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# SECTION 5 – SWITCHES, FUSES, RECLOSERS AND SECTIONALISERS

VERSION 2.1



## SECTION 5 – SWITCHES, FUSES, RECLOSERS & SECTIONALISERS

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For installation on Titan Poles, refer to Section 10.3.

### 5.1LV Isolators / Fuses

#### 5.1.1 LV Open Wire - Crossarm Mounted Isolators / Fuses

140 280 75D 420 NEUTRAL

64A OR 64B

S.I. No. 23.62.43 SWITCH FUSE 660V 630A  
(USE AT SUBSTATION OR TRANSITION TO LVABC)

S.I. No. 23.58.86 SWITCH ISOLATOR 660V 630A  
(USE AT AN OPEN POINT BETWEEN LV CIRCUITS)

Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity
F/LV1/PLM	S	64A	236243	SWITCHING GROUP,630A/660V X 1P CA MOUNT	1
		75D	32276	BOLT,HEX HEAD M16 X 150MM GAL. C/W NUT	1
F/LV2/PLM	S	64A	236243	SWITCHING GROUP,630A/660V X 1P CA MOUNT	2
		75D	32276	BOLT,HEX HEAD M16 X 150MM GAL. C/W NUT	2
F/LV3/PLM	S	64A	236243	SWITCHING GROUP,630A/660V X 1P CA MOUNT	3
		75D	32276	BOLT,HEX HEAD M16 X 150MM GAL. C/W NUT	3

APL Nos:  
F/LV/1/PLM  
F/LV/2/PLM  
F/LV/3/PLM

DIMENSIONS ARE IN MILLIMETRES  
UNLESS OTHERWISE STATED

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STORED IN A RETRIEVAL SYSTEM IN ANY FORM,  
OR TRANSMITTED BY ANY MEANS WITHOUT THE  
PRIOR PERMISSION OF TASNETWORKS

TITLE  
LV FUSES / ISOLATORS  
CROSSARM - MOUNTED - OPEN WIRE

SCALE  
1:25

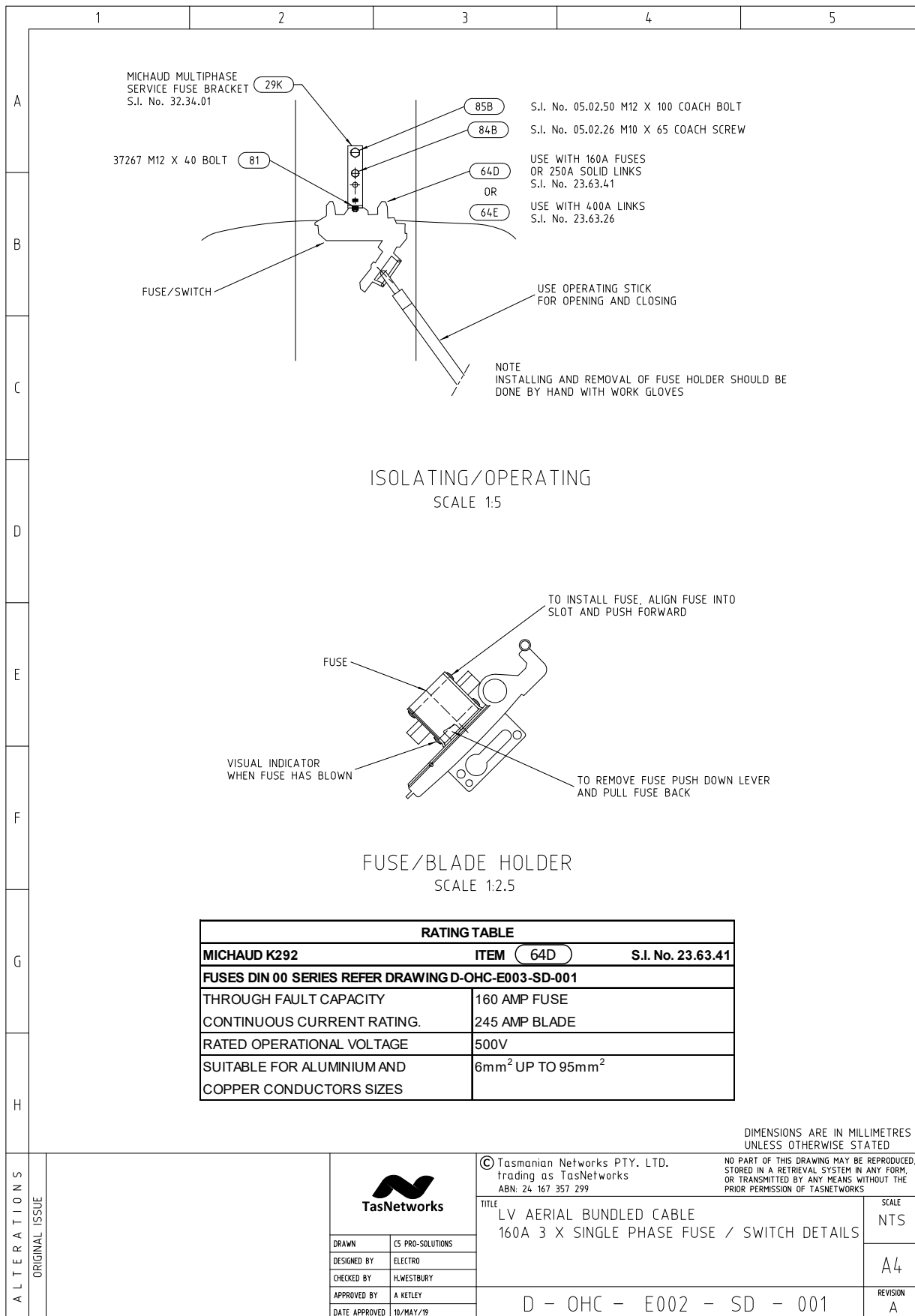
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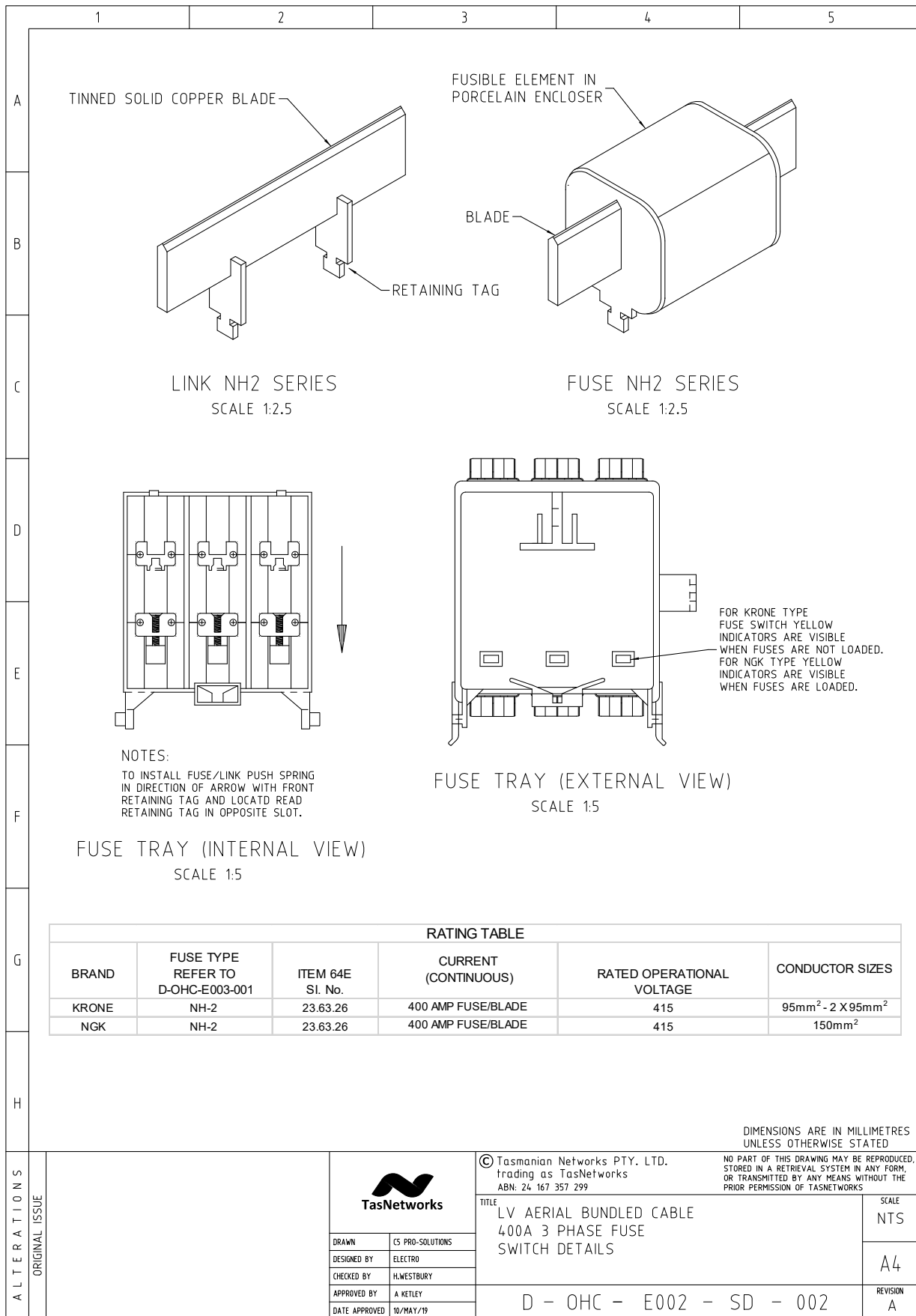
ALTERNATIONS	ORIGINAL ISSUE		
	APL UPDATED		
B	DESIGNED BY: D.J. KING DATE: 10/12/2011 CHECKED BY: H.WESTBURY DATE: 10/12/2011 APPROVED BY: A.KETLEY DATE: 10/MAY/19	CS PRO-SOLUTIONS	ELECTRO H.WESTBURY A.KETLEY 10/MAY/19



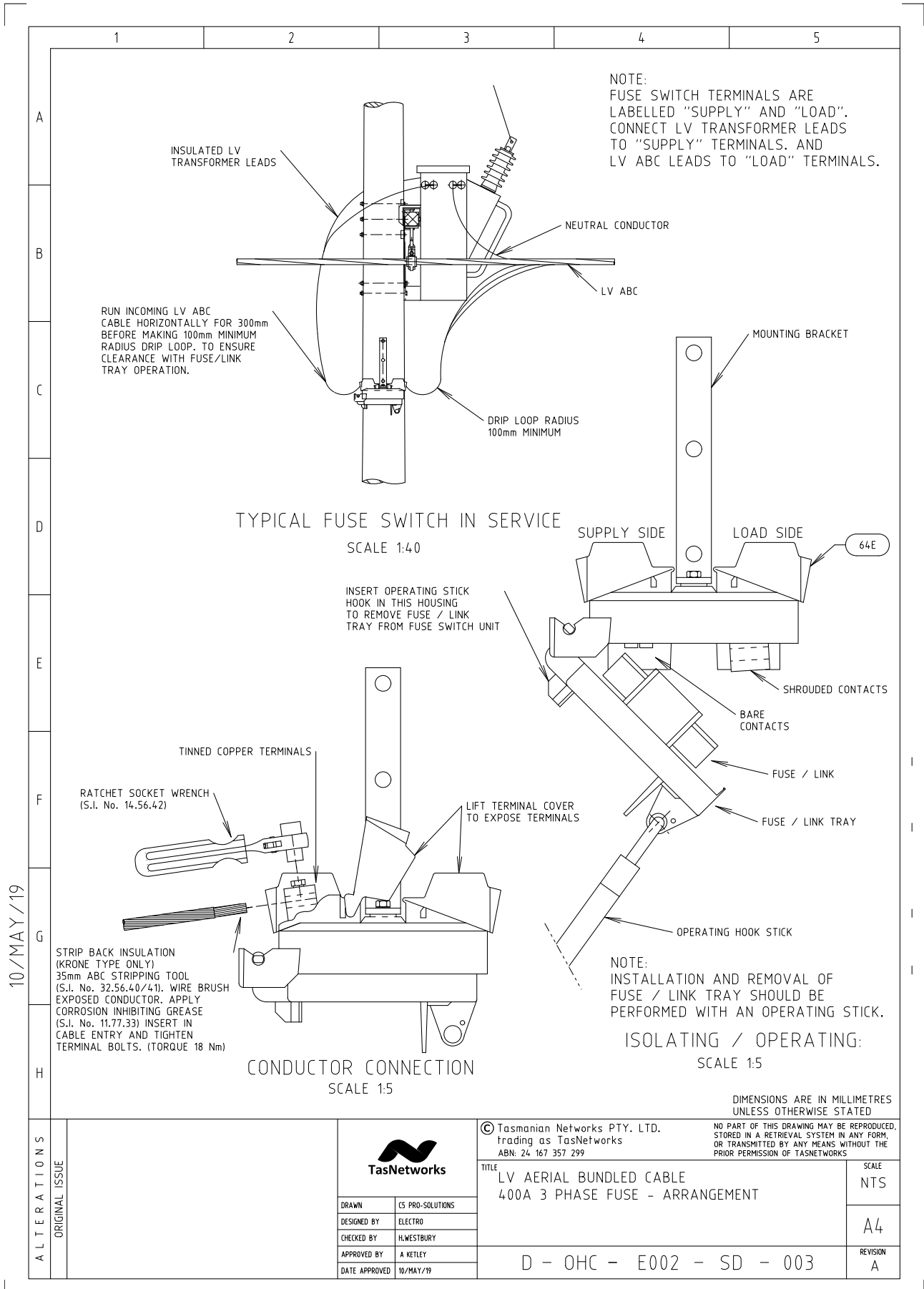
5.1.2 LVABC – Isolators / Fuses




### 5.2LVABC – Isolators / Fuses




LVABC – Isolators / Fuses



LVABC – Isolators / Fuses – Materials List

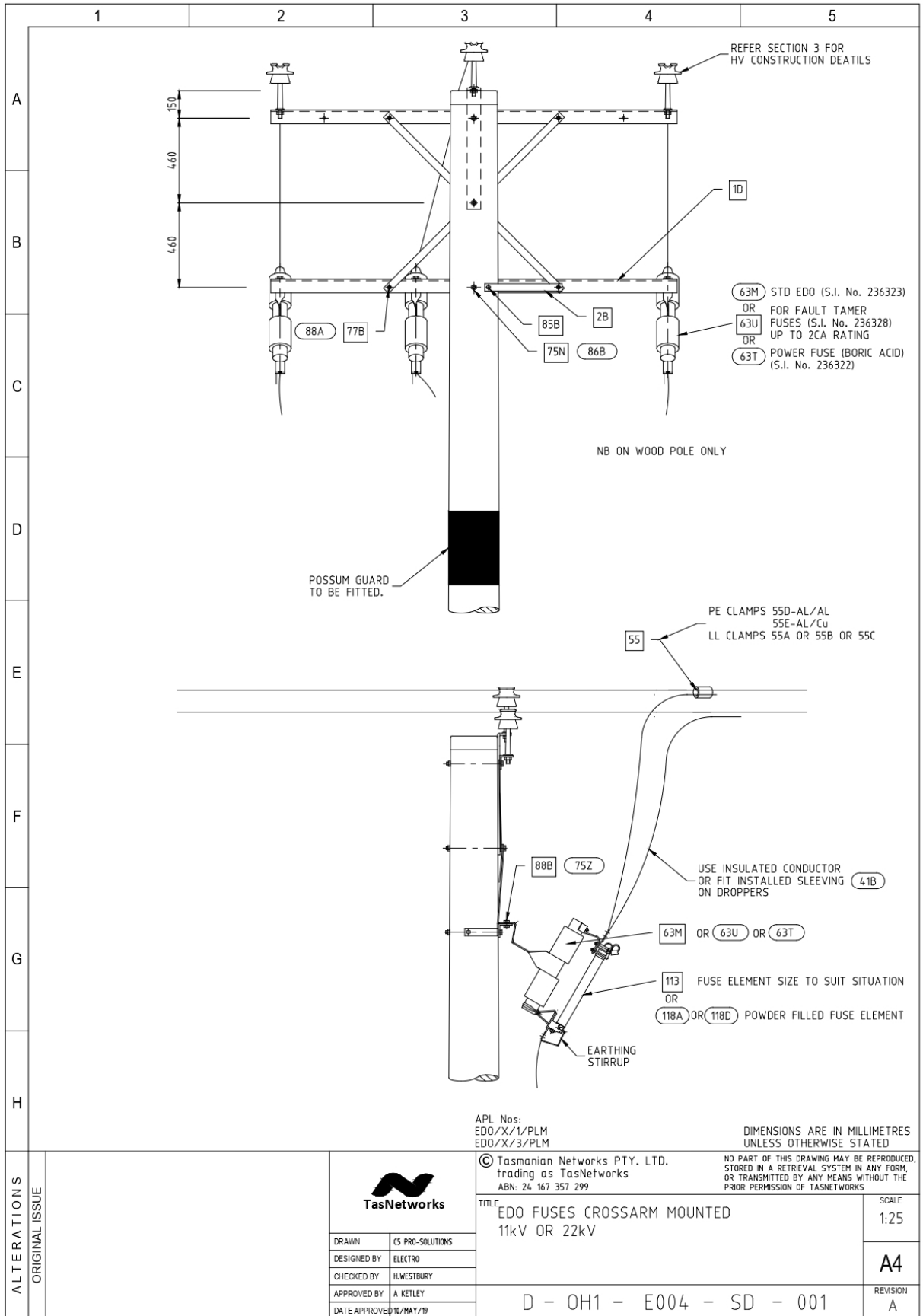
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C	<table border="1"> <thead> <tr> <th>Unit Assembly</th> <th>Store Type</th> <th>Item Ref</th> <th>Stock Item</th> <th>Stock Item Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="5">F/LVABC/160_250</td> <td rowspan="5">S</td> <td>64D</td> <td>236341</td> <td>#N/A</td> <td>1</td> </tr> <tr> <td>29K</td> <td>323401</td> <td>BRACKET,HOUSE SERVICE FUSE 32X8MM M-PH</td> <td>1</td> </tr> <tr> <td>81</td> <td>37267</td> <td>SET SCREW,HEX HEAD M12 X 40MM 316S/S</td> <td>1</td> </tr> <tr> <td>85B</td> <td>50250</td> <td>COACH SCREW,HEX HEAD 12MM X 100MM GAL</td> <td>1</td> </tr> <tr> <td>84B</td> <td>50226</td> <td>COACH SCREW,HEX HEAD 10MM X 65MM GAL</td> <td>1</td> </tr> <tr> <td rowspan="2">F/LVABC/400</td> <td rowspan="2">S</td> <td>64E</td> <td>236326</td> <td>SWITCHING GROUP,400A LV 3P POLE MOUNT</td> <td>1</td> </tr> <tr> <td>85B</td> <td>50250</td> <td>COACH SCREW,HEX HEAD 12MM X 100MM GAL</td> <td>2</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	F/LVABC/160_250	S	64D	236341	#N/A	1	29K	323401	BRACKET,HOUSE SERVICE FUSE 32X8MM M-PH	1	81	37267	SET SCREW,HEX HEAD M12 X 40MM 316S/S	1	85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1	84B	50226	COACH SCREW,HEX HEAD 10MM X 65MM GAL	1	F/LVABC/400	S	64E	236326	SWITCHING GROUP,400A LV 3P POLE MOUNT	1	85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	2
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5.2.1 LV Fuse Selection


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A	AVOID LONG LENGTHS OF LOW VOLTAGE CIRCUITS OTHERWISE LV FUSES MAY NOT OPERATE FOR LOW VOLTAGE FAULTS. VOLTAGE DROP USUALLY DETERMINES THE MAXIMUM CABLE RUN.																																																				
B	<table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">FUSE TYPE &amp; SIZE</th> <th style="text-align: center;">LV FUSE RATING (AMPS)</th> <th style="text-align: center;">S.I. No.</th> <th></th> </tr> </thead> <tbody> <tr><td style="text-align: center;">NH-00</td><td style="text-align: center;">63</td><td style="text-align: center;">22.22.07</td><td></td></tr> <tr><td style="text-align: center;">NH-00</td><td style="text-align: center;">80</td><td style="text-align: center;">22.22.08</td><td></td></tr> <tr><td style="text-align: center;">NH-00</td><td style="text-align: center;">100</td><td style="text-align: center;">22.22.09</td><td></td></tr> <tr><td style="text-align: center;">NH-00</td><td style="text-align: center;">125</td><td style="text-align: center;">22.22.10</td><td></td></tr> <tr><td style="text-align: center;">NH-00</td><td style="text-align: center;">160</td><td style="text-align: center;">22.22.11</td><td></td></tr> <tr><td style="text-align: center;">NH-2</td><td style="text-align: center;">160</td><td style="text-align: center;">22.22.21</td><td></td></tr> <tr><td style="text-align: center;">NH-2</td><td style="text-align: center;">250</td><td style="text-align: center;">22.22.22</td><td></td></tr> <tr><td style="text-align: center;">NH-2</td><td style="text-align: center;">315</td><td style="text-align: center;">22.22.23</td><td></td></tr> <tr><td style="text-align: center;">NH-2</td><td style="text-align: center;">400</td><td style="text-align: center;">22.22.24</td><td></td></tr> <tr><td style="text-align: center;">OTKF</td><td style="text-align: center;">250</td><td style="text-align: center;">22.26.89</td><td style="text-align: center;">OBSOLETE</td></tr> <tr><td style="text-align: center;">OTKF</td><td style="text-align: center;">450</td><td style="text-align: center;">22.28.20</td><td style="text-align: center;">OBSOLETE</td></tr> </tbody> </table>					FUSE TYPE & SIZE	LV FUSE RATING (AMPS)	S.I. No.		NH-00	63	22.22.07		NH-00	80	22.22.08		NH-00	100	22.22.09		NH-00	125	22.22.10		NH-00	160	22.22.11		NH-2	160	22.22.21		NH-2	250	22.22.22		NH-2	315	22.22.23		NH-2	400	22.22.24		OTKF	250	22.26.89	OBSOLETE	OTKF	450	22.28.20	OBSOLETE
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OTKF	250	22.26.89	OBSOLETE																																																		
OTKF	450	22.28.20	OBSOLETE																																																		
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E	NOTES: 1. * USE OF OTKF FUSES OR EQUIVALENT WITH LV FUSE ISOLATOR S.I. No. 23.62.40 OBSOLETE 2. NH TYPE SIZE 00 FUSES ARE REQUIRED FOR LV ABC FUSE SWITCHES S.I. No. 23.62.41 ITEM 64D LVABC SINGLE PHASE 3. NH TYPE SIZE 2 FUSES ARE REQUIRED FOR LV ABC FUSE SWITCHES S.I. No. 23.63.26 ITEM 64E LVABC 3 PHASE 4. REFER SECTION 6.8 FOR MATCHING FUSE SIZE TO TRANSFORMER SIZE.																																																				
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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																																																	
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				TITLE LV FUSE SELECTION																																																	
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### 5.3 HV EDO Fuses

