3	
		T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	3	
		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	5	
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9	
G		T332B	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 11kV 185mm2 - 'Protect' Trefoil Clamp	2	
		T333F	NEW	Ellis Cable Cleat Pole Mnted for MS HVABC Cable 11kV 185mm2 Cable + Earths - 'Emperor' Trefoil Cleat	1	
		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6	
H						
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				TITLE MS HVABC STRAIN, TEE - OFF TO OPEN WIRE FRP CROSSARM MATERIALS LISTB - 185mm2 11KV ABC		
		DRAWN	ELECTRO	APPROVED BY MICHAEL COOPER		REVISION A
		DESIGNED BY B MAYBERRY	CHECKED BY K GOSDEN	DATE APPROVED FEB 2022		
				D - OHC - C108 - SD - 003		

MS HVABC Strain Tee-off to Open Wire FRP Crossarm - Material List 3

		1	2	3	4	5
A						
B	STO/HVABC 22.35/3/FRP	Store Type	S			
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
			113		Expulsion Drop Out Fuse Element AK1 - Size as Required	3
			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3
			119G	225773	Surge Diverter 10kA - 22kV	3
			30C	235501	Fuse Tube EDO, Suits NGK and ABB Fuse Carriers	3
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	13
			35F	152476	Lug Bi-Metal Compression Tinned M12 Hole 35mm2 Cable	6
			51B	103209	Conductor Cu Insulated Hard Drawn 1c 25mm2, 19/1.35	12
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	35
C		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4	
		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6	
		61A	322056	Ball Clevis & Pin 16mm	5	
		61B	322386	Socket Termination 16mm	5	
		61D	322090	W' Clip / Kink Pin	11	
		62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3	
		63M	236323	Switch Fuse EDO 24kV 8kA	3	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	
		75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1	
D		77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9	
		77C	33772	Bolt Tower M12 x 40 - Thread Length 20mm	3	
		78C	33782	Bolt Tower M16 x 45 - Thread Length 24mm	3	
		80E	37263	Bolt Eye M20 x 375	2	
		82A	40441	Nut Hex M16	12	
		82B	40442	Nut Hex M20	4	
		82C	40440	Nut Hex M12	12	
		85B	50250	Coach Screw M12x100	1	
		86B	65158	Washer ELS M16	3	
		86C	65159	Washer ELS M20	2	
E		87C	65615	Washer NS M12	12	
		87D	65616	Washer NS M16	9	
		87E	65617	Washer NS M20	2	
		88B	66413	Washer Tower M16	3	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	1	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1	
		T208B	323307	GAIN BLOCK 125mm	1	
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2	
F		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
		T221C	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 35mm2 (TYCO IBSH1060)	2	
		T223C	NEW	Metallic Screen HV ABC Cable 22kV 35mm2 (Olex Product Code ULHA18AA003)	2	
		T225C	NEW	Metallic Screen HV ABC Cable Termination 22kV 35mm2, 3x1C, 19/2.00-10mm Dia Gal Catenary	6	
		T226A	323368	Bracket, stand off mounting FRP crossarm EDO	6	
		T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3	
		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3	
		T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	3	
		T330	144959	Conductor Clamp Cu Par/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	5	
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9	
G		T332C	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 35mm2 - 'Protect' Trefoil Clamp	2	
		T333G	NEW	Ellis Cable Cleat Pole Mnted for MS HVABC Cable 22kV 35mm2 Cable + Earths - 'Emperor' Trefoil Cleat	1	
		T337C	141414	Ferrule - Copper, Cable Links for MS HVABC Cable 22kV 35mm2 Screen Wires - CSA 22.7mm2	6	
H						
ALTERNATIONS	ORIGINAL ISSUE			DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED		
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				TITLE MS HVABC STRAIN, TEE - OFF TO OPEN WIRE FRP CROSSARM MATERIALS LIST - 35mm2 22KV ABC		SCALE NTS
				D - OHC - C108 - SD - 004		REVISION A
				DRAWN		
				ELECTRO		
				DESIGNED BY B MAYBERRY		
				CHECKED BY K GOSDEN		
				APPROVED BY MICHAEL COOPER		
				DATE APPROVED FEB 2022		

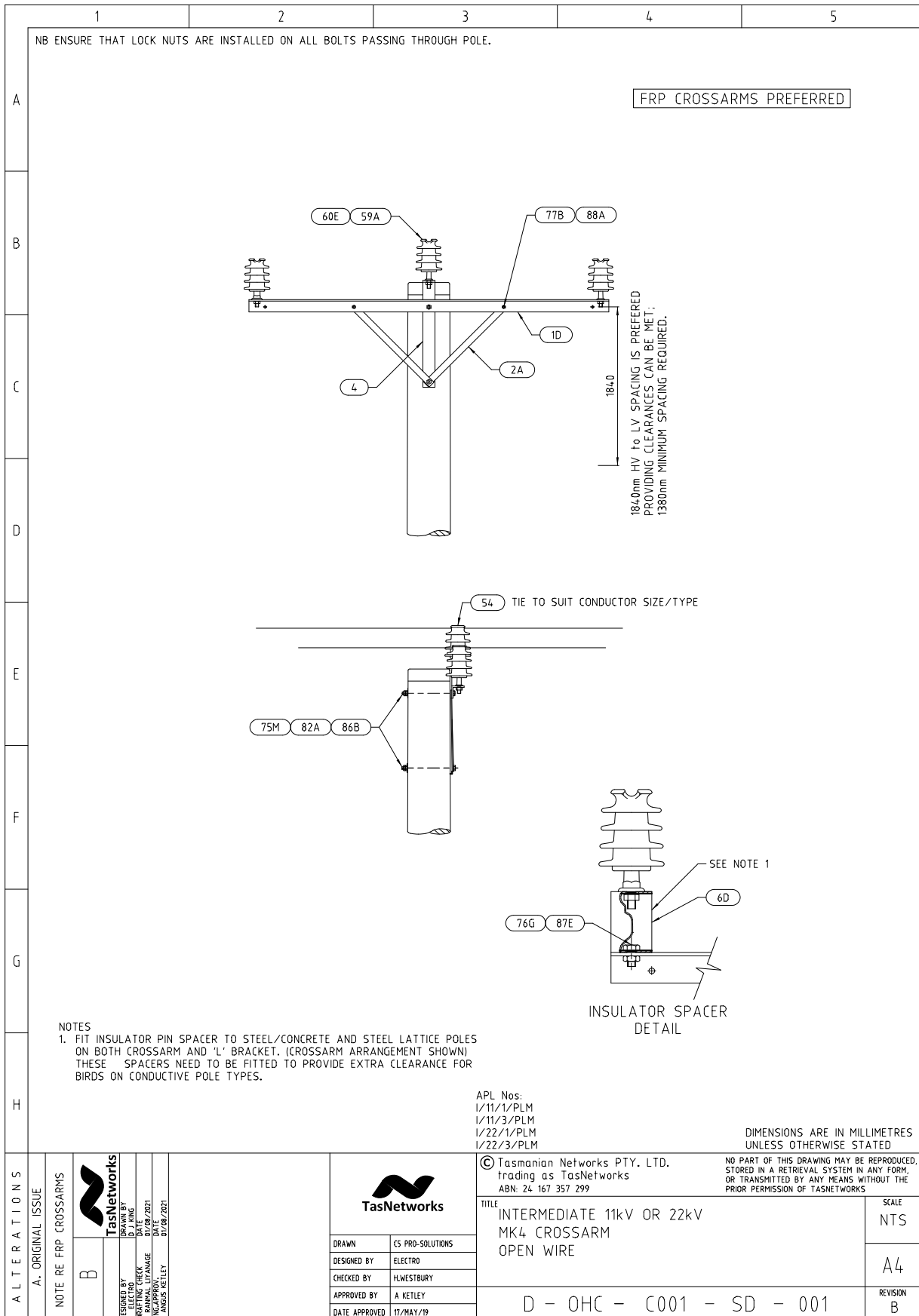
MS HVABC Strain Tee-off to Open Wire FRP Crossarm - Material List 4

		1	2	3	4	5
A						
B	STO/HVABC 22.185/3/FR P	Store Type	S			
		Item Ref	89	66803	M20 ELS-V Square Washer 75 x 75 x 5.0mm, Diagonal 106.1mm. (Also used on Transformer Installations)	2
			113		Expulsion Drop Out Fuse Element AK1 - Size as Required	3
			303567	303567	Termination Bar for Surge Arresters & Stand Off insulator	3
			119G	225773	Surge Diverter 10kA - 22kV	3
			30C	235501	Fuse Tube EDO, Suits NGK and ABB Fuse Carriers	3
			35E	141363	Lug Crimp Cu M12 Hole 70mm2 Cable	13
			35K	152482	Lug Bi-Metal Compression Tinned M12 Hole 185mm2 Cable	6
			51C	94180	Conductor Cu Insulated Hard Drawn 1c 50mm2, 19/1.78	12
			51D	103212	Conductor Cu Insulated Hard Drawn 1c 70mm2, 19/2.14	35
C		55J	146857	Conductor Connection Slit Bolt 'D' Brass Clamp	4	
		60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	6	
		61A	322056	Ball Clevis & Pin 16mm	5	
		61B	322386	Socket Termination 16mm	5	
		61D	322090	W' Clip / Kirik Pin	11	
		62G	225771	Surge Diverter Cover Moulded with Nylon Bolts M5 x 12mm	3	
		63M	236323	Switch Fuse EDO 24kV 8kA	3	
		75E	32279	Bolt Hex M16 X 180 - Thread Length 57mm	1	
		75P	32288	Bolt Hex M16 X 375 - Thread Length 75mm	1	
		75V	32295	Bolt Hex M16 X 525 - Thread Length 75mm	1	
D		77B	33771	Bolt Tower M12 x 35 - Thread Length 20mm	9	
		77C	33772	Bolt Tower M12 x 40 - Thread Length 20mm	3	
		78C	33782	Bolt Tower M16 x 45 - Thread Length 24mm	3	
		80E	37263	Bolt Eye M20 x 375	2	
		82A	40441	Nut Hex M16	12	
		82B	40442	Nut Hex M20	4	
		82C	40440	Nut Hex M12	12	
		85B	50250	Coach Screw M12x100	1	
		86B	65158	Washer ELS M16	3	
		86C	65159	Washer ELS M20	2	
E		87C	65615	Washer NS M12	12	
		87D	65616	Washer NS M16	9	
		87E	65617	Washer NS M20	2	
		88B	66413	Washer Tower M16	3	
		T200E	323223	CF XARM - 2840x125x125 - CA-125 SHS 2.834m ARM	1	
		T203A	323316	XARM BRACE - 716x40x8	1	
		T206A	325628	M16 EYE BOLT 150 - Thread Length 60mm	2	
		T206F	325638	M16 EYE BOLT 375 - Thread Length 75mm	1	
		T208B	323307	GAIN BLOCK 125mm	1	
		T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2	
F		T220	149110	HV ABC Catenary Termination (Dead End) 19/2.00 (TYCO SGG0975)	2	
		T221D	NEW	Metallic Screen HV ABC Suspension Clamp 22kV 185mm2 (TYCO IBSH1085)	2	
		T223D	NEW	Metallic Screen HV ABC Cable 22kV 185mm2 (Olex Product Code ULHA25AA003)	2	
		T225D	NEW	Metallic Screen HV ABC Cable Termination 22kV 185mm2, 3x1C 19/2.00-10mm Dia Gal Catenary	6	
		T226A	323368	Bracket, stand off mounting FRP crossarm EDO	6	
		T227	32334	Bolt Hex M24 X 180 - Thread Length 75mm	3	
		T228	40448	Nut Hex M24 (36mm across Flats, 21mm Thick)	3	
		T229A	NEW	M24 Washer NS (ID-26mm, OD-48mm, Thickness 4.0mm)	3	
		T330	144959	Conductor Clamp Cu Pair/Groove 16-95mm2 (TE Connectivity HEL-3030 Prod Code 831160-000)	5	
		T331	NEW	Nylon Cable Tie UV Stabilised, Fixing 19/2.14 CU PVC S/Arrester Earth Lead to FRP X-Arm	9	
G		T332D	NEW	Ellis Bundle Clamp for Metallic Screen HVABC Cable 22kV 185mm2 - 'Protect' Trefoil Clamp	2	
		T333H	NEW	Ellis Cable Cleat Pole Mnted for MS HVABC Cable 22kV 185mm2 Cable + Earths - 'Emperor' Trefoil Cleat	1	
		T337B	141412	Ferrule - Copper, Cable Links for MS HVABC Cable 11/22kV 185mm2 Screen Wires - CSA 54.39mm2	6	
H						
ALTERNATIONS	ORIGINAL ISSUE			DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED		
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				TITLE MS HVABC STRAIN, TEE - OFF TO OPEN WIRE FRP CROSSARM MATERIALS LIST - 185mm2 22kV ABC		SCALE NTS
				D - OHC - C108 - SD - 005		REVISION A
				DRAWN: ELECTRO DESIGNED BY: B MAYBERRY CHECKED BY: K GOSDEN APPROVED BY: MICHAEL COOPER DATE APPROVED: FEB 2022		




