

Western Power's Asset Management System

Distribution Design Catalogue Running Earth and Streetlight Feed Section 03



Original Issue: June 2004

Content Owner/Custodian: Distribution Design and Standards

This Revision: 8 – April 2025

Date for Next Review: April 2028

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Document control

Endorsement approvals

	Name	Title	Signature and Date
Compiled by	Nory Cerrado	Distribution Draftsperson	Signature on file
Checked by	Chris Omodei	Principal Engineer	Signature on file
Endorsed by	Ken Tiong	Team Leader	Signature on file
Approved by	Pep Ngwenya	Distribution Design & Standards Manager	Signature on file

Record of revisions

Revision No.	Date	EDM Version	Compiled by	Description
1	08/04/2025	18	Nory Cerrado	First Revision with new Format and 3 yearly review

This document gives direction to and influences the following documents.

Doc	Title of document
ALL CHAPTERS	DDC - DISTRIBUTION DESIGN CATALOGUE
ALL CHAPTERS	DCSH - DISTRIBUTION CONSTRUCTION STANDARD HANDBOOK
ALL CHAPTERS	DSPM - DISTRIBUTION SUBSTATION PLANT MANUAL

Stakeholders (people that were consulted when document was updated)

Business Unit / Function

Asset Management - Asset Performance

Asset Management – Safety Environment Quality and Training

Asset Management - Grid Transformation

Asset Operations – Network Operations

Asset Operations – Operational Services

Asset Operations – Customer Connection Services

Business and Customer Service – Customer Service

Notification list (people to be notified when document is updated)

Business Unit / Function

Asset Management - Asset Performance

Asset Management – Safety Environment Quality and Training

Asset Management - Grid Transformation

Asset Operations – Network Operations

Asset Operations – Operational Services

Asset Operations – Customer Connection Services

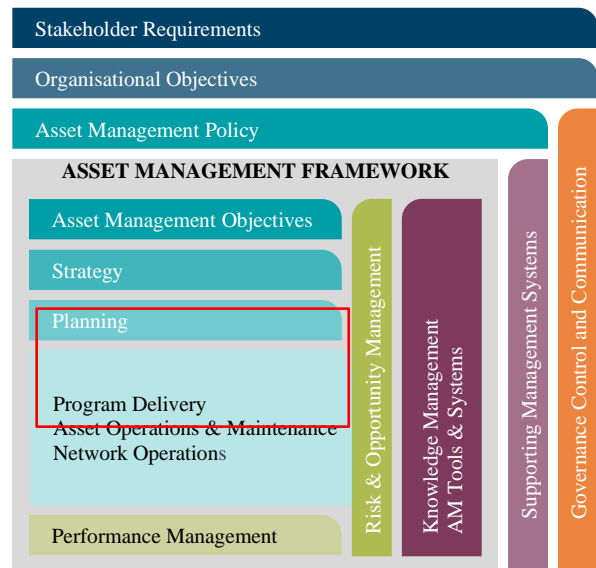
Business and Customer Service – Customer Service

This document must not be made available to personnel outside Western Power without the prior written approval of Western Power.

Document classification and hierarchy

A key requirement of the Western Power Asset Management Policy (AMP) is to develop and maintain an Asset Management System (AMS). This Distribution Substation Plant Manual is defined as a technical document within the AMS document classification and structure and sits within the planning and Program Delivery components of the AMS.

The AMS and the interrelationships between the collection of documents, tools and systems that are used for asset management are described in the AMS document EDM# [40304923](#).



Revision List

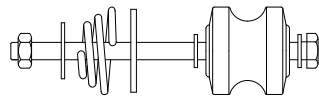
For drawing revisions please refer to the DDC Amendment list EDM# 24803827

General Notes

NOTE #	DESCRIPTION
1	Driving point is not required for normal ground conditions including small coffee rocks and shale. For harder ground condition, a driving point is recommended. (It is unlikely the driving point will be suitable for granite rock)
2	Expulsion Dropout Fuse (EDO) base and links as well as K-Mate fuse current limiters are not included in CUs but listed in HV51. Fault Tamer fuse base and links are listed in HV52. Fault Tamer fuse are not to be used on 33kV networks and have a maximum rating of 20A. EDOs are used on 33kV networks and for current rating greater than 20A.
3	For the physical dimension tables the uppermost king bolt / eye bolt is the reference point with coordinates X=0.0, Y=0.0 (Datum)
4	The conductor location in the Y axis of the physical dimension tables lists the height of the conductor on the top of the post insulator above the datum. This dimension has been rounded down taking equipment differences, manufacturing tolerances and installation variations into account. On angle structures, where the conductor is attached to the side of the insulator head the conductor is located marginally lower than if located on the top of the insulator. No adjustment is considered necessary to the Y dimension in these cases.
5	For conductor clashing calculation, apply the correct Y dimension which may differ from that listed in the dimension table which is used for ground clearance simulation purposes. E.g. HV09 RHS span (centre to outer phase) Ydim to be 230mm and not 310mm.
6	HV isolators to be selected according to HV53.

