

Technical Bulletin

TB 0254A – New Tappat 3-way LV URD link pillar termination

Purpose

This technical bulletin replaces the original TB0254 issued to introduce the Tappat 3-link LV URD pillar termination.

LV URD Link Pillars

LV Link pillars are required in the following 2 scenarios:

1. where an LV switching points are required, or;
2. at the first pillar from a padmount substation.

The link pillars available to be used on Endeavour Energy's network are shown below in Table 1 and are determined by the number of cables being terminated.

Table 1 - Link Pillars available for use

No. cables terminated	Product name	EE Stock code	TE Part No.
2	Tappat Single-Link termination	1546183	CV8184-000
3	Tappat 3-Link termination	1569235	BM8977-000

A construction and configuration guide for the 3-link termination is provided in Annexure 1.

The older **2-link** termination (EE Stockcode 1549104 – TE part no. CV8188-000) is not to be used for new designs and remains a stock item, only to be used for “like for like” fault and emergency repairs.

When converting an existing 2 cable bolted termination into a switching point, a retro fit version is available (EE Stockcode 1547157 – TE part no. CV8186-000).

The splitting of services

Both link pillar designs have 3 active terminals (designed for service connections) per phase permanently connected to the left and right sides of the panel and each hole can accommodate up to 50mm² cables.

The number of customer connections in each terminal block should be split evenly across either side of the open point.

For supply to service pillars, the designer should indicate what side of the open point the 50mm² service cable is to be connected to. Streetlight only cables should be connected on the opposite side of the open point.

First pillar from padmount substations

MDI0028 Section 4.9 currently states that “the first pillar on each LV mains cable from the padmount substation must contain a switch or insulated link termination to allow for substation maintenance and repairs **without** customer interruption.”

The word “**without**” will be replaced with “**to limit**” in the next release of MDI0028.

Unless a 3rd mains cable is required to be connected into the link pillar, the single-link termination must be used.

As the first pillar from a padmount will be a normally closed point, 50mm² service cables supplying service pillars **must not** be connected to substation side of the links, while streetlight only supplies **must** be connected to the substation side of the links.

3-Link Pillar drawing symbols

Drawing 294854 and Drawing 294372 have been amended and are attached to this technical bulletin to include the 3-link pillar symbols and notes to be used in design drawings.

Figure 1 below shows the additional symbols added to drawing 294854.

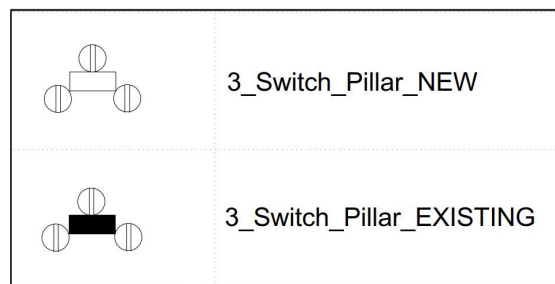


Figure 1 - Additional symbols added to drawing 294854

Figure 2 shows the design note 101 that has been added to drawing 294372.

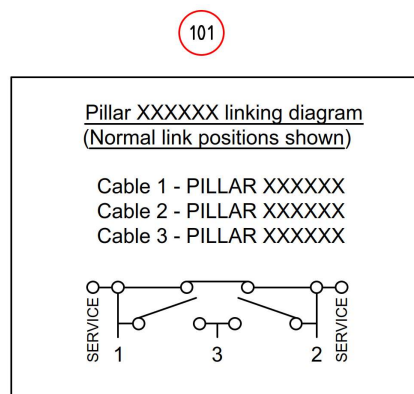


Figure 2 - Additional drawing note added to drawing 294372

Impacted Standards

- MDI 0028 – Underground distribution network design
- MCI 0006 – Underground distribution construction standard
- SAD 0001 – Project Drawing standards (Drawings 294854 & Drawing 294372)

Annexure 1

Construction

A “Quick Byte” YouTube video on the installation of the 3-link termination pillar is available to watch using the following link:

<https://www.youtube.com/watch?v=2yQwB597prY>

Configuration

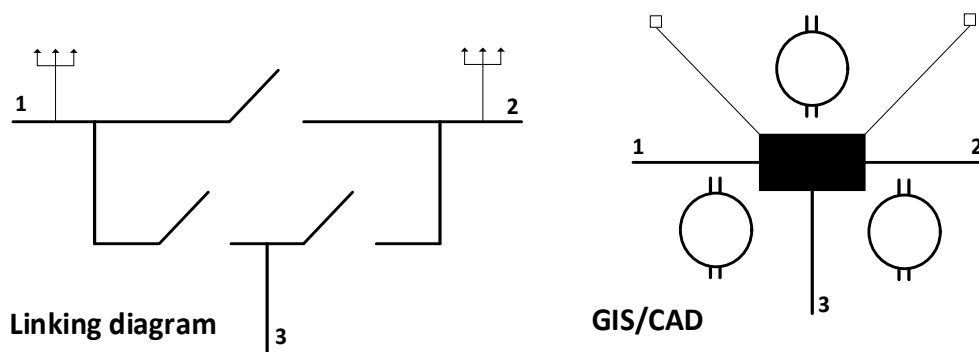
A configuration guide for how the 3-link panel can be used to isolate any one of the 3 connected cables and the GIS symbol representation is shown below.

The mains cable approaching the LV pillar from the left (when facing the premise) is labelled cable ‘1’ and the cable approaching the LV pillar from the right is labelled cable ‘2’. If there is another cable it is labelled cable ‘3’.

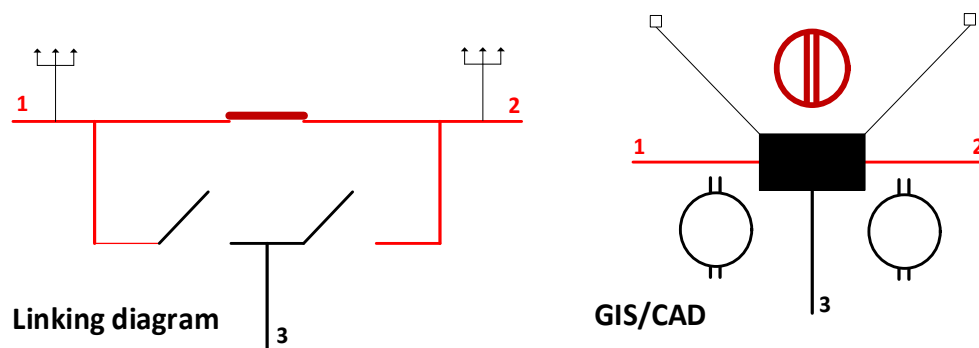
At all times the service cables (at the pillar being switched) are energised and can only be isolated through switching further down the line.

Scenario 1 (all links removed)

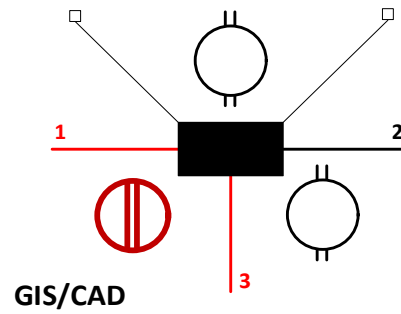
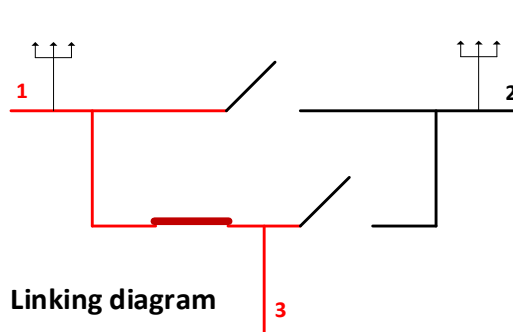
Extract all Links to provide open points between all feeders



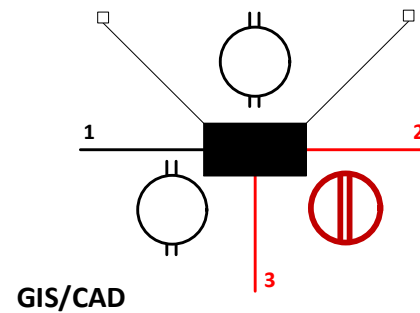
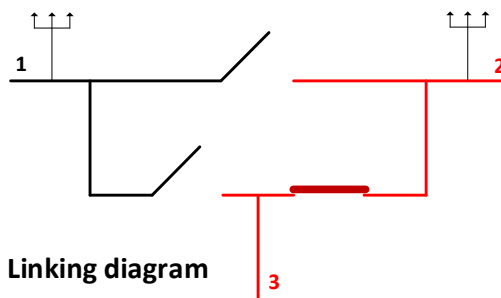
Scenario 2 (open point from cable 3)