# STEEL CROSSARMS HV CONSTRUCTIONS

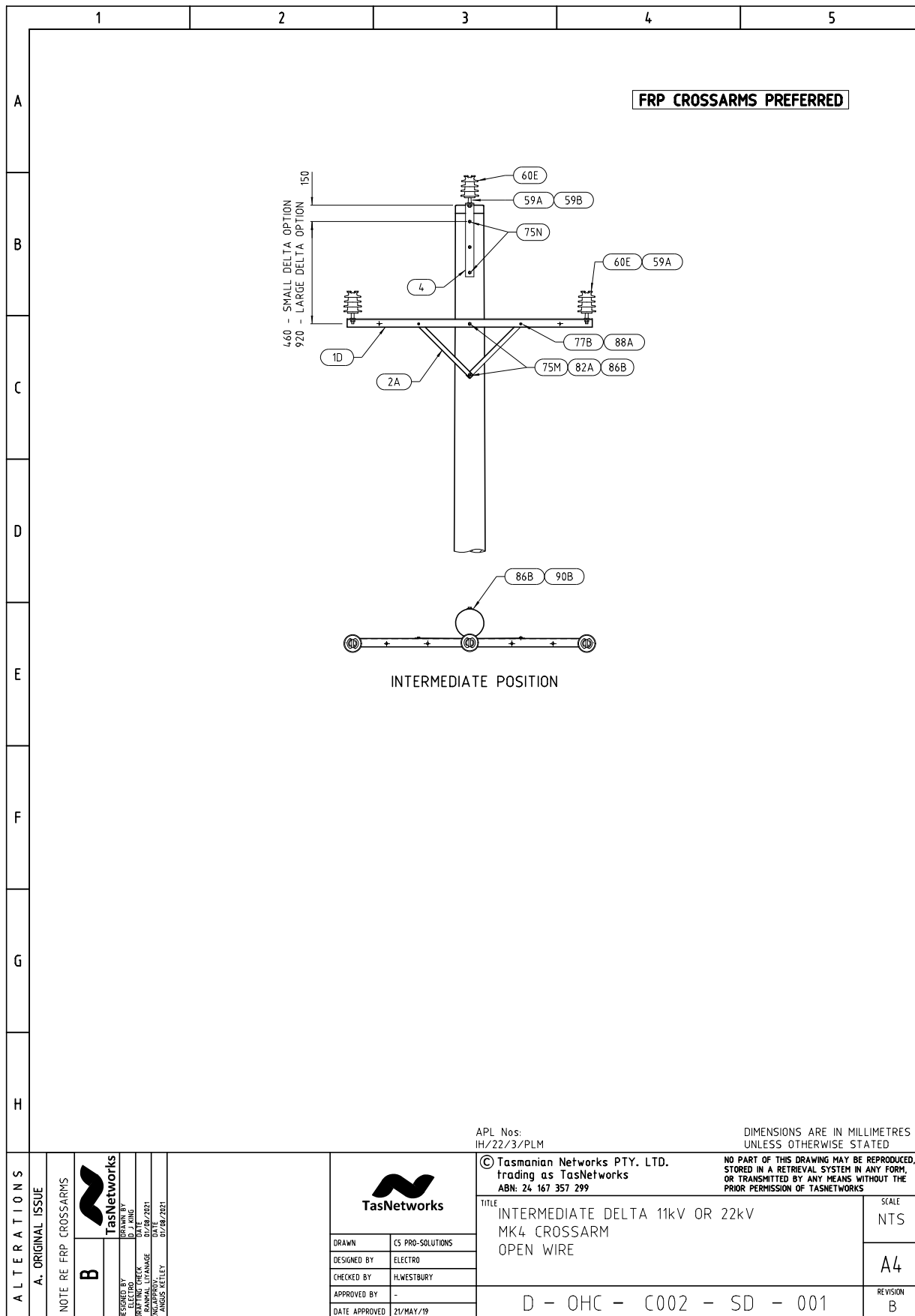
## 3.28 Intermediate Steel Mk4 Crossarm




Intermediate Steel Crossarm - Material List

		1	2	3	4	5					
A		<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>				
		I/11/1/PLM and	S	4	323311	BRACKET,RIGHT ANGLE 75 X 12MM GAL	1				
B		I/22/1/PLM		1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1				
				59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	2				
				60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	2				
				75M	32287	BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT	2				
C				77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	2				
				82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	2				
				86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2				
				88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	2				
D		I/11/3/PLM and	S	4	323311	BRACKET,RIGHT ANGLE 75 X 12MM GAL	1				
		I/22/3/PLM		1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1				
				59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	3				
				60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	3				
				75M	32287	BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT	1				
				75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	1				
				77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	2				
				82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	2				
E				86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2				
				88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	2				
				2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	2				
F		Insulator raisers		6D	323399	SPACER,INSULATOR PIN 150X100X5X100MM RHS	1				
		for steel/conc poles		87E	65617	WASHER,FLAT ROUND M20 X 37MM GAL	1				
		(per phase conductor)		76G	TBA	M20 x 45 Bolt and Nut	1				
G											
H											
ALTERATIONS	ORIGINAL ISSUE				© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN 24 167 357 299			NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS			
					TITLE INTERMEDIATE 11kV OR 22kV MK4 CROSSARM OPEN WIRE MATERIALS LIST					SCALE NTS	
					DRAWN	CS PRO-SOLUTIONS					A4
					DESIGNED BY	ELECTRO					
					CHECKED BY	H.WESTBURY					REVISION A
APPROVED BY	A.KETLEY										
DATE APPROVED	11/MAY/19		D - OHC - C001 - SD - 002								

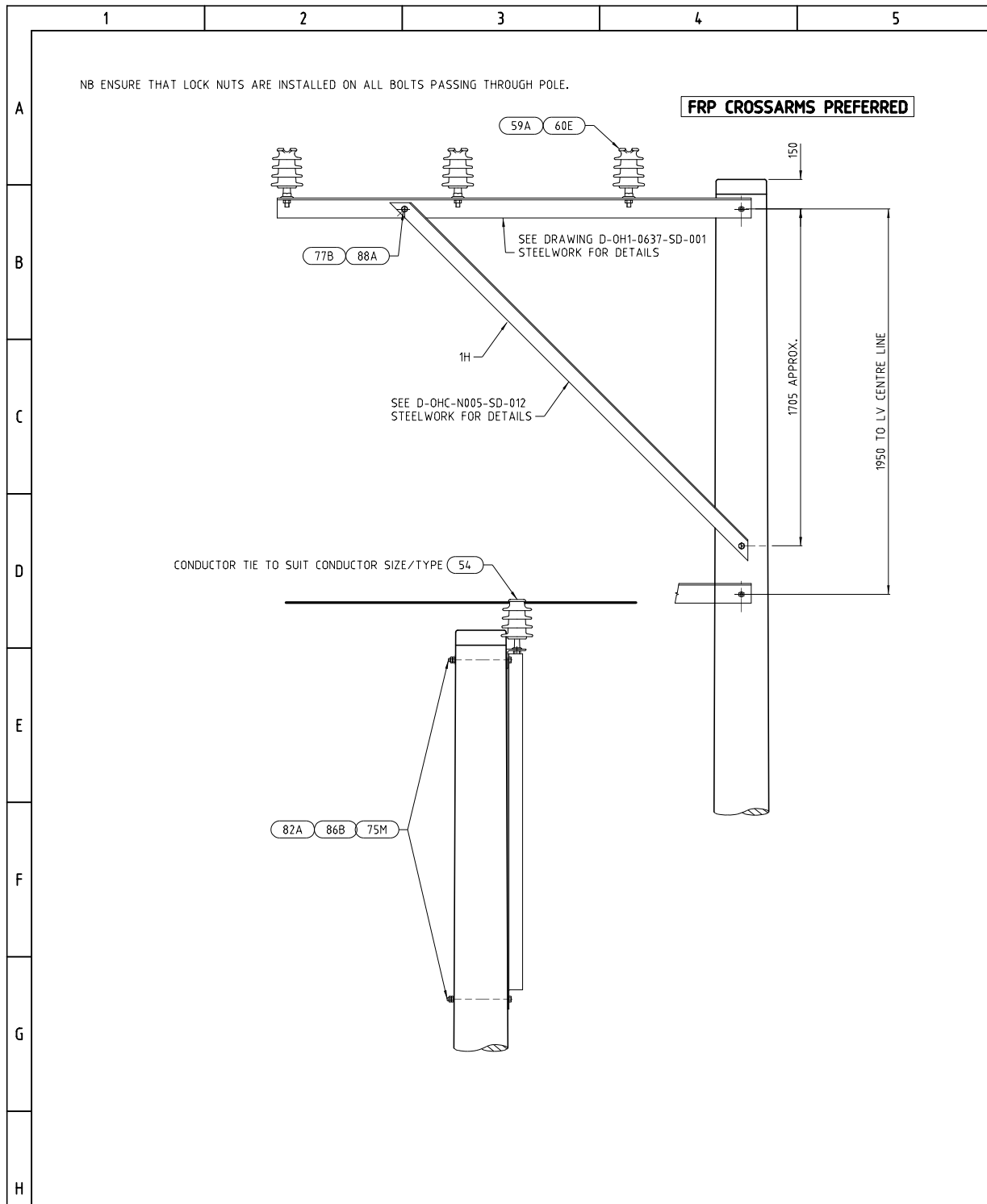
### 3.29 Intermediate Delta Mk4 Crossarm Open Wire



Intermediate Delta Mk4 Crossarm Open Wire - Material List

	1	2	3	4	5																																																																								
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B	<table border="1"> <thead> <tr> <th>Unit Assembly</th> <th>Store Type</th> <th>Item Ref</th> <th>Stock Item</th> <th>Stock Item Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>IH/22/3/PLM</td> <td>S</td> <td>4</td> <td>323311</td> <td>BRACKET,RIGHT ANGLE 75 X 12MM GAL</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>1D</td> <td>323304</td> <td>CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>59A</td> <td>322721</td> <td>PIN,INSULATOR 20MM DIA X 22KV GAL STEEL</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>60E</td> <td>320531</td> <td>INSULATOR,PIN 22KV AERO PORCELAIN</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>75M</td> <td>32287</td> <td>BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>75N</td> <td>32288</td> <td>BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>77B</td> <td>33771</td> <td>BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>82A</td> <td>40441</td> <td>NUT,HEX M16 THREAD GALANISED STEEL</td> <td>8</td> </tr> <tr> <td></td> <td></td> <td>86B</td> <td>65158</td> <td>WASHER,FLAT ROUND M16 X 50MM GAL</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>88A</td> <td>66412</td> <td>WASHER,FLAT ROUND M12 X 24MM GAL</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>2A</td> <td>323314</td> <td>BRACE,CROSSARM 40 X 700 X 5MM THICK GAL</td> <td>4</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	IH/22/3/PLM	S	4	323311	BRACKET,RIGHT ANGLE 75 X 12MM GAL	1			1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	2			59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	6			60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	6			75M	32287	BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT	2			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	2			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	4			82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	8			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	4			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	4			2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	4
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				REVISION A																																																																									


### 3.30 Intermediate Offset Crossarm Open Wire



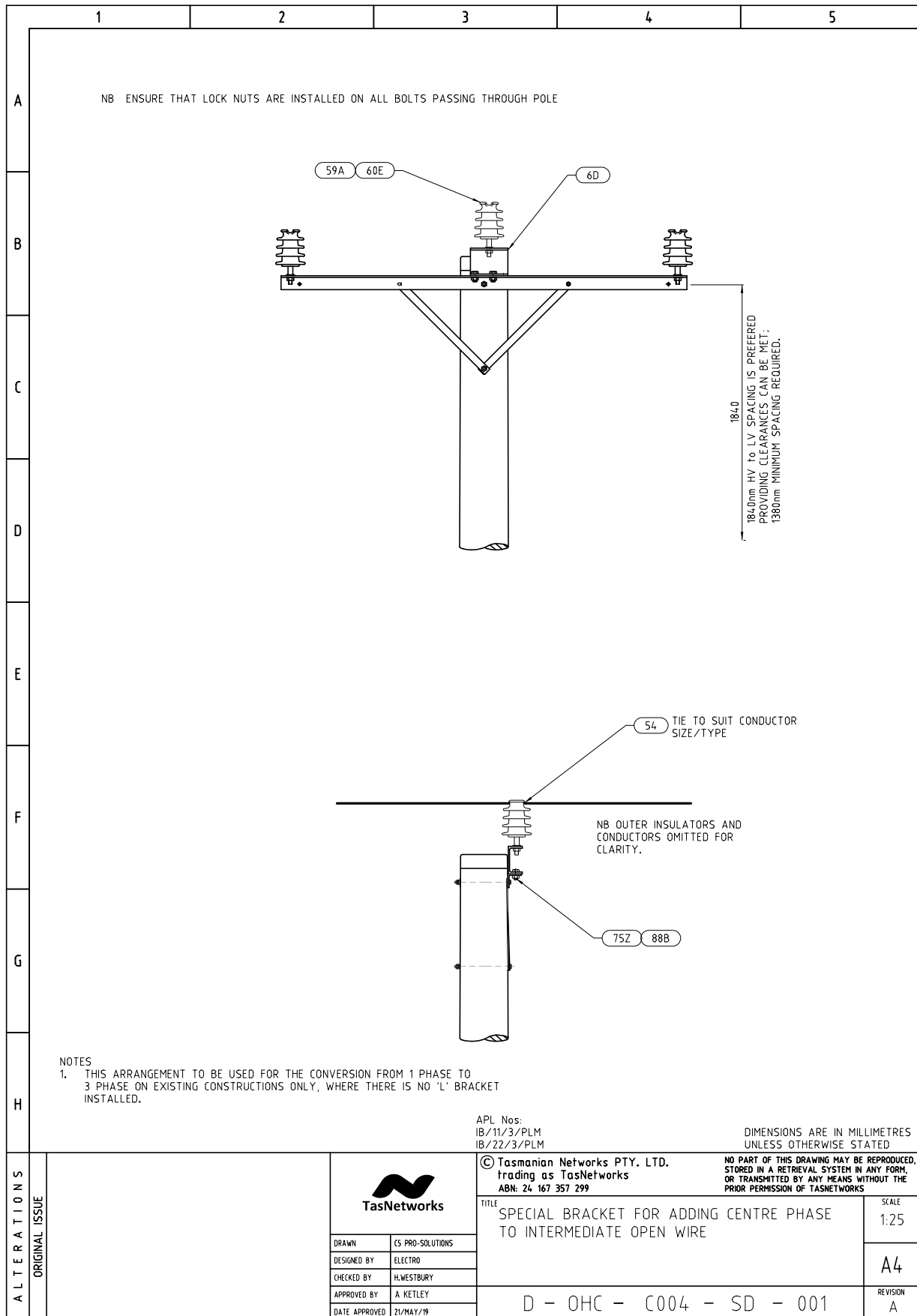
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ALTERNATIONS	A. ORIGINAL ISSUE	NOTE RE FRP CROSSARMS.		REFERENCE DRAWINGS D-OHC-N005-SD-012, D-OH1-0772-SD-001, D-OHC-B013-SD-001	APL No: OFFSET/22/3/PLM	DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED
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		DESIGNED BY: [blank] DRAWN BY: [blank] CHECKED BY: [blank] ENGINEER: [blank] ELECTRICAL ENGINEER: [blank] PROJECT MANAGER: [blank]		TITLE INTERMEDIATE 11kV OR 22kV OFFSET CROSSARM OPEN WIRE ARRANGEMENT	SCALE NTS	
		APPROVED BY: A KETLEY DATE APPROVED: 21/MAY/19		D - OHC - C003 - SD - 001	REVISION B	