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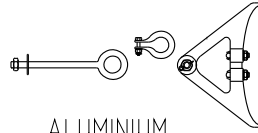


RUNNING EARTH
INTERMEDIATE

RE1



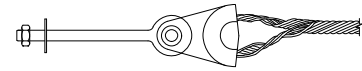
STEEL



ALUMINIUM

RUNNING EARTH
ANGLE

RE2



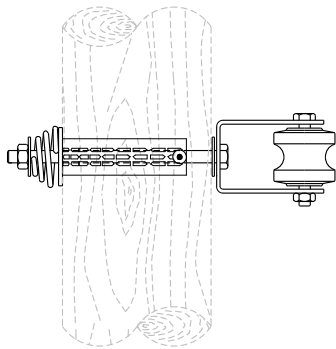
ALUMINIUM & STEEL



STEEL

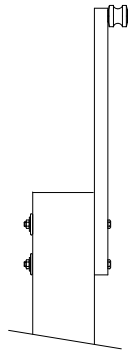
RUNNING EARTH
TERMINATION

RE3



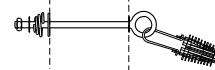
RUNNING EARTH
INTERMEDIATE
ANGLE 2° TO 10°

RE4

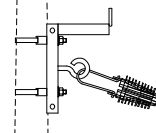


RUNNING EARTH
INTERMEDIATE
WISHBONE RAISER

RE6



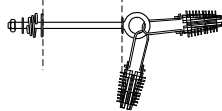
WOOD



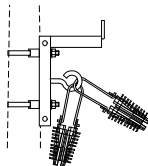
CONCRETE

STREET LIGHT FEED
TERMINATION

RE7



WOOD



CONCRETE

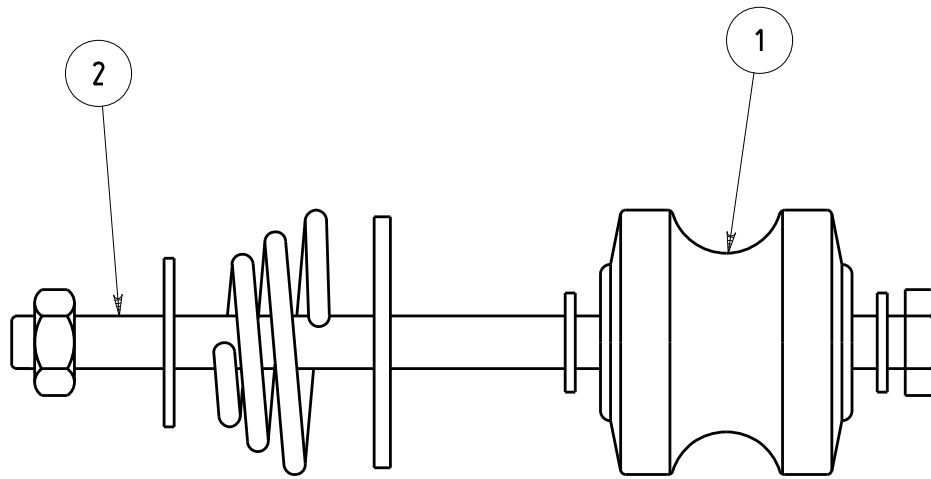
STREET LIGHT FEED
INTERMEDIATE

RE8

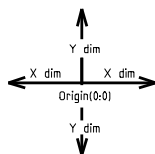
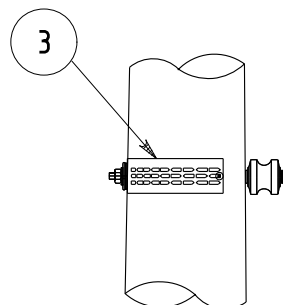
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D 04.12.14										FORMAT CHANGED AND RE4 ADDED										JC										REE										GS																			
C 27.09.13										ORIGINAL ISSUE																																																	
R No										DATE										DESCRIPTION										ORGO.										CHED.										APPROV.									
																														GRANT STACY										REV. D										SHT.									