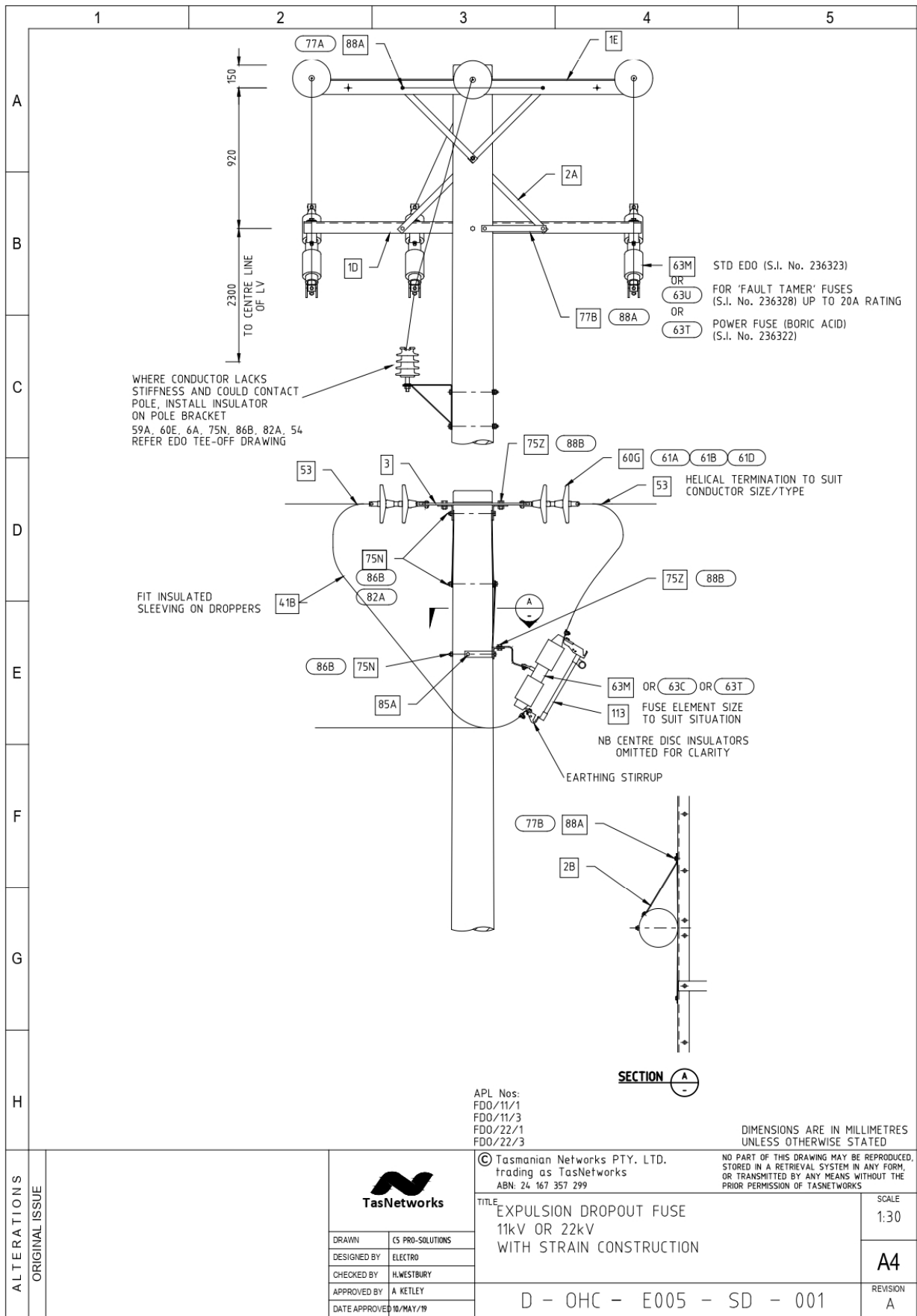
#### 5.3.1 HV Crossarm Mounted – EDO Fuses



HV - Crossarm Mounted EDO Fuses – Materials List

1	2	3	4	5																																																																																				
OHCM - Section 5 Switches Fuses																																																																																								
A  B  C  D  E  F  G  H	<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 rowspan="8">EDO/X/1/PLM 1 phase includes EDO crossarm excludes Top HV construction, leads and connectors</td> <td rowspan="8">S</td> <td>1D</td> <td>323304</td> <td>CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL</td> <td>1</td> </tr> <tr> <td>2B</td> <td>323317</td> <td>BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL</td> <td>1</td> </tr> <tr> <td>63M</td> <td>236323</td> <td>FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN</td> <td>2</td> </tr> <tr> <td>75N</td> <td>32288</td> <td>BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td>75Z</td> <td>32261</td> <td>BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td>85B</td> <td>50250</td> <td>COACH SCREW,HEX HEAD 12MM X 100MM GAL</td> <td>1</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>WASHER,FLAT ROUND M16 X 50MM GAL</td> <td>2</td> </tr> <tr> <td>88B</td> <td>66413</td> <td>WASHER,FLAT ROUND M16 X 30 X 5MM GAL</td> <td>2</td> </tr> <tr> <td rowspan="8">EDO/X/3/PLM 3 phase includes EDO crossarm excludes Top HV construction, leads and connectors</td> <td rowspan="8">S</td> <td>2A</td> <td>323314</td> <td>BRACE,CROSSARM 40 X 700 X 5MM THICK GAL</td> <td>2</td> </tr> <tr> <td>1D</td> <td>323304</td> <td>CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL</td> <td>1</td> </tr> <tr> <td>2B</td> <td>323317</td> <td>BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL</td> <td>1</td> </tr> <tr> <td>63M</td> <td>236323</td> <td>FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN</td> <td>3</td> </tr> <tr> <td>75N</td> <td>32288</td> <td>BOLT,HEX HEAD M16 X 350MM GAL. C/W NUT</td> <td>2</td> </tr> <tr> <td>75Z</td> <td>32261</td> <td>BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT</td> <td>3</td> </tr> <tr> <td>85B</td> <td>50250</td> <td>COACH SCREW,HEX HEAD 12MM X 100MM GAL</td> <td>1</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>WASHER,FLAT ROUND M16 X 50MM GAL</td> <td>2</td> </tr> <tr> <td rowspan="2"></td> <td rowspan="2"></td> <td>88B</td> <td>66413</td> <td>WASHER,FLAT ROUND M16 X 30 X 5MM GAL</td> <td>3</td> </tr> <tr> <td>2A</td> <td>323314</td> <td>BRACE,CROSSARM 40 X 700 X 5MM THICK GAL</td> <td>2</td> </tr> </tbody> </table>				Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	EDO/X/1/PLM 1 phase includes EDO crossarm excludes Top HV construction, leads and connectors	S	1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1	2B	323317	BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL	1	63M	236323	FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN	2	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	2	85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1	86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2	88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	2	EDO/X/3/PLM 3 phase includes EDO crossarm excludes Top HV construction, leads and connectors	S	2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	2	1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1	2B	323317	BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL	1	63M	236323	FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN	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	3	85B	50250	COACH SCREW,HEX HEAD 12MM X 100MM GAL	1	86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2			88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	3	2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	2
	Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity																																																																																		
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			2B	323317	BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL	1																																																																																		
			63M	236323	FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN	2																																																																																		
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ALTERNATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	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																																																																																			
		TITLE EDO FUSES CROSS ARM MOUNTED MATERIALS LIST			SCALE NTS																																																																																			
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5.3.2 HV EDO Fuses with Strain Construction

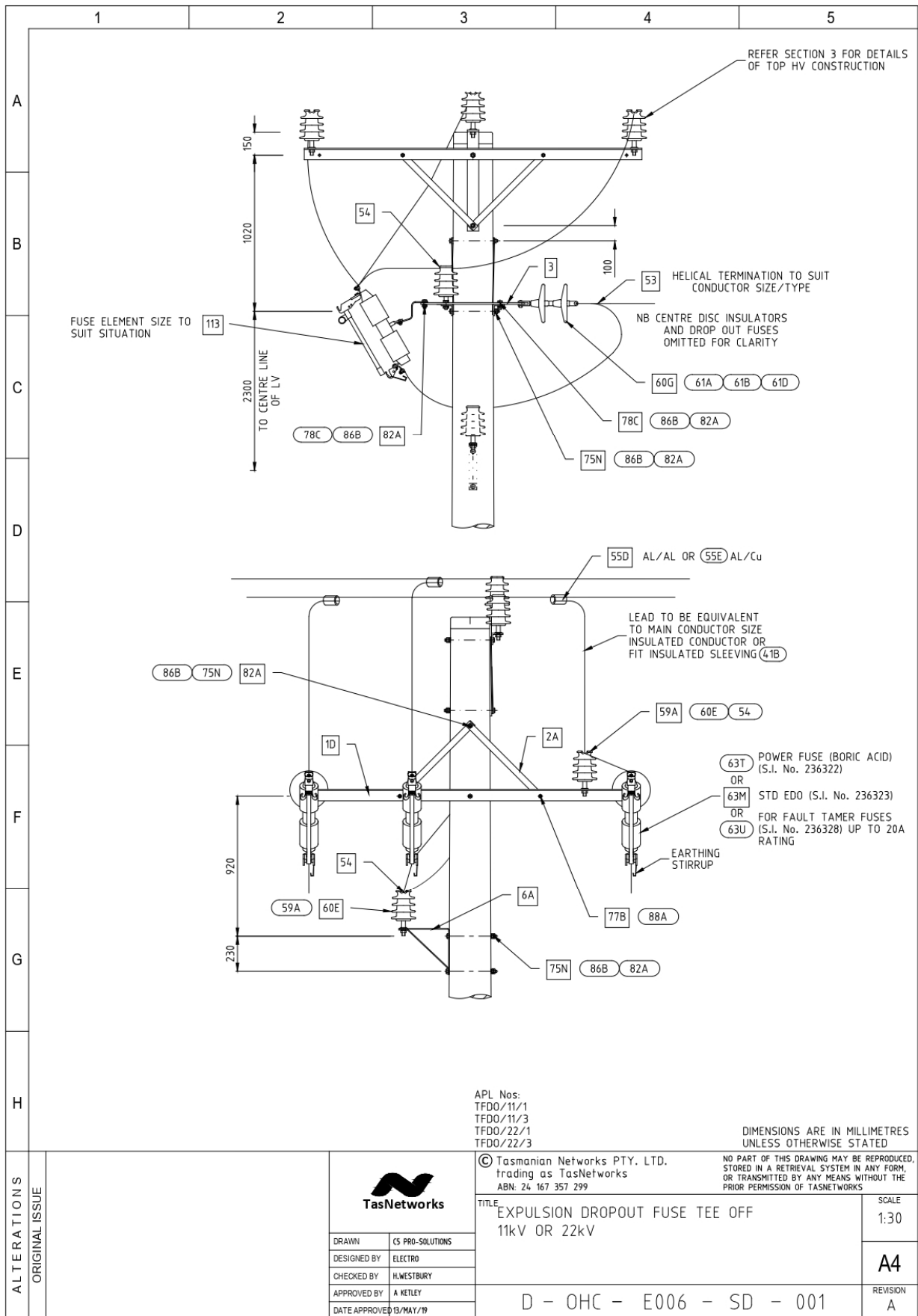





### HV EDO Fuses with Strain Construction – Materials List

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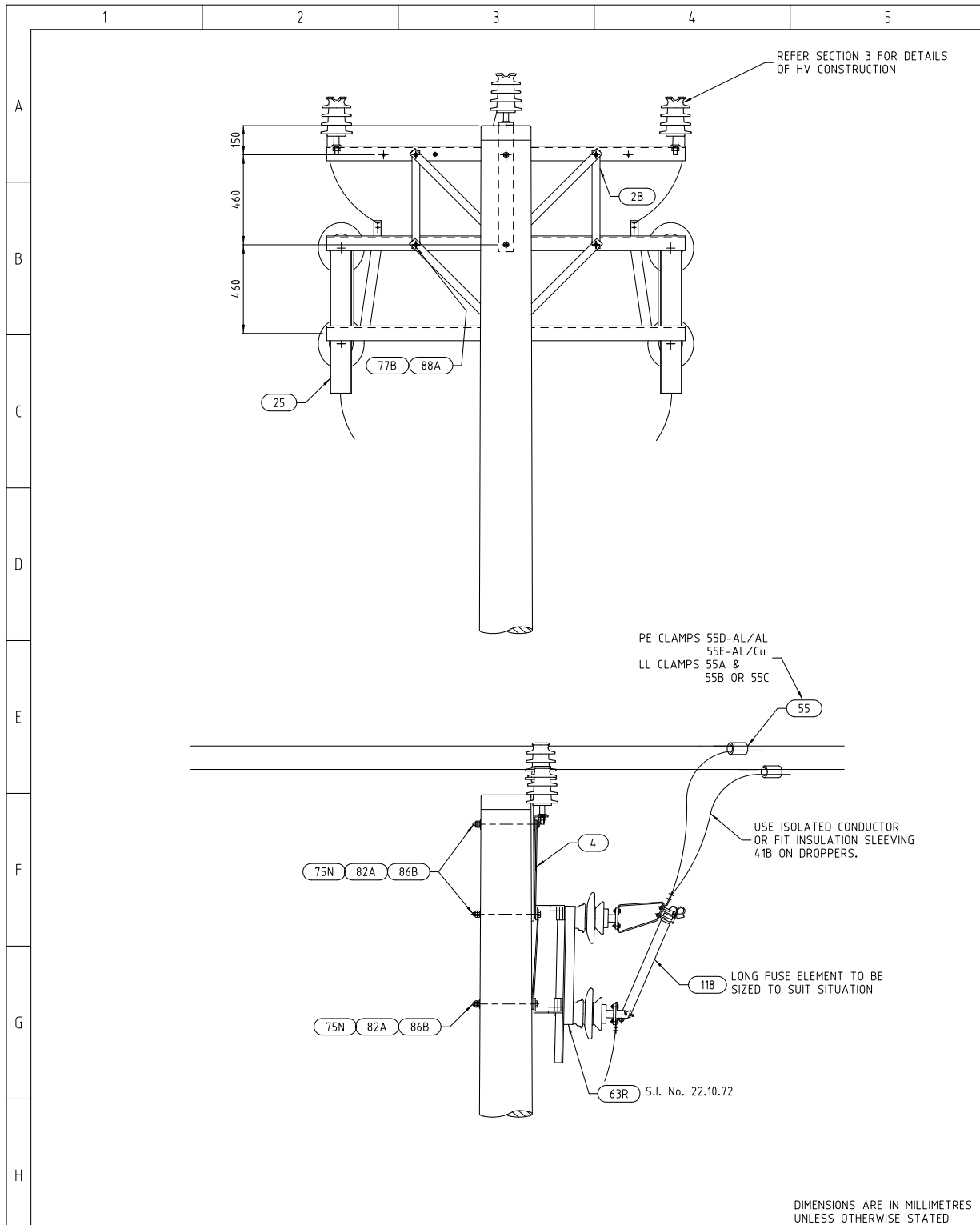
5.3.3 HV EDO Fuses with Tee-Off Construction



HV EDO Fuses with Tee-Off Construction – Materials List

		1	2	3	4	5				
A	B	C	S	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>	
				FDO/11/1/PLM		3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2	
				FDO/22/1/PLM		1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1	
				1 phase		1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2	
				includes EDO crossarm and strain construction		2B	323317	BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL	1	
						60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	4	
						61A	322056	CLEVIS,ROD-END BALL 16MM 70KN MIN-FAIL	4	
						61B	322386	CONNECTOR,ROD-END 16MM 80KN MIN-FAIL MCI	4	
						61D	322090	CLIP,SECURITY 7.9MM S/STEEL 16B-WCLIP	4	
						63M	236323	FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN	2	
						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	8	
						77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	4	
						82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	4	
						85A	50248	COACH SCREW,HEX HEAD 12MM X 75MM GAL	1	
						86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	3	
						88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	4	
						88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	10	
						2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	6	
						41B	157877	SLEEVING,ELECT INSUL POLY 6MM X 30M BLK	4	
D	E	F	S	FDO/11/3/PLM		3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2	
				FDO/22/3/PLM		1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1	
				3 phase		1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2	
				includes EDO crossarm and strain construction		2B	323317	BRACE,CROSSARM 40 X 5 X 500MM FLAT GAL	1	
						60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	6	
						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	
						63M	236323	FUSE,CUTOUT 100A/25KV 1P PRIMARY EXPULSN	3	
						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	9	
						77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	4	
						82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	4	
						85A	50248	COACH SCREW,HEX HEAD 12MM X 75MM GAL	1	
						86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	3	
						88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	4	
						88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	11	
						2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	6	
						41B	157877	SLEEVING,ELECT INSUL POLY 6MM X 30M BLK	6	
				G	H	ALTERNATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299
DRAWN CS PRO-SOLUTIONS DESIGNED BY ELECTRO CHECKED BY H.WESTBURY APPROVED BY A.KETLEY DATE APPROVED 24/MAY/19		TITLE EXPULSION DROPOUT FUSE TEE OFF 11kV OR 22kV MATERIALS LIST								SCALE NTS
						D - OHC - E006 - SD - 002			REVISION A	

5.3.4 Powder Filled Fuses – Double Crossarm Mounting




PE CLAMPS 55D-AL/AL  
55E-AL/Cu  
LL CLAMPS 55A & 55B OR 55C

USE ISOLATED CONDUCTOR OR FIT INSULATION SLEEVING 41B ON DROPPERS.


LONG FUSE ELEMENT TO BE SIZED TO SUIT SITUATION

DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED

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			TITLE POWDER FILLED FUSES - DOUBLE CROSSARM MOUNTING 22KV ONLY	SCALE 1:25
			DRAWN CS PRO-SOLUTIONS DESIGNED BY ELECTRO CHECKED BY H.WESTBURY APPROVED BY A.KETLEY DATE APPROVED 13/MAY/19	A4
			D - OHC - E007 - SD - 001	REVISION A

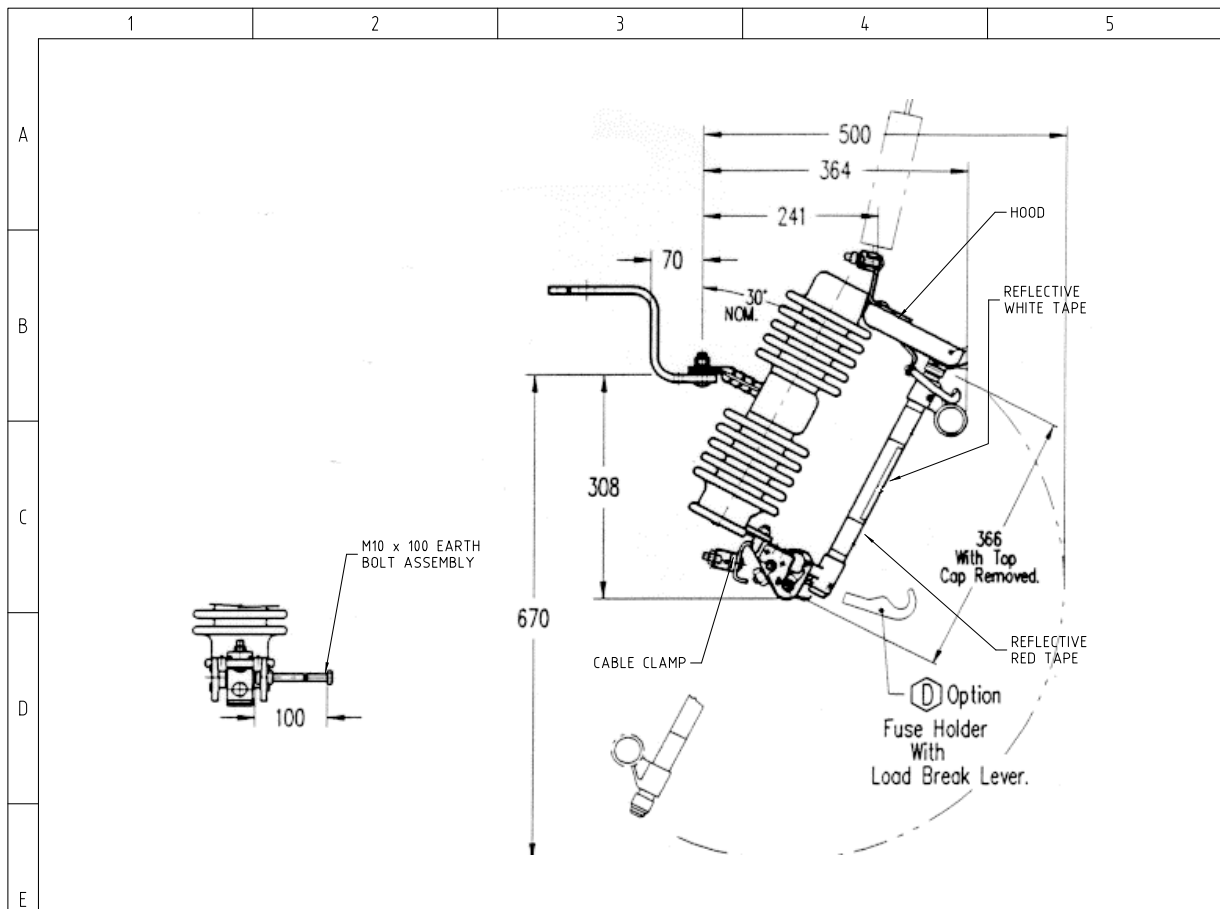
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5.3.5 EDO Fuse Elements

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A B C D E F G H	<table border="1"> <thead> <tr> <th>Type</th> <th>Rating</th> <th>Item No.</th> <th>Stock Item</th> <th>Description</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td rowspan="13">STD EDO Fuse Element AK1 Use with base 63M#236323</td> <td>1A</td> <td>113A</td> <td>225441</td> <td>FUSE LINK,EXPULSION 1A X 24KV TYPE-K</td> <td></td> </tr> <tr> <td>5A</td> <td>113D</td> <td>225444</td> <td>#N/A</td> <td></td> </tr> <tr> <td>16A</td> <td>113G</td> <td>225447</td> <td>FUSE LINK,EXPULSION 16A X 24KV TYPE-K</td> <td></td> </tr> <tr> <td>20A</td> <td>113H</td> <td>225449</td> <td>#N/A</td> <td></td> </tr> <tr> <td>25A</td> <td>113J</td> <td>225430</td> <td>FUSE LINK,EXPULSION 25A X 24KV TYPE-K</td> <td></td> </tr> <tr> <td>31.5A</td> <td>113K</td> <td>225431</td> <td>FUSE LINK,EXPULSION 31.5A X 24KV TYPE-K</td> <td></td> </tr> <tr> <td>40A</td> <td>113L</td> <td>225432</td> <td>FUSE LINK,EXPULSION 40A X 24KV TYPE-K</td> <td></td> </tr> <tr> <td>50A</td> <td>113M</td> 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25A X 22KV K-SPEED SMU-20</td> <td></td> </tr> <tr> <td>30A</td> <td>113W</td> <td>236394</td> <td>FUSE,POWER 30A X 22KV K-SPEED SMU-20</td> <td></td> </tr> <tr> <td>50A</td> <td>113X</td> <td>236397</td> <td>#N/A</td> <td></td> </tr> <tr> <td rowspan="4">S&amp;C EDO Fuse Element Use with base 63M#236323</td> <td>5A</td> <td>113Y</td> <td>236336</td> <td>FUSE LINK,CUTOUT 5A FAULT TAMER FUSE</td> <td></td> </tr> <tr> <td>10A</td> <td>113Z</td> <td>236329</td> <td>FUSE LINK,CUTOUT 10A FAULT TAMER FUSE</td> <td></td> </tr> <tr> <td>15A</td> <td>113AA</td> <td>236331</td> <td>FUSE LINK,CUTOUT 15A FAULT TAMER FUSE</td> <td></td> </tr> <tr> <td>20A</td> <td>113AB</td> <td>236332</td> <td>FUSE LINK,CUTOUT 20A FAULT TAMER FUSE</td> <td></td> </tr> <tr> <td rowspan="3">Powder filled fuse 12kV 360mm long Use with base 63M#221070</td> <td>10A</td> <td>118A</td> <td>225111</td> <td>FUSE LINK,BS AIR 10A X 12KV 12BDGHA</td> <td></td> </tr> <tr> <td>31.5A</td> <td>118D</td> <td>225121</td> <td>FUSE 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FUSE		15A	113AA	236331	FUSE LINK,CUTOUT 15A FAULT TAMER FUSE		20A	113AB	236332	FUSE LINK,CUTOUT 20A FAULT TAMER FUSE		Powder filled fuse 12kV 360mm long Use with base 63M#221070	10A	118A	225111	FUSE LINK,BS AIR 10A X 12KV 12BDGHA		31.5A	118D	225121	FUSE LINK,BS AIR 31.5A X 12KV 12BDGHA		40A	118E	225122	#N/A		Powder filled fuse 24kV 595mm long Use with base 63M#221072	10A	118H	225196	FUSE LINK,CRTDGE 10A X 24KV 50X565MM		16A	118J	225197	FUSE LINK,CRTDGE 16A X 24KV 50X565MM		20A	118K	225198	FUSE LINK,CRTDGE 20A X 24KV 50X565MM		25A	118L	225199	#N/A		31.5A	118M	225201	FUSE LINK,CRTDGE 31.5A X 24KV 50X565MM				
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BM REV

5.3.6 NEK Stranger (A B Chance) EDOs



DROPOUT EXPULSION FUSE 24kV 100 AMP	
S.I. No. COMPLETE FUSE	63M 23.63.23
S.I. No. FUSE TUBE	30C 23.55.01
RATED VOLTAGE	24kV
RATED CURRENT	100 AMP
RATED BREAKING CAPACITY (SYM)	8kA
BASIC INSULATION LEVEL	150kV
CREEPAGE TO EARTH	450mm