Intermediate Offset Crossarm Open Wire - Material List

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		CHECKED BY	H.WESTBURY																																									
		APPROVED BY	A KETLEY																																									
		DATE APPROVED	21/MAY/19																																									

### 3.31 Intermediate Open Wire with Special Bracket for Centre Phase

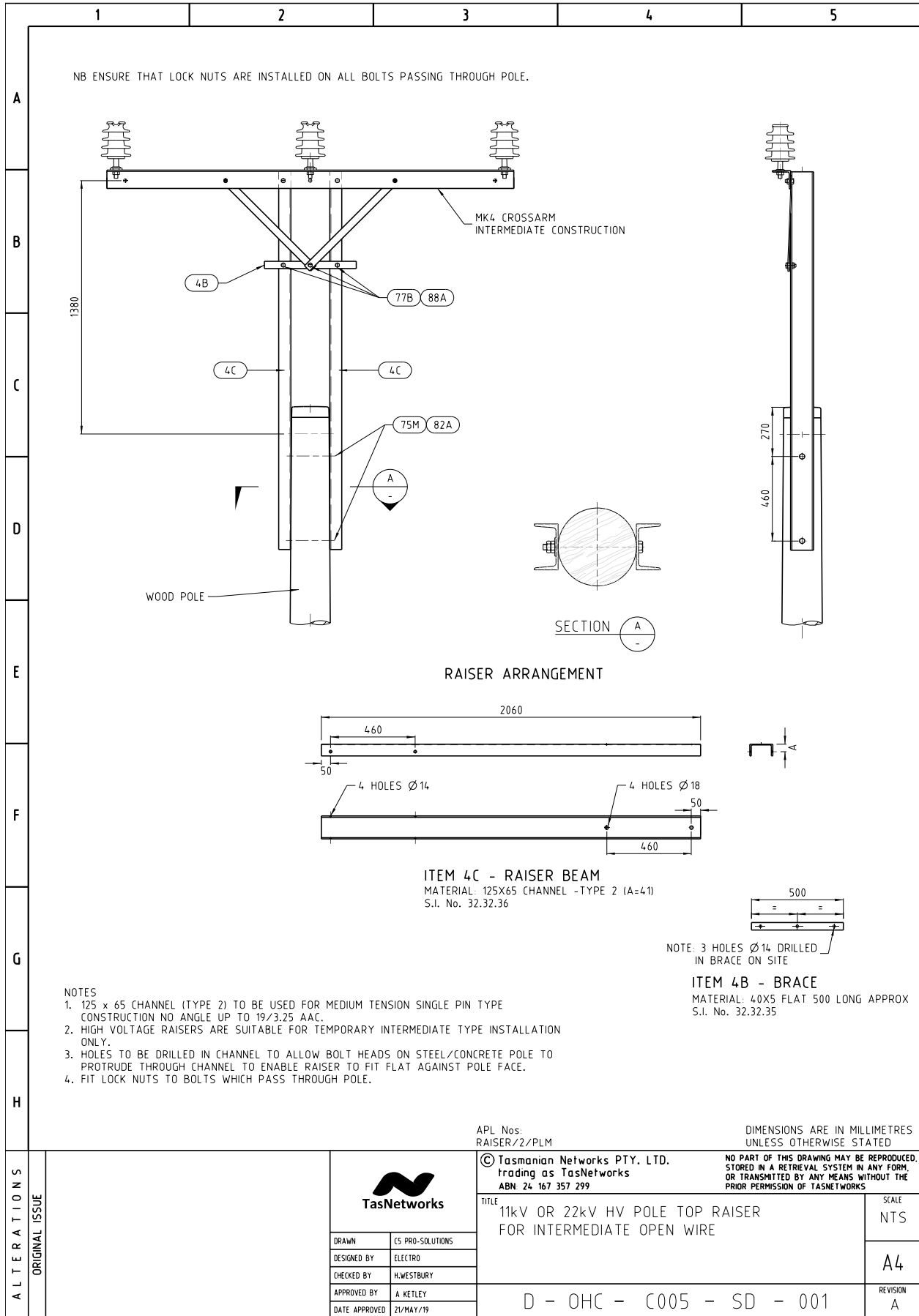


Intermediate Open Wire with Special Bracket for adding Centre Phase - Material List


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A	<table border="1" style="width:100%; border-collapse: collapse; margin: 20px;"> <thead> <tr> <th style="width: 25%;">Unit Assembly</th> <th style="width: 5%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 40%;">Stock Item Description</th> <th style="width: 10%;">Quantity</th> </tr> </thead> <tbody> <tr> <td>IB/11/3/PLM and</td> <td>S</td> <td>59A</td> <td>322721</td> <td>PIN,INSULATOR 20MM DIA X 22KV GAL STEEL</td> <td style="text-align: center;">1</td> </tr> <tr> <td>IB/22/3/PLM</td> <td></td> <td>60E</td> <td>320531</td> <td>INSULATOR,PIN 22KV AERO PORCELAIN</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td></td> <td>6D</td> <td>323399</td> <td>SPACER,INSULATOR PIN 150X100X5X100MM RHS</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td></td> <td>75Z</td> <td>32261</td> <td>BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td></td> <td>88B</td> <td>66413</td> <td>WASHER,FLAT ROUND M16 X 30 X 5MM GAL</td> <td style="text-align: center;">1</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	IB/11/3/PLM and	S	59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	1	IB/22/3/PLM		60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	1			6D	323399	SPACER,INSULATOR PIN 150X100X5X100MM RHS	1			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	1			88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	1
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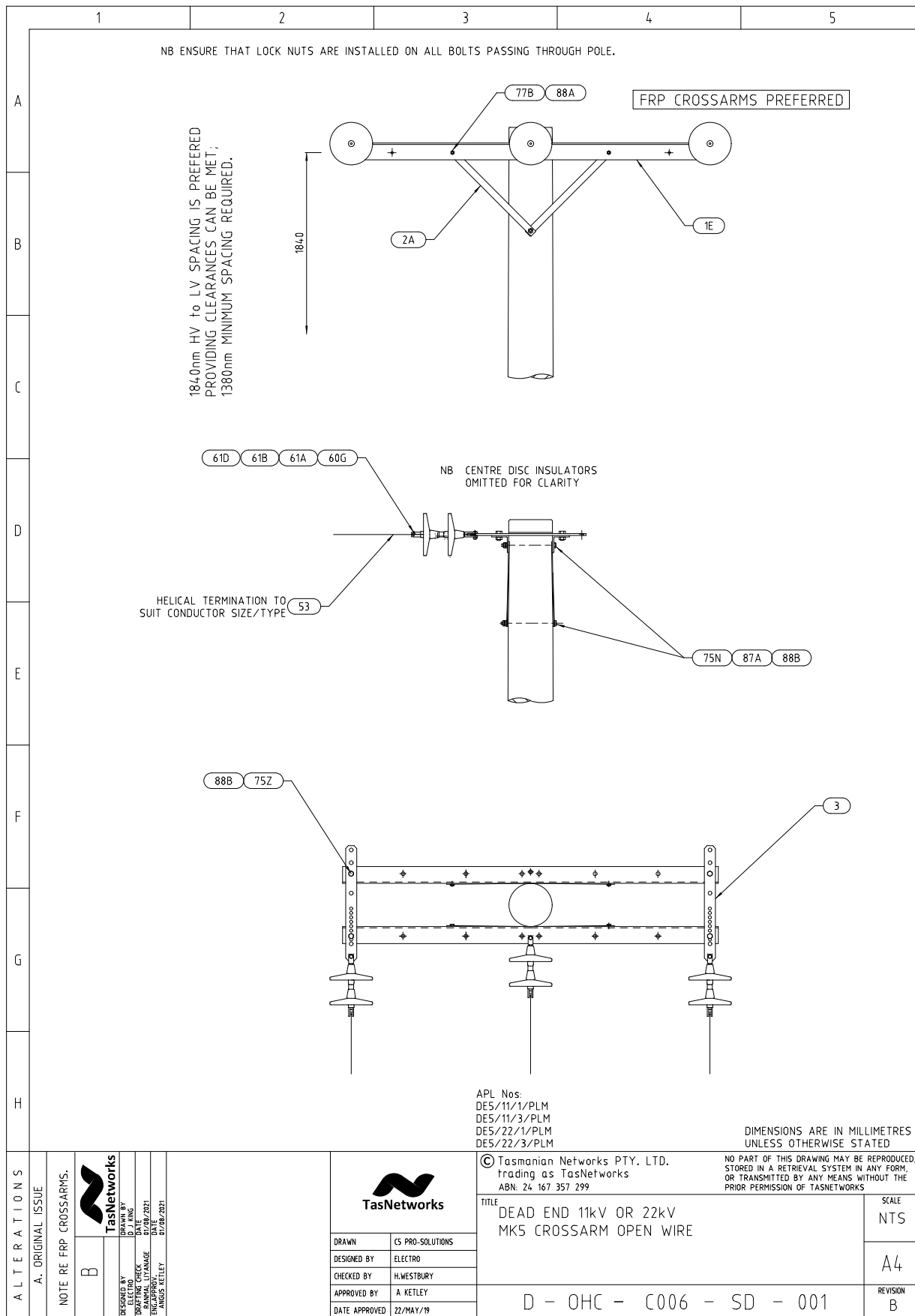
### 3.32 HV Pole top Raiser for Intermediate Flat Steel Crossarm



HV Poletop Raiser - Material List

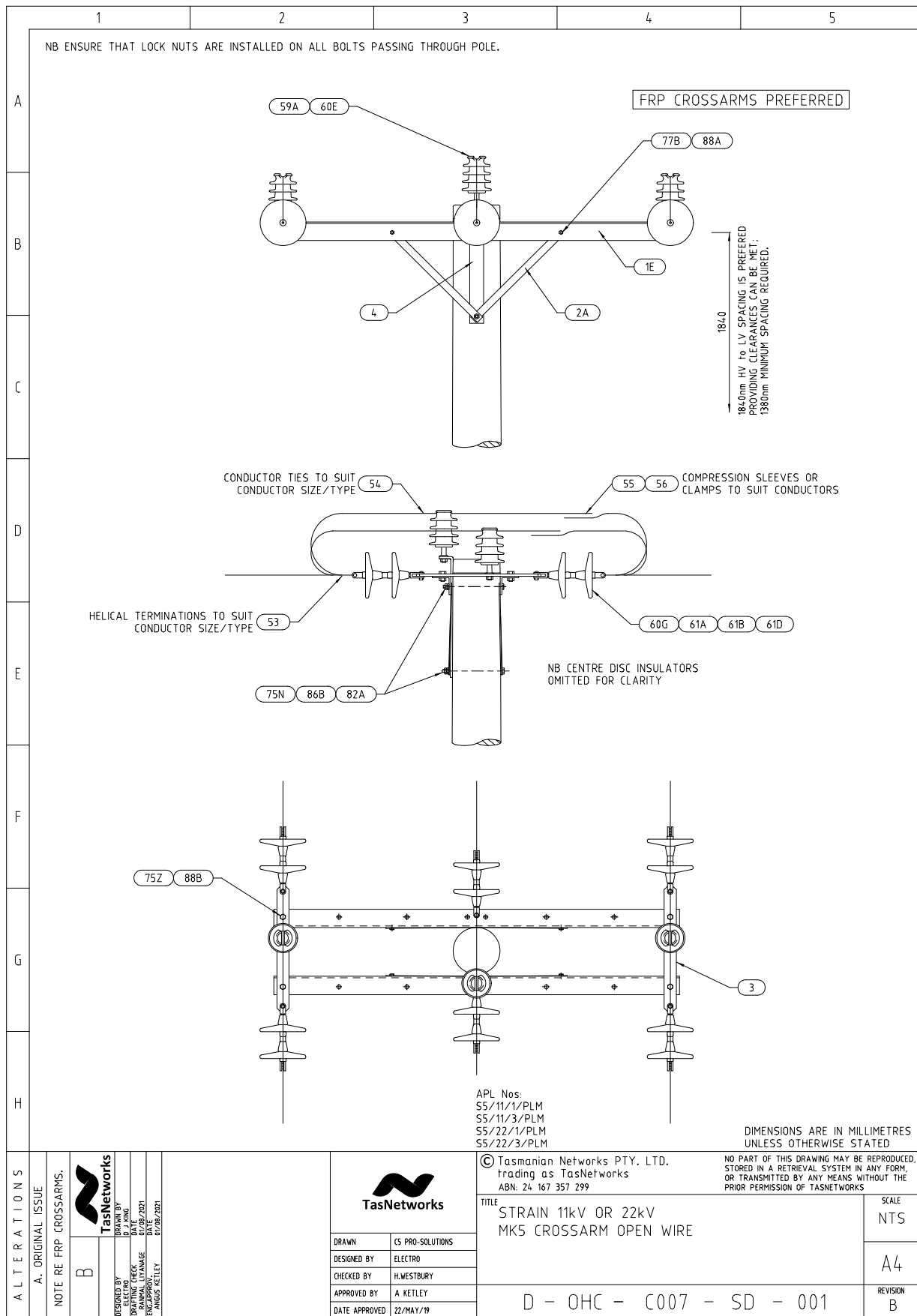
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### 3.33 Dead End Flat Steel Mk5 Crossarm