Running Earth and Street light Feed CU List

CU	CU DESCRIPTION
RE1	Running earth intermediate
RE2_7/475A	Running earth angle – 7/4.75 AAC/AAAC
RE2_7/250A	Running earth angle – 7/2.50 AAC/AAAC and 6/1/3.00 ACSR/AACSR
RE2_3/275SC	Running earth angle – 3/2.75 SCGZ
RE2_7/160SC	Running earth angle – 7/1.60 SCGZ
RE2_3/275AC	Running earth angle – 3/2.75 SCAC
RE3_7/250AA	Running earth termination – 7/2.50 AAC and AAAC
RE3_7/475AA	Running earth termination – 7/4.75 AAC and AAAC
RE3_19/325AA	Running earth termination – 19/3.25 AAC and AAAC
RE3_3/275AC	Running earth termination – 3/2.75 SCAC
RE3_3/275SC	Running earth termination – 3/2.75 SCGZ
RE3_7/160SC	Running earth termin – 7/1.60 SCGZ
RE3_6/1/300	Running earth termin – 6/1/3.00 ACSR/AC
RE4	Running Earth Intermediate Angle 2° to 10°
RE6	Running earth Intermediate Wishbone Raiser
RE7_TC	Street light Feed Termination - concrete
RE7_TW	Street light Feed Termination - wood
RE8_IC	Street light Feed Intermediate - concrete
RE8_IW	Street light Feed Intermediate - wood



350



Design Dimensions

Phase	X dim	Y dim
R/E	350	0

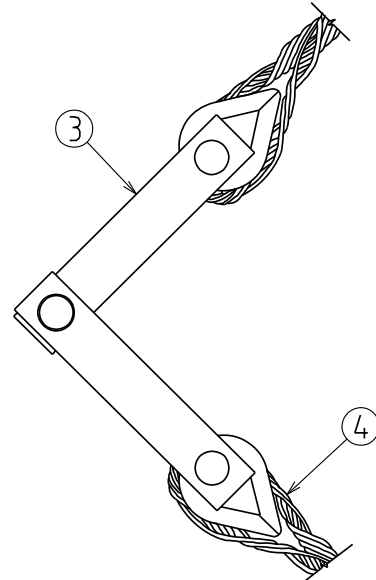
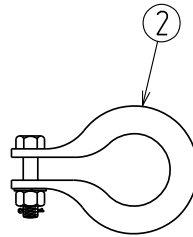
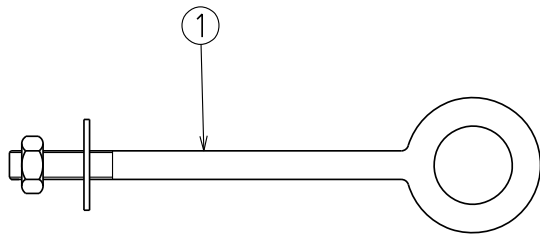
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Attachment height - DCSH

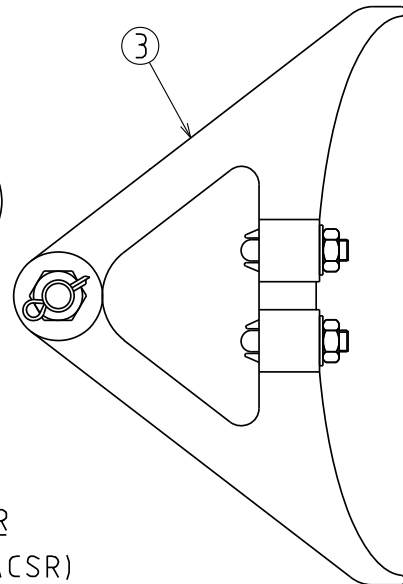
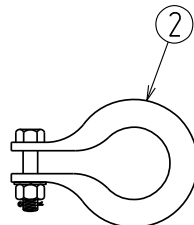
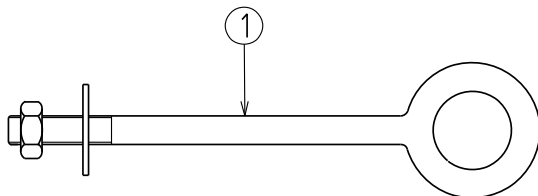
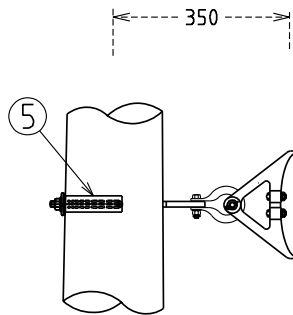
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							REV. E		SHT.	
									RE01	

CU	CU Description
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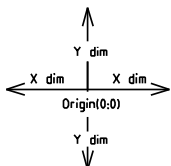
RE1 Running earth intermediate					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	AB6732	Pole bolt - M16x550mm lg with nut and washers	1	ea	
3	CE7541	dispersion plate	1	ea	



STEEL CONDUCTOR
(SCGZ & SCAC)



ALUMINIUM CONDUCTOR
(AAC, AAAC & ACSR/AACSR)