TYPE C  
FUSE DETAILS

COMPLETE FUSE ASSEMBLY S.I. No. 23.63.23  
FUSE TUBE S.I. No. 23.55.01

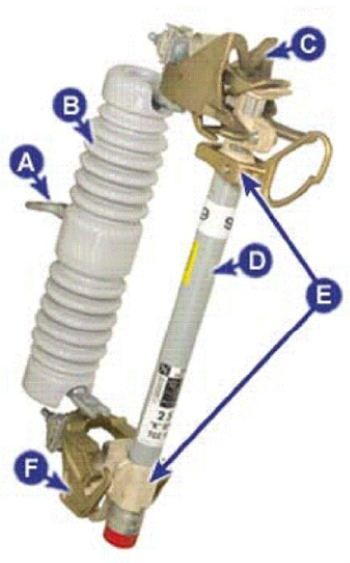
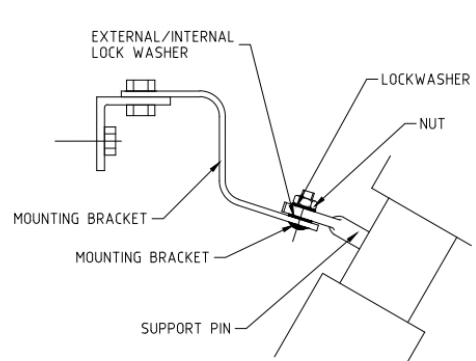
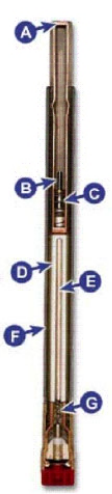

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		TITLE HIGH VOLTAGE DROP-OUT FUSE NGK STANGER (AB CHANCE)					SCALE NTS
		DRAWN CSROSOLUTIONS					A4
		DESIGNED BY ELECTRO					
		CHECKED BY H.WESTBURY					
APPROVED BY A.KETLEY							
DATE APPROVED 13/MAY/19			D - OHC - E009 - SD - 001		REVISION A		

Morlynn EDOs – Notes

	1	2	3	4	5															
A	<p><b>DROPOUT EXPULSION FUSE</b> 24kV-100AMP</p>																			
B	<p><b>GENERAL</b></p> <p>THE OLD DESIGN OF DROPOUT EXPULSION FUSE, SERIES RE MANUFACTURED BY MORLYNN POWER HAS BEEN REPLACED BY THE AB CHANCE (NGK STANGER) TYPE.</p> <p>THE RE TYPE DROPOUT EXPULSION FUSE IS A DELAYED DUAL VENTING TYPE, SINGLE PHASE, SINGLE INSULATOR, CROSSARM MOUNTING, HOOK STICK OPERATED SUITABLE FOR BOTH 12kV AND 24kV APPLICATIONS.</p> <p>THE SPARKLESS FUSES AND CONVENTIONAL 'K' OR 'T' TYPE FUSE LINKS ARE AVAILABLE FOR USE IN THE FUSE CARRIER WHICH INTERRUPT AND DROPS OPEN WHEN THE FUSIBLE ELEMENT OF THE FUSE LINK RUPTURES ON EXCESS CURRENTS. "SPARKLESS" FUSE ELEMENTS ARE NOT SPARK-FREE, BUT PRODUCES FEWER SPARKS THAN THE OLDER ELEMENTS.</p>																			
C	<p><b>APPLICATION</b></p> <p>THEIR APPLICATION IS FOR THE PROTECTION OF DISTRIBUTION TRANSFORMERS AND SPUR LINES THE FUSE SWITCH DROPPING OPEN TO ISOLATE THE FAULTY UNIT OR SYSTEM SECTION UNDER FAULT CONDITIONS, AT THE SAME TIME PROVIDING A CLEAR INDICATION OF THE FUSE OPERATION, THE DUTY OF THE FUSE FITTING SHOULD BE SELECTED SO THAT ITS FAULT RATING IS NOT EXCEEDED BY THE LOCAL HV FAULT LEVEL. THE REMOVABLE CAP SCREWED TO THE TOP OF THE FUSE CARRIER IS FITTED WITH A 65mm LONG STAINLESS STEEL TUBE TO INCREASE THE FAULT RATING OF THE FUSE FROM THE STANDARD 6ka TO 8ka RATING WHICH RELATES TO 300MVA AT 22kV AND 150MVA AT 11kV THE FAULT RATING OF THE FUSE IS RESTRICTED TO 2ka, WHICH RELATES TO 75MVA AT 22kV AND 37.5MVA AT 11kV, WHEN THE DROPOUT FUSE FITTING IS FITTED WITH A SPARK CATCHER, AS THIS IS THE MAXIMUM FAULT RATING OF THE SPARK CATCHER. (OLD INSTALLATIONS ONLY)</p>																			
D	<p><b>FUSE CARRIERS</b></p> <p>THE FUSE CARRIER GREY IN COLOUR CONSISTS OF A FIBREGLASS RE-INFORCED TUBE WITH A VULCANISED FIBRE LINING, WITH CONTACTS AT EACH END. THE TOP CONTACT CONSIST OF AN ELECTRO-TINNED BRASS CASTING PRESSED ON TO THE TUBE. THIS CASTING IS PROVIDED WITH CONTACT EXTENSIONS TO ENGAGE THE CONTACT HORNS, A HOOK STICK PULLING EYE AND SCREWED CAP, FITTED WITH A STAINLESS STEEL TUBE, FOR CLAMPING THE TERMINAL OF THE FUSE LINK. THE TOP END OF THE CASTING IS HOLLOW TO ALLOW THE FUSE LINK TO PASS THROUGH THE ASSEMBLY AND IS THREADED AT THE TOP EXTERNALLY TO ALLOW THE TOP CAP TO BE SCREWED ON.</p> <p>THE SCREWED TOP CAP HAS A SAFETY DISC TO ALLOW THE TUBE TO DOUBLE VENT AT HIGH FAULT LEVELS. WHEN THIS HAPPENS THE DISC MUST BE REPLACED. WASHERS MUST NEVER BE SUBSTITUTED FOR THE STANDARD DISC.</p> <p>THE FUSE CARRIER WILL FIT THE STANDARD AND HEAVY DUTY FUSE FITTINGS AND REPLACES BOTH THE STANDARD DUTY FUSE CARRIER (S.I. No 23.63.75) AND THE HEAVY DUTY FUSE CARRIER (S.I. No 23.63.77)</p> <p>THE EXISTING EXTRA HEAVY DUTY FUSE CARRIER (S.I. No 23.63.79) WILL BE HELD ON STOCK FOR USE IN EXISTING EXTRA HEAVY DUTY FUSE FITTINGS.</p> <p>THE OLD FUSE CARRIERS WITH PVC OUTER SHEATH ARE SUBSTANDARD COMPONENTS AND MUST BE REPLACED.</p>																			
E	<p><b>FUSE LINKS</b></p> <p>THE CURRENT RATING OF FUSE LINKS APPLICABLE TO 22kV AND 11kV DISTRIBUTION TRANSFORMERS IS TABULATED IN THE APPROPRIATE OPERATING MANUAL AND THE OPERATIONAL MANUAL. THE FUSE LINK HAS THE CURRENT RATING AND TYPE STAMPED ON THE END TERMINAL.</p> <p>SPARKLESS FUSES HAVING CLASS 'K' CHARACTERISTICS ARE AVAILABLE IN SIZES UP TO 16 AMP AND ARE NORMALLY USED FOR PROTECTION OF DISTRIBUTION TRANSFORMERS AND THE SMALLER SPUR LINES.</p>																			
F	<p><b>- OBSOLETE</b></p> <p><b>- FOR REFERENCE ONLY</b></p>																			
G																				
H																				
ALTERATIONS	ORIGINAL ISSUE	 <p><b>TasNetworks</b></p>		<p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p>																
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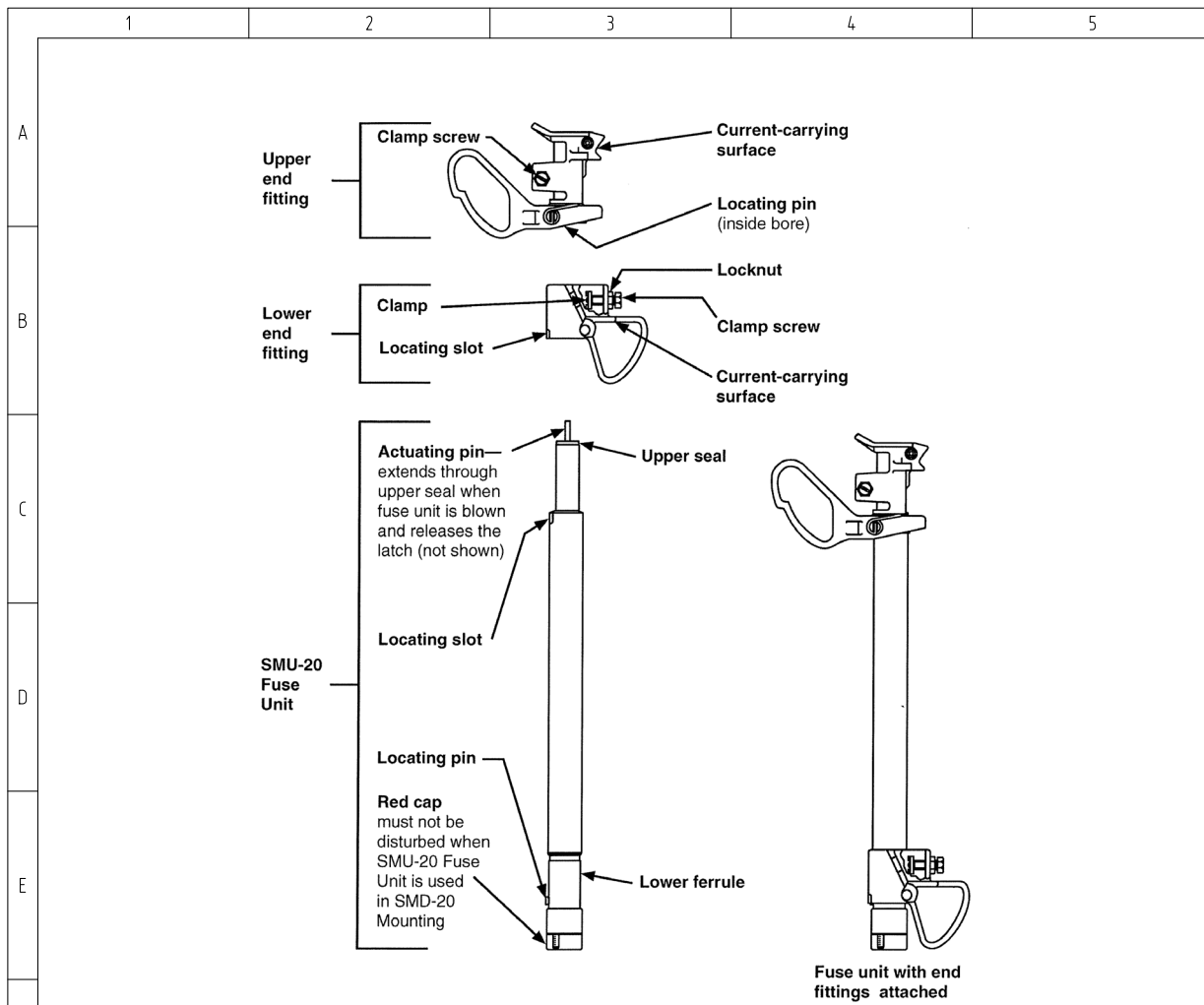
5.3.7 Power Fuse (Boric Acid)

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A			 <p style="text-align: center;">MOUNTING BRACKET DETAIL</p>																										
B																													
C																													
D	<p>MOUNTING DETAILS</p> <p>A. RUGGED MOUNTING BRACKET                  B. PORCELAIN                  C. LATCH-AND-UPPER-CONTACT ASSEMBLY WITH COMPRESSION-LOADED SILVER CLAD CONTACTS                  D. FUSE UNIT                  E. REUSABLE UPPER AND LOWER END FITTINGS                  F. HINGE-AND-LOWER-CONTACT ASSEMBLY WITH COMPRESSION-LOADED SILVER CLAD CONTACTS</p>																												
E	<p>FUSE CARRIER SPECIFICATIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>S.I. No. COMPLETE FUSE</td> <td>236322</td> <td style="text-align: right;"><b>63T</b></td> </tr> <tr> <td>RATED VOLTAGE</td> <td colspan="2">25kV</td> </tr> <tr> <td>RATED CURRENT</td> <td colspan="2">200 AMP</td> </tr> <tr> <td>RATED BREAKING CAPACITY (SYM)</td> <td colspan="2">10kA</td> </tr> <tr> <td>BASIC INSULATION LEVEL</td> <td colspan="2">150kV</td> </tr> <tr> <td>CREEPAGE TO EARTH</td> <td colspan="2">660mm</td> </tr> <tr> <td>CATALOGUE No.</td> <td colspan="2">72298/15A</td> </tr> <tr> <td>S.I. No. Z-MOUNTING BRACKET</td> <td colspan="2">323368</td> </tr> </table>					S.I. No. COMPLETE FUSE	236322	<b>63T</b>	RATED VOLTAGE	25kV		RATED CURRENT	200 AMP		RATED BREAKING CAPACITY (SYM)	10kA		BASIC INSULATION LEVEL	150kV		CREEPAGE TO EARTH	660mm		CATALOGUE No.	72298/15A		S.I. No. Z-MOUNTING BRACKET	323368	
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RATED BREAKING CAPACITY (SYM)	10kA																												
BASIC INSULATION LEVEL	150kV																												
CREEPAGE TO EARTH	660mm																												
CATALOGUE No.	72298/15A																												
S.I. No. Z-MOUNTING BRACKET	323368																												
F	<p>SMU FUSE UNIT DETAILS</p> <p>A. UPPER SEAL                  B. LATCH-ACTUATING PIN                  C. STAINLESS-STEEL DRIVE SPRING PROVIDES STORED ENERGY TO DRIVE ARCING ROD UPWARD THROUGH ARC-EXTINGUISHING MEDIUM DURING FUSE OPERATION                  D. SOLID MATERIAL ARC-EXTINGUISHING MEDIUM                  E. SILVER-CLAD COPPER ARCING ROD                  F. FILAMENT-WOUND GLASS-EPOXY TUBE                  G. FUSIBLE ELEMENT - HELICALLY-COILED SILVER OR PRETENSIONED NICKEL-CHROME PROVIDE PRECISE MELTING CHARACTERISTICS AND NONDAMAGEABLE PERFORMANCE</p> <p>NOTE: 25kV RATED FUSE CARRIER AND FUSE ELEMENTS TO BE USED ON BOTH THE 11kV AND 22kV OVERHEAD SYSTEM</p>																												
G																													
H																													
A																													
B	<p>DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED</p>																												
C	 <p><b>TasNetworks</b></p>		<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>																								
D			<p>TITLE                  POWER FUSE (BORIC ACID)                  FUSE CARRIER SPECIFICATIONS</p>		<p>SCALE                  NTS</p>																								
E			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWN</td> <td>CS PRO-SOLUTIONS</td> </tr> <tr> <td>DESIGNED BY</td> <td>ELECTRO</td> </tr> <tr> <td>CHECKED BY</td> <td>H.WESTBURY</td> </tr> <tr> <td>APPROVED BY</td> <td>A KETLEY</td> </tr> <tr> <td>DATE APPROVED</td> <td>23/APR/19</td> </tr> </table>		DRAWN	CS PRO-SOLUTIONS	DESIGNED BY	ELECTRO	CHECKED BY	H.WESTBURY	APPROVED BY	A KETLEY	DATE APPROVED	23/APR/19	<p>REVISION                  A4</p>														
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DATE APPROVED	23/APR/19																												
F	<p>D - OHC - E012 - SD - 001</p>		<p>REVISION                  A</p>																										

BM REV



Power Fuse (Boric Acid)



FUSE ELEMENT SPECIFICATIONS (25kV RATED)

SMU20 FUSE ELEMENT TYPE	AMP RATING	S.I. No.	ITEM No.
'K' PART No 703006	6A	23.63.91	113T
'K' PART No 703015	15A	23.63.92	113U
'K' PART No 703025	25A	23.63.93	113V
'K' PART No 703030	30A	23.63.94	113W
'K' PART No 703030	50A	23.63.97	113X

NOTE: 25kV RATED FUSE CARRIER AND FUSE ELEMENTS TO BE USED ON BOTH THE 11kV AND 22kV OVERHEAD SYSTEM.

REFERENCE DRAWINGS  
D-OHC-E012-SD-001

DIMENSIONS ARE IN MILLIMETRES  
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DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	A.KETLEY
DATE APPROVED	23/APR/19

TITLE  
POWER FUSE (BORIC ACID)  
FUSE ELEMENT SPECIFICATIONS

SCALE  
NTS

A4

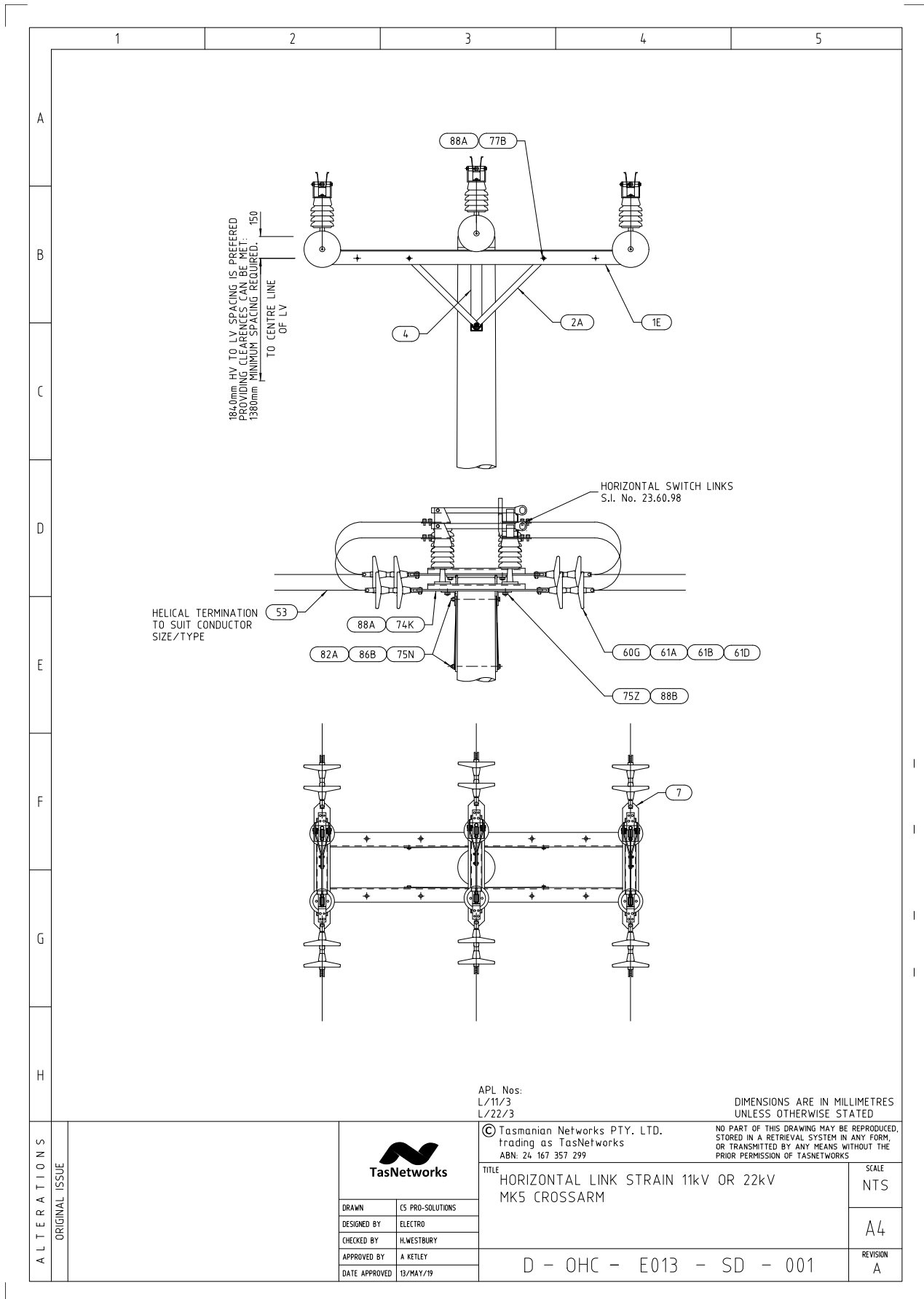
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REVISION  
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BM REV

## 5.4 HV Links

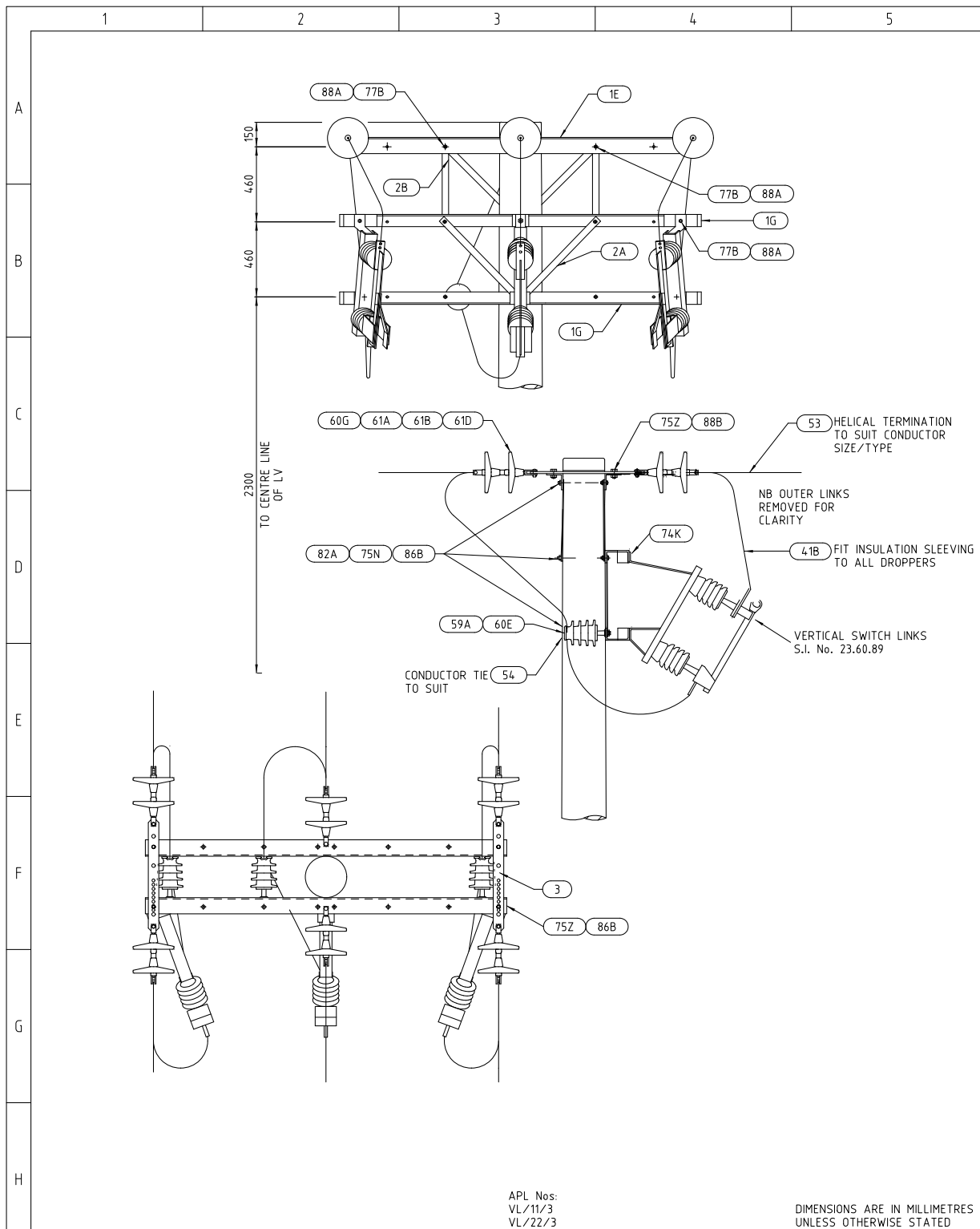
### 5.4.1 HV Links in Strain Construction