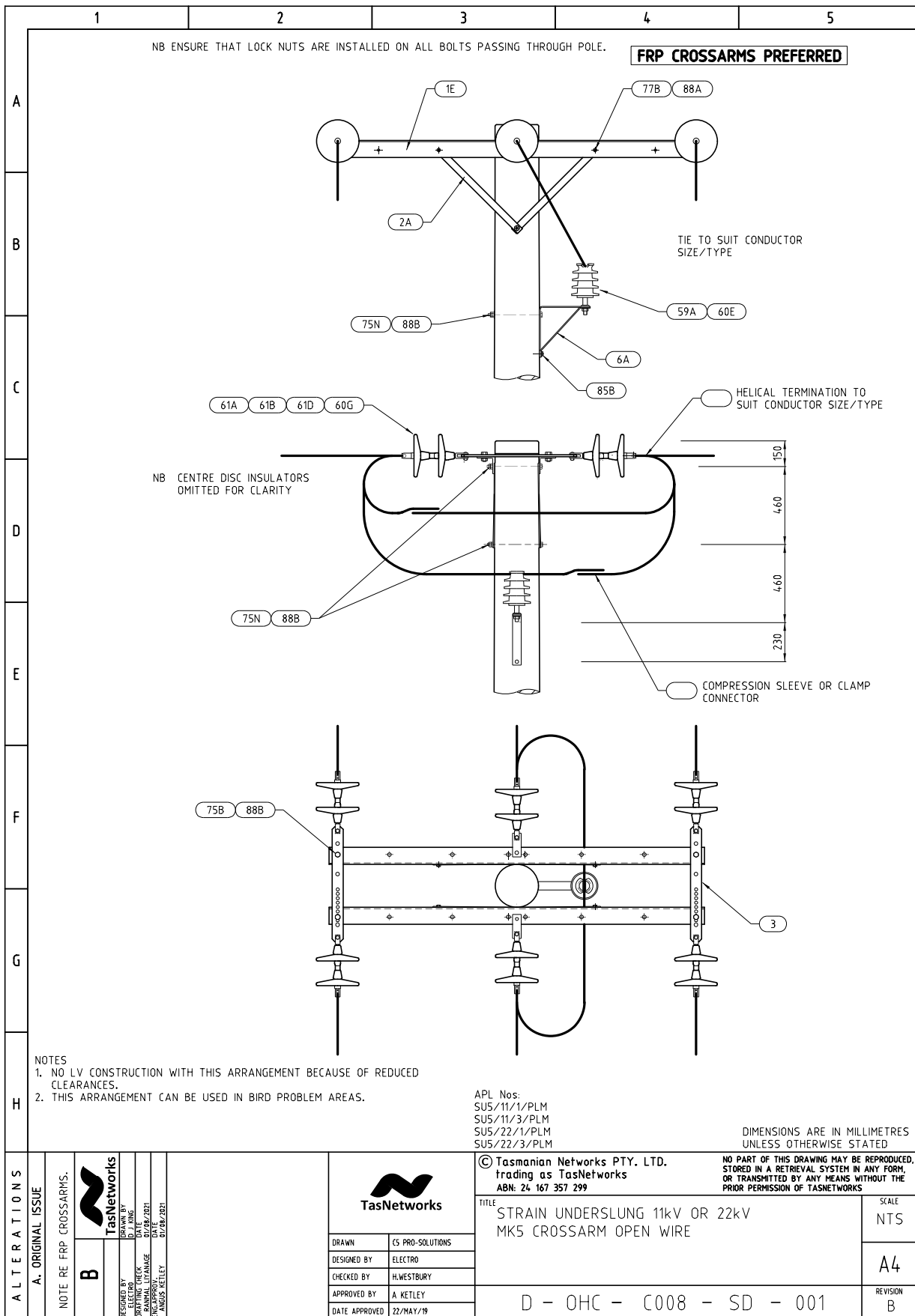
### 3.34 Strain Flat Mk5 Crossarm




Strain Flat MK5 Crossarm - Material List

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### 3.35 Strain Flat Underslung Steel Mk5 Crossarm

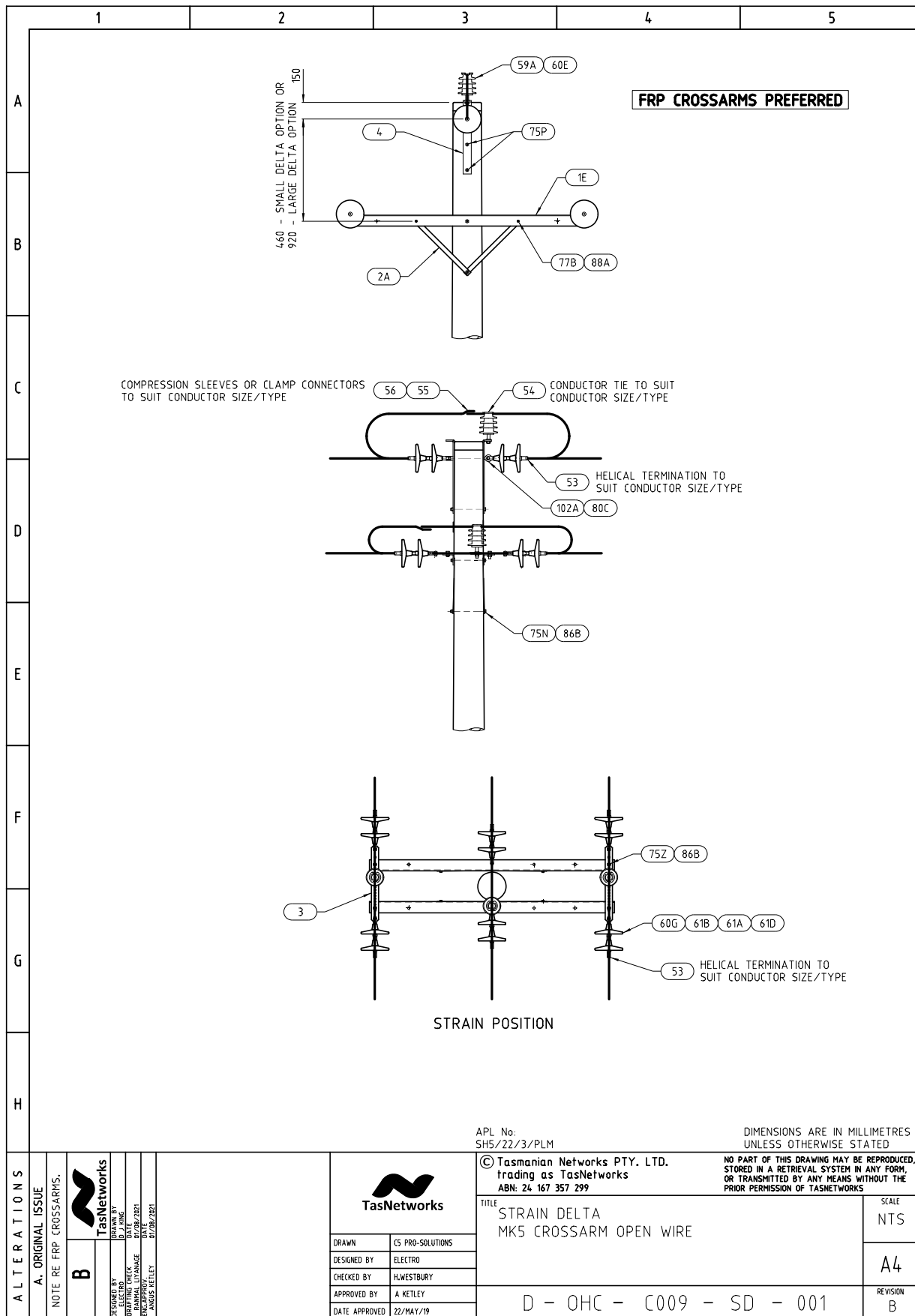


Strain Flat Underslung Mk5 Crossarm - Material List


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C			1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2				
			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	4				
			61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	4				
			61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	4				
			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	2				
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			61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	6				
			61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	6				
			61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	6				
			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	4				
			75B	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	4				
			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	4				
			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	4				
E				88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	4			
			2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	4				
			6A	323315	BRACKET,INSULATOR 50 X 6MM C/W BRACE	1				
		85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1					
F										
G										
H										
A L T E R A T I O N S	O R I G I N A L I S S U E				© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS			
					DRAWN			CS PRO-SOLUTIONS		
					DESIGNED BY			ELECTRO		
					CHECKED BY			H.WESTBURY		
					APPROVED BY			A KETLEY		
DATE APPROVED			22/MAY/19							
				TITLE STRAIN UNDERSLUNG 11kV OR 22kV MK5 CROSSARM OPEN WIRE MATERIALS LIST		SCALE NTS  A4				
				D - OHC - C008 - SD - 002		REVISION A				



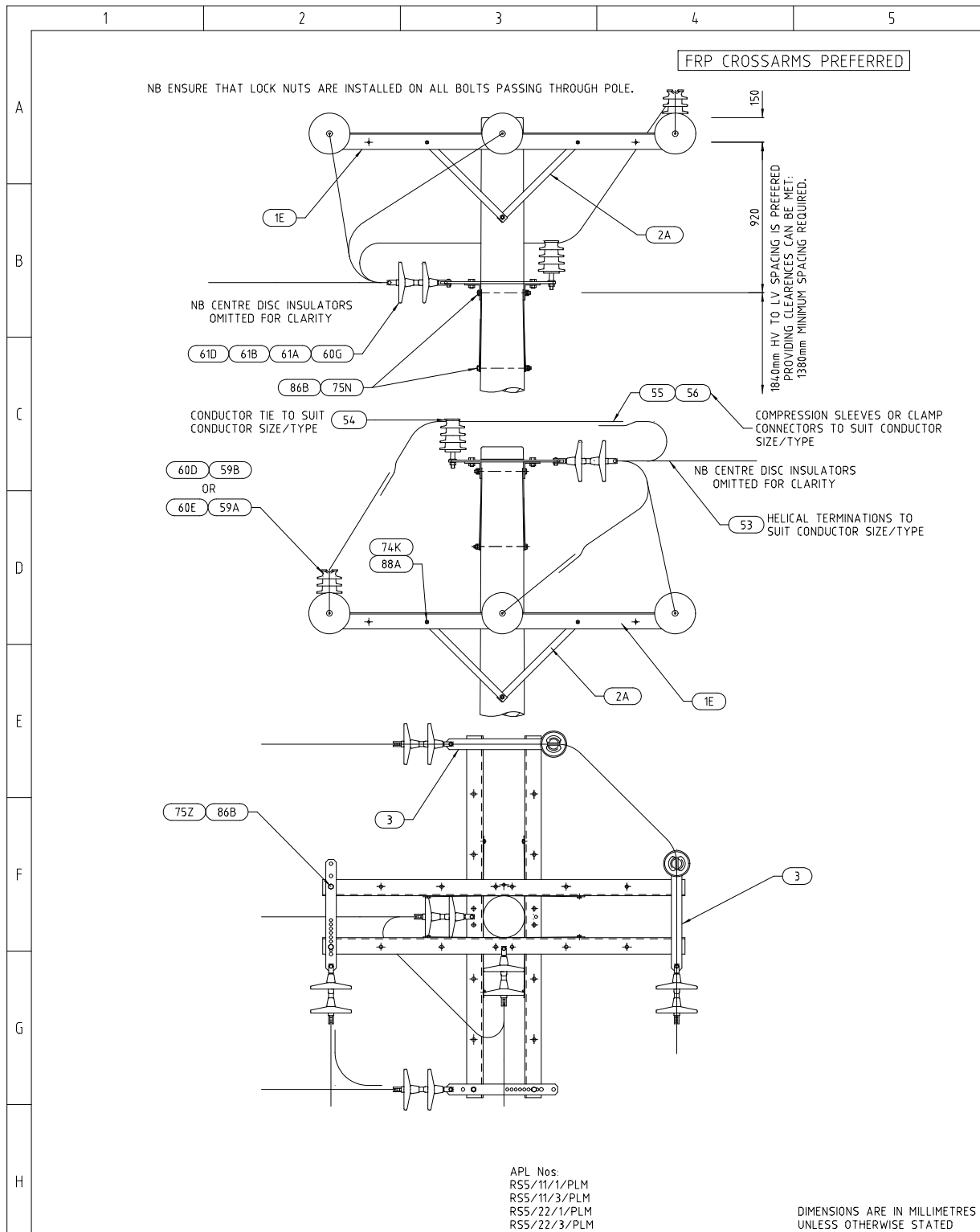
### 3.36 Strain Delta Steel Mk5 Crossarm