Scenario 3 (open point from cable 2)

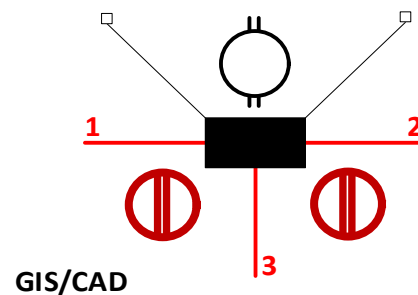
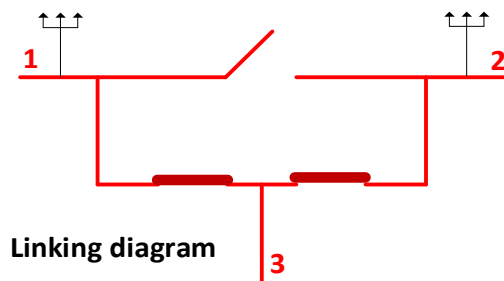


Scenario 4 (open point from cable 1)

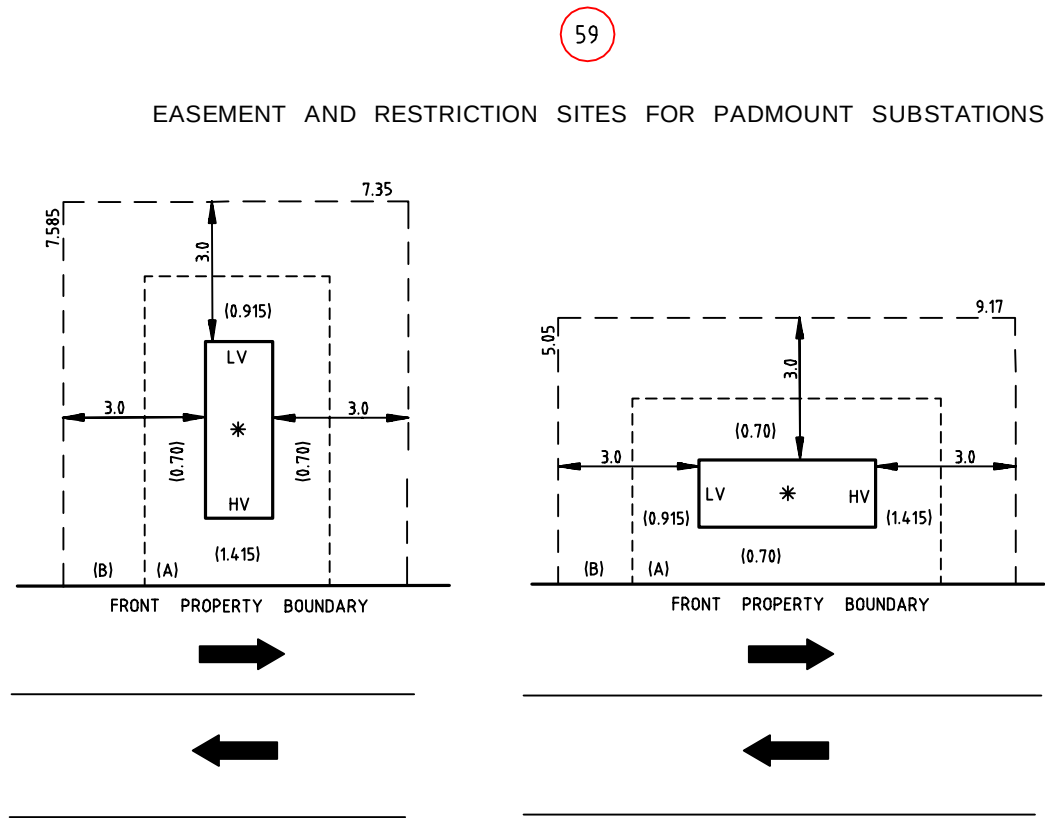


Scenario 5 (All cables energised by any 2 links closed)

Any scenario where 2 links are closed will connect all 3 mains cables. A 3rd set of links is not required to be installed for normal operation. The preferred configuration for this scenario is shown below.