Design Dimensions

Phase	X dim	Y dim
R/E	350	0

Origin - Bolt (0:0)
Attachment height - DCSH

COMPATIBLE UNIT				DISTRIBUTION DESIGN CATALOGUE		westernpower	
REV	DATE	DESCRIPTION	ORGO	CHKD	APRD	TITLE	DRG. No.
F	13.11.18	SUB TITLE CHANGED	NN	REE	GS	ANGLE RUNNING EARTH	RE02
E	21.09.15	FORMAT CHANGED AND EYE BOLT REVISED	JC	REE	GS		
D	11.04.14	ORIGINAL ISSUE					
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CU	CU Description
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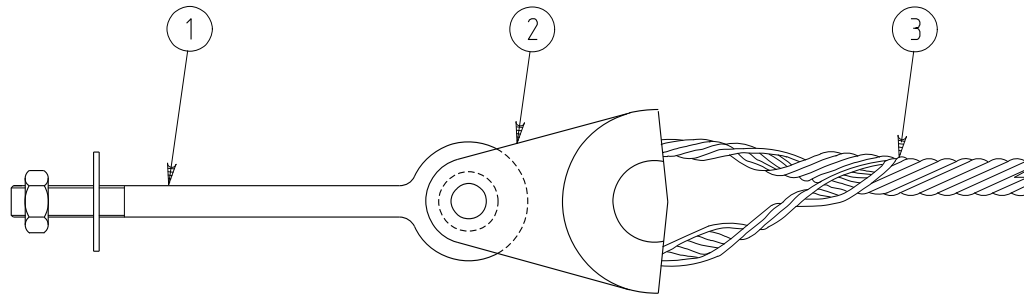
RE2_7/475A Running earth angle – 7/4.75 AAC / AAAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	OS0055	bow shackle	1	ea	
3	CC0166	Angle assembly	1	ea	
5	CE7541	dispersion plate	1	ea	

RE2_7/250A Running earth angle – 7/2.50 AAC / AAAC and 6/1/3.00 ACSR/AACSR					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	OS0055	bow shackle	1	ea	
3	CC0167	Angle assembly	1	ea	
5	CE7541	dispersion plate	1	ea	

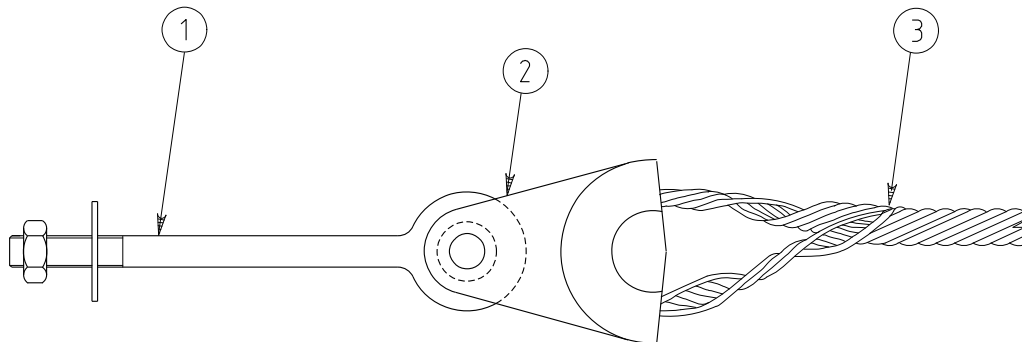
RE2_3/275SC Running earth angle – 3/2.75 SCGZ					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	OS0055	bow shackle	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0661	Helical termination	2	ea	
5	CE7541	dispersion plate	1	ea	

RE2_7/160SC Running earth angle – 7/1.60 SCGZ					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	OS0055	bow shackle	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0669	Helical termination	2	ea	
5	CE7541	dispersion plate	1	ea	

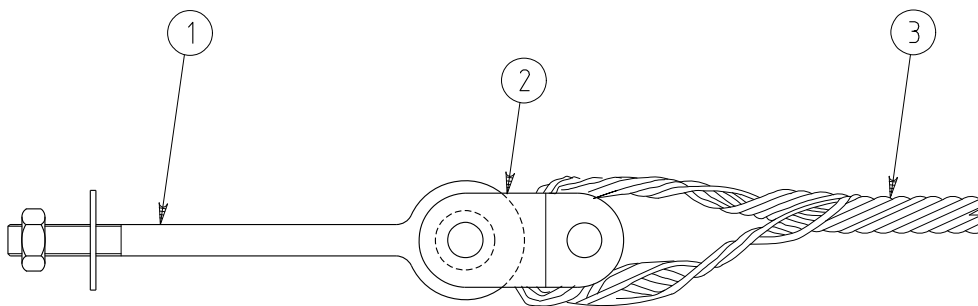
RE2_3/275AC Running earth angle – 3/2.75 SCAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	OS0055	bow shackle	1	ea	
3	CA0055	Angle assembly	1	ea	
4	CF0700	Helical termination	2	ea	
5	CE7541	dispersion plate	1	ea	



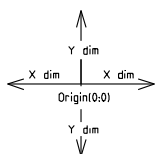
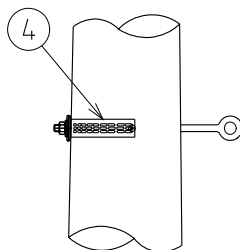
ALUMINIUM CONDUCTOR
(AAC, AAAC & ACSR/AACSR)



STEEL CONDUCTOR
(SCAC)



STEEL CONDUCTOR
(SCGZ)



Design Dimensions

Phase	X dim	Y dim
R/E	0	0

Origin - Bolt (0:0)
Attachment height - DCSH

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F										13.11.18										SUB TITLE CHANGED										NN										REE										GS									
E										21.09.15										FORMAT CHANGED AND EYE BOLT CHANGED										JC										REE										GS									
D										28.03.13										ORIGINAL ISSUE																																							

CU	CU Description
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RE3_7/250AA Running earth termin – 7/2.50 AAC/AAAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0011	clevis thimble alum	1	ea	
3	CF0752	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	

RE3_7/475AA Running earth termin – 7/4.75 AAC/AAAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0011	clevis thimble alum	1	ea	
3	CF0757	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	

RE3_19/325AA Running earth termin – 19/3.25 AAC/AAAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0011	clevis thimble steel	1	ea	
3	CF0758	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	

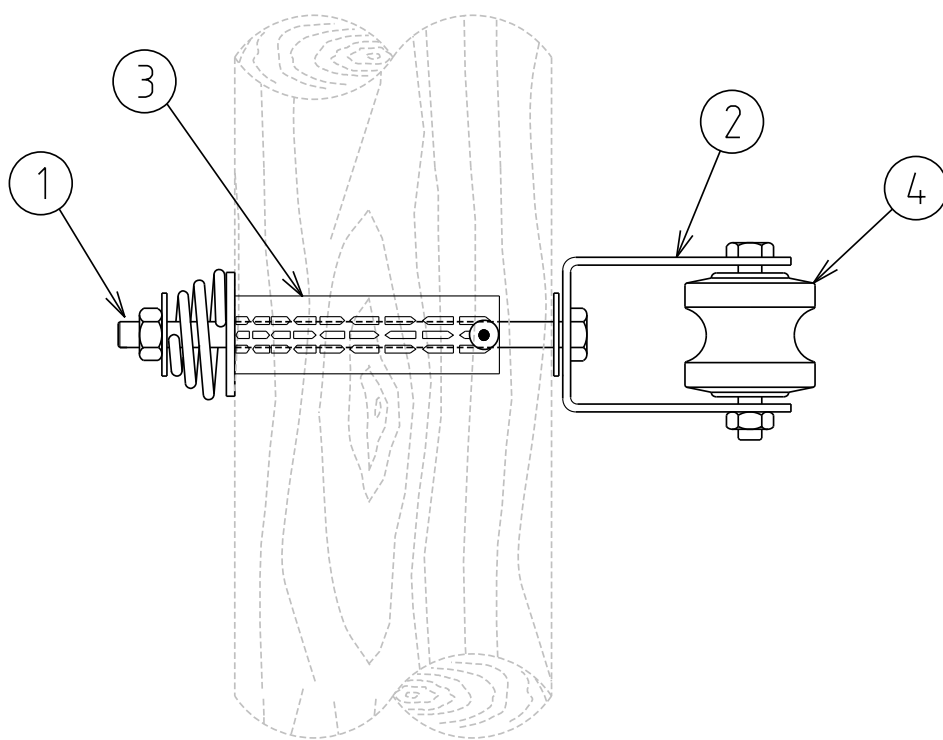
RE3_3/275AC Running earth termin – 3/2.75 SCAC					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0011	clevis thimble steel	1	ea	
3	CF0700	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	


RE3_3/275SC Running earth termin – 3/2.75 SCGZ					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0037	clevis thimble steel	1	ea	
3	CF0661	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	

CU	CU Description
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RE3_7/160SC Running earth termin – 7/1.60 SCGZ					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0037	clevis thimble steel	1	ea	
3	CF0669	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	

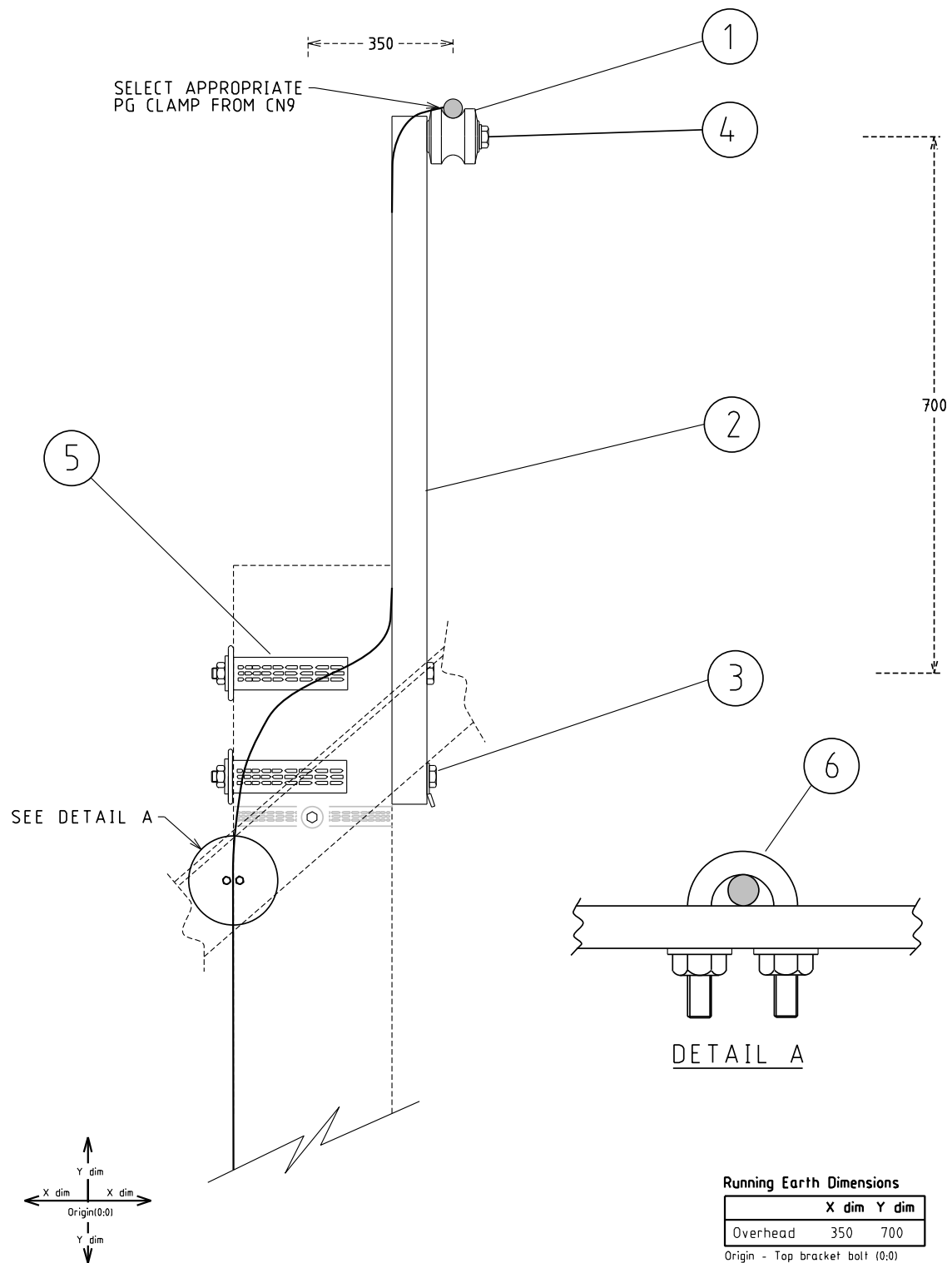
RE3_6/1/300 Running earth termin – 6/1/3.00 AACSR/AC					
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1	AB6025	eyebolt M16x400 long with nut and washer	1	ea	
2	CT0011	clevis thimble steel	1	ea	
3	CF0611	Helical termination	1	ea	
4	CE7541	dispersion plate	1	ea	




COMPATIBLE UNIT										DISTRIBUTION DESIGN CATALOGUE							
TITLE										DRAWN: JRR		DATE: 03-12-2014		DRG. No.			
RUNNING EARTH INTERMEDIATE ANGLE 2° TO 10°										ORIGINATED:		SCALE: NTS		RE04			
										CHECKED: REE							
										APPROVED:							
										GRANT STACY							
REV		DATE		DESCRIPTION		ORGO	CHKD	APRD			REV		SHT.				
E	26.03.18	SHACKLE TYPE CHANGED				JC	LT	GS									
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C	27.09.13	ORIGINAL ISSUE															

CU	CU Description
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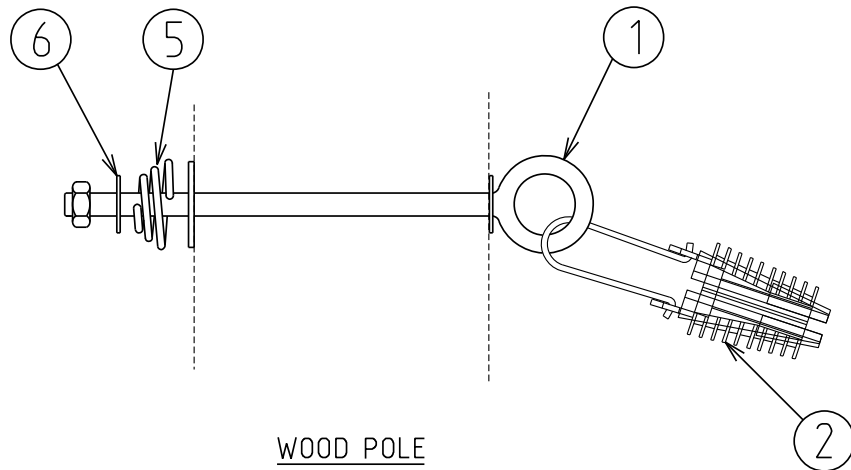
RE4_W Running Earth Intermediate Angle 2° to 10°					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6732	Pole bolt – M16x550 lg with nut and washers	1	ea	
2	CB0316	Shackle 'U' Style	1	ea	
3	CE7541	Dispersion Plate	1	ea	
4	IA0256	Strain Insulator Porcelain Blue	1	ea	



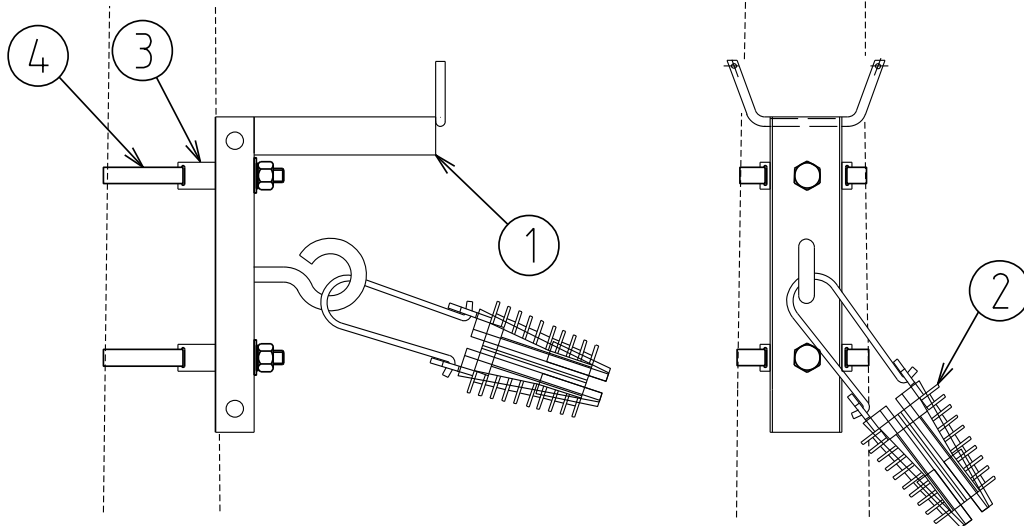
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						RUNNING EARTH INTERMEDIATE WISHBONE RAISER			CHECKED: REE		RE06			
									APPROVED: GRANT STACY					

CU	CU Description
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RE6 Running earth intermediate wishbone raiser					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	IA0256	shackle insulator	1	ea	
2	CB0170	earth raiser bracket	1	ea	
3	AB6733	Pole bolt – M16x400 lg with nut and washers	2	ea	
4	AB4611	bolt – M16x120mm lg with nut and washers	1	ea	
5	CE7541	dispersion plate	2	ea	
6	OG0351	U-bolt	2	ea	