Strain Delta MK5 Crossarm - Material List

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### 3.37 Right Angle Strain Mk5 Crossarm




APL Nos:  
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 RS5/11/3/PLM  
 RS5/22/1/PLM  
 RS5/22/3/PLM

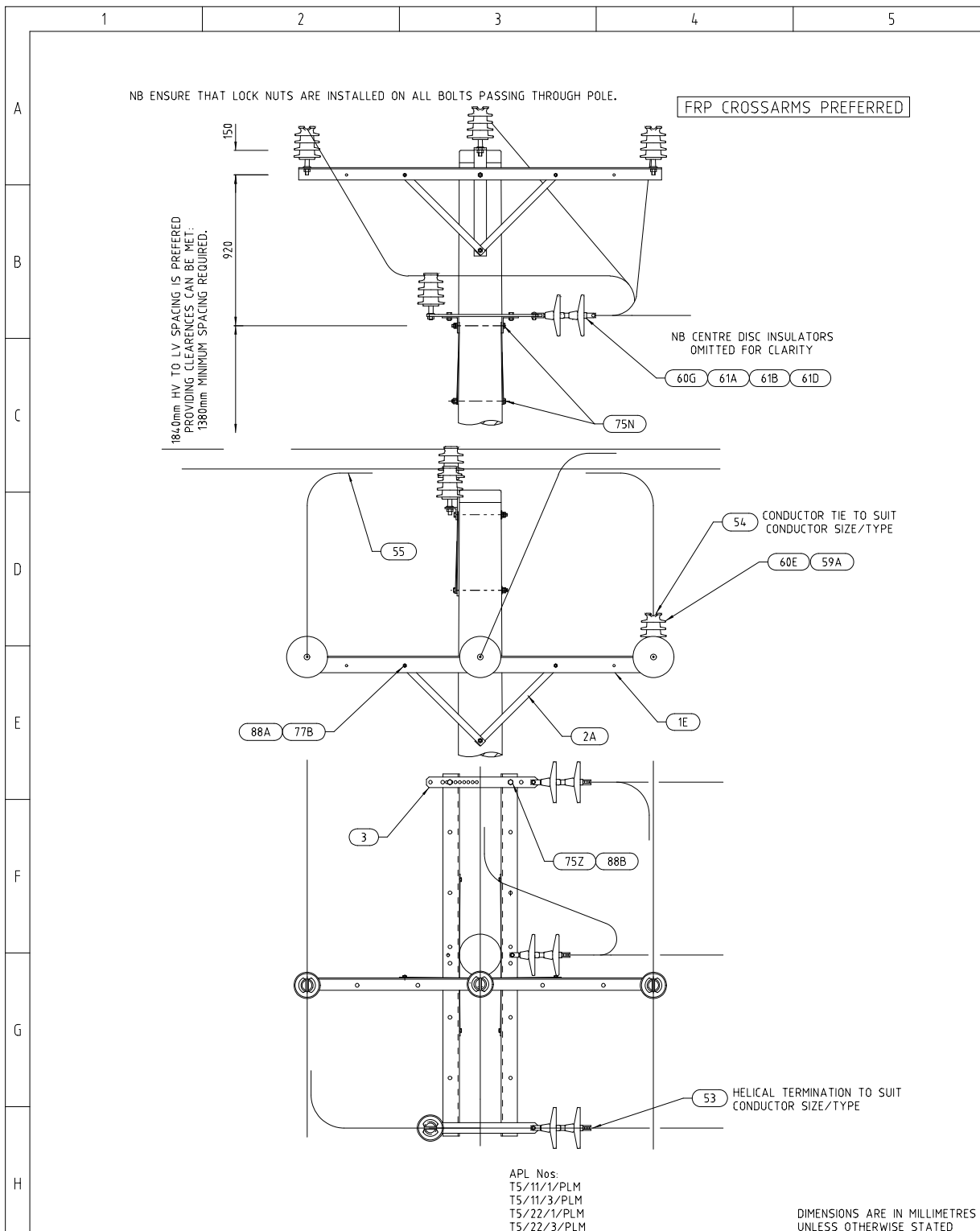
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ALTERNATIONS	A. ORIGINAL ISSUE		TasNetworks DRAWN BY: CS PRO-SOLUTIONS DESIGNED BY: ELECTRO CHECKED BY: H.WESTBURY APPROVED BY: A KETLEY DATE APPROVED: 22/MAY/19	© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
	NOTE RE FRP CROSSARMS.			TITLE STRAIN RIGHT ANGLE 11kV OR 22kV MK5 CROSSARM OPEN WIRE	SCALE 1:30
B					REVISION B
				D - OHC - C010 - SD - 001	

Right Angle Strain MK5 Crossarm - Material List

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		74K	32212	BOLT,HEX HEAD M12 X 50MM GAL. C/W NUT	8																																																																																																																																																																																										
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### 3.38 Tee Off Mk5 Crossarm



APL Nos.  
 T5/11/1/PLM  
 T5/11/3/PLM  
 T5/22/1/PLM  
 T5/22/3/PLM


DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

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 ABN. 24 167 357 299

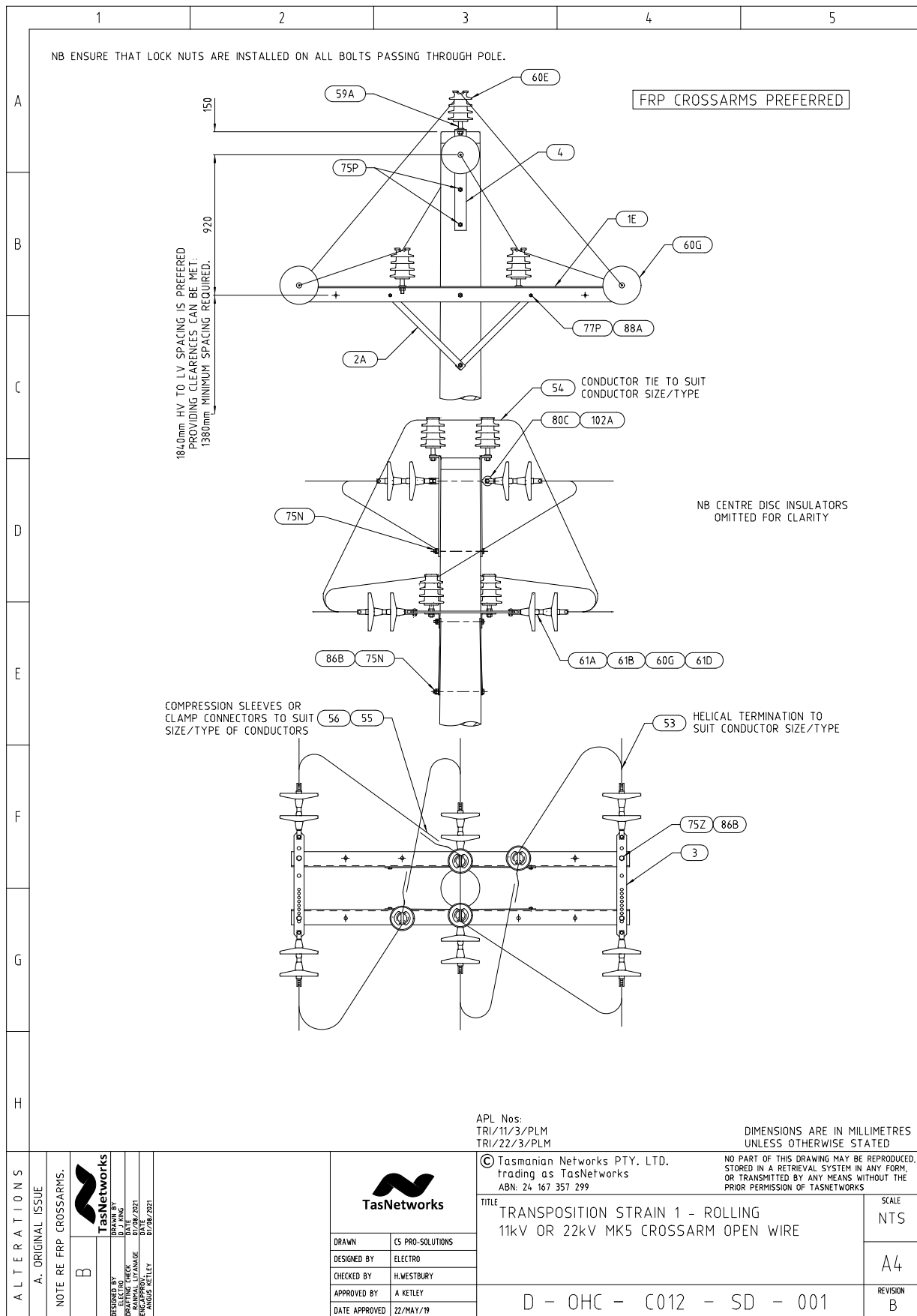
NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS

ALTERATIONS	A. ORIGINAL ISSUE		TITLE TEE OFF 11kV OR 22kV MK5 CROSSARM OPEN WIRE	SCALE 1:30		
	NOTE RE FRP CROSSARMS.					
	DESIGNED BY: ELECTRO				DRAWN CS PRO-SOLUTIONS	A4
	DESIGNED BY: D. J. KING				CHECKED BY: H. WESTBURY	
DESIGNED BY: J. KING	APPROVED BY: A. KETLEY	REVISION B				
DESIGNED BY: J. KING	DATE APPROVED: 22/MAY/19		D - OHC - C011 - SD - 001			

Tee Off Mk5 Crossarm - Material List


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C/W NUT	2			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	4			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	4			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	4			88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	4			2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	4	T5/11/3/PLMand	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2	T5/22/3/PLM		1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2			59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	1			60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	1			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	3			61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	3			61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	3			61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	3			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	2			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	4			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. 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### 3.39 Transposition 1, Strain, Rolling, Steel Mk5 Crossarm



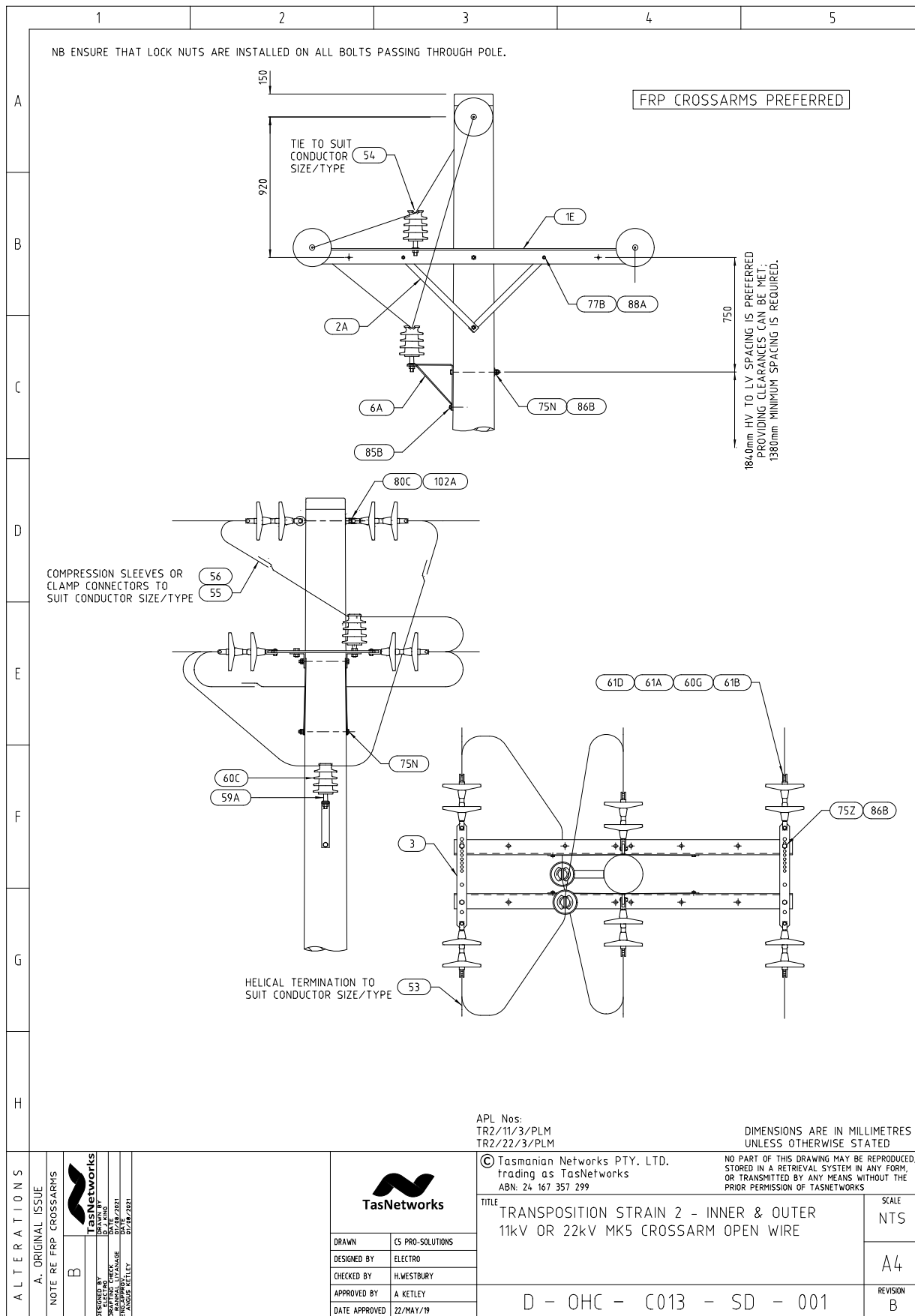
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Transposition 1, Strain, Rolling MK5 Crossarm - Material List