1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16																																																																																																																																																																								
SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME	SYMBOL	OBJECT/BLOCK NAME																																																																																																																																																																							
	HV_SUBSTATION_PADMOUNT_NEW		LV_FUSE		SL_LANTERN_NEW		DUCT-TRENCH_1x125		DUCT-TRENCH_3x125_T		MISC_POLE_REMOVE		BUSBAR_HV_HAZEMEYER-HOLEC_AARCA_EXIST		BUSBAR_LV_IFDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_CB2FDR_EXIST		BUSBAR_LV_CB1FDR_EXIST		BUSBAR_LV_IFDR_EXIST		BUSBAR_HV_ZONE-SUBSTATION_EXIST		BUSBAR_LV_CB_NEW		BUSBAR_LV_CB2FDR_REPLACE		BUSBAR_LV_CB1FDR_REPLACE		BUSBAR_LV_IFDR_REPLACE		BUSBAR_LV_2FDR_REPLACE		BUSBAR_LV_STROMBER_EXIST		BUSBAR_LV_FUSE_EXIST		BUSBAR_LV_CB_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_LV_CB2FDR_NEW		BUSBAR_LV_CB1FDR_NEW																																																																																																																																																					
	HV_SUBSTATION_PADMOUNT_EXIST		LV_LINK-BOX_FUSED		SL_LANTERN_EXIST		DUCT-TRENCH_2x125		DUCT-TRENCH_1x50-3x125		MISC_POLE_NEW		BUSBAR_HV_KRONE_AARCA_EXIST		BUSBAR_LV_3FDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_CB2FDR_EXIST		BUSBAR_LV_CB1FDR_EXIST		BUSBAR_LV_IFDR_EXIST		BUSBAR_HV_ZONE-SUBSTATION_EXIST		BUSBAR_LV_CB_NEW		BUSBAR_LV_CB2FDR_REPLACE		BUSBAR_LV_CB1FDR_REPLACE		BUSBAR_LV_IFDR_REPLACE		BUSBAR_LV_2FDR_REPLACE		BUSBAR_LV_STROMBER_EXIST		BUSBAR_LV_FUSE_EXIST		BUSBAR_LV_CB_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_LV_CB2FDR_NEW		BUSBAR_LV_CB1FDR_NEW																																																																																																																																																					
	HV_SWITCH-STATION_NEW		LV_LINK-BOX_OPEN		SL_LANTERN_REPLACE		DUCT-TRENCH_3x125_F		DUCT-TRENCH_2x50-3x125		MISC_POLE_REPLACE		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_3FDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_CB2FDR_EXIST		BUSBAR_LV_CB1FDR_EXIST		BUSBAR_LV_IFDR_EXIST		BUSBAR_HV_ZONE-SUBSTATION_EXIST		BUSBAR_LV_CB_NEW		BUSBAR_LV_CB2FDR_REPLACE		BUSBAR_LV_CB1FDR_REPLACE		BUSBAR_LV_IFDR_REPLACE		BUSBAR_LV_2FDR_REPLACE		BUSBAR_LV_STROMBER_EXIST		BUSBAR_LV_FUSE_EXIST		BUSBAR_LV_CB_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_LV_CB2FDR_NEW		BUSBAR_LV_CB1FDR_NEW																																																																																																																																																					
	HV_SWITCH-STATION_EXIST		LV_LINK-BOX_REMOVABLE		SL_LANTERN_REMOVE		DUCT-TRENCH_4x125		DUCT-TRENCH_2x50-3x125		MISC_POLE_REPLACE		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_3FDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_CB2FDR_EXIST		BUSBAR_LV_CB1FDR_EXIST		BUSBAR_LV_IFDR_EXIST		BUSBAR_HV_ZONE-SUBSTATION_EXIST		BUSBAR_LV_CB_NEW		BUSBAR_LV_CB2FDR_REPLACE		BUSBAR_LV_CB1FDR_REPLACE		BUSBAR_LV_IFDR_REPLACE		BUSBAR_LV_2FDR_REPLACE		BUSBAR_LV_STROMBER_EXIST		BUSBAR_LV_FUSE_EXIST		BUSBAR_LV_CB_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_LV_CB2FDR_NEW		BUSBAR_LV_CB1FDR_NEW																																																																																																																																																					
	HV_CIRCUIT-BREAKER_STANDARD		LV_LINK-BOX_SOLID		SL_FLOODLIGHT_EXIST		DUCT-TRENCH_5x125		DUCT-TRENCH_2x50-4x125		MISC_EARTH		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_3FDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AC_EXIST		BUSBAR_LV_CB2FDR_EXIST		BUSBAR_LV_CB1FDR_EXIST		BUSBAR_LV_IFDR_EXIST		BUSBAR_HV_ZONE-SUBSTATION_EXIST		BUSBAR_LV_CB_NEW		BUSBAR_LV_CB2FDR_REPLACE		BUSBAR_LV_CB1FDR_REPLACE		BUSBAR_LV_IFDR_REPLACE		BUSBAR_LV_2FDR_REPLACE		BUSBAR_LV_STROMBER_EXIST		BUSBAR_LV_FUSE_EXIST		BUSBAR_LV_CB_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_HV_AASA_EXIST		BUSBAR_LV_CB2FDR_NEW		BUSBAR_LV_CB1FDR_NEW																																																																																																																																																					
	HV_CIRCUIT-BREAKER_AIR		LV_PILLAR_INDUSTRIAL-COMMERCIAL_DOUBLE-LINK_NEW		SL_FLOODLIGHT_NEW		DUCT-TRENCH_1x50-4x125		DUCT-TRENCH_5x125		MISC_UG-OH		BUSBAR_HV_HAZEMEYER-HOLEC_AARCA_EXIST		BUSBAR_LV_4FDR_NEW		BUSBAR_HV_HAZEMEYER-HOLEC_AARCA_EXIST		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW		BUSBAR_LV_4FDR_NEW	