WOOD POLE



CONCRETE POLE

NOTE:-

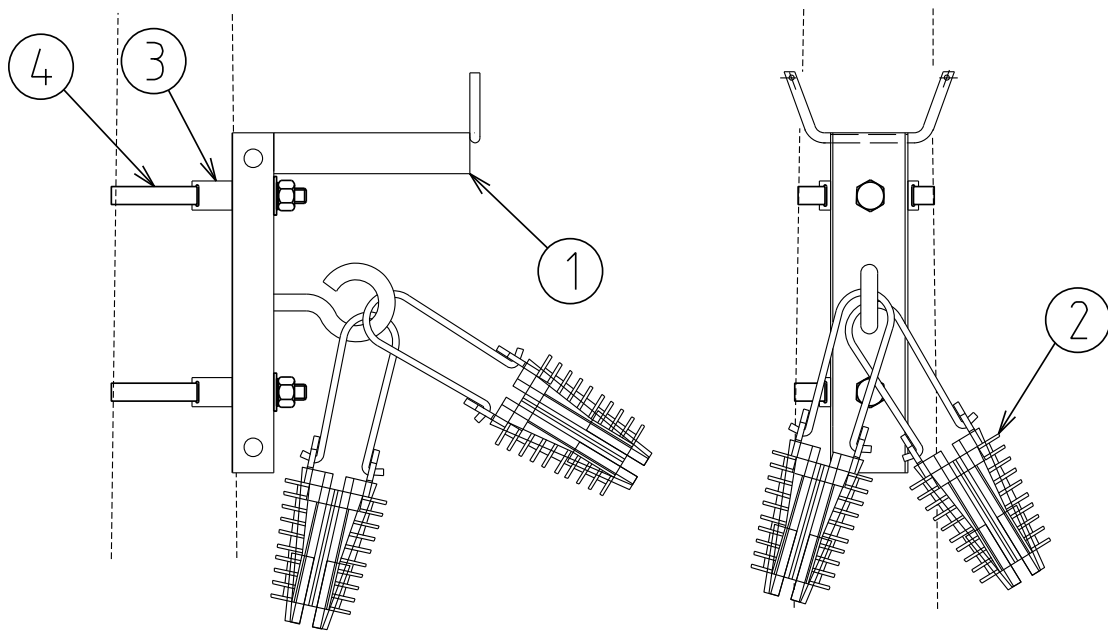
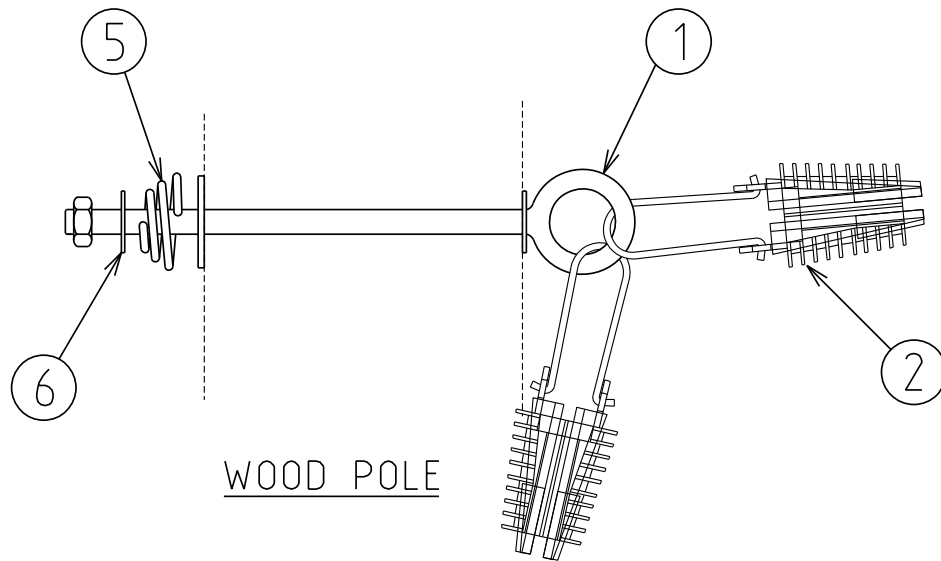
1. NO NEW STREET LIGHT SWITCH WIRE SHALL BE INSTALLED.
2. ALL NEW OR REPLACEMENT STREET LIGHTS THAT ARE PART OF THE AERIAL NETWORK MUST BE OF THE PE TYPE AND FED FROM THE LV.


						COMPATIBLE UNIT						DISTRIBUTION DESIGN CATALOGUE					
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						GRANT STACY						REV. R		SHT.			
B	11.07.16	NOTE REVISED				REE	JC	GS									
A	04.10.13	ORIGINAL ISSUE															
REV	DATE	DESCRIPTION				ORGO	CHKD	APRD									

CU	CU Description
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RE7_TC Street light Feed Termination_concrete					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CB3020	Universal ABC bracket	1	ea	
2	CC0112	Clamp strain wedge 6-25sq mm	1	ea	
3	CB3055	Bracket ABC suspension clamp	2	ea	
4		32mm Bandit strap	1		As reqd

RE7_TW Street light Feed Termination_wood					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6037	Eye bolt M20 350mm lg	1	ea	
2	CC0112	Clamp strain wedge 6-25sq mm	1	ea	
5	CZ0335	Helical coil spring washer M20	1	ea	
6	AW3546	Washer square 50x50mm M20	1	ea	



										COMPATIBLE UNIT					DISTRIBUTION DESIGN CATALOGUE					
										TITLE					DRAWN: JRR		DATE: 17-04-2014		DRG. No.	
										STREET LIGHT FEED - INTERMEDIATE					ORIGINATED:		SCALE: NTS		RE08	
															CHECKED: REE				REV. B	
															APPROVED: GRANT STACY				SHT.	
REV	DATE	DESCRIPTION			ORGO	CHKD	APPRO													
B	09.06.16	ITEM 5 & 6 ADDED			JC	REE	GS													
A	22.04.14	ORIGINAL ISSUE																		

CU	CU Description
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RE8_IC Street light Feed Intermediate- concrete					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	CB3020	Universal ABC bracket	1	ea	
2	CC0112	Clamp strain wedge 6-25sq mm	2	ea	
3	CB3055	Bracket ABC suspension clamp	2	ea	
4		32mm Bandit strap	1		As reqd

RE8_IW Street light Feed Intermediate - wood					
ITEM NUMBER	STOCK CODE	DESCRIPTION	QTY RQD	UNIT OF MEASURE	REMARKS
1	AB6037	Eye bolt M20 350mm lg	1	ea	
2	CC0112	Clamp strain wedge 6-25sq mm	2	ea	
5	CZ0335	Helical coil spring washer M20	1	ea	
6	AW3546	Washer square 50x50mm M20	1	ea	