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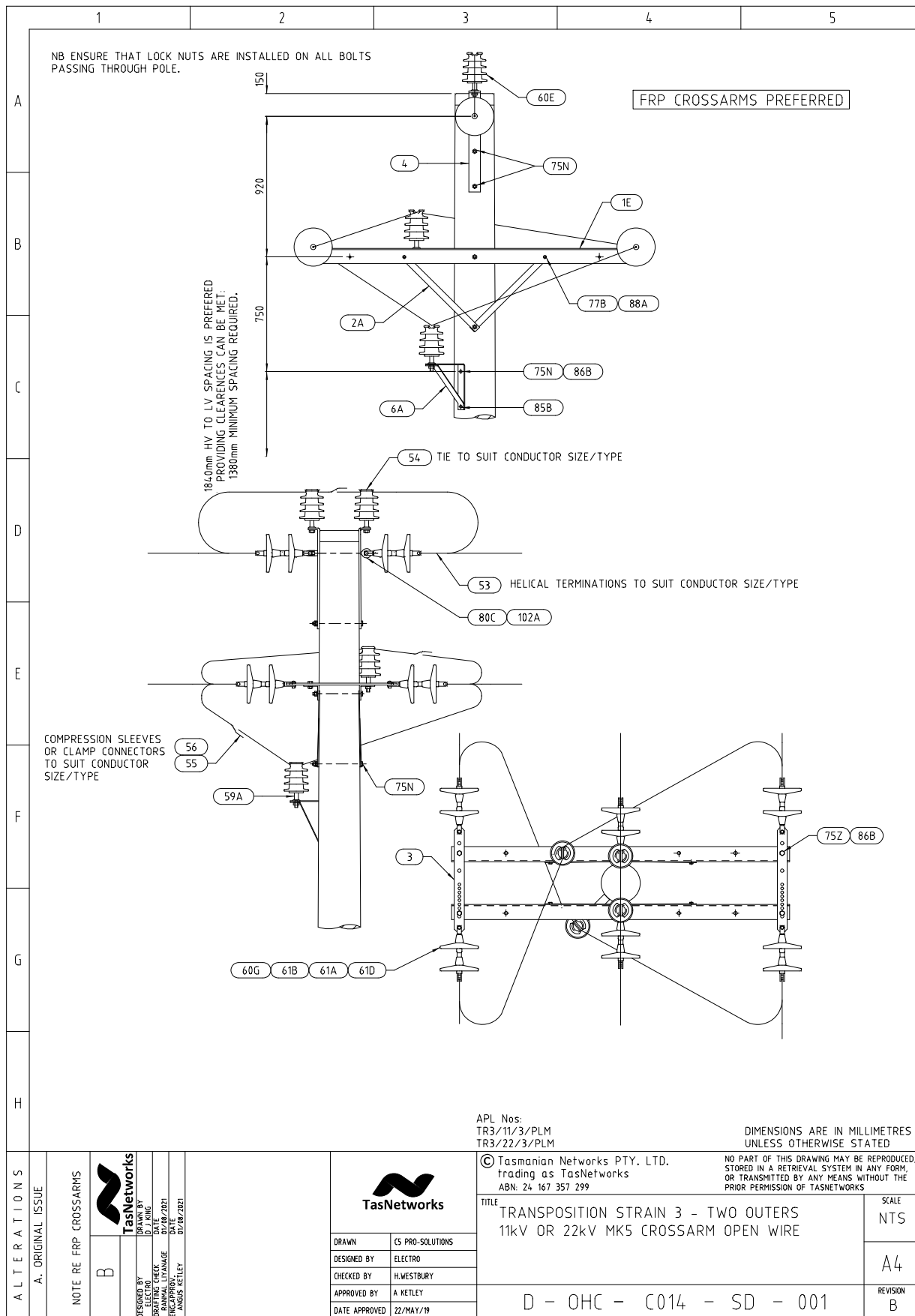
### 3.40 Transposition 2, Strain, Inner & Outer, Mk5 Crossarm




Transposition 2, Strain, Inner & Outer, MK5 Crossarm - Material List

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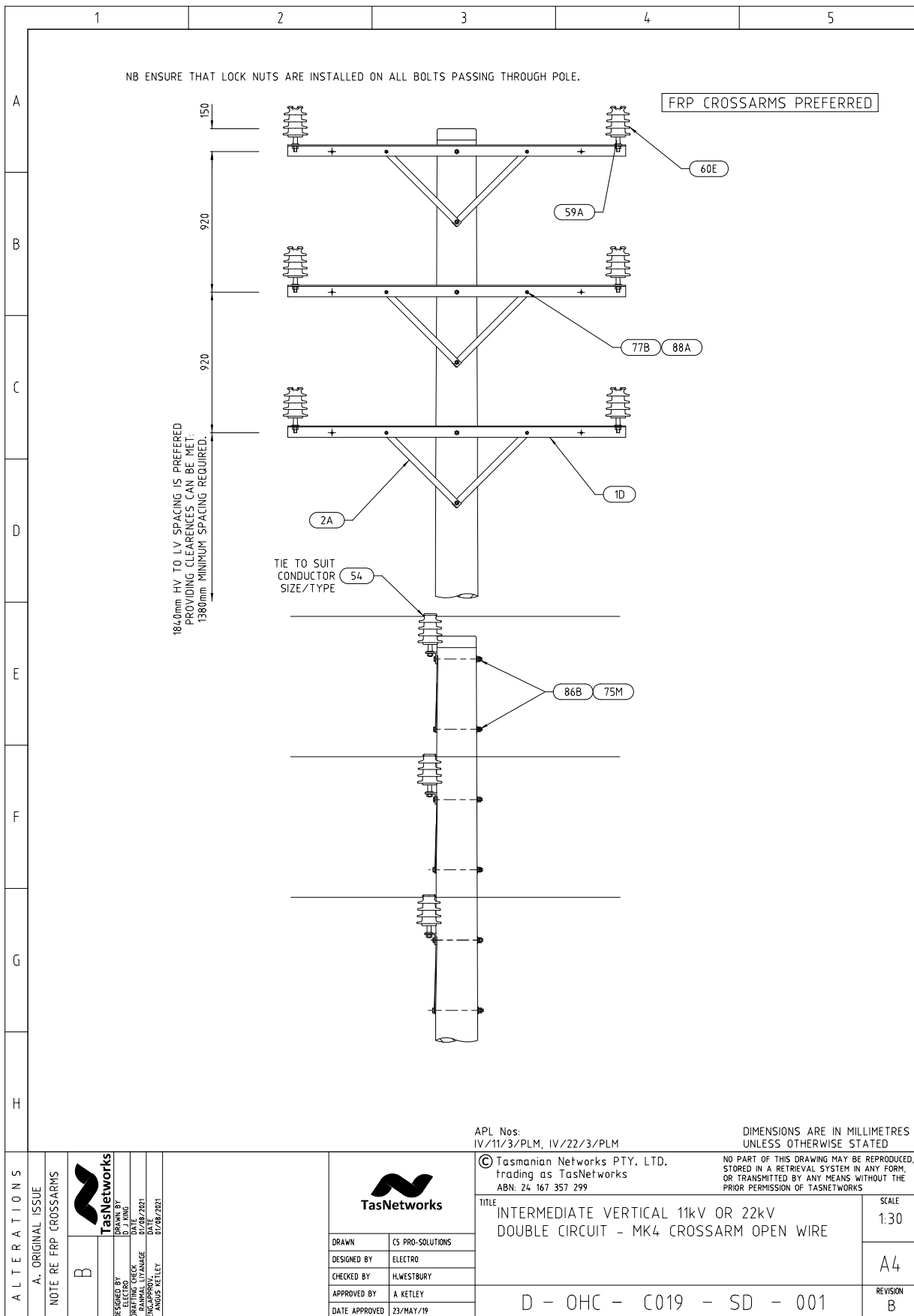
### 3.41 Transposition 3, Strain, Two Outers, Mk5 Crossarm




Transposition 3, Strain, Two Outers, MK5 Crossarm - Material List

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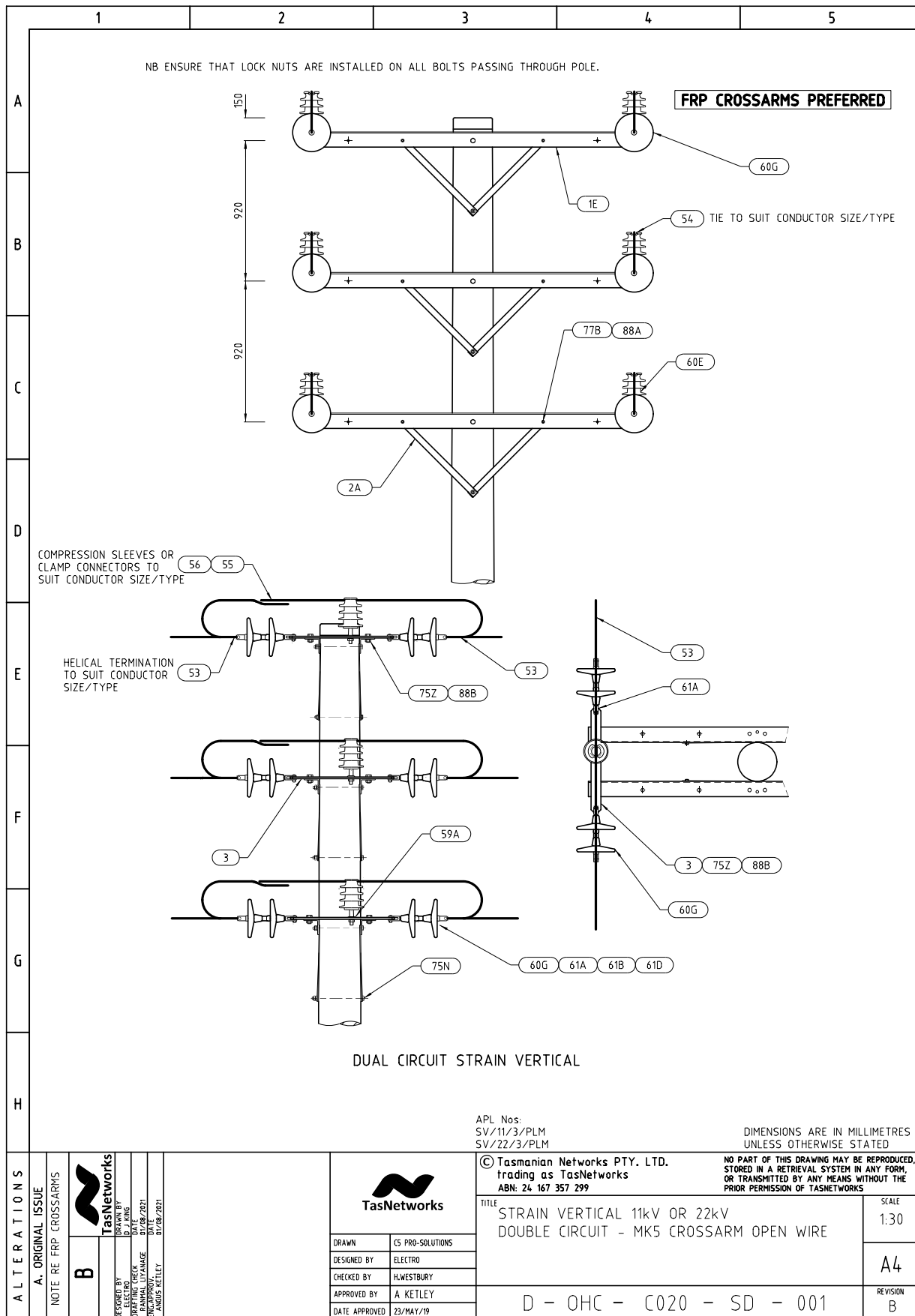
### 3.42 Intermediate Vertical Double Circuit – Steel Mk4 Crossarm