- (A) EASEMENT PADMOUNT SUBSTATION 2.75x5.5 CENTRED
AROUND THE SUBSTATION PLINTH EXCEPT FOR 0.25 METRE
OFFSET TOWARD THE HV END
- (B) RESTRICTION ON THE USE OF LAND IN RELATION TO THE
FIRE RATING OF BUILDINGS MEASURED 3 METRES FROM
SUBSTATION PLINTH
- * SUBSTATION PLINTH 1.35x3.17 AT TOP OF CONCRETE (ALL
OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)
- IF A PLAN OF SURVEY, PLEASE SHOW SUBSTATION NUMBER AND
AT LEAST TWO OFFSETS TO PLINTH

154668	190						46	0	B21	B21	600	1.85	12.5/8	C					5
	189	x															X		4
154667							50	45	B23	B23	600	1.85	12.5/8	C		X			3
	187						32												2
154666		x			B5	7.5	43	5	B21	B21	600	1.85	12.5/8	C		X			1
NEW EXISTING		NEW REMOVE EXISTING REPLACE BRACKET		HOUNTING HEIGHT (in)	SPAN LENGTH LINE DEV DEGREES				HV	LV	DIA mm	DEPTH m	TYPE	STAY	FOOTING	RELOCATE	REPLACE	NEW EXISTING	REMOVE DESIGN NUMBER
FIELD POLE NUMBER		LANTERNS				CONSTRUCTION					HOLE			POLE					

LIGHTING EQUIPMENT SCHEDULE																			
ITEM ID	STATE	SL NUMBER	SUPPORT NUMBER	LUMINAIRE				COLUMN/POLE					BRACKET/OUTREACH			UPCAST	CATEGORY	CHARGE TO	MOUNTING HEIGHT
		NEW	EXISTING	DESCRIPTION	PART NO	QTY	RATE CODE	DESCRIPTION	PART NO	FOOTING (BOLT/FOUNDATION)	QTY	RATE CODE	DESCRIPTION	PART NO	RATE CODE				
1	New	L1,L2,L3,L4	456	42W CFL WP IE (ANNUITY)	1555564	4	503	8.5m EB Column	1540145	Universal/Universal	4	451	4.5m Outreach Minor Road	1545219	632	5"	Bankstown City Council(100%)	xxm	
2	New	L5,L6,L7,L8,L9	123	2x24W FL COL GIFTED (LEGACY)	1548403	5	414	8.5m EB Column	1540145	Universal/Universal	5	451	4.5m Outreach Minor Road	1545219	632	5"	Bankstown City Council(100%)	xxm	
3	Remove	L9	234071			1	61			/	0					5"	V5		

REFERENCE DRAWING'S

DO NOT
SCALE