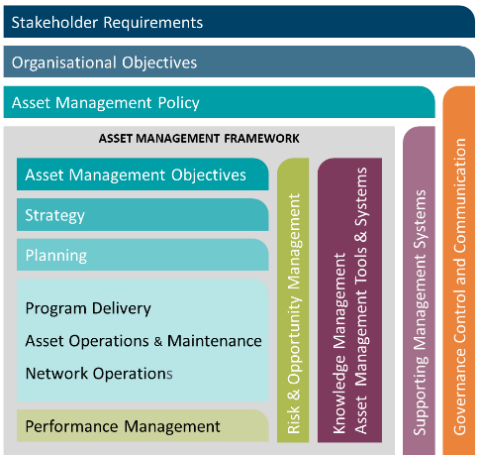
Western Power's
Asset Management System



Distribution Construction Standard Handbook Reference Part 02 (R)

Original Issue: November 2003

Content Owner/Custodian: Distribution Design and Standards

This Revision: May 2026

Date for Next Review: April 2028

ABN 18540492861

Volt ID ID-005-8b2d45324e0c500fcd5185db8991b76c

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	Version	Compiled by	Description
1	04/04/2025	EDM 61	Nory Cerrado	First Revision with new Format and 3 yearly review
2	01/07/2025	Volt 62	Nory Cerrado	Refer to Amendment list
3	22/12/2025	Volt 64	Nory Cerrado	Refer to Amendment list
4	26/02/2026	Volt 65	Nory Cerrado	Refer to Amendment list
5	25/05/2026	Volt 66	Nory Cerrado	Refer to Amendment list

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

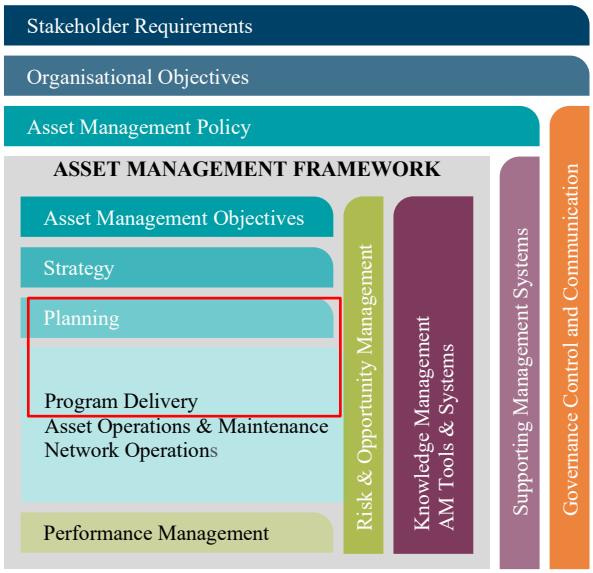
Asset Management – Safety Environment Quality and Training
Asset Management - Grid Transformation
Asset Operations – Network Operations
Asset Operations – Operational Services
Asset Operations – Customer Connection Services
Business and Customer Service – Customer Service

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 AMS document Volt ID

ID-005-dc7f342fed83eb7f008777ff0463b876.



General Notes

1. Overhead Hardware - Bolt Selection

All bolt holes must be drilled to size for the bolt being fitted as oversize bolt holes allow excess plant/equipment movement which may result in the plant/equipment being damaged.

Pole bolt length selected to avoid excessive thread protrusion, maximum 100mm. Bolt packing (multiple washers/springs etc) must not be used as a permanent fixing.

Pole bolt excess thread may be flat trimmed and sharp edges must be removed to suit the fitting of washers and coil springs as per standard bolt selection. This is to prevent overlength bolts and/or sharp edges presenting a hazard to public and personnel safety (e.g. pole top switch handle bolts). Cold galv or galmet should be applied to exposed metal.

2. Overhead Hardware – Sleeve/Splice Clearances

Fargo and crimp type compression sleeves must have a 100mm minimum clearance from all other line hardware such as insulators, conductor ties, armor rods, PG clamps and dead ends etc.

3. Overhead Hardware – Very Heavy Pollution Areas

All areas in

- North Country (North of Ledge Point) that are within 20 kilometres of the coast,
- Metro/South Country (South of Ledge Point) that are within 10 kilometres of the coast, or
- locations with local knowledge of high pollution (i.e. salt lakes),

are considered to be extremely corrosive environments, classified as “Very Heavy” according to SA TS 60815.
In these areas, grease and anti-corrosion tape must be appropriately applied to all new lugs and connectors (as described in drawing R8/3) to prevent moisture ingress.

4. Overhead Hardware – Steel Strap (Band-It Strap) use on wood poles

Steel straps are not to be used on wood poles as the prime fixing method for equipment due to possible wood shrinkage causing the equipment to become loose and unstable. It may be used in conjunction with other fixing methods (e.g. Bolts, coach screws, TEK screws, etc) but not as the sole support method.

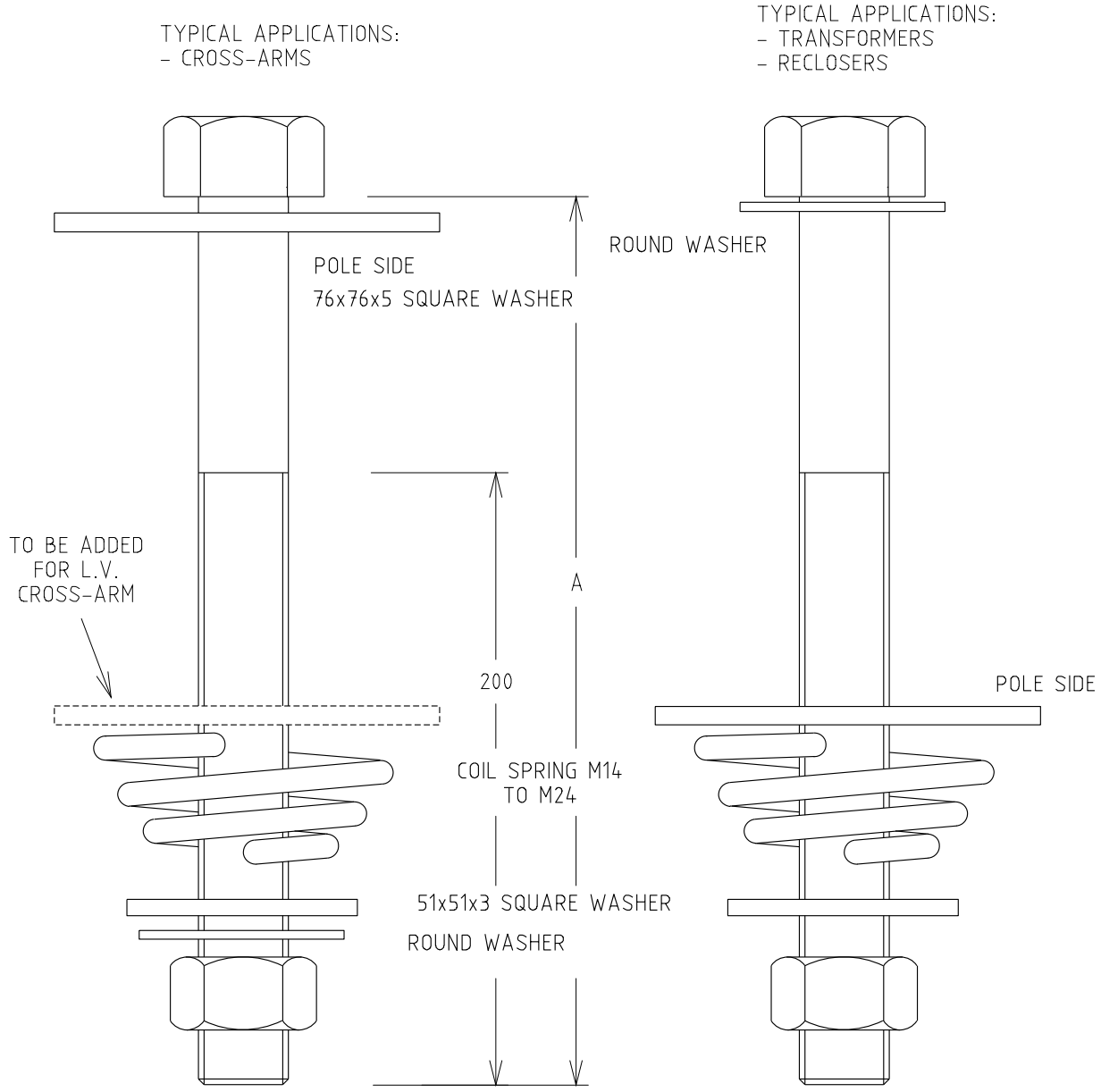
Drawing Register

Number	Revision	Description
R01	F	Pole Bolt Details
R02-1	D	Bonding - Intermediate
R02-2	C	Bonding - Strain
R02-3	C	Bonding - Running Disc Angle
R02-4	F	Bonding - Wood LV Cross-arm
R02-5	B	Bonding – Retro-fit Wood Cross-arm
R02-6	A	Bond HV Attachments to the Running Earth Conductor
R03-1	K	Insulators and Running Earth
R03-2	B	Insulator Ties
R03-3	M	Armour Rods and Spiral Vibration Dampers
R03-4	A	Wildlife Deterrent
R04	B	Insulator Pin & Pin Details
R05-1	G	Eyebolt
R05-2	B	Eyebolt, Conductor Terminations
R06-1-1	H	Pole top switch Earthing
R06-1-2	C	Pole Earthing
R06-1-3	C	Separate LV & HV Earthing for Pole Transformer
R06-1-4	A	Pole Top Earthing at Transformer Structures
R06-2-1	G	PTS Down Earth Repair for Vandalism/Copper Theft
R06-2-2	C	Pole Down Earth Repair for Vandalism/Copper Theft
R07-1	F	Cable Saddle / Cable Guard - HV Cables
R07-2	F	10, 16 and 25mm Service cable cleat/guard fixing details
R07-3	D	Cable Cleat/Guard 120 to 240mm^2 LV cables
R07-4	B	Cable Position Installing Details
R07-5	F	Possum / Wildlife guard
R07-6	A	Bird Flight Diverter Spacing
R08-1-1	M	Taps On Hv For Equipment
R08-1-2	I	Taps on HV Main Line Connections
R08-1-3	G	Taps on LV Main Line Connections
R08-2	C	Lugs & Connectors, Transformer & Cable
R08-3	G	Lugs & Connectors, Transformer & Cable
R08-4-1	F	Lugs & Connectors, Insulation Piercing Clamp
R08-4-2	B	Shorting LV ABC

Number	Revision	Description
R08-5	C	Stirrup Hot Line Clamp Tap - off
R08-6	F	Connectors For 7/1.6 SC/GZ
R08-7	C	Full Tension Compression Joints & Helical Splices for Bare AAC/AAAC, Copper & Steel Conductors
R08-8	D	Non-Tension Compression Lugs and Sleeves
R09	F	Cable Termination bracket, 1 ph & 3 ph Earth Fitting
R10-1	M	Dropout Fuse Mounting Details
R10-2	A	Fuse Saver Installation for 1PH Lines
R11-1	E	Customer service arrangement for open wire
R11-2	B	Customer service arrangement for LV ABC
R11-3	A	Customer service arrangements – Rural Connections
R12-1	E	Single Phase Transformer LV Arrangement Details 10 and 25kVA
R12-2-1	A	Three Phase Transformer LV Arrangement Details 25, 63 and 100kVA LV ABC ONLY
R12-2-2	A	Three Phase Transformer LV Arrangement Details 25, 63 and 100kVA – LV BARE
R12-3-1	A	Three Phase Transformer LV Arrangement Details 200 and 315kVA LV ABC ONLY
R12-3-2	A	Three Phase Transformer LV Arrangement Details 200 and 315kVA –LV BARE
R13-1	F	Pole Embedment Depth, Danger Plate & Equipment Labels
R13-2	D	Self-Supporting Wood Pole Embedment Depth
R13-3-1	D	Distribution Pole Embedment Depth & Foundation Details (Sht. 1/2)
R13-3-2	B	Distribution Pole Embedment Depth & Foundation Details (Sht. 2/2)
R13-4	B	Wood Pole Design Angle of deviation for Urban applications
R13-5-1	B	Wood Pole Design Angle of deviation for Rural applications
R13-5-2	A	Wood Pole Design Angle of deviation for Rural applications
R13-5-3	A	Wood Pole Design Angle of deviation for Rural applications
R14-1	F	Ground Stay
R14-2	K	Outrigger Stay
R14-3	D	Aerial Stay
R15-2	B	Equivalent Conductor
R15-3-1	A	Pole Top Limitations for Urban Applications
R15-3-2	A	Pole Top Limitations for Urban Applications
R15-3-3	B	Pole Top Limitations for Rural Applications
R15-3-4	B	Pole Top Limitations for Rural Applications
R15-3-5	B	Pole Top Limitations for Rural Applications
R15-3-6	B	Pole Top Limitations for Rural Applications

Number	Revision	Description
R15-3-7	B	Pole Top Limitations for Rural Applications
R16-1	G	Anchor Flow Chart
R16-2-1	E	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 9.5m
R16-2-2	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles - 11m (Sht 1/4)
R16-2-3	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 11m (Sht 2/4
R16-2-4	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 11m (Sht 3/4)
R16-2-5	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 11m (Sht 4/4)
R16-2-6	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles - 12.5m (Sht. 1/4)
R16-2-7	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 12.5m (Sht. 2/4)
R16-2-8	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 12.5m (Sht. 3/4)
R16-2-9	B	Screw Anchor Embedment Depth Dispensation Table for Distribution Poles – 12.5m (Sht. 4/4)
R16-3-1	B	Screw Anchor Installation for Medium to Hard Soil
R16-3-2	B	Anchor Installation for Soft Soils
R16-3-3	C	Anchor Installation for Hard Soil
R16-3-4	B	Anchor Installation for Rock
R16-3-5	A	Backfill / Concrete Mixing
R17-1	A	Pole Fixing
R17-2	A	Pole Fixtures – Drilling Dimensions for Slotted Pole Mounted Equipment
R26-5	B	Streetlight (LED) Wiring Installation Standard (Part 1)
R26-6	B	Streetlight Wiring Installation Standard (Part 2)
R26-7-1	D	Streetlight Cut-out LED Class II Luminaires
R26-7-2	B	Existing Streetlight Cut-out and Supply Cable with New LED Class II Luminaires
R27	H	Fusing Arrangement for Street Light Columns
R29	A	25kVA Pad mount Tx LV Distribution Board 240V Terminal Block
R30	A	25kVA Pad mount Tx LV Distribution Board 480V Terminal Block
R34-1	G	LV Cable Live End Seal
R34-2	D	HV Cable Live End Seal
R34-3	A	Conduit Sealing Details
R36-1	B	Schneider (Nulec) Recloser Control Box Connection Detail
R36-2	A	Schneider – ADVC2 Power Supply Control Box Connection Details
R37	A	Nulec Recloser Solar Connection

Number	Revision	Description
R38	A	Overhead Fault Indicator Solar Connection
R40	C	Installation of Above Ground Cable Marker
R41	A	Customer Service Carryover Connection
R42-1	A	Consumer Service Steel Pole
R42-2	A	Consumer Service Steel Pole – Corrosion Protection Requirements



NOTE:
- 76X76 SQUARE WASHER ALWAYS IN DIRECT CONTACT WITH THE POLE
- POLE DIAMETERS VARY, SELECT BOLT FOR MAX. 100MM THREAD PROTRUSION
- SEE GENERAL NOTES - OVERHEAD HARDWARE BOLT SELECTION

DIMENSION A	DIAMETER OF POLE BOLTS		
PB1 = 300mm	12mm	16mm	20mm
PB2 = 400mm	12mm	16mm	20mm
PB3 = 550mm	12mm	16mm	20mm

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	15.07.15	FORMAT CHANGED AND THREAD PROTRUSION INCREASED	JC	REE	GS
E	06.12.11	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: POLE BOLT DETAILS

DISTRIBUTION CONSTRN. STANDARD

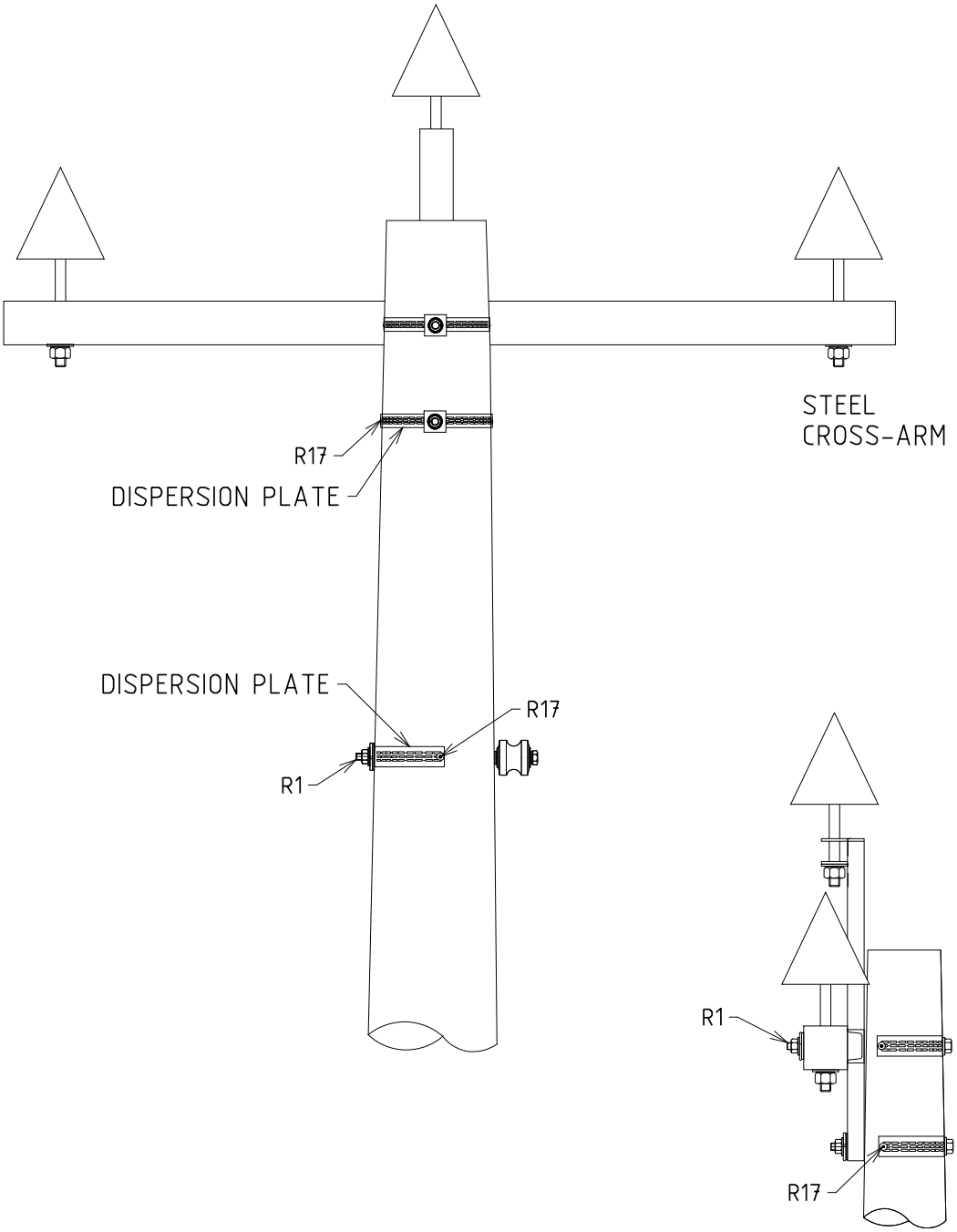
westernpower

DRAWN: JRR | DATE: 27-02-2014 | DRG. No. R1

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. F | SHT.



NOTES:-
1. INSTALL A DISPERSION PLATE TO ALL BOLTS WHICH PASS THROUGH A WOOD SECTION OF A POLE INCLUDING STAYS & STREET LIGHTS.
2. MUST BE SECURED DIRECTLY OVER THE HOLE, IN DIRECT CONTACT WITH A SQUARE WASHER OR NUT SIDE OF EYEBOLT.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
D	28.05.20	NOTES REVISED	NMc		GS
C	22.02.19	DISPERSION PLATE END FIXING REVISED	CO	NMc	GS
B	07.05.15	FORMAT AND TITLE CHANGED	REE	REE	GS
A	05.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: BONDING - INTERMEDIATE

DISTRIBUTION CONSTRN. STANDARD