Intermediate Vertical Double Circuit Steel Mk4 Crossarm – Material List


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### 3.43 Strain Vertical Double Circuit, Steel Mk5 Crossarm



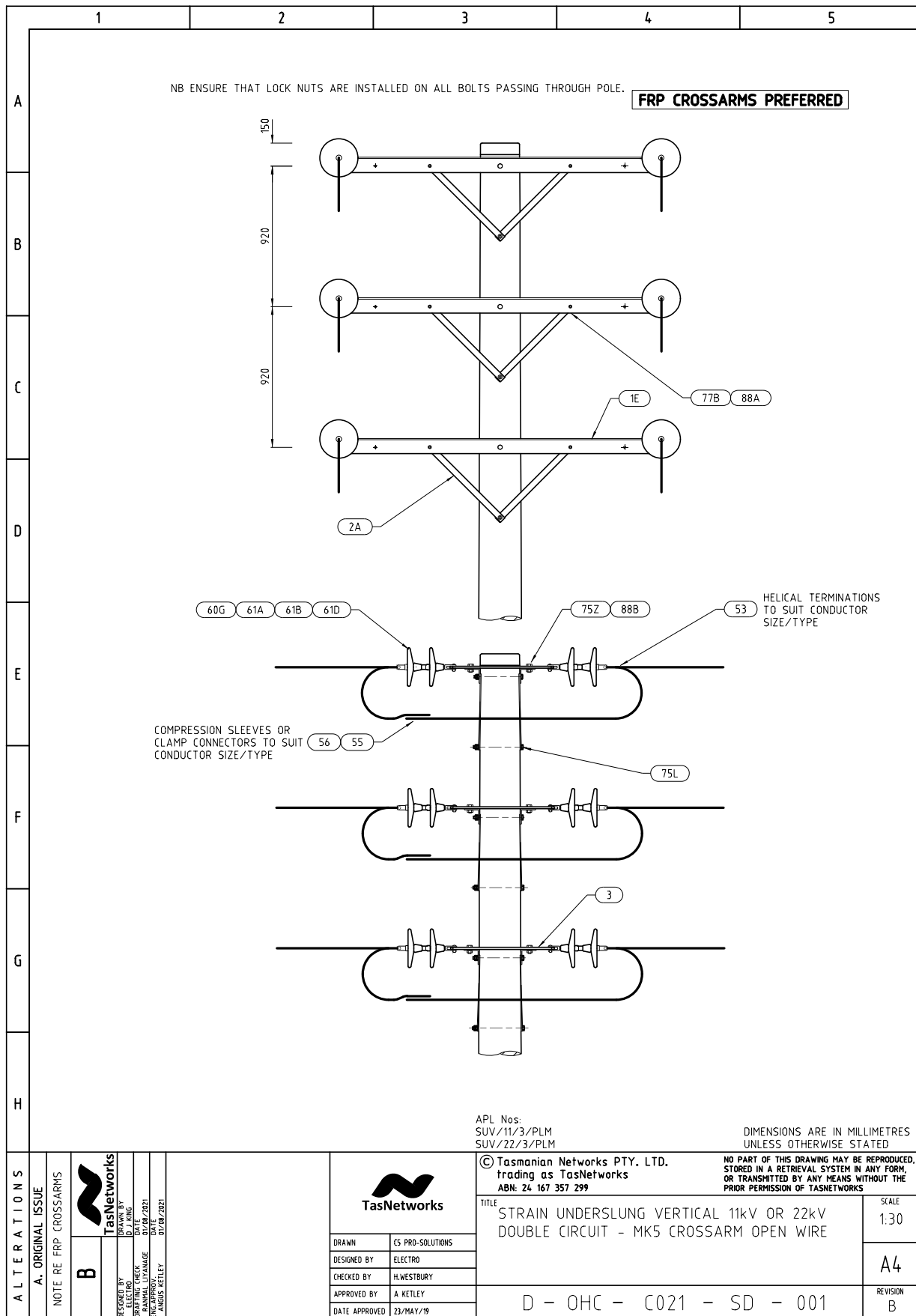
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Strain Vertical Double Circuit, Steel Mk5 Crossarm - Material List


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### 3.44 Strain Underslung Vertical Double Circuit Steel Mk5 Crossarm

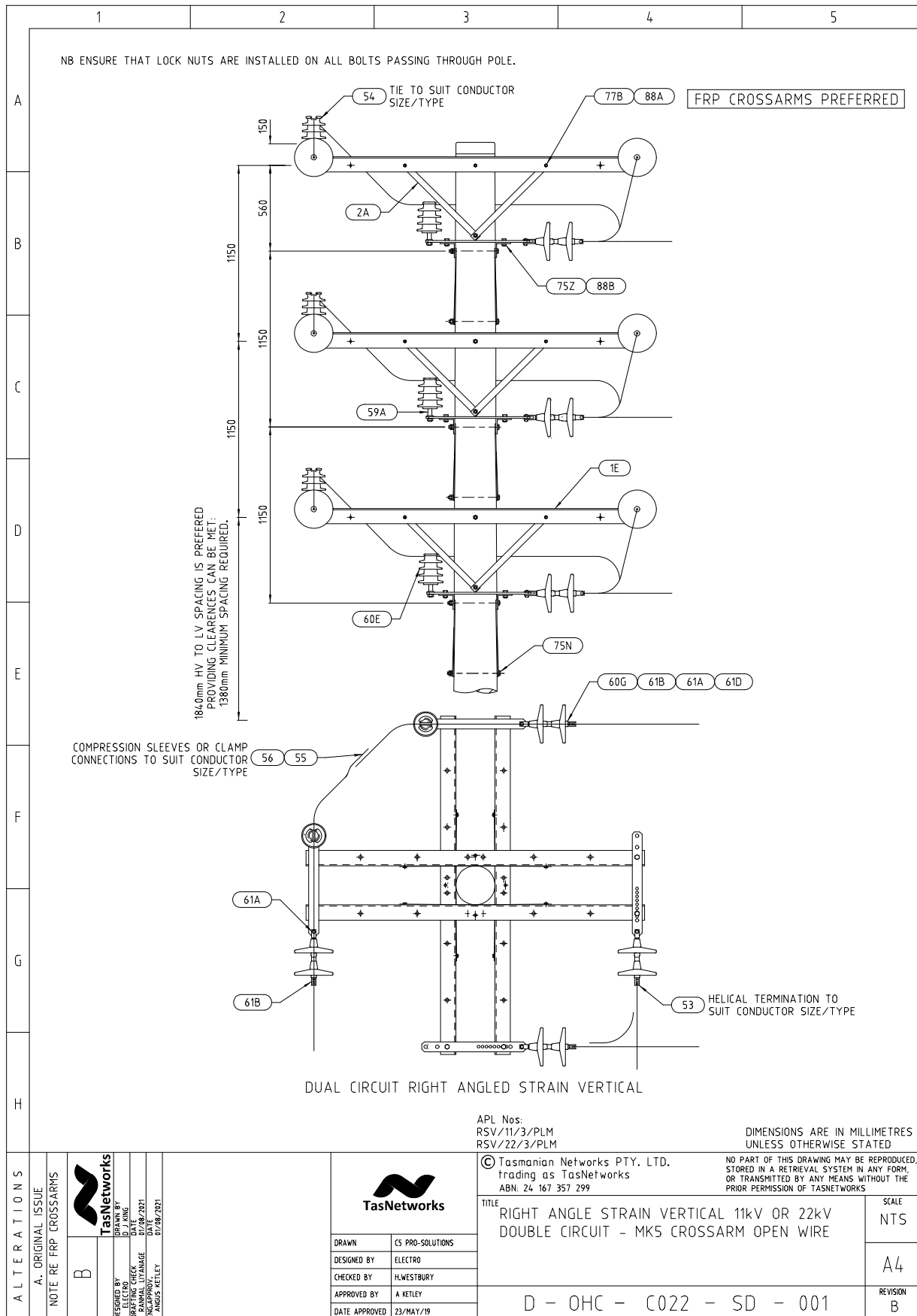


Strain Underslung Vertical, Steel Mk5 Crossarm - Material List


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B		<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	
		SUV/11/3PLM and	S	3	323310	PLATE, STRAIN DOUBLE PIN 65 X 12MM STEEL	
		SUV/22/3/PLM		1E	323305	CROSSARM, STEEL 100 X 100 X 2210MM GAL	
				60G	321260	INSULATOR, SUSPENSION 146MM DISC D70S	
				61A	322056	CLEVIS, ROD-END BALL 16MM 70KN MIN-FAIL	
				61B	322386	CONNECTOR, ROD-END 16MM 80KN MIN-FAIL MCI	
				61D	322090	CLIP, SECURITY 7.9MM S/STEEL 16B-WCLIP	
				75N	32288	BOLT, HEX HEAD M16 X 350MM GAL. C/W NUT	
				75Z	32261	BOLT, HEX HEAD M16 X 45MM GAL. C/W NUT	
				77B	33771	BOLT, HEX HEAD M12 X 35MM GAL. C/W NUT	
				86B	65158	WASHER, FLAT ROUND M16 X 50MM GAL	
				88A	66412	WASHER, FLAT ROUND M12 X 24MM GAL	
				88B	66413	WASHER, FLAT ROUND M16 X 30 X 5MM GAL	
				2A	323314	BRACE, CROSSARM 40 X 700 X 5MM THICK GAL	
C							
D							
E							
F							
G							
H							
ALTERATIONS	ORIGINAL ISSUE				© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS
					TITLE STRAIN UNDERSLUNG VERTICAL 11kV OR 22kV DOUBLE CIRCUIT - MK5 CROSSARM OPEN WIRE MATERIALS LIST		SCALE NTS
		DRAWN	CS PRO-SOLUTIONS				A4
		DESIGNED BY	ELECTRO				
		CHECKED BY	H.WESTBURY				
APPROVED BY	A. KETLEY						
DATE APPROVED	23/MAY/19		D - OHC - C021 - SD - 002		REVISION A		

DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED

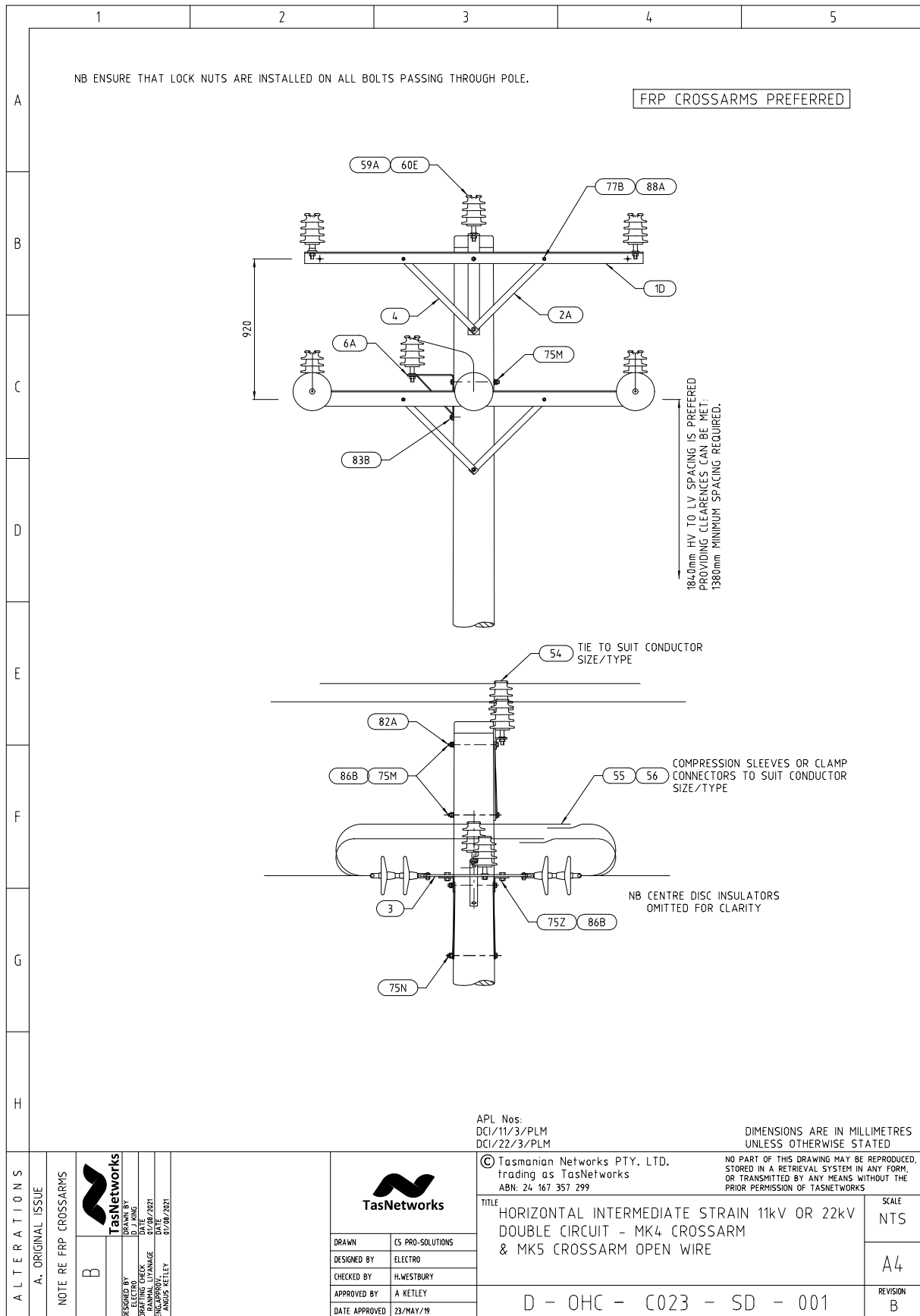
### 3.45 Right Angle Strain Double Circuit Vertical Steel Mk5 Crossarm