HV Links in Strain Construction – Materials List

		1	2	3	4	5	
A							
B							
C							
D							
E							
F							
G							
H							
A B C D E F G H	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>	
	L/11/3/PLM	S	4	323311	BRACKET,RIGHT ANGLE 75 X 12MM GAL	2	
	L/22/3/PLM		7	323318	PLATE,MOUNTING 110 X 10MM HORIZONTAL LNK	3	
			1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2	
			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	6	
			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	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	6	
			82A	40441	NUT,HEX M16 THREAD GALANISED STEEL	4	
			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	2	
			87C	65615	WASHER,FLAT ROUND M12 X 28MM GAL	8	
			88B	66413	WASHER,FLAT ROUND M16 X 30 X 5MM GAL	4	
			#N/A	236098	SWITCHING GROUP,24KV X 1P O/SLUNG NO-AD	3	
			74K	32212	BOLT,HEX HEAD M12 X 50MM GAL. C/W NUT	2	
		2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	4		
A B C D E F G H	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
		DRAWN CS PRO-SOLUTIONS				TITLE HORIZONTAL LINK STRAIN 11kV OR 22kV MK5 CROSSARM MATERIALS LIST	
		DESIGNED BY ELECTRO				SCALE NTS	
		CHECKED BY H.WESTBURY				A4	
APPROVED BY A.KETLEY				REVISION A			
DATE APPROVED 13/MAY/19				D - OHC - E013 - SD - 002			

5.4.2 Vertical Links in HV Strain Pole



APL Nos:  
VL/11/3  
VL/22/3

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DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	A KETLEY
DATE APPROVED	13/MAY/19

TITLE  
VERTICAL (30?) LINKS STRAIN  
11kV OR 22kV MK5 CROSSARM


SCALE  
1:30

A4

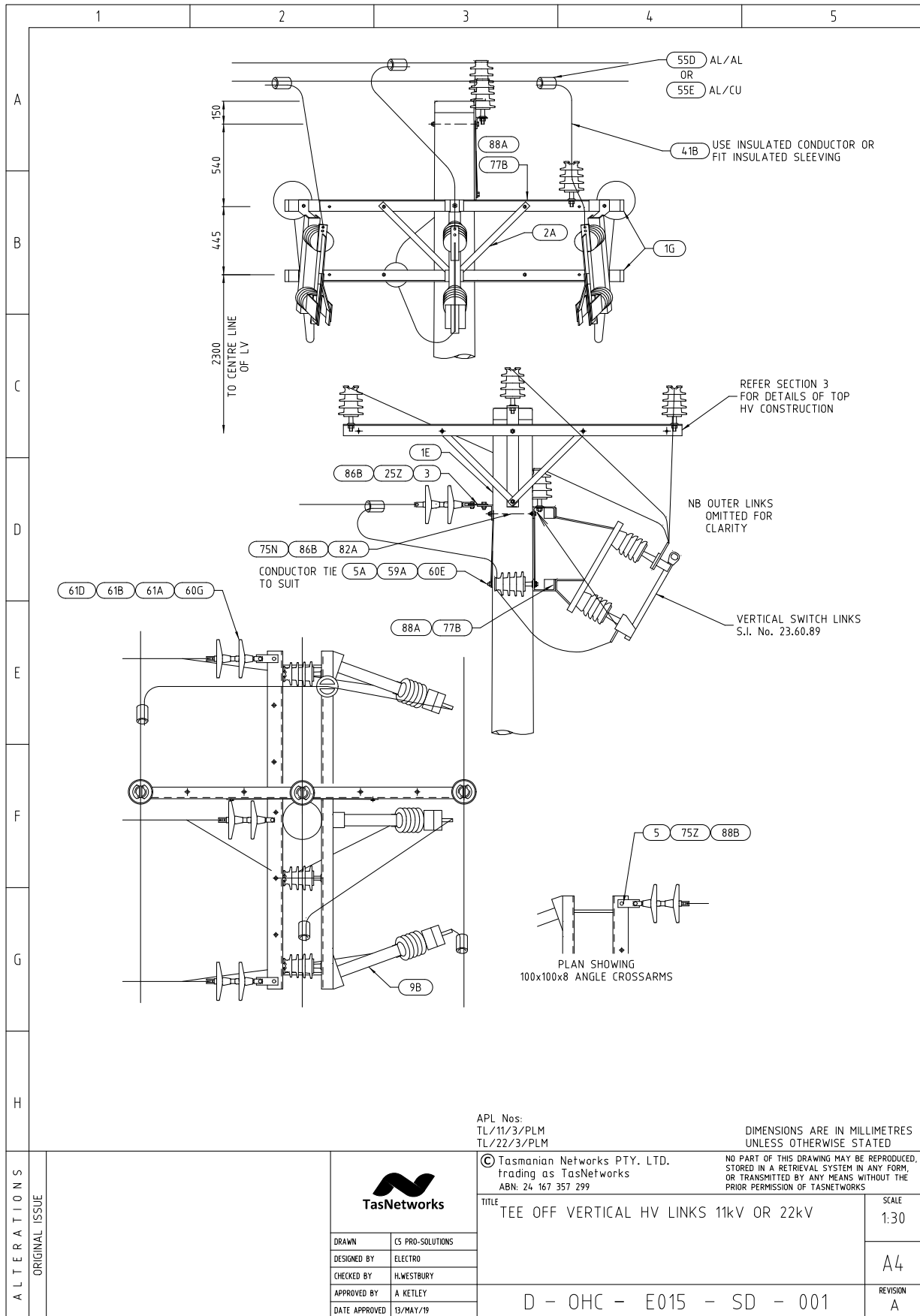
D - OHC - E014 - SD - 001

REVISION  
A


Vertical Links in HV Strain Pole – Materials List

1	2	3	4	5																																																																																																		
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5.4.3 Tee-Off Vertical HV Links

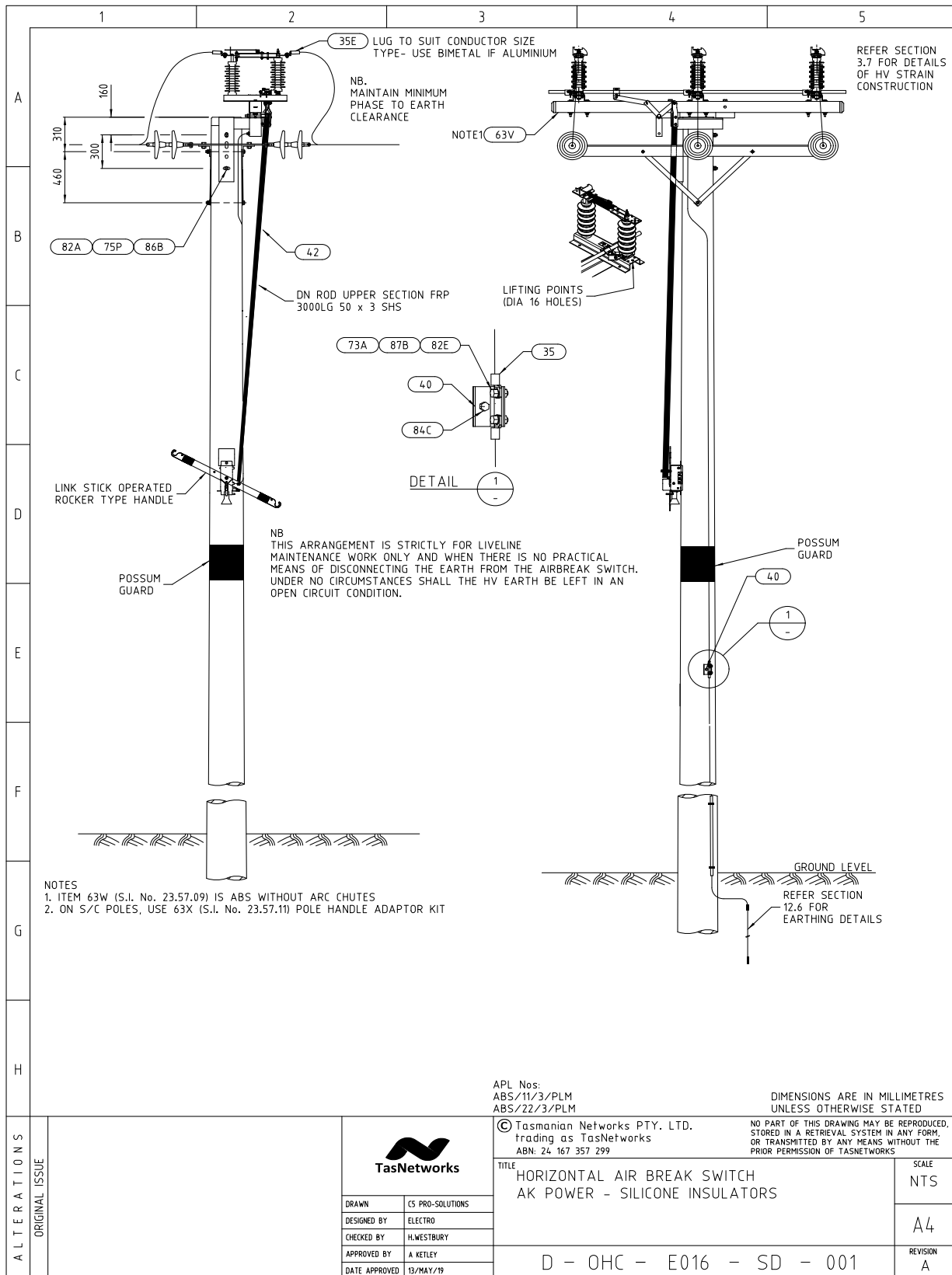


Tee-Off Vertical HV Links – Materials List

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				DATE APPROVED 24/APR/19																																																																																																													


# 5.5 Air Break Switches

## 5.5.1 Horizontal ABS AK Power

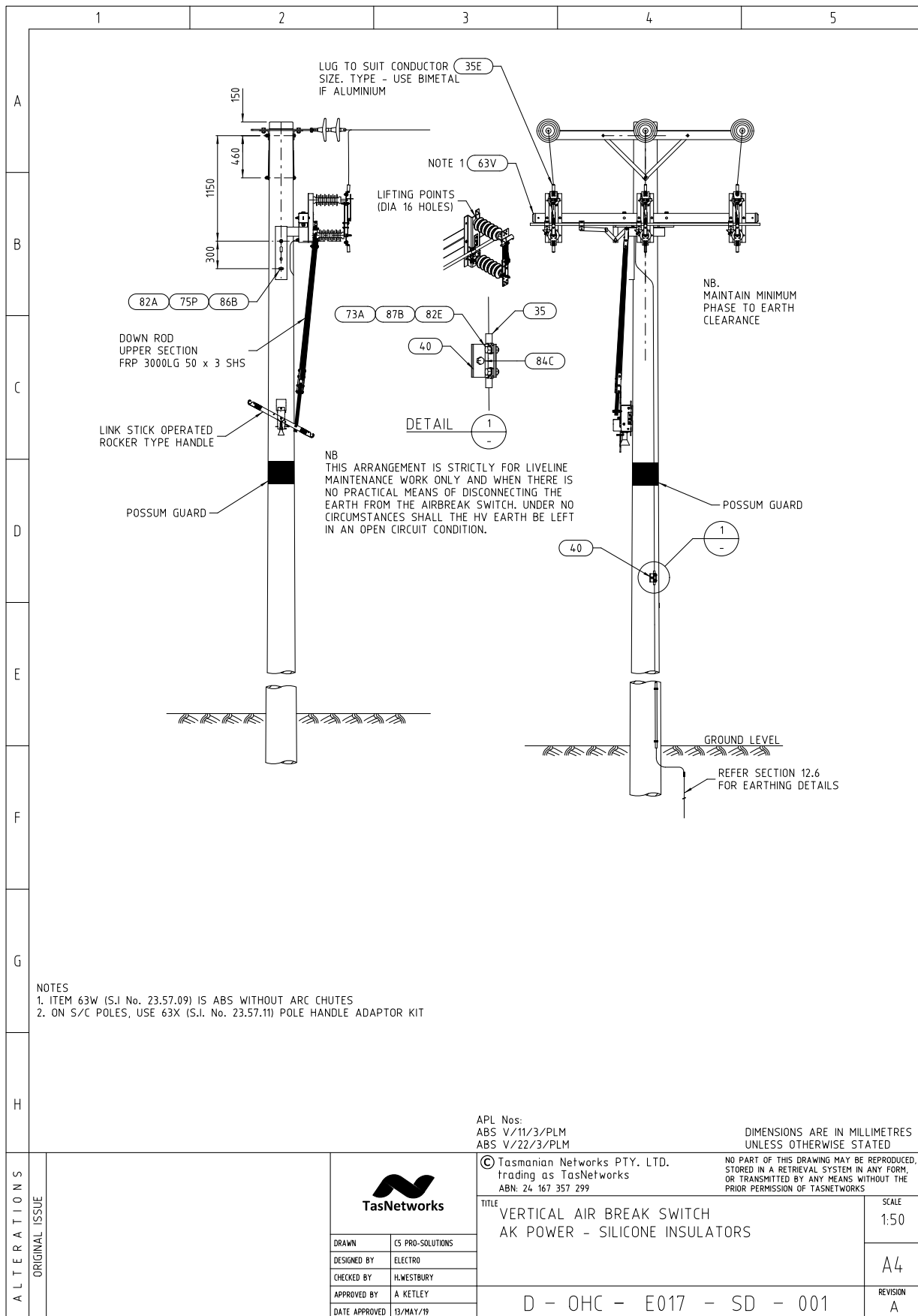





Horizontal ABS AK Power – Materials List

	1	2	3	4	5																												
A																																	
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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			SCALE																										
				HORIZONTAL AIR BREAK SWITCH AK POWER - SILICON INSULATORS MATERIALS LIST			NTS																										
				D - OHC - E016 - SD - 002			A4																										
				DATE APPROVED 24/APR/19			REVISION A																										

5.5.2 Vertical ABS – AK Power



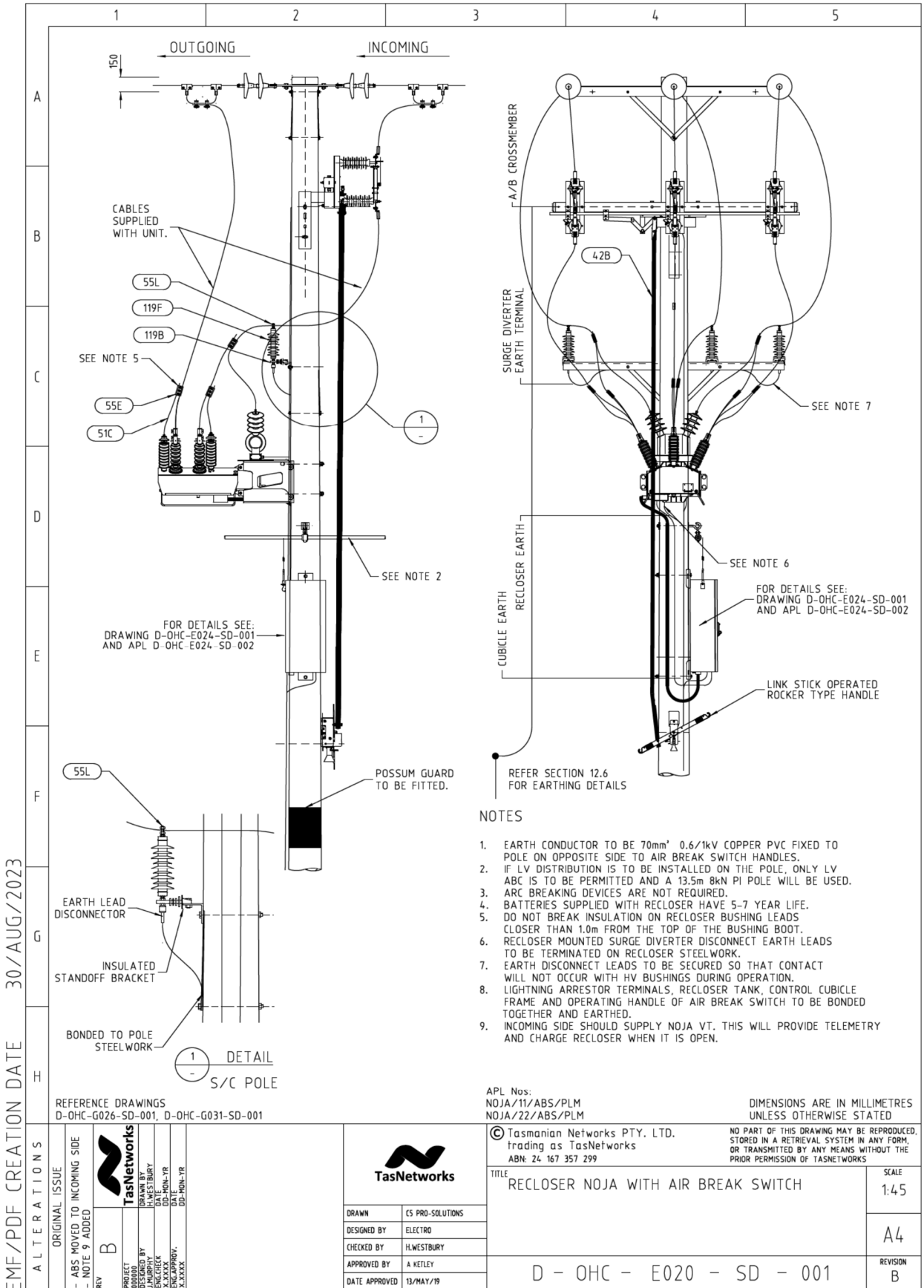
Vertical ABS – AK Power – Materials List

	1	2	3	4	5		
A							
B	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>		
	ABSV/11/3/PLM	S	63V	235708	SWITCHING GROUP,24KV X3P HOR/VERT CW-AD		
	ABSV/22/3/PLM		75P	32289	BOLT,HEX HEAD M16 X 375MM GAL. C/W NUT		
	excludes HV strain construction, lugs and earthing		86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL		
C							
D							
E							
F							
G							
H							
ALTERATIONS	ORIGINAL ISSUE			© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		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	
				TITLE			SCALE
				HORIZONTAL AIR BREAK SWITCH AK POWER - SILICONE INSULATORS MATERIALS LIST			NTS
				D - OHC - E017 - SD - 002			A4
				DATE APPROVED 24/APR/19			REVISION A

## 5.6 Reclosers

### 5.6.1 NOJA Recloser with Air Break Switch

CAUTION : Printed document is uncontrolled.



**NOTES**

1. EARTH CONDUCTOR TO BE 70mm<sup>2</sup> 0.6/1kV COPPER PVC FIXED TO POLE ON OPPOSITE SIDE TO AIR BREAK SWITCH HANDLES.
2. IF LV DISTRIBUTION IS TO BE INSTALLED ON THE POLE, ONLY LV ABC IS TO BE PERMITTED AND A 13.5m 8kN PI POLE WILL BE USED. ARC BREAKING DEVICES ARE NOT REQUIRED.
3. BATTERIES SUPPLIED WITH RECLOSER HAVE 5-7 YEAR LIFE.
4. DO NOT BREAK INSULATION ON RECLOSER BUSHING LEADS CLOSER THAN 1.0m FROM THE TOP OF THE BUSHING BOOT.
5. RECLOSER MOUNTED SURGE DIVERTER DISCONNECT EARTH LEADS TO BE TERMINATED ON RECLOSER STEELWORK.
6. EARTH DISCONNECT LEADS TO BE SECURED SO THAT CONTACT WILL NOT OCCUR WITH HV BUSHINGS DURING OPERATION.
7. LIGHTNING ARRESTOR TERMINALS, RECLOSER TANK, CONTROL CUBICLE FRAME AND OPERATING HANDLE OF AIR BREAK SWITCH TO BE BONDED TOGETHER AND EARTHED.
8. INCOMING SIDE SHOULD SUPPLY NOJA VT. THIS WILL PROVIDE TELEMETRY AND CHARGE RECLOSER WHEN IT IS OPEN.

APL Nos:  
NOJA/11/ABS/PLM  
NOJA/22/ABS/PLM

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TITLE  
RECLOSER NOJA WITH AIR BREAK SWITCH

SCALE  
1:45



DRAWN	ES PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	A KETLEY
DATE APPROVED	13/MAY/19

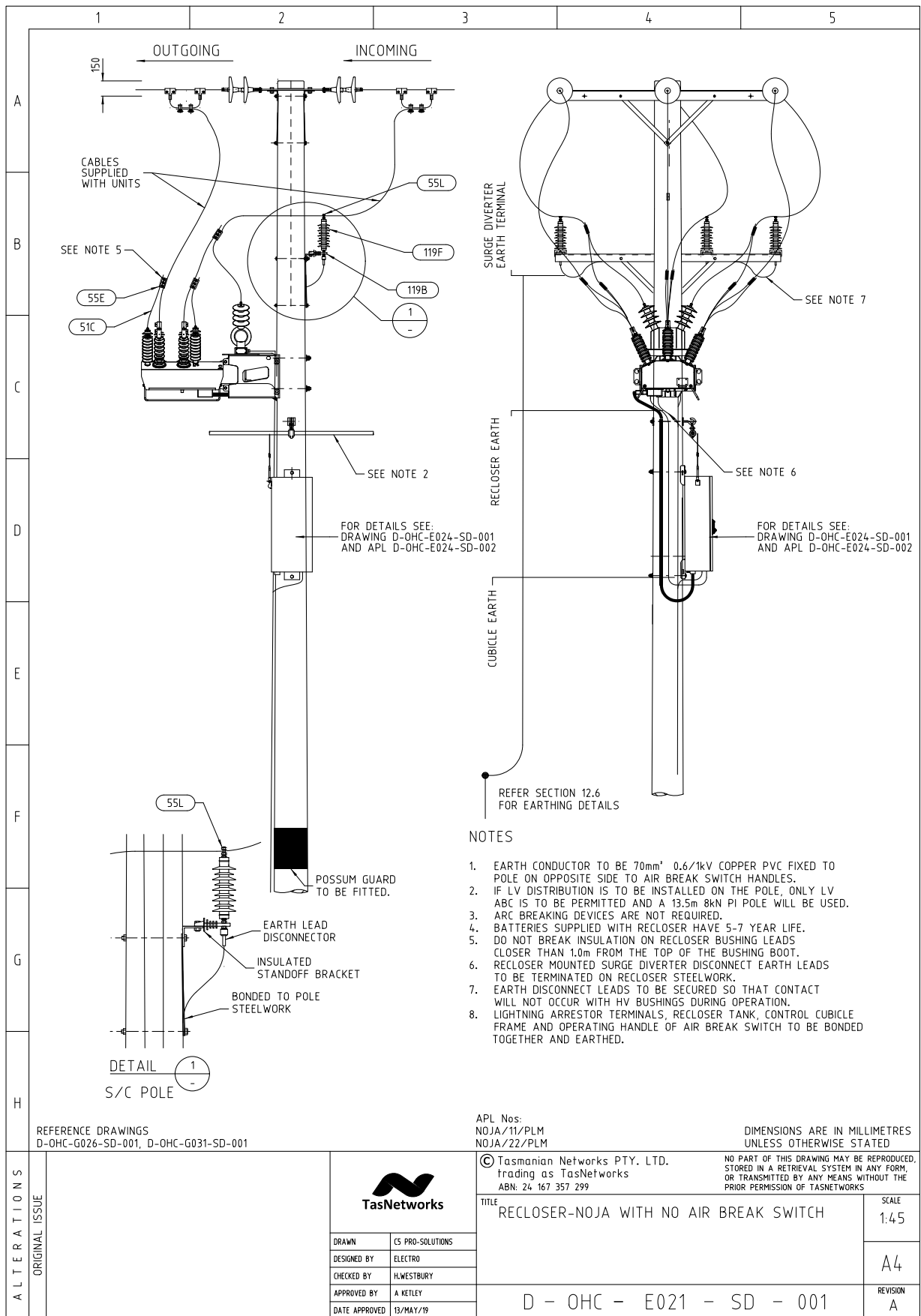
D - OHC - E020 - SD - 001

REVISION  
B


DWG STATUS CONSTRUCTION




5.6.2 NOJA Recloser with No ABS



NOJA Recloser with No ABS – Materials List



1	2	3	4	5					
A	NOJA11/PLM	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2			
			119F	225772	SURGE DIVERTER,OD 10KAX 11KV	6			
			1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1			
			1E	323305	CROSSARM,STEEL 100 X 100 X 2210MM GAL	2			
			35E	141363	LUG,CRIMP TERMINAL M12 X 70MM2 COPPER	13			
			35P	141299	LUG,BOLTED TERMINAL M12 X 16MM2 CU	3			
			36C	141304	LUG,BOLTED TERMINAL M12 X 50-70MM2 CU	4			
			55E	144955	CLAMP,PG OH CONNECT 7.5-17.5/7.5-17.5 BM	6			
			55H	146856	CONNECTOR,CLAMP C SPLIT BOLT 70MM2 MAX	8			
			55L	225798	CLAMP,T-TYPE 75 X 120MM 7-19MM COND ALUM	3			
			60G	321260	INSULATOR,SUSPENSION 146MM DISC D70S	6			
			60H	320735	INSULATOR,STANDOFF 24KV 305MM POLYMERIC	1			
			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	12			
			75M	32287	BOLT,HEX HEAD M16 X 325MM GAL. C/W NUT	7			
			75P	32289	BOLT,HEX HEAD M16 X 375MM GAL. C/W NUT	4			
			75R	32291	BOLT,HEX HEAD M16 X 425MM GAL. C/W NUT	2			
			75Z	32261	BOLT,HEX HEAD M16 X 45MM GAL. C/W NUT	4			
			76C	32340	BOLT,HEX HEAD M20 X 400MM GAL. C/W NUT	4			
			77B	33771	BOLT,HEX HEAD M12 X 35MM GAL. C/W NUT	18			
			82B	40442	NUT,HEX M20 THREAD GALANISED STEEL	4			
			86B	65158	WASHER,FLAT ROUND M16 X 50MM GAL	13			
			86C	65159	WASHER,FLAT ROUND M20 X 60MM GAL	4			
			87B	65614	WASHER,FLAT ROUND M10 X 21MM GAL	6			
			88A	66412	WASHER,FLAT ROUND M12 X 24MM GAL	6			
				32183	BOLT,HEX HEAD M10 X 55MM GAL. C/W NUT	6			
				146859	CONNECTOR,CLAMP LP SPLIT BOLT 70-120MM2	1			
				152490	LUG,CRIMP 50MM2 X M12 HOLE BI-METAL	2			
				990809	RECLOSER,AUTO 27KV SWITCHING GRP 11KV VT	1			
				2A	323314	BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	6		
			B	NOJA22/PLM	S	3	323310	PLATE,STRAIN DOUBLE PIN 65 X 12MM STEEL	2
						119G	225773	SURGE DIVERTER,OD 10KAX 22KV	6
						1D	323304	CROSSARM,STEEL 75 X 75 X 2210MM MK4 GAL	1
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	32183	BOLT,HEX HEAD M10 X 55MM GAL. C/W NUT				6			
	146859	CONNECTOR,CLAMP LP SPLIT BOLT 70-120MM2				1			
	152490	LUG,CRIMP 50MM2 X M12 HOLE BI-METAL				2			
	990808	RECLOSER,AUTO 22KV SWITCHING GRP 22KV VT				1			
	2A	323314				BRACE,CROSSARM 40 X 700 X 5MM THICK GAL	6		
C	DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED								
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D	ALTERNATIONS	ORIGINAL ISSUE				 <b>TasNetworks</b>		© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	
						DRAWN CS PRO-SOLUTIONS DESIGNED BY ELECTRO CHECKED BY H.WESTBURY APPROVED BY A.KETLEY DATE APPROVED 08/MAY/19	TITLE RECLOSER - NOJA WITH NO AIR BREAK SWITCH MATERIALS LIST		SCALE NTS
E	D - OHC - E021 - SD - 002					REVISION A			

5.6.3 NOJA Recloser – Retrofit Materials

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		DATE APPROVED: 08/MAY/19																																																																															




5.6.4 Modem for Recloser

	1	2	3	4	5	
A	 <p style="text-align: center;">RADIO LINK</p>					
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 RECLOSER-NOJA RADIO LINK		SCALE NTS
				D - OHC - E024 - SD - 001		REVISION A
		DRAWN CS PRO-SOLUTIONS	DESIGNED BY ELECTRO			
		CHECKED BY H.WESTBURY			A4	
		APPROVED BY				
		DATE APPROVED 08/MAY/19				

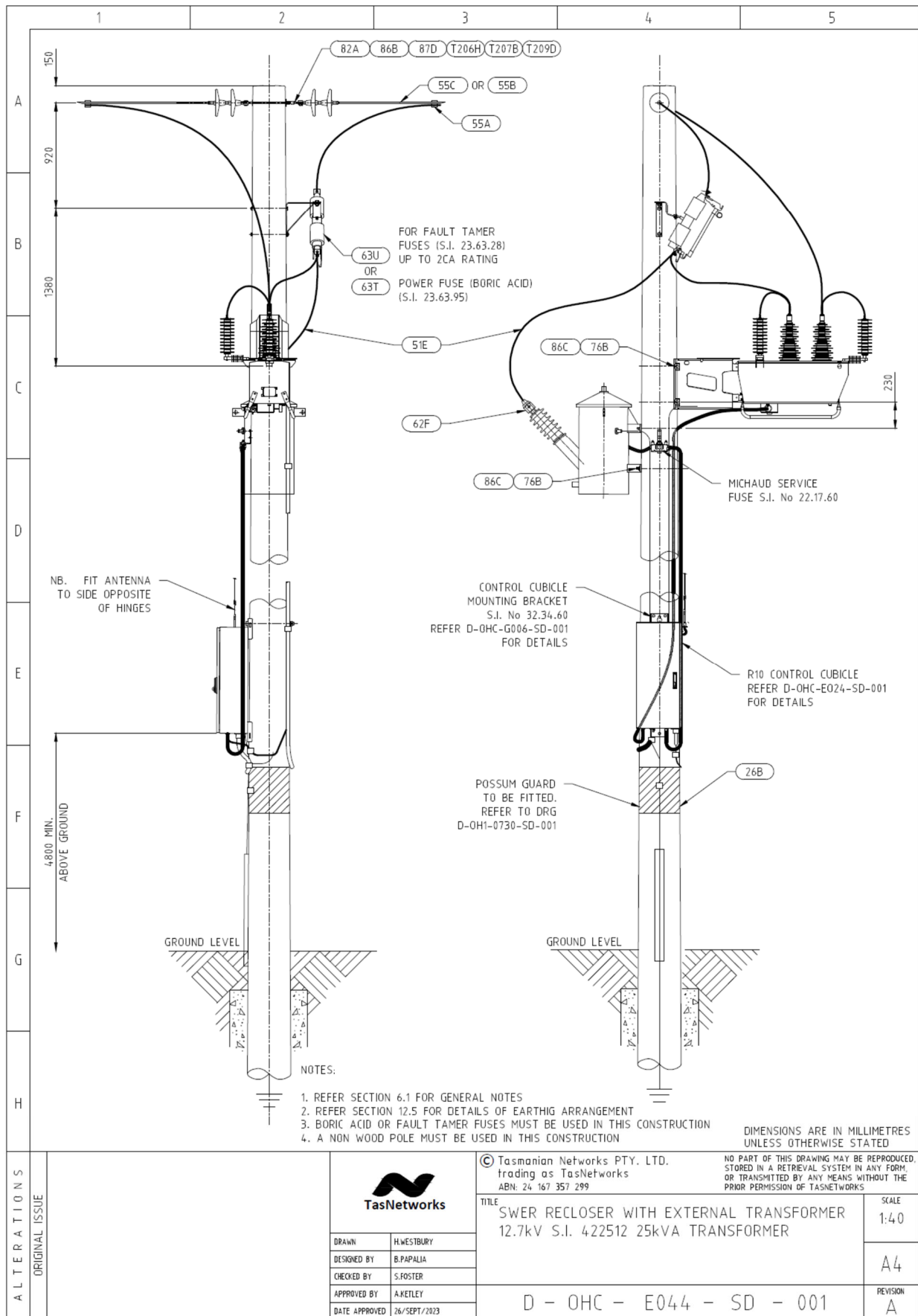
Modem for Recloser – Materials List

		1	2	3	4	5	
A	B	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Stock Item Description</b>	<b>Quantity</b>
		MODEM/NOJA/OPTUS	S		152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10
					133155	PLUG, TNC Crimp Connector t/s RG58U Cable	2
					133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133158	CONNECTOR, SMA Male Plug RG58 Crimp	2
					133159	PROTECTION UNIT, Coaxial Cable TCM Fm/FM	1
					133184	MODEM, GE Orbit, ECR Optus	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
					231320	SWITCH, Isolation 20A x 250V x 2P LV OD	1
					152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10
					133155	PLUG, TNC Crimp Connector t/s RG58U Cable	2
					133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133158	CONNECTOR, SMA Male Plug RG58 Crimp	2
					133159	PROTECTION UNIT, Coaxial Cable TCM Fm/FM	1
					133186	MODEM, GE Orbit, ECR Telstra	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
					231320	SWITCH, Isolation 20A x 250V x 2P LV OD	1
		E	F	<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>
MODEM/NULEC/OPTUS	S				133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
					133181	CABLE, power, Cybertec 1000 fused	1
					133184	MODEM, GE Orbit, ECR Optus	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10
					133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
					133181	CABLE, power, Cybertec 1000 fused	1
G	A				133186	MODEM, GE Orbit, ECR Telstra	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10
					133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
H					133181	CABLE, power, Cybertec 1000 fused	1
					133186	MODEM, GE Orbit, ECR Telstra	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10
					133157	BRACKET, Angle 1.5mm L-Shaped MB403SS	1
					133174	CABLE, Ethernet CAT5E 1m Blue Patch Lead	1
					133181	CABLE, power, Cybertec 1000 fused	1
					133186	MODEM, GE Orbit, ECR Telstra	1
					133187	ANTENNA, 4G, LTE, Collinear, 5dBi	1
					152630	CONDUIT, Flex Crgtd PVC 20mm x 50m MD Gry	10


  

ALTERATIONS	ORIGINAL ISSUE	 <b>TasNetworks</b>	© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299	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
			TITLE	SCALE	
			RECLOSER-NOJA RADIO LINK MATERIALS LIST	NTS	
			D - OHC - E024 - SD - 002	A4	
				REVISION	
	A				

5.6.5 NOJA SWER Recloser with Transformer




NOJA SWER Recloser with Transformer – Materials List


		1	2	3	4	5	
A	Noja/12.7/Recloser	S	6A	323315	Insulator Bracket Mk15	1	
			51E	103217	Cable, 1Core x 16mm2 x 7/1.70 X 0.6 V75	3	
			60G	321260	Insulator Disc Porcelain 16mm 70Kn 146mm	4	
			61A	322056	Ball Clevis & Pin 16mm	2	
			61B	322386	Socket Termination 16mm	2	
			B	75N	32287	Bolt Hex M16 x 350 - Thread Length 57mm	2
				82A	40441	Nut Hex M16	5
				86B	65158	Washer ELS M16	3
				87D	65616	Washer NS M16	3
			C	T206H	325636	M16 EYE BOLT 400 - Thread Length 75mm	1
				T207B	325740	M16 EYE NUT	1
				T209D	66807	M16 ELS-V Square Washer 50 x 50 x 4.0mm, Diagonal 70.7mm.	2
				63T	236395	KIT,Fuse Mounting 200A x 25kV 150kV BIL	1
				35P	141299	Lug Bolted 16mm2 12 hole	4
			D	36C	141304	Q LUG bolted 50 70mm2 tinned copper	4
				41B	157877	Sleeving 6 ID 2 Wall	2
				76B	32338	Bolt Hex M20 x 350	4
				82B	40442	Nut M20	8
				86C	65159	Washer Els 20	8
					990910	Recloser, Noja SWER, Auto, Single Phase	1
E		221760	FUSEHOLDER,B&C 100A/480V 57 x 22 Ferrule	1			
	29K	323401	BRACKET,House Service Fuse 32 x 8mm M-Ph	1			
	62P	144020	Cover Insulator Protect 22kV x 13mm Poly	1			
F							
G							
H							
ALTERATIONS ORIGINAL ISSUE					© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299		
			DRAWN: H.WESTBURY DESIGNED BY: B.PAPALIA CHECKED BY: S.FOSTER APPROVED BY: A.KETLEY DATE APPROVED: 26/SEPT/2023		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		
			TITLE: SWER RECLOSER WITH EXTERNAL TRANSFORMER 12.7kV S.I. 422512 25kVA TRANSFORMER MATERIALS LIST		SCALE NTS		
			D OHC - E044 SD 002		REVISION B		

## 5.7 Sectionalisers

### 5.7.1 Automatic Sectionalisher Notes

		1	2	3	4	5	
A  B  C  D  E  F  G  H		DESCRIPTION OF AUTOMATIC SECTIONALISER					
		<p>THE AUTOMATIC SECTIONALISER IS SIMILAR TO AN EDO FUSE IN APPEARANCE. IN AN EDO, THE MELTING OF THE FUSE RELEASES A FUSE CARRIER FROM ITS MOUNT, WHEREAS A CHEMICAL ACTUATOR RELEASES THE SECTIONALISER LINK. THE ACTUATOR (REPLACEABLE) WHICH IS ACTIVATED BY A SMALL CURRENT FROM A LOGIC CIRCUIT, CONVERTS CHEMICAL ENERGY INTO MECHANICAL MOVEMENT WHICH DELATCHES THE SECTIONALISER. THE ELECTRONIC LOGIC IS CONTAINED ON A PRINTED CIRCUIT BOARD WITHIN THE LINK TUBE AND IS POWERED BY A CURRENT TRANSFORMER AROUND THE TUBE.</p>					
		OPERATION OF AUTOMATIC SECTIONALISER					
		<p>THE LOGIC CIRCUIT IS ACTIVATED WHEN THE LINE CURRENT EXCEEDS THE "ACTUATING CURRENT" OF THE UNIT WHICH IS FACTORY SET AND CANNOT BE CHANGED. IF THE UPSTREAM PMR (POLE MOUNTED RECLOSER) THEN OPENS, THIS INCIDENT IS STORED BY THE LOGIC CIRCUIT AS ONE COUNT. WHEN THE PMR RECLOSSES AND STAYS CLOSED (IF THE FAULT IS NO LONGER APPARENT) THE SECTIONALISER WILL RETURN TO ITS NORMAL STATE AFTER THE RESET TIME WHICH IS TYPICALLY 30 SECS. HOWEVER, IF THE FAULT PERSISTS THE LINE CURRENT WILL CONTINUE TO EXCEED ITS "ACTUATING CURRENT" AND THE LOGIC WILL PROCEED TO COUNT SUBSEQUENT PMR OPENINGS.</p> <p>THE NUMBER OF TIMES THE SECTIONALISER WILL REGISTER A FAULT WITHOUT DELATCHING IS DETERMINED BY THE NUMBER OF FAULT COUNTS AS EXPLAINED ABOVE. THE NUMBER OF FAULT COUNTS IS ALSO FACTORY SET AND CANNOT BE CHANGED.</p> <p>WHEN THE SET NUMBER OF COUNTS HAS BEEN REACHED, THE LOGIC CIRCUIT SENDS A SIGNAL TO THE CHEMICAL ACTUATOR WHICH ACTIVATES THE DELATCHING MECHANISM. IT TAKES A MINIMUM OF 150ms FROM THE LAST COUNT ON THE SECTIONALISER, FOR THE DELATCHING MECHANISM TO OPERATE.</p> <p>THE THREE PHASE SECTIONALISER PROVIDES THREE PHASE CIRCUIT ISOLATION IN THE EVENT OF ONE OR TWO OF THE SECTIONALISER LINKS DELATCHING UNDER A FAULT CONDITION. THE DELATCHED SECTIONALISER AUTOMATICALLY OPERATES AN INTERPHASE TRIP MECHANISM WHICH CAUSES THE REMAINING SECTIONALISER LINKS TO DELATCH. IT TAKES 680ms FOR THE INTERPHASE TRIP MECHANISM TO OPERATE AND DELATCH ALL LINKS, FROM THE TIME OF THE LAST OPENING OF THE UPSTREAM PMR.</p>					
		SELECTION AND APPLICATION OF AUTOMATIC SECTIONALISERS					
		SELECTION					
		<p>TASNETWORKS WILL STOCK SECTIONALISERS RATED AT 24kV (150kV BIL) WHICH CAN BE UTILISED AT BOTH 11kV AND 22kV LEVELS. THEY ARE RATED TO CARRY CONTINUOUS CURRENT OF UP TO 250A.</p> <p>AS SECTIONALISERS WILL BE USED MAINLY ON SPUR LINES, THE CONTINUOUS CURRENT CAPACITY IS NOT A CONSTRAINING CRITERION. HOWEVER, CAREFUL PLANNING IS IMPORTANT IN SELECTING THE ACTUATING CURRENT, AS IT IS FACTORY FIXED.</p> <p>THE FOLLOWING CRITERIA NEED TO BE CONSIDERED WHEN SELECTING THE ACTUATING CURRENT:</p>					
		<ol style="list-style-type: none"> <li>1) THE ACTUATING CURRENT SHOULD BE GREATER THAN THE EXPECTED MAXIMUM CONTINUOUS CURRENT AT THE LOCATION WHERE SECTIONALISER IS TO BE INSTALLED. CONSIDERING, OVERLOADING, LOAD GROWTH AND A REASONABLE MARGIN, 1.6 TIMES THE CONTINUOUS CURRENT IS AN ACCEPTABLE ESTIMATION.</li> <li>2) THE ACTUATING CURRENT SHOULD BE LESS THAN THE MINIMUM AVAILABLE FAULT CURRENT AT THE END OF THE ZONE OF PROTECTION FOR THE ASSOCIATED PMR ON THE PARTICULAR SPUR PROTECTED BY THE SECTIONALISER. (THE MINIMUM FAULT CURRENT CALCULATED ASSUMING A RESISTANCE TO GROUND OF 10 OHMS.)</li> <li>3) THE SECTIONALISER SHOULD BE SET TO OPERATE IN AT LEAST ONE LESS COUNT THAN THE ASSOCIATED PMR.</li> <li>4) IN THE CASE OF THREE PHASE SECTIONALISERS, THE ASSOCIATED PMR SHOULD HAVE A RECLOSING INTERVAL (DEAD TIME) OF AT LEAST 1.2 SECS IN THAT PARTICULAR CYCLE OF THE PMR, DURING WHICH TIME THE SECTIONALISER IS SET TO DELATCH. THE RECLOSING INTERVAL SHOULD ALSO BE SHORTER THAN 25 SECS TO ENSURE THAT THE SECTIONALISER DOES NOT RESET AND THEREFORE RETAINS PRIOR COUNTS, UNDER FAULT CONDITIONS.</li> </ol> <p>CONTINUED ON DRAWING D-OHC-E029-SD-002</p>					
		DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED					
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				TITLE AUTOMATIC SECTIONALISER NOTES (ABB - AUTOLINK)			SCALE NTS
		DRAWN	C5 PRO-SOLUTIONS			REVISION A	
		DESIGNED BY	ELECTRO			A4	
CHECKED BY	H.WESTBURY						
APPROVED BY	-						
DATE APPROVED	08/MAY/19			D - OHC - E028 - SD - 001			

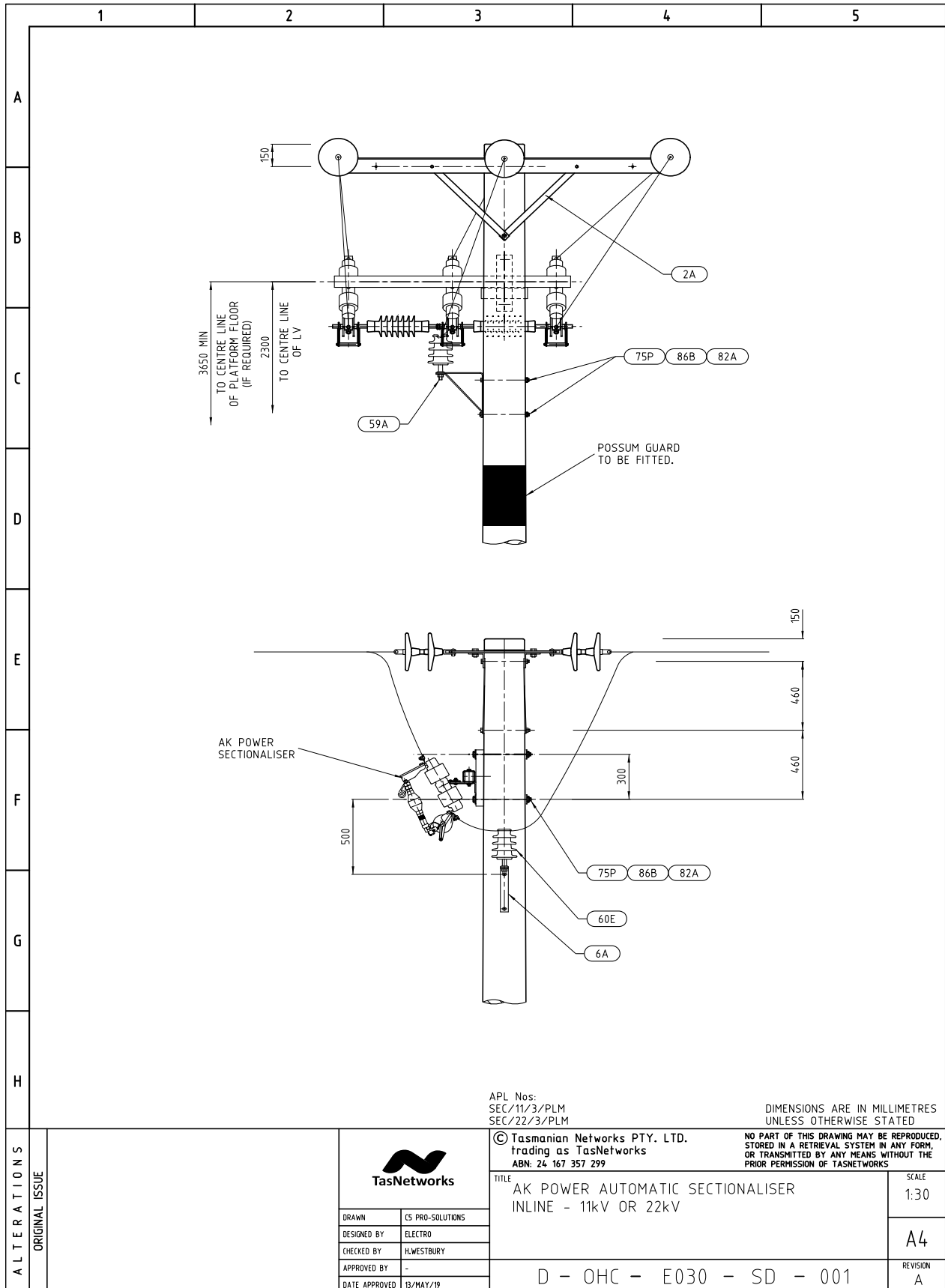
### Automatic Sectionalisher Notes

		1	2	3	4	5											
ALTERATIONS	ORIGINAL ISSUE	CONTINUED FROM DRAWING D-OHC-E028-SD-001 <b>APPLICATION</b> <b>A</b> THE SELECTED SECTIONALISER WILL BE ACTUATED WHEN A CURRENT GREATER THAN THE ACTUATING CURRENT PASSES THROUGH. THE UPSTREAM PMR TIMING MECHANISM WILL ALSO BE ACTIVATED TO OPEN AND RECLOSE AS PROGRAMMED. IN CASE OF A 2-FAST/ 2-SLOW RECLOSE SETTING AND 3-COUNT SETTING ON THE SECTIONALISER, IF THE OVERCURRENT PERSISTS, THE SECTIONALISER WILL DELATCH AFTER THE THIRD OPENING TO ISOLATE THE SECTIONALISED SPUR AND MAINTAIN SUPPLY TO THE MAIN FEEDER VIA THE PMR. <b>B</b> THE OPEN SECTIONALISER LINKS (SWUNG OPEN) WILL PROVIDE OPERATORS GOOD VISUAL INDICATION AS TO THE FAULTY SPUR. THE SECTIONALISER IS READY TO BE PUT BACK ON LINE AFTER REPLACING SPENT ACTUATOR/S AND CLEARING THE FAULT. OTHER THAN REPLACING THE APPROPRIATE ACTUATOR, NO FURTHER ADJUSTMENT IS REQUIRED. ACTUATORS (STANDARD ITEM FOR ALL UNITS) ARE HELD AS A STOCK ITEM. (23.63.35) THE AUTOMATIC SECTIONALISER IS DESIGNED TO OPEN AND CLOSE UNDER NO LOAD CONDITIONS. OPENING UNDER NO LOAD IS ENSURED WITH PROPER COORDINATION WITH THE UPSTREAM PMR. TO ENSURE CLOSING ON NO LOAD, WHEN SELECTING SECTIONALISER LOCATIONS, DESIGNERS WILL HAVE TO PROVIDE SUITABLE THREE PHASE SWITCHING ARRANGEMENTS FOR SPURS. HOWEVER, CONSIDERING LOCAL CONDITIONS, INSERTING THE THREE LINKS UNDER LOAD MAY BE PERMITTED. WHEN THE TOTAL CONNECTED LOAD ON THE SPUR DOES NOT EXCEED 1000 kVA AT 22kV OR 600kVA AT 11kV. IN SUCH CASE THE OPERATOR SHOULD INSERT THE THREE LINKS IN SUCCESSION AS QUICKLY AS POSSIBLE IN A SAFE MANNER TO MINIMISE THE POSSIBLE EFFECTS OF SINGLE PHASING. (SEE SECTION ON HV FUSES, IN OPERATING MANUAL FOR POLE MOUNTED SWITCHGEAR) <b>C</b> <b>INSTALLATION OF AUTOMATIC SECTIONALISER</b> FOR DETAILS OF SECTIONALISER INSTALLATION, REFER TO DRAWINGS D-OHC-E030-SD-001 AND D-OHC-E035-SD-001 FOR THE THREE PHASE AND SINGLE PHASE SECTIONALISERS RESPECTIVELY. <b>CORRECT ACTUATOR</b> ACTUATORS THAT MATCH THE BRAND OF SECTIONALISER MUST ALWAYS BE USED. ACTUATORS INTENDED FOR OTHER MAKES OF SECTIONALISERS MAY FIT PHYSICALLY BUT WILL NOT OPERATE CORRECTLY. <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b>															
	DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED																
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			<table border="1"> <tr> <td>DRAWN</td> <td>CS PRO-SOLUTIONS</td> </tr> <tr> <td>DESIGNED BY</td> <td>ELECTRO</td> </tr> <tr> <td>CHECKED BY</td> <td>HLWESTBURY</td> </tr> <tr> <td>APPROVED BY</td> <td>-</td> </tr> <tr> <td>DATE APPROVED</td> <td>08/MAY/19</td> </tr> </table>		DRAWN	CS PRO-SOLUTIONS	DESIGNED BY	ELECTRO	CHECKED BY	HLWESTBURY	APPROVED BY	-	DATE APPROVED	08/MAY/19	TITLE AUTOMATIC SECTIONALISER NOTES (ABB - AUTOLINK)		SCALE NTS
	DRAWN	CS PRO-SOLUTIONS															
	DESIGNED BY	ELECTRO															
	CHECKED BY	HLWESTBURY															
	APPROVED BY	-															
DATE APPROVED	08/MAY/19																
		D - OHC - E028 - SD - 002				REVISION A											

5.7.2 Automatic Sectionalisher 3 Phase (ABB – Autolink)

	1	2	3	4	5										
A															
B															
C															
D															
E	<p><b>ACTUATOR</b></p> <p>THE CHEMICAL ACTUATOR DERIVES SUFFICIENT ENERGY TO UNLATCH THE MECHANISM DURING THE CIRCUIT DEAD TIMES THUS PROVIDING POSITIVE OPERATION WITHOUT COMPROMISING THE STABILITY OF THE UNIT UNDER NORMAL CIRCUIT OPERATIONS.</p> <p>THE REPLACEABLE ACTUATOR PROVIDES EXTREMELY RELIABLE OPERATION BY MEANS OF A SMALL ELECTRIC CURRENT CONVERTING CHEMICAL ENERGY INTO MECHANICAL MOVEMENT WHICH DELATCHES THE SECTIONALISER.</p> <p>THE ACTUATOR IS COMPLETELY SAFE TO HANDLE AND THERE ARE NO SPECIAL STORAGE OR TRANSPORTING REQUIREMENTS.</p>														
F	<p><b>PERFORMANCE CHARACTERISTICS</b></p> <p>SYSTEM VOLTAGE 24 kV              LIGHTNING IMPULSE WITHSTAND VOLTAGE (BIL) 150 kVp              RATED CONTINUOUS OPERATING CURRENTS 250 Amps              * ACTUATING CURRENT (+10%) (SEE NOTE) 5, 10, 15, 20, 40, 56, 80, 112, 160 or 224 Amps              RESET TIME (±15%) 30 sec typ              DEADLINE DETECTOR THRESHOLD FOR MIN 0.1 sec (HOLD OFF CURRENT) 0.3 Amps              MINIMUM REQUIRED CONTINUOUS OPERATING CURRENT 0 Amps              SHORT TIME CURRENT WITHSTAND 6 kA sym for 1 sec              * NUMBER OF FAULT COUNTS (SEE NOTE) 1 to 7              RESPONSE TIME 50 msec</p> <p>* FACTORY ADJUSTABLE OPTIONS TO STANDARD UNIT. (ADDITIONAL VALUES AVAILABLE ON REQUEST)</p>		<p>ABB S.I. 23.63.35</p>												
G	<p><b>NOTE</b></p> <p>PLEASE QUOTE ACTUATING CURRENT AND NUMBER OF FAULT COUNTS REQUIRED, AS THESE ARE SET IN THE FACTORY.</p>		<p>DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED</p>												
H	<p><b>ALTERATIONS</b></p> <p>ORIGINAL ISSUE</p>				<p>© Tasmanian Networks PTY. LTD. trading as TasNetworks ABN: 24 167 357 299</p> <p>TITLE: AUTOMATIC SECTIONALISER THREE PHASE (ABB - AUTOLINK)</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>										
		<table border="1"> <tr> <td>DRAWN</td> <td>CS PRO-SOLUTIONS</td> </tr> <tr> <td>DESIGNED BY</td> <td>ELECTRO</td> </tr> <tr> <td>CHECKED BY</td> <td>H.WESTBURY</td> </tr> <tr> <td>APPROVED BY</td> <td>-</td> </tr> <tr> <td>DATE APPROVED</td> <td>08/MAY/19</td> </tr> </table>	DRAWN	CS PRO-SOLUTIONS	DESIGNED BY	ELECTRO	CHECKED BY	H.WESTBURY	APPROVED BY	-	DATE APPROVED	08/MAY/19	<p>D - OHC - E029 - SD - 001</p>		<p>SCALE: NTS</p> <p>A4</p> <p>REVISION: A</p>
DRAWN	CS PRO-SOLUTIONS														
DESIGNED BY	ELECTRO														
CHECKED BY	H.WESTBURY														
APPROVED BY	-														
DATE APPROVED	08/MAY/19														

5.7.3 AK Power Automatic Sectionalisher – In-line



APL Nos:  
SEC/11/3/PLM  
SEC/22/3/PLM

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ALTERATIONS	ORIGINAL ISSUE		
		DRAWN	CS PRO-SOLUTIONS
		DESIGNED BY	ELECTRO
		CHECKED BY	HLWESTBURY
		APPROVED BY	-
		DATE APPROVED	13/MAY/19

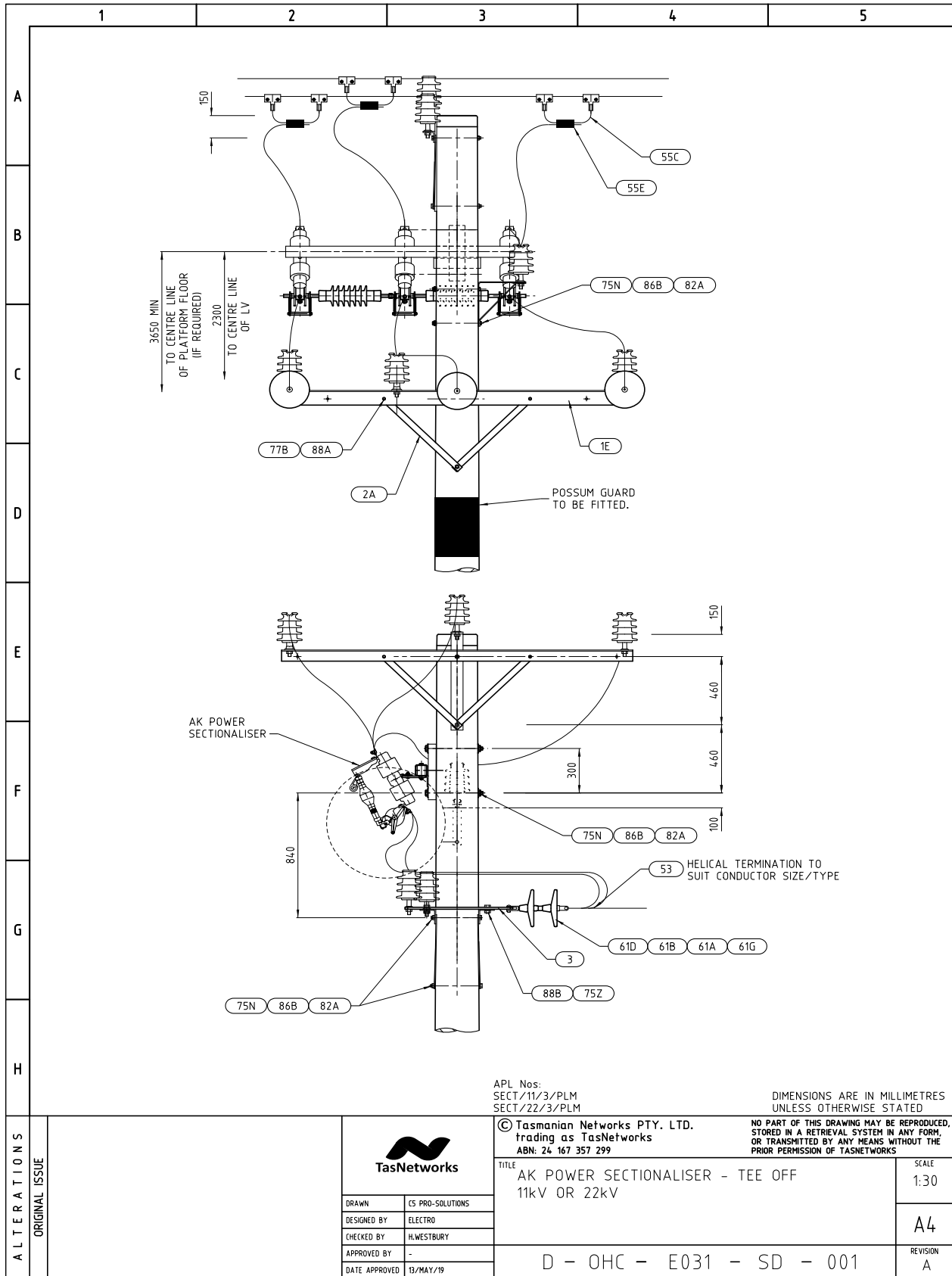
TITLE	AK POWER AUTOMATIC SECTIONALISER INLINE - 11kV OR 22kV	SCALE	1:30
			A4
	D - OHC - E030 - SD - 001	REVISION	A




AK Power Automatic Sectionalisher – In-line – Materials List

	1	2	3	4	5																																																																		
A	<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>SEC/11/3/PLM</td> <td rowspan="14">S</td> <td>59A</td> <td>322721</td> <td>Pin,Insulator 22kV</td> <td>1</td> </tr> <tr> <td>SEC/22/3/PLM</td> <td>60E</td> <td>320531</td> <td>Insulator Pin 22/450</td> <td>1</td> </tr> <tr> <td rowspan="12">excludes HV strain construction 11kV or 22kV</td> <td>6A</td> <td>323315</td> <td>Insulator Bracket Mk15</td> <td>1</td> </tr> <tr> <td>75N</td> <td>32288</td> <td>Bolt Hex M16 X 350</td> <td>4</td> </tr> <tr> <td>75P</td> <td>32289</td> <td>Bolt Hex M16 X 375</td> <td>4</td> </tr> <tr> <td>75Z</td> <td>32261</td> <td>Bolt Hex M16 X 45</td> <td>4</td> </tr> <tr> <td>77B</td> <td>33771</td> <td>Bolt Tower M12 X 35</td> <td>4</td> </tr> <tr> <td>82A</td> <td>40441</td> <td>Nut M16</td> <td>4</td> </tr> <tr> <td>86B</td> <td>65158</td> <td>Washer Els 16</td> <td>2</td> </tr> <tr> <td>88A</td> <td>66412</td> <td>Washer Tower 12</td> <td>4</td> </tr> <tr> <td>88B</td> <td>66413</td> <td>Washer Tower 16</td> <td>4</td> </tr> <tr> <td></td> <td>235714</td> <td>Sectionalisher 3-ph 24kV (without Tubes)</td> <td>1</td> </tr> <tr> <td></td> <td>236335</td> <td>Actuator to suit ABB Sectionalisher</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	SEC/11/3/PLM	S	59A	322721	Pin,Insulator 22kV	1	SEC/22/3/PLM	60E	320531	Insulator Pin 22/450	1	excludes HV strain construction 11kV or 22kV	6A	323315	Insulator Bracket Mk15	1	75N	32288	Bolt Hex M16 X 350	4	75P	32289	Bolt Hex M16 X 375	4	75Z	32261	Bolt Hex M16 X 45	4	77B	33771	Bolt Tower M12 X 35	4	82A	40441	Nut M16	4	86B	65158	Washer Els 16	2	88A	66412	Washer Tower 12	4	88B	66413	Washer Tower 16	4		235714	Sectionalisher 3-ph 24kV (without Tubes)	1		236335	Actuator to suit ABB Sectionalisher	3				
Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity																																																																		
SEC/11/3/PLM	S	59A	322721	Pin,Insulator 22kV	1																																																																		
SEC/22/3/PLM		60E	320531	Insulator Pin 22/450	1																																																																		
excludes HV strain construction 11kV or 22kV		6A	323315	Insulator Bracket Mk15	1																																																																		
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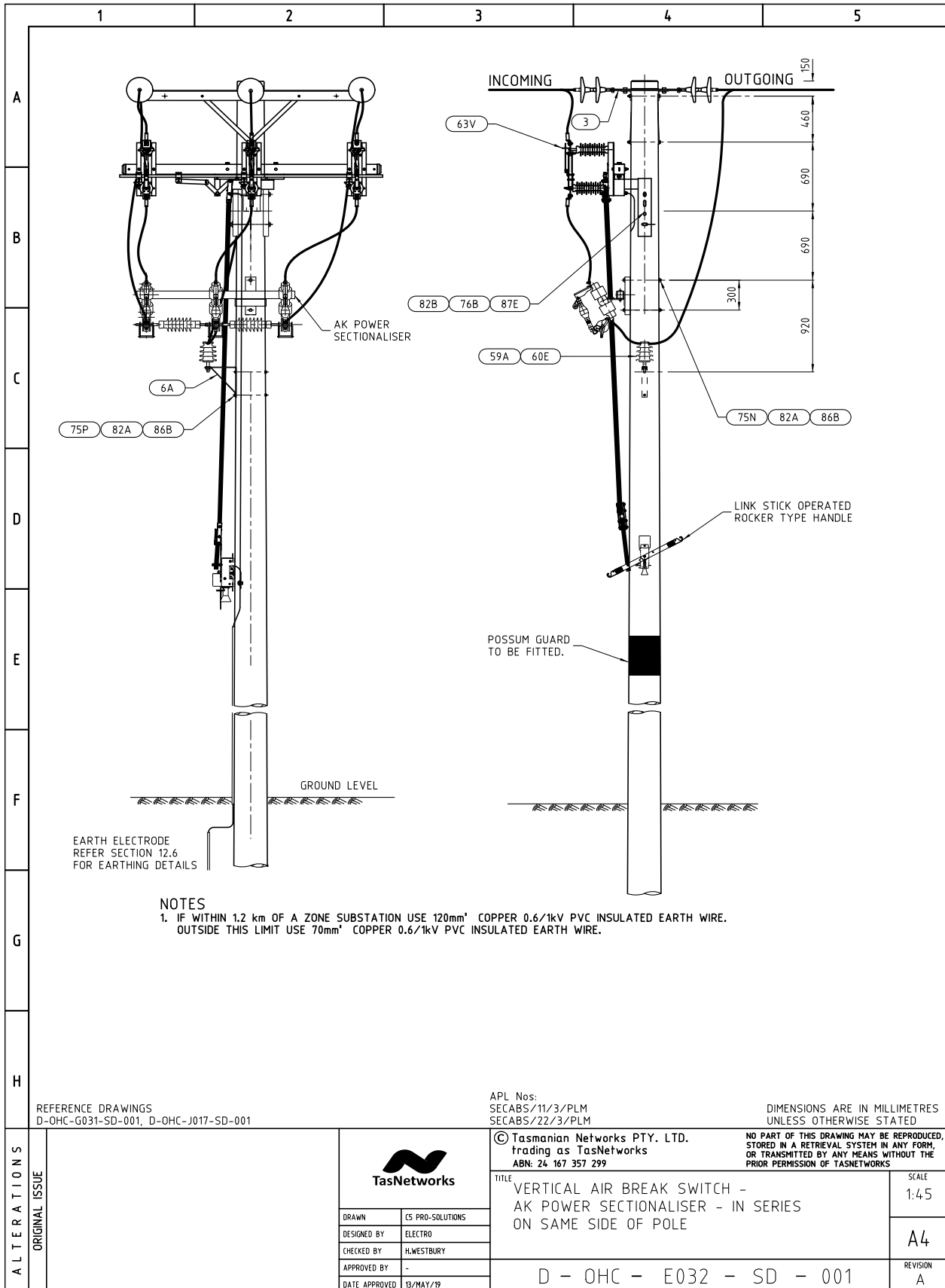
5.7.4 AK Power Automatic Sectionalisher – Tee-Off




AK Power Automatic Sectionalisher – Tee-Off – Materials List

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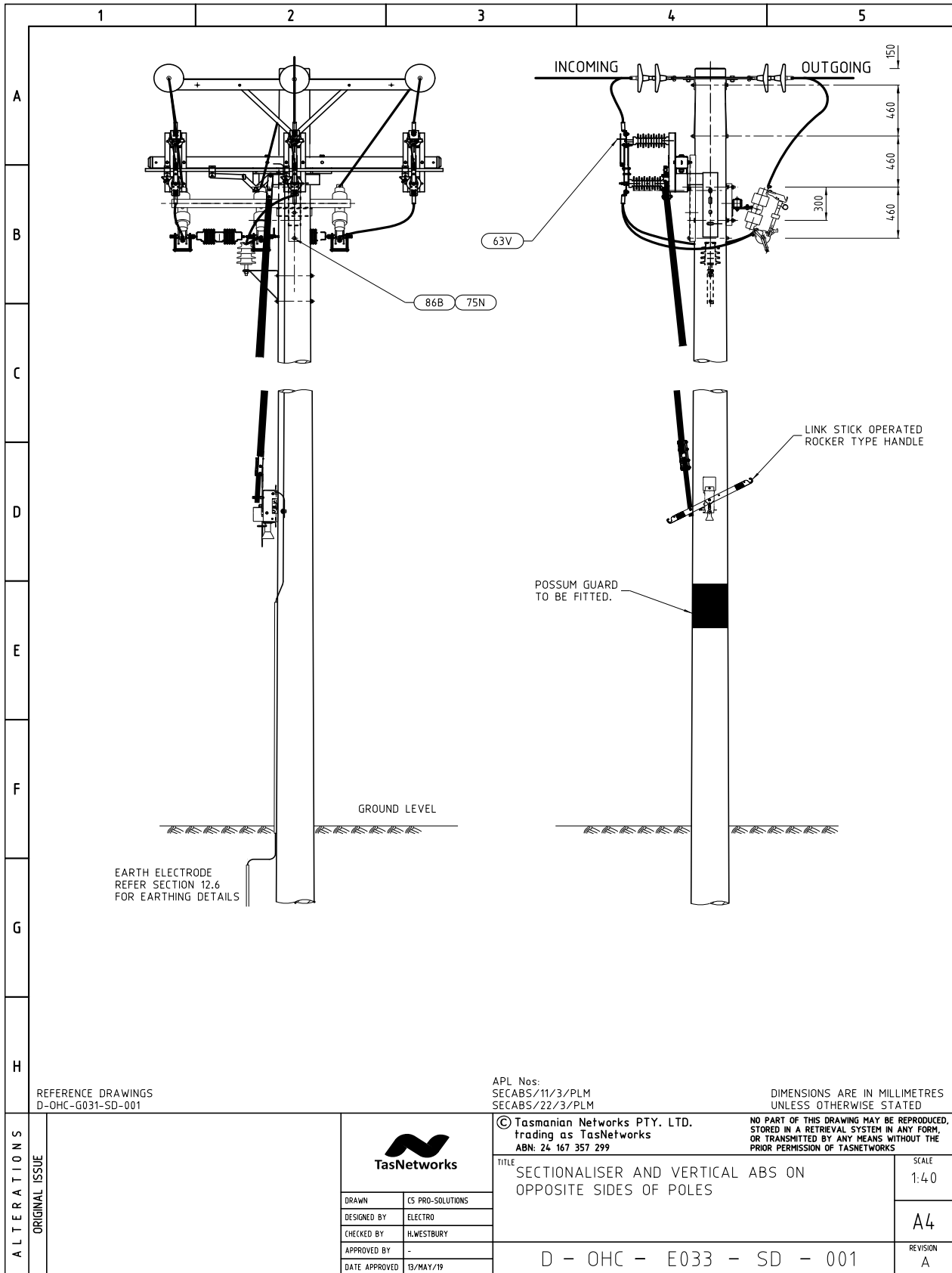
5.7.5 Sectionaliser with Vertical ABS on Same Side of Pole




Sectionaliser with Vertical ABS on Same Side of Pole – Materials List

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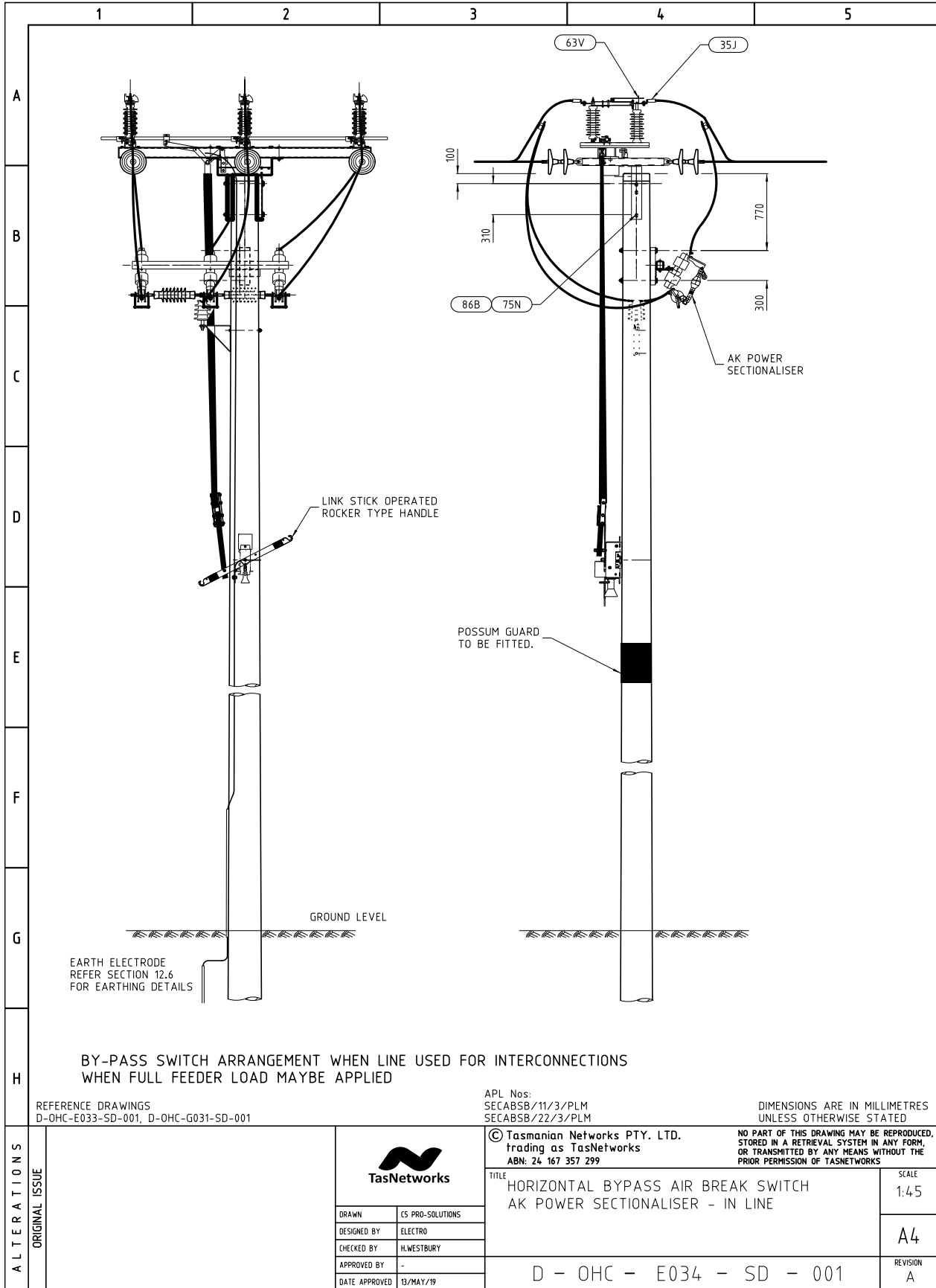
5.7.6 Sectionalisher with Vertical ABS on Opposite Side of Pole



Sectionaliser with Vertical ABS on Opposite Side of Pole – Materials List


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5.7.7 Sectionaliser with Horizontal Bypass ABS

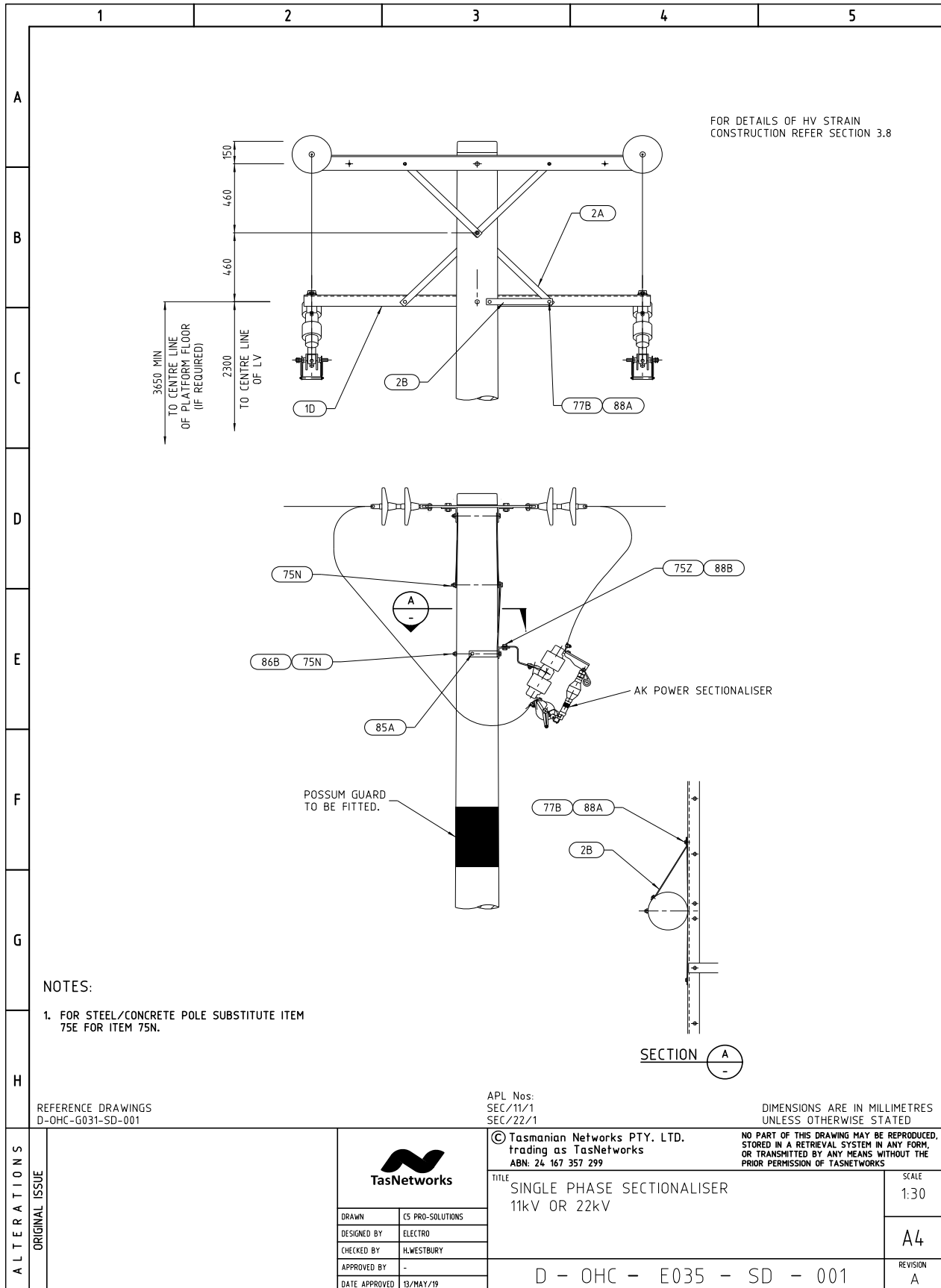





Sectionaliser with Horizontal Bypass ABS – Materials List

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				TITLE HORIZONTAL BYPASS AIR BREAK SWITCH AK POWER SECTIONALISER - IN LINE MATERIALS LIST		SCALE NTS																																																																													
				D - OHC - E034 - SD - 002		REVISION A																																																																													
		DRAWN E5 PRO-SOLUTIONS	DESIGNED BY ELECTRO	CHECKED BY H.WESTBURY	APPROVED BY 																																																																														
		DATE APPROVED 08/MAY/19																																																																																	

5.7.8 Single Phase Sectionaliser

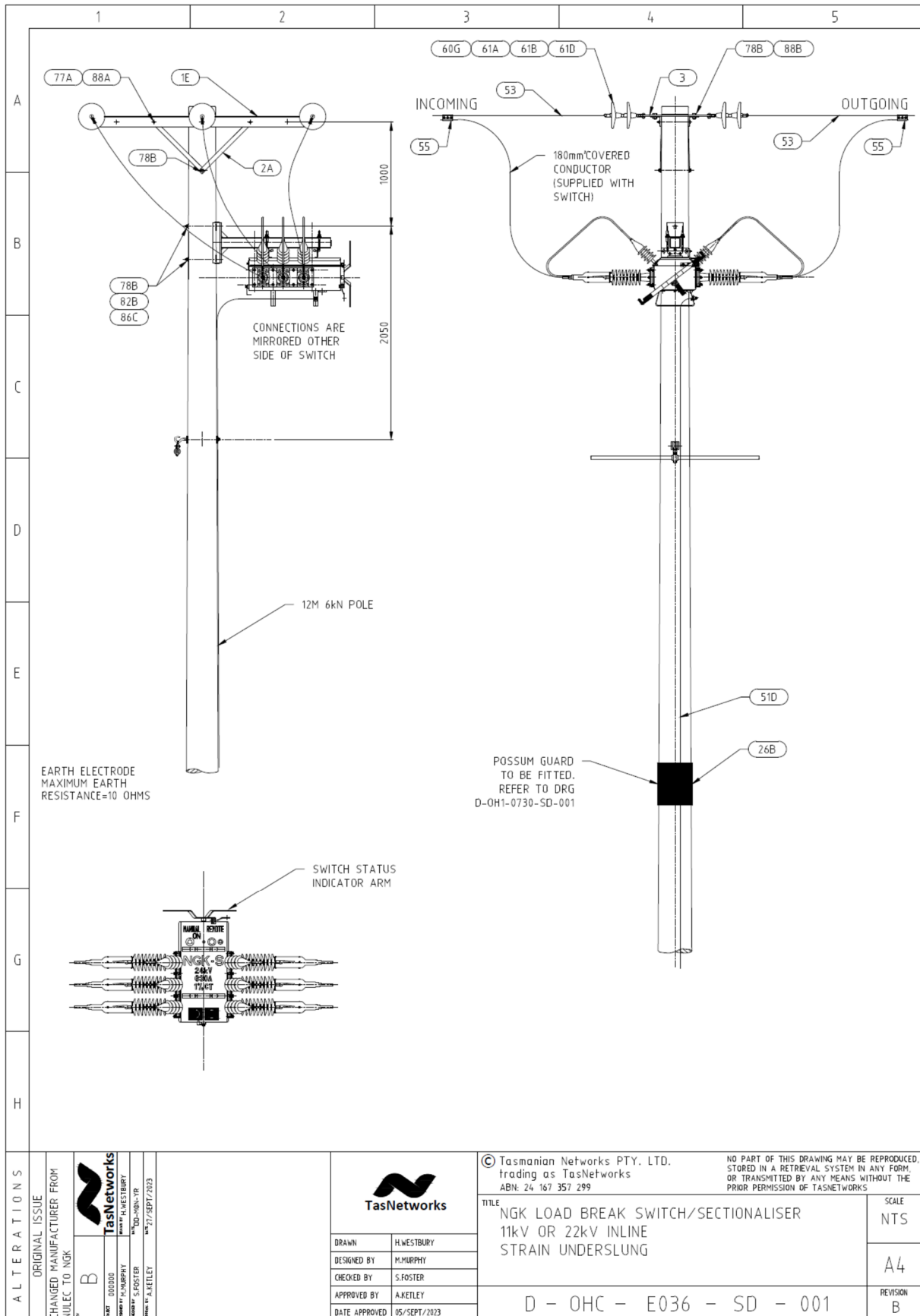


Single Phase Sectionalisher – Materials List

		1	2	3	4	5		
A		<b>Unit Assembly</b>	<b>Store Type</b>	<b>Item Ref</b>	<b>Stock Item</b>	<b>Description</b>	<b>Quantity</b>	
		SEC/11/1	S	75N	032286	Bolt Hex M16 X 350	3	
		SEC/11/1	S	77A	033770	Bolt Tower M12 X 30	3	
		SEC/11/1	S	77B	033771	Bolt Tower M12 X 35	1	
		SEC/11/1	S	86B	065158	Washer Els 16	1	
		SEC/11/1	S	88A	066412	Washer Tower 12	4	
		SEC/11/1	S	2A	323314	Crossarm Strap Mk14	2	
		SEC/11/1	S		236335	Actuator to suit ABB Sectionalisher	2	
		SEC/11/1	S	1D	323304	Crossarm Mk4	1	
		SEC/11/1	S	2B	323317	Crossarm Strap Mk17	1	
B								
		SEC/22/1	S	75N	032286	Bolt Hex M16 X 350	3	
		SEC/22/1	S	77A	033770	Bolt Tower M12 X 30	3	
		SEC/22/1	S	77B	033771	Bolt Tower M12 X 35	4	
		SEC/22/1	S	86B	065158	Washer Els 16	1	
		SEC/22/1	S	88A	066412	Washer Tower 12	4	
		SEC/22/1	S	60G	321260	Insulator, Disc	8	
		SEC/22/1	S	2A	323314	Crossarm Strap Mk14	2	
		SEC/22/1	S		236335	Actuator to suit ABB Sectionalisher	2	
		SEC/22/1	S	1D	323304	Crossarm Mk4	1	
C		SEC/22/1	S	2B	323317	Crossarm Strap Mk17	1	
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				SCALE
				SINGLE PHASE SECTIONALISER 11kV OR 22kV				NTS
				D - OHC - E035 - SD - 002				REVISION A
		DRAWN	CS PRO-SOLUTIONS					
		DESIGNED BY	ELECTRO			A4		
		CHECKED BY	H.WESTBURY					
		APPROVED BY	-					
		DATE APPROVED	08/MAY/19					

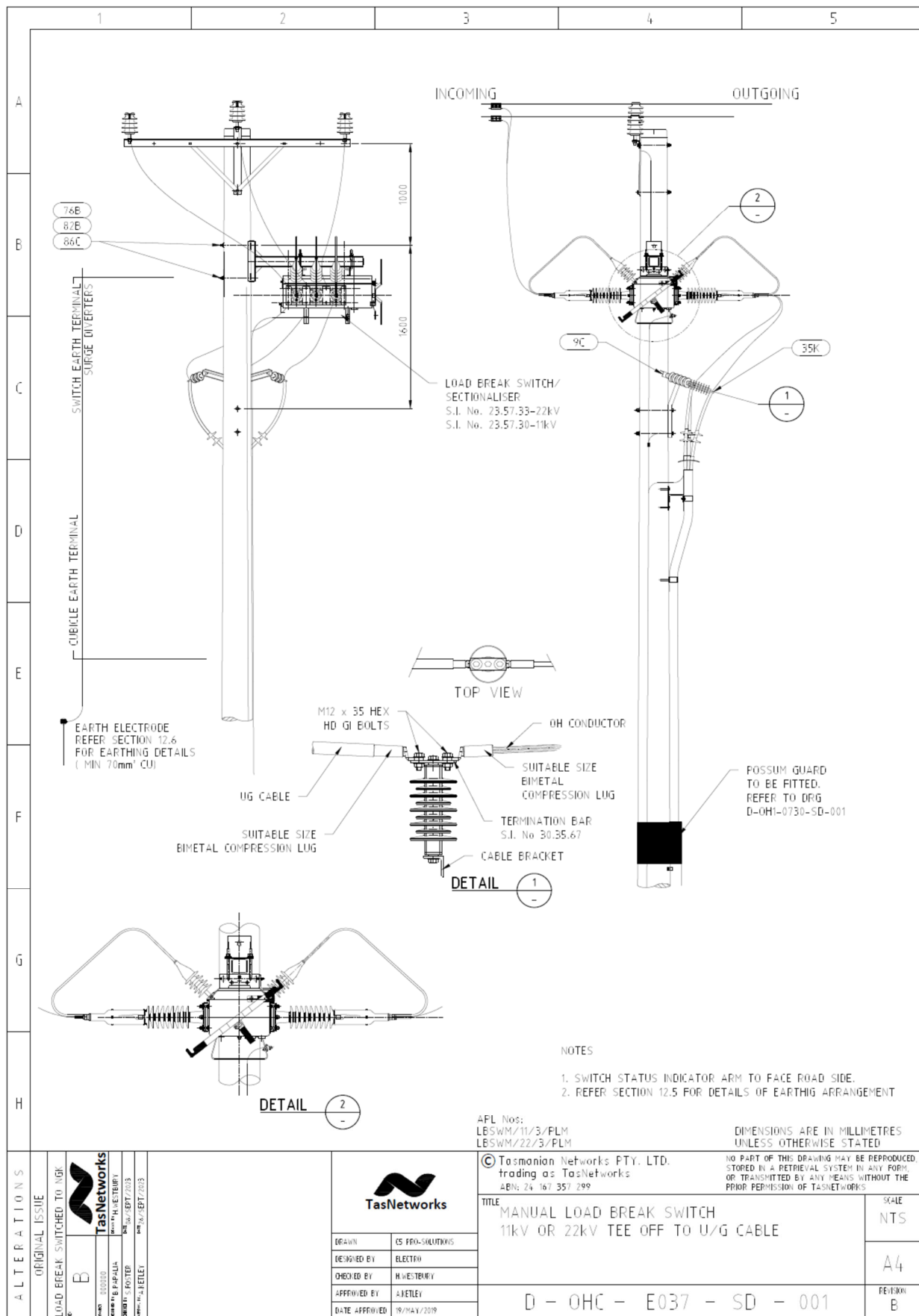
## 5.8 Load Break Switches

### 5.8.1 Manual NGK Load Break Switch Below HV Strain Construction








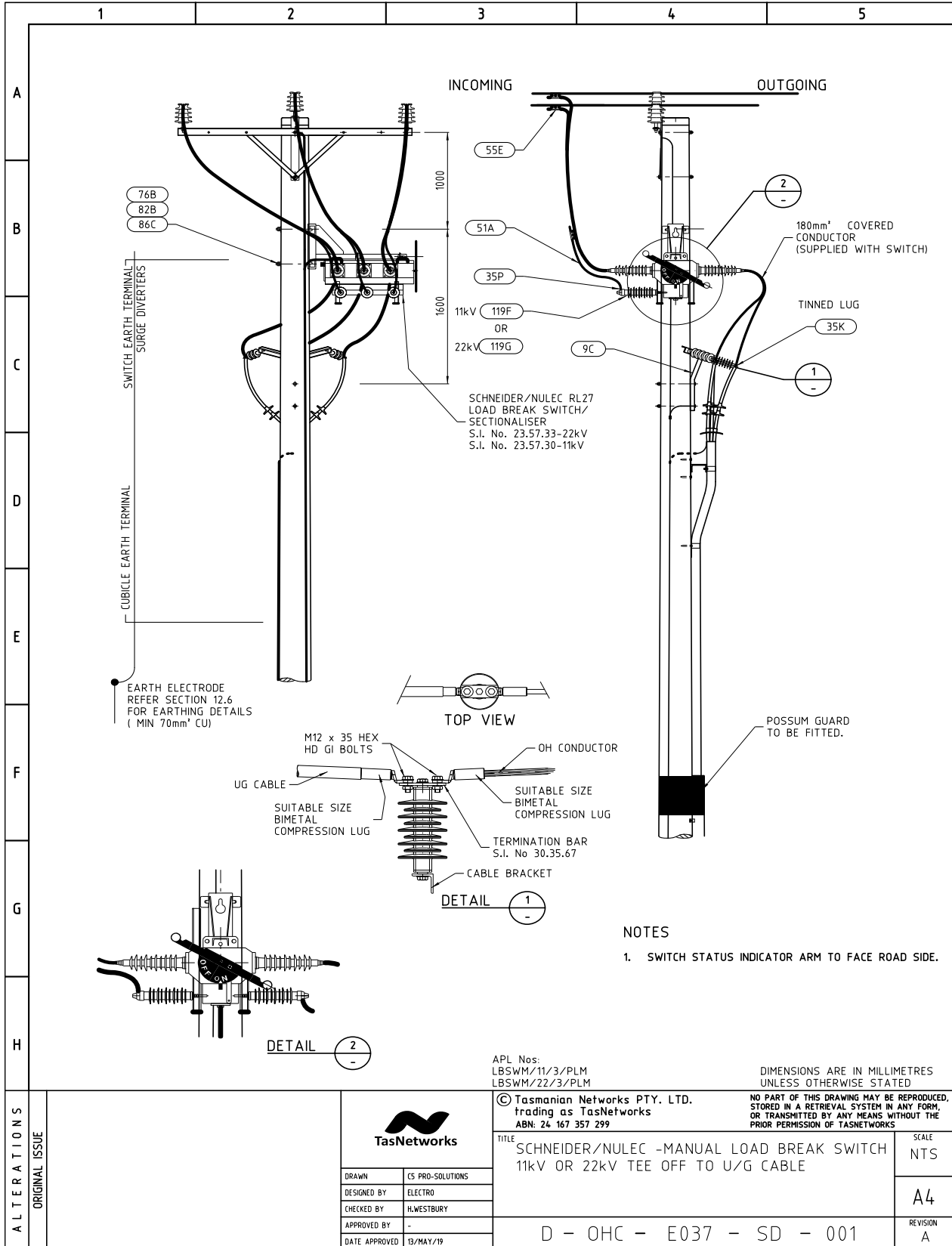
5.8.2 Manual NGK Load Break Switch Tee-Off to UG Cable



Manual NGK Load Break Switch Tee-Off to UG Cable Materials List


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WESTBURY</p> <p>CHECKED BY: S. FOSTER</p> <p>APPROVED BY: A. KETLEY</p> <p>DATE: 08/SEPT/2015</p> <p>DATE: 08/SEPT/2015</p> </td> </tr> <tr> <td></td> <td colspan="2">  </td> <td colspan="2">                 © Tasmanian Networks PTY. LTD.                  trading as TasNetworks                  ABN: 24 167 357 299             </td> <td>                 DIMENSIONS ARE IN MILLIMETRES                  UNLESS OTHERWISE STATED             </td> </tr> <tr> <td></td> <td colspan="2">                 DRAWN: CS PRO-SOLUTIONS                  DESIGNED BY: ELECTRO                  CHECKED BY: H. WESTBURY                  APPROVED BY: A. KETLEY                  DATE APPROVED: 08/MAY/19             </td> <td colspan="2">                 TITLE: MANUAL LOAD BREAK SWITCH                  11kV OR 22kV TEE OFF TO U/G CABLE             </td> <td>                 SCALE: NTS                  A4                  REVISION: B             </td> </tr> <tr> <td></td> <td colspan="5">                 D - OHC - E037 - SD - 002             </td> </tr> </tbody></table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	LBSWM/11/3/PLM	S							75M	32287	Bolt Hex M16 X 325	3			76B	32338	Bolt Hex M20 X 350	2			77A	33770	Bolt Tower M12 X 30	4			78D	33783	Bolt Tower M16 X 50	4			82A	40441	Nut M16	2			82B	40442	Nut M20	2			86B	65158	Washer Els 16	2			86C	65159	Washer Els 20	2			88A	66412	Washer Tower 12	4			88B	66413	Washer Tower 16	4				323364	Load Break Switch 11kV Manual N-A	1	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>LBSWM/22/3/PLM</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>75M</td> <td>32287</td> <td>Bolt Hex M16 X 325</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>76B</td> <td>32338</td> <td>Bolt Hex M20 X 350</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>77A</td> <td>33770</td> <td>Bolt Tower M12 X 30</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>78D</td> <td>33783</td> <td>Bolt Tower M16 X 50</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>82A</td> <td>40441</td> <td>Nut M16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>82B</td> <td>40442</td> <td>Nut M20</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>86B</td> <td>65158</td> <td>Washer Els 16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>86C</td> <td>65159</td> <td>Washer Els 20</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>88A</td> <td>66412</td> <td>Washer Tower 12</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>88B</td> <td>66413</td> <td>Washer Tower 16</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td>323364</td> <td>Load Break Switch 22kV Manual N-A</td> <td>1</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	LBSWM/22/3/PLM	S							75M	32287	Bolt Hex M16 X 325	3			76B	32338	Bolt Hex M20 X 350	2			77A	33770	Bolt Tower M12 X 30	4			78D	33783	Bolt Tower M16 X 50	4			82A	40441	Nut M16	2			82B	40442	Nut M20	2			86B	65158	Washer Els 16	2			86C	65159	Washer Els 20	2			88A	66412	Washer Tower 12	4			88B	66413	Washer Tower 16	4				323364	Load Break Switch 22kV Manual N-A	1	C						D						E						F						G						H						ALTERNATIONS	<p>ORIGINAL ISSUE</p> <p>LOAD BREAK SWITCHED TO NGK</p> <p><b>B</b></p> <p>PROJECT: 080000 TasNetworks</p> <p>DESIGNED BY: H. 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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>LBSWM/22/3/PLM</td> <td>S</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>75M</td> <td>32287</td> <td>Bolt Hex M16 X 325</td> <td>3</td> </tr> <tr> <td></td> <td></td> <td>76B</td> <td>32338</td> <td>Bolt Hex M20 X 350</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>77A</td> <td>33770</td> <td>Bolt Tower M12 X 30</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>78D</td> <td>33783</td> <td>Bolt Tower M16 X 50</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>82A</td> <td>40441</td> <td>Nut M16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>82B</td> <td>40442</td> <td>Nut M20</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>86B</td> <td>65158</td> <td>Washer Els 16</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>86C</td> <td>65159</td> <td>Washer Els 20</td> <td>2</td> </tr> <tr> <td></td> <td></td> <td>88A</td> <td>66412</td> <td>Washer Tower 12</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td>88B</td> <td>66413</td> <td>Washer Tower 16</td> <td>4</td> </tr> <tr> <td></td> <td></td> <td></td> <td>323364</td> <td>Load Break Switch 22kV Manual N-A</td> <td>1</td> </tr> </tbody> </table>					Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity	LBSWM/22/3/PLM	S							75M	32287	Bolt Hex M16 X 325	3			76B	32338	Bolt Hex M20 X 350	2			77A	33770	Bolt Tower M12 X 30	4			78D	33783	Bolt Tower M16 X 50	4			82A	40441	Nut M16	2			82B	40442	Nut M20	2			86B	65158	Washer Els 16	2			86C	65159	Washer Els 20	2			88A	66412	Washer Tower 12	4			88B	66413	Washer Tower 16	4				323364	Load Break Switch 22kV Manual N-A	1																																																																																																																																																
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ALTERNATIONS	<p>ORIGINAL ISSUE</p> <p>LOAD BREAK SWITCHED TO NGK</p> <p><b>B</b></p> <p>PROJECT: 080000 TasNetworks</p> <p>DESIGNED BY: H. WESTBURY</p> <p>CHECKED BY: S. FOSTER</p> <p>APPROVED BY: A. KETLEY</p> <p>DATE: 08/SEPT/2015</p> <p>DATE: 08/SEPT/2015</p>																																																																																																																																																																																																																																		
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	DRAWN: CS PRO-SOLUTIONS DESIGNED BY: ELECTRO CHECKED BY: H. WESTBURY APPROVED BY: A. KETLEY DATE APPROVED: 08/MAY/19		TITLE: MANUAL LOAD BREAK SWITCH 11kV OR 22kV TEE OFF TO U/G CABLE		SCALE: NTS A4 REVISION: B																																																																																																																																																																																																																														
	D - OHC - E037 - SD - 002																																																																																																																																																																																																																																		

5.8.3 Manual Schneider / Nulec RL27 Load Break Switch Tee-Off to UG Cable

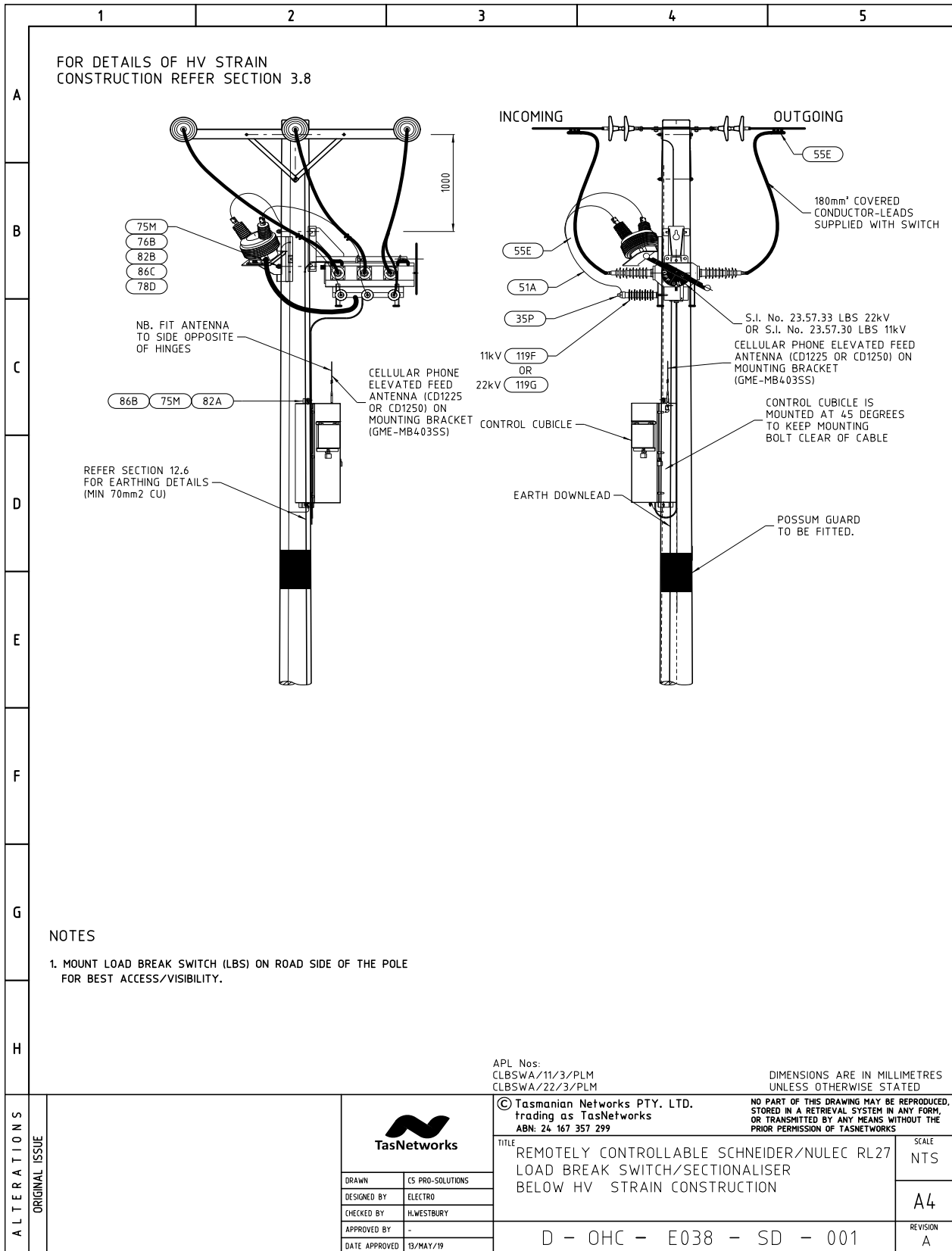




Manual Schneider / Nulec RL27 Load Break Switch Tee-Off to UG Cable – Materials List

		1	2	3	4	5				
A	LBSWM11/3/PLM	S	119F	225772	Lightning Arrester (NOT L/L TESTED) ABB 11kV 10kA c/w bird cap & M12 studs	6				
			35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6				
			51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	6				
			55E	144955	Parallel groove clamp (7.5-17.5mm Bi metal)	12				
			75M	32287	Bolt Hex M16 X 325	3				
			76B	32338	Bolt Hex M20 X 350	2				
			77A	33770	Bolt Tower M12 X 30	4				
			78D	33783	Bolt Tower M16 X 50	4				
			82A	40441	Nut M16	2				
			82B	40442	Nut M20	2				
			86B	65158	Washer Els 16	2				
			86C	65159	Washer Els 20	2				
			88A	66412	Washer Tower 12	4				
			88B	66413	Washer Tower 16	4				
				157891	Redback sleeving 20mm dia (per 10m coil)	1				
				235730	Switch L/Brkr LBS RL27 11kV Manual N-A	1				
			B	LBSWM22/3/PLM	S	119G	225773	Lightning Arrester (NOT L/L TESTED) ABB 22kV 10kA c/w bird cap & M12 studs	6	
						35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6	
						51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	6	
						55E	144955	Parallel groove clamp (7.5-17.5mm Bi metal)	12	
						75M	32287	Bolt Hex M16 X 325	3	
						76B	32338	Bolt Hex M20 X 350	2	
						77A	33770	Bolt Tower M12 X 30	4	
						78D	33783	Bolt Tower M16 X 50	4	
82A	40441	Nut M16				2				
82B	40442	Nut M20				2				
86B	65158	Washer Els 16				2				
86C	65159	Washer Els 20				2				
88A	66412	Washer Tower 12				4				
88B	66413	Washer Tower 16				4				
	157891	Redback sleeving 20mm dia (per 10m coil)				1				
	235733	Switch L/Brkr LBS RL27 22kV Manual N-A				1				
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								TITLE SCHNEIDER/NULEC-MANUAL LOAD BREAK SWITCH 11kV OR 22kV TEE OFF TO U/G CABLE		SCALE NTS
						DRAWN	CS PRO-SOLUTIONS	D - OHC - E037 - SD - 002		REVISION A
						DESIGNED BY	ELECTRO			
						CHECKED BY	H.WESTBURY			
						APPROVED BY				
						DATE APPROVED	08/MAY/19			

### 5.8.4 Remotely Controllable Schneider / Nulec RL27 Load Break Switch Below HV Strain Construction



## Remotely Controllable Schneider / Nulec RL27 Load Break Switch Below HV Strain Construction – Materials List

1		2		3		4		5			
Unit Assembly	Store Type	Item Ref	Stock Item	Stock Item Description	Quantity						
A	CLBSWA/11/3/PLM	S	119F	225772	Lightning Arrester (NOT L/L TESTED) ABB 11kV 10kA c/w bird cap & M12 studs	3					
			35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6					
			51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	12					
			60H	320735	Insulator Raychem standoff 24kV set of 3	1					
			73F	32191	Bolt Hex M10 X 100	3					
			75M	32287	Bolt Hex M16 X 325	3					
			75N	32288	Bolt Hex M16 X 350	3					
			76B	32338	Bolt Hex M20 X 350	2					
			77A	33770	Bolt Tower M12 X 30	4					
			B	78D	33783	Bolt Tower M16 X 50	4				
				82A	40441	Nut M16	2				
				82B	40442	Nut M20	2				
				84B	50226	Coach Screw M10 X 65	1				
				86B	65158	Washer Els 16	2				
				86C	65159	Washer Els 20	2				
				87B	65614	Washer Ns 10	1				
				88A	66412	Washer Tower 12	4				
				88B	66413	Washer Tower 16	4				
				C	9C	322063	Standoff insulator bracket for u/g cables	1			
					40439	Nut M10	6				
					133155	Plug TNC (to suit RG58U Cable)	2				
					133157	Mounting Bracket	1				
					133158	Connector Crimp Type - Male	2				
					133159	Cable Coaxial for Protection Unit with connectors & earth stud	1				
					133174	Cable CAT5E Blue Ethernet Type Patch Lead 1m Long	1				
					231320	Isolation Switch 250V Outdoor 2 Pole 20 Amp	1				
					235732	LB Switch/Sect Nulec 22kV with Cubicle etc - Auto Control	1				
					303569	Copper "T" Bar for S/Off Insulators or L/A's to HV Cables or HVABC	3				
			D		990800	External VT Nulec 11kV c/w Pole Mtg Bracket & HV/LV Tails	1				
E	CLBSWA/22/3/PLM	S	119G	225773	Lightning Arrester (NOT L/L TESTED) ABB 22kV 10kA c/w bird cap & M12 studs	3					
			35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6					
			51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	12					
			60H	320735	Insulator Raychem standoff 24kV set of 3	1					
			73F	32191	Bolt Hex M10 X 100	3					
			75M	32287	Bolt Hex M16 X 325	3					
			75N	32288	Bolt Hex M16 X 350	3					
			76B	32338	Bolt Hex M20 X 350	2					
			77A	33770	Bolt Tower M12 X 30	4					
			F	78D	33783	Bolt Tower M16 X 50	4				
				82A	40441	Nut M16	2				
				82B	40442	Nut M20	2				
				84B	50226	Coach Screw M10 X 65	1				
				86B	65158	Washer Els 16	2				
				86C	65159	Washer Els 20	2				
				87B	65614	Washer Ns 10	1				
				88A	66412	Washer Tower 12	4				
				88B	66413	Washer Tower 16	4				
				G	9C	322063	Standoff insulator bracket for u/g cables	1			
					40439	Nut M10	6				
					133155	Plug TNC (to suit RG58U Cable)	2				
					133157	Mounting Bracket	1				
					133158	Connector Crimp Type - Male	2				
					133159	Cable Coaxial for Protection Unit with connectors & earth stud	1				
					133174	Cable CAT5E Blue Ethernet Type Patch Lead 1m Long	1				
					231320	Isolation Switch 250V Outdoor 2 Pole 20 Amp	1				
					235735	LB Switch/Sect Nulec 22kV with Cubicle etc - Auto Control	1				
					303569	Copper "T" Bar for S/Off Insulators or L/A's to HV Cables or HVABC	3				
			H		990801	External VT Nulec 22kV c/w Pole Mtg Bracket & HV/LV Tails	1				

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TITLE  
REMOTELY CONTROLLABLE SCHNEIDER/NULEC RL27  
LOAD BREAK SWITCH/SECTIONALISER  
BELOW HV STRAIN CONSTRUCTION

SCALE  
NTS

A4

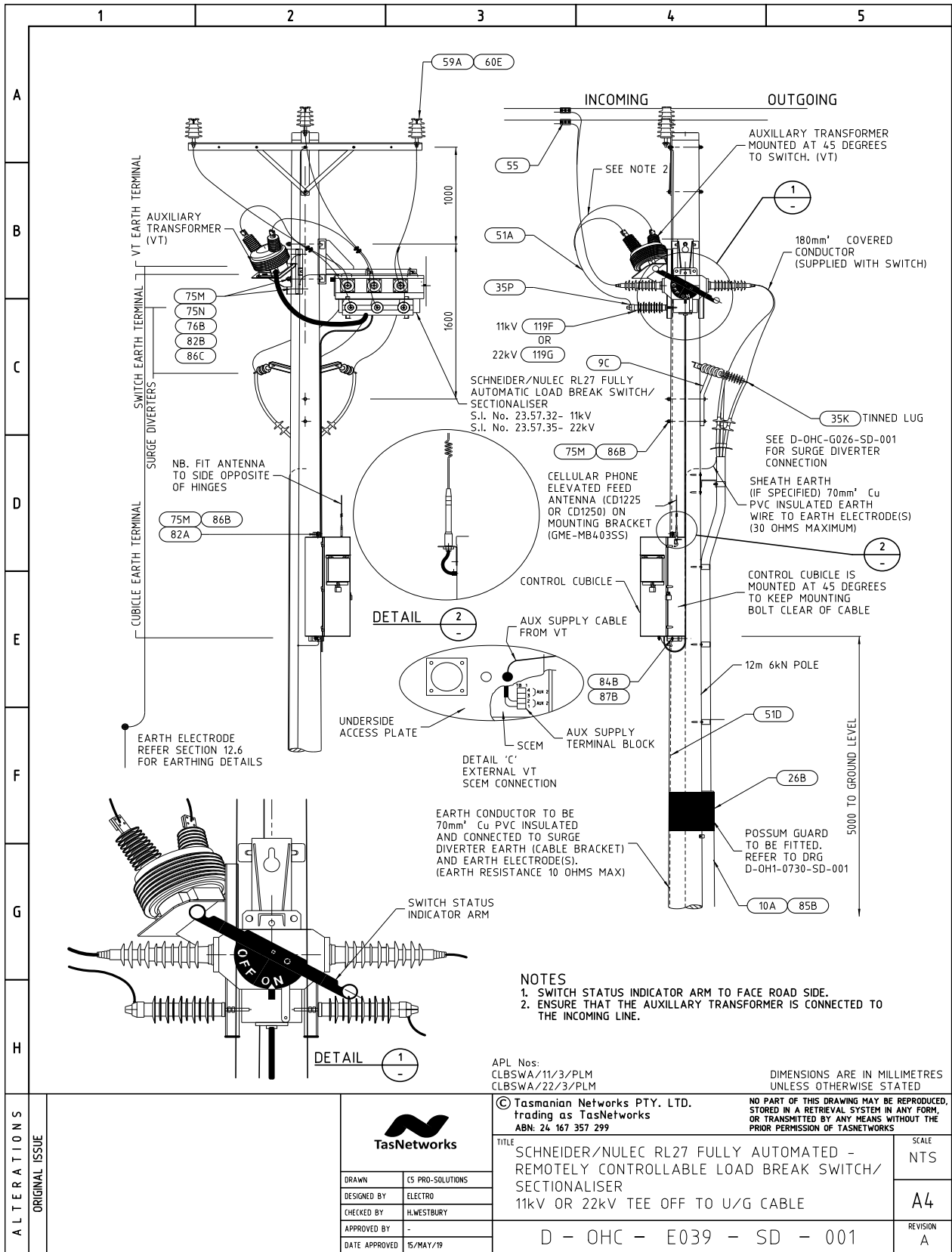
D - OHC - E038 - SD - 002

REVISION  
A

ALTERATIONS  
ORIGINAL ISSUE

DRAWN	CS PRO-SOLUTIONS
DESIGNED BY	ELECTRO
CHECKED BY	H.WESTBURY
APPROVED BY	
DATE APPROVED	08/MAY/19

### 5.8.5 Remotely Controllable Schneider / Nulec RL27 Load Break Switch Tee-Off to UG Cable




## Remotely Controllable Schneider / Nulec RL27 Load Break Switch Tee-Off to UG Cable – Materials List

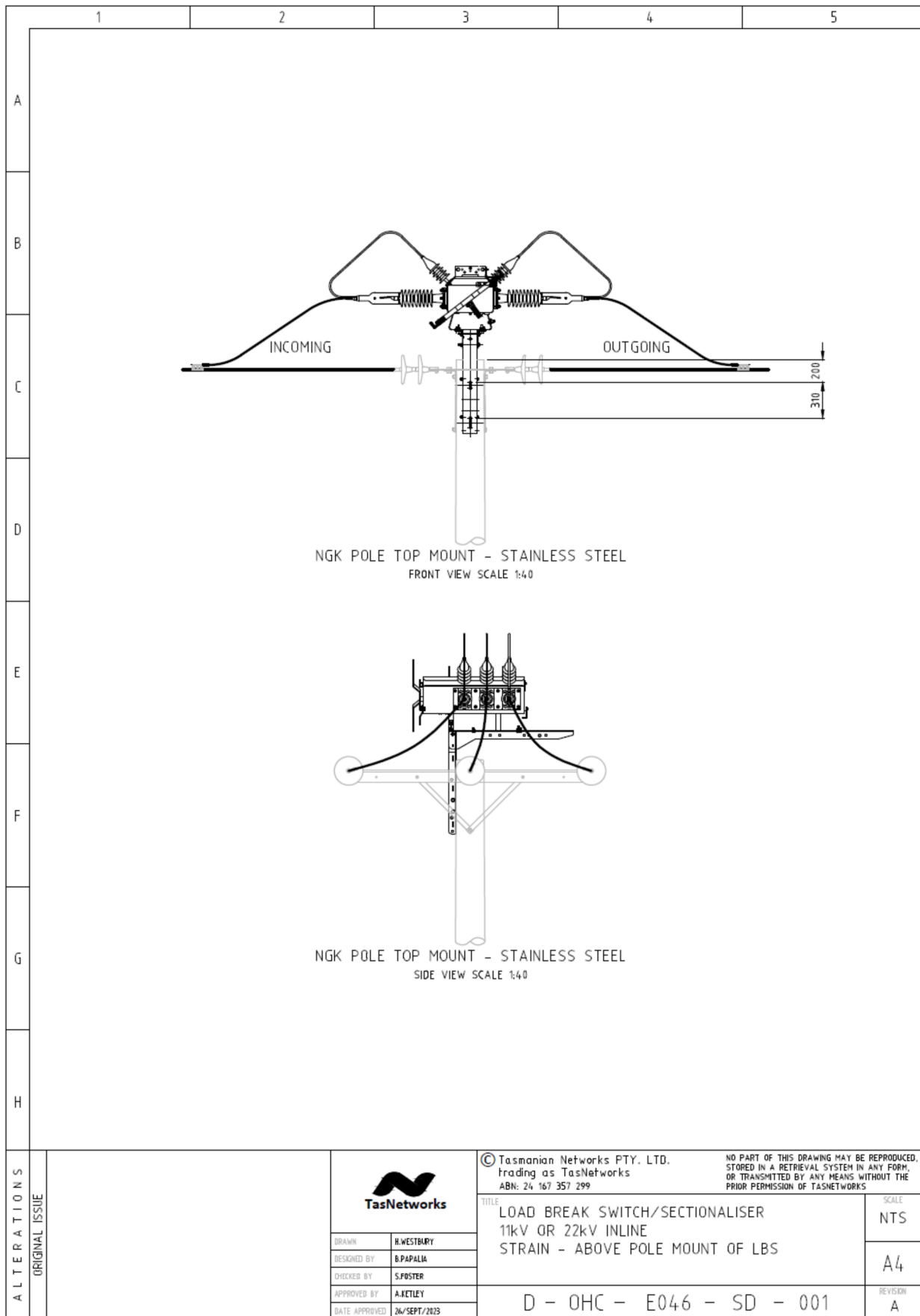
	1	2	3	4	5				
A	CLBSWA11/3/PLM	S	119F	225772	Lightning Arrester (NOT L/L TESTED) ABB 11kV 10kA c/w bird cap & M12 studs	3			
			35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6			
			51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	12			
			60H	320735	Insulator Raychem standoff 24kV set of 3	1			
			73F	32191	Bolt Hex M10 X 100	3			
			75M	32287	Bolt Hex M16 X 325	3			
			75N	32288	Bolt Hex M16 X 350	3			
			76B	32338	Bolt Hex M20 X 350	2			
			77A	33770	Bolt Tower M12 X 30	4			
			78D	33783	Bolt Tower M16 X 50	4			
			B	82A	40441	Nut M16	2		
				82B	40442	Nut M20	2		
				84B	50226	Coach Screw M10 X 65	1		
				86B	65158	Washer Els 16	2		
				86C	65159	Washer Els 20	2		
				87B	65614	Washer Ns 10	1		
				88A	66412	Washer Tower 12	4		
				88B	66413	Washer Tower 16	4		
				9C	322063	Standoff insulator bracket for u/g cables	1		
				C	40439	Nut M10	6		
			133155		Plug TNC (to suit RG58U Cable)	2			
			133157		Mounting Bracket	1			
			133158		Connector Crimp Type - Male	2			
			133159		Cable Coaxial for Protection Unit with connectors & earth stud	1			
			133174		Cable CAT5E Blue Ethernet Type Patch Lead 1m Long	1			
			231320		Isolation Switch 250V Outdoor 2 Pole 20 Amp	1			
			D	235732	LB Switch/Sect Nulec 22kV with Cubicle etc - Auto Control	1			
				303569	Copper "T" Bar for S/Off Insulators or L/A's to HV Cables or HVABC	3			
				990800	External VT Nulec 11kV c/w Pole Mtg Bracket & HV/LV Tails	1			
			E	CLBSWA22/3/PLM	S	119G	225773	Lightning Arrester (NOT L/L TESTED) ABB 22kV 10kA c/w bird cap & M12 studs	3
						35P	141299	Lug Bolted 16mm <sup>2</sup> 12 hole	6
						51C	94180	Wire Electrical Cu 50mm <sup>2</sup> 1c Black	12
						60H	320735	Insulator Raychem standoff 24kV set of 3	1
						73F	32191	Bolt Hex M10 X 100	3
						75M	32287	Bolt Hex M16 X 325	3
						75N	32288	Bolt Hex M16 X 350	3
						76B	32338	Bolt Hex M20 X 350	2
						77A	33770	Bolt Tower M12 X 30	4
						78D	33783	Bolt Tower M16 X 50	4
						82A	40441	Nut M16	2
						82B	40442	Nut M20	2
84B	50226	Coach Screw M10 X 65				1			
86B	65158	Washer Els 16				2			
86C	65159	Washer Els 20				2			
87B	65614	Washer Ns 10				1			
88A	66412	Washer Tower 12				4			
88B	66413	Washer Tower 16				4			
9C	322063	Standoff insulator bracket for u/g cables				1			
F	40439	Nut M10				6			
	133155	Plug TNC (to suit RG58U Cable)				2			
	133157	Mounting Bracket				1			
	133158	Connector Crimp Type - Male				2			
	133159	Cable Coaxial for Protection Unit with connectors & earth stud				1			
	133174	Cable CAT5E Blue Ethernet Type Patch Lead 1m Long				1			
	231320	Isolation Switch 250V Outdoor 2 Pole 20 Amp				1			
G	235735	LB Switch/Sect Nulec 22kV with Cubicle etc - Auto Control				1			
	303569	Copper "T" Bar for S/Off Insulators or L/A's to HV Cables or HVABC	3						
	990801	External VT Nulec 22kV c/w Pole Mtg Bracket & HV/LV Tails	1						
H									

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		DRAWN	CS PRO-SOLUTIONS	TITLE SCHNEIDER/NULEC RL27 FULLY AUTOMATED- REMOTELY CONTROLLABLE LOAD BREAK SWITCH/ SECTIONALISER 11kV OR 22kV TEE OFF TO U/G CABLE - MATERIALS LIST	SCALE NTS
		DESIGNED BY	ELECTRO		A4
		CHECKED BY	H.WESTBURY	D - OHC - E039 - SD - 002	REVISION A
		APPROVED BY			
DATE APPROVED	08/MAY/19				

5.8.6 Manual NGK Over-the-top Load Break Switch



Manual NGK Over-the-top Load Break Switch Materials List

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## 5.9 Poletop Steelwork Details

### 5.9.1 LVABC Fuse Switch Bracket