Right Angle Strain Double Circuit Vertical Steel Mk5 - Material List

	1	2	3	4	5		
A							
B							
C	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>	
	RSV/11/3PLM and	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	12	
	RSV/22/3/PLM		1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	12	
			59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	6	
			60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	6	
			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	24	
			61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	12	
			61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	12	
			61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	12	
			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	12	
			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	24	
			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	24	
			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	12	
			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	24	
		88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	24		
D			2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	24	
E							
F							
G							
H							
ALTERATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN 24 167 357 299		NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	
				TITLE			SCALE
				RIGHT ANGLE STRAIN VERTICAL 11kV OR 22kV DOUBLE CIRCUIT MK5 CROSSARM OPEN WIRE MATERIALS LIST			NTS
				D - OHC - C022 - SD - 002			A4
				DATE APPROVED			REVISION
23/MAY/19			A				

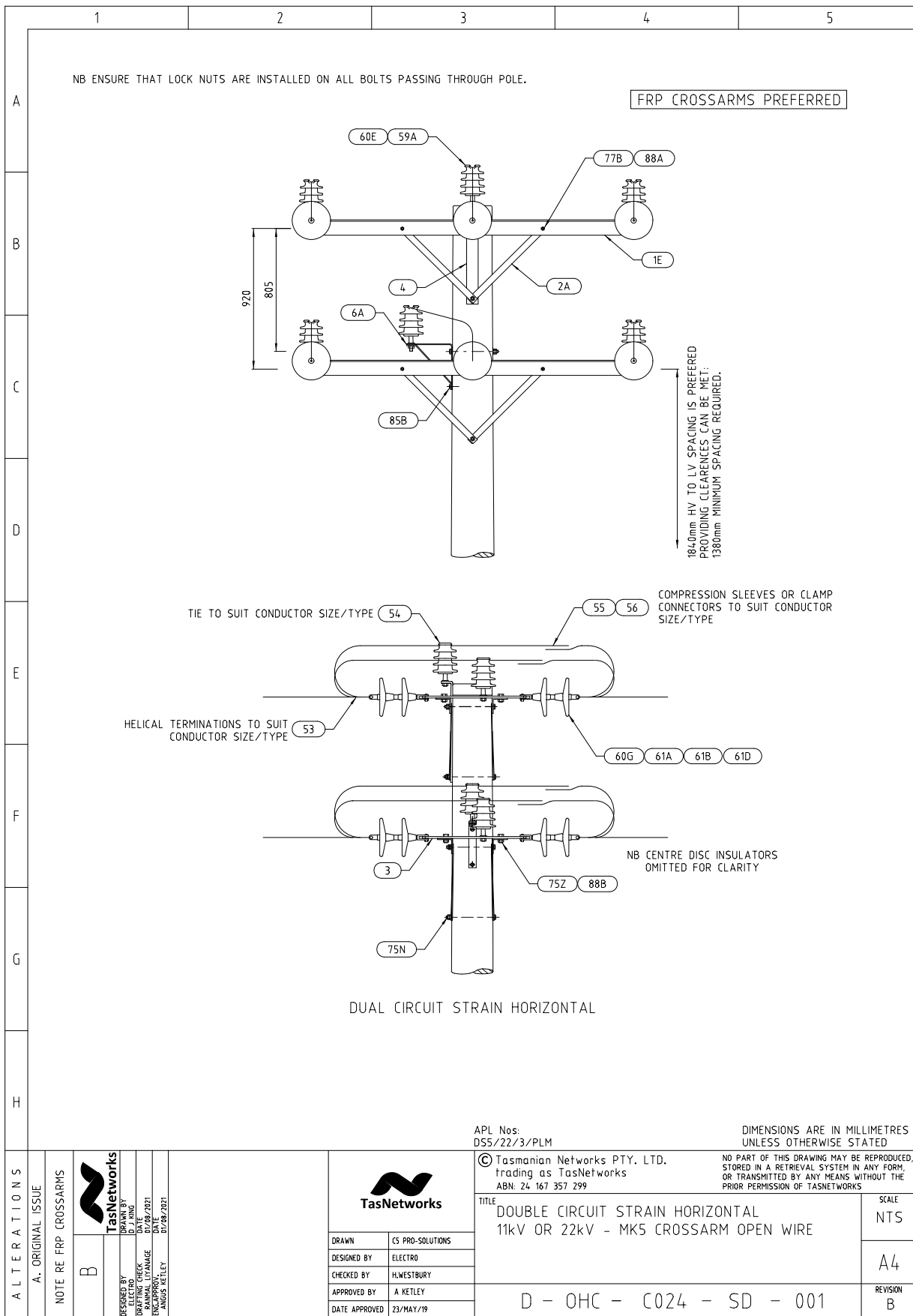
### 3.46 Intermediate / Strain Horizontal Double Circuit Vertical Steel Mk4/5 Crossarm



Intermediate / Strain Horizontal Double Circuit Vertical Steel Mk4/5 - Material List


	1	2	3	4	5																																																																																																																																				
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B	<table border="1"> <thead> <tr> <th>Unit Assembly</th> <th>Store Type</th> <th>Item Ref</th> <th>Stock Item</th> <th>Stock Item Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>DCI/11/3/PLM and</td> <td>S</td> <td>3</td> <td>323310</td> <td>PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL</td> <td>2</td> </tr> <tr> <td>DCI/22/3/PLM</td> <td></td> <td>1E</td> <td>323305</td> <td>CROSSARM,STEEL 100 X 100 X 2210MM GAL</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>59A</td> <td>322721</td> <td>PIN,INSULATOR 20MM DIA X 22KV GAL STEEL</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>60E</td> <td>320531</td> <td>INSULATOR,PIN 22KV AERO PORCELAIN</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>60G</td> <td>321260</td> <td>INSULATOR,SUSPENSION 146MM DISC D70S</td> <td>12</td> </tr> <tr> <td></td> <td></td> <td>61A</td> <td>322056</td> <td>CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>61B</td> <td>322386</td> <td>CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>61D</td> <td>322090</td> <td>CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>6A</td> <td>323315</td> <td>BRACKET,INSULATOR 50 X 6MM C/W BRACE</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>75N</td> <td>32288</td> <td>BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>75Z</td> <td>32261</td> <td>BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>77B</td> <td>33771</td> <td>BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>85B</td> <td>50250</td> <td>COACH SCREW,HEX HEAD 12MM X 100MM GAL</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>88A</td> <td>66412</td> <td>WASHER,FLAT ROUND M12 X 24MM GAL</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>88B</td> <td>66413</td> <td>WASHER,FLAT ROUND M16 X 30 X 5MM GAL</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>2A</td> <td>323314</td> <td>BRACE,CROSSARM 40 X 700 X 5MM THICK GAL</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td>4</td> <td>323311</td> <td>BRACKET,RIGHT ANGLE 75 X 12MM GAL</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>1D</td> <td>323304</td> <td>CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL</td> <td>1</td> </tr> <tr> <td></td> <td></td> <td>75M</td> <td>32287</td> <td>BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>82A</td> <td>40441</td> <td>NUT,HEX M16 THREAD GALANISED STEEL</td> <td>5</td> </tr> <tr> <td></td> <td></td> <td>86B</td> <td>65158</td> <td>WASHER,FLAT ROUND M16 X 50MM GAL</td> <td>7</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	DCI/11/3/PLM and	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2	DCI/22/3/PLM		1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2			59A	322721	PIN,INSULATOR 20MM DIA X 22KV GAL STEEL	6			60E	320531	INSULATOR,PIN 22KV AERO PORCELAIN	6			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	12			61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	6			61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	6			61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	6			6A	323315	BRACKET,INSULATOR 50 X 6MM C/W BRACE	1			75N	32288	BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT	3			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	4			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	6			85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	6			88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	4			2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	6			4	323311	BRACKET,RIGHT ANGLE 75 X 12MM GAL	1			1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1			75M	32287	BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT	2			82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	5			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	7
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		DRAWN CS PRO-SOLUTIONS DESIGNED BY ELECTRO CHECKED BY H.WESTBURY APPROVED BY A KETLEY DATE APPROVED 23/MAY/19																																																																																																																																							

### 3.47 Strain Horizontal Double Circuit, Steel Mk5 Crossarm



ALTERATIONS	A. ORIGINAL ISSUE	<p>DESIGNED BY: ELECTRO DRAWN BY: JANDOS KETLEY DATE: 07/08/2021 DRAWING NO: 11-12.7-22 REVISED LITVANCE</p>	<p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p>	DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED  NO PART OF THIS DRAWING MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM IN ANY FORM, OR TRANSMITTED BY ANY MEANS WITHOUT THE PRIOR PERMISSION OF TASNETWORKS	SCALE
	B				NOTE RE FRP CROSSARMS
					A4
					REVISION
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					D - OHC - C024 - SD - 001

Strain Horizontal Double Circuit Steel Mk5 Crossarm - Material List

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		77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	8																																																																																																																								
D		82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	8																																																																																																																								
		86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	4																																																																																																																								
		88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	8																																																																																																																								
		88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	8																																																																																																																								
		2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	8																																																																																																																								
		85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1																																																																																																																								
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	DRAWN	CS PRO-SOLUTIONS		TITLE DOUBLE CIRCUIT STRAIN HORIZONTAL 11kV OR 22kV - MK5 CROSSARM OPEN WIRE MATERIALS LIST	SCALE NTS																																																																																																																								
	DESIGNED BY	ELECTRO			A4																																																																																																																								
	CHECKED BY	H.WESTBURY			REVISION A																																																																																																																								
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	DATE APPROVED	23/MAY/19		D - OHC - C024 - SD - 002																																																																																																																									



# SWER CONSTRUCTIONS

## 3.48 Intermediate SWER (Single Pin)

	1	2	3	4	5																												
A	NB ENSURE THAT LOCK NUTS ARE INSTALLED ON ALL BOLTS PASSING THROUGH POLE.																																
B																																	
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F	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">Unit Assembly</th> <th style="width: 5%;">Store Type</th> <th style="width: 10%;">Item Ref</th> <th style="width: 10%;">Stock Item</th> <th style="width: 45%;">Stock Item Description</th> <th style="width: 10%;">Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="5" style="text-align: center;">I/12.7/1/PLM</td> <td rowspan="5" style="text-align: center;">S</td> <td style="text-align: center;">4</td> <td style="text-align: center;">323311</td> <td>L Bracket Mk11</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">59A</td> <td style="text-align: center;">322721</td> <td>Pin, Insulator 22kV</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">60E</td> <td style="text-align: center;">320531</td> <td>Insulator Pin 22/450</td> <td style="text-align: center;">1</td> </tr> <tr> <td style="text-align: center;">75M</td> <td style="text-align: center;">32287</td> <td>Bolt Hex M16 X 325</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">86B</td> <td style="text-align: center;">65158</td> <td>Washer Els 16</td> <td style="text-align: center;">2</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	I/12.7/1/PLM	S	4	323311	L Bracket Mk11	1	59A	322721	Pin, Insulator 22kV	1	60E	320531	Insulator Pin 22/450	1	75M	32287	Bolt Hex M16 X 325	2	86B	65158	Washer Els 16	2
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DESIGNED BY	ELECTRO																																
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DATE APPROVED	23/MAY/19																																
		D - OHC - C038 - SD - 001		REVISION: A																													

### 3.49 Intermediate SWER (Flying Angle)

	1	2	3	4	5																																				
A	NB ENSURE THAT LOCK NUTS ARE INSTALLED ON ALL BOLTS PASSING THROUGH POLE.																																								
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				SCALE NTS																																					
				A4																																					
				REVISION A																																					
				D - OHC - C039 - SD - 001																																					
		DRAWN: CS PRO-SOLUTIONS DESIGNED BY: ELECTRO CHECKED BY: H.WESTBURY APPROVED BY: - DATE APPROVED: 23/MAY/19																																							

### 3.50 Dead End SWER

	1	2	3	4	5																																				
A	NB ENSURE THAT LOCK NUTS ARE INSTALLED ON ALL BOLTS PASSING THROUGH POLE.																																								
B																																									
C	HELICAL TERMINATION TO SUIT CONDUCTOR SIZE/TYPE (53)																																								
D	GROUND OR AERIAL STAY																																								
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	DRAWN	CS PRO-SOLUTIONS	TITLE		SCALE																																				
	DESIGNED BY	ELECTRO	DEAD END (SWER) 12.7kV		NTS																																				
	CHECKED BY	H.WESTBURY	D - OHC - C040 - SD - 001		A4																																				
	APPROVED BY	-			REVISION																																				
	DATE APPROVED	23/MAY/19			A																																				

### 3.51 Strain SWER

1	2	3	4	5																																																										
A	NB ENSURE THAT LOCK NUTS ARE INSTALLED ON ALL BOLTS PASSING THROUGH POLE.																																																													
B																																																														
C	<p>TIE TO SUIT CONDUCTOR SIZE/TYPE (54)</p> <p>CLAMP CONNECTOR TO SUIT CONDUCTOR SIZE/TYPE (55)</p>																																																													
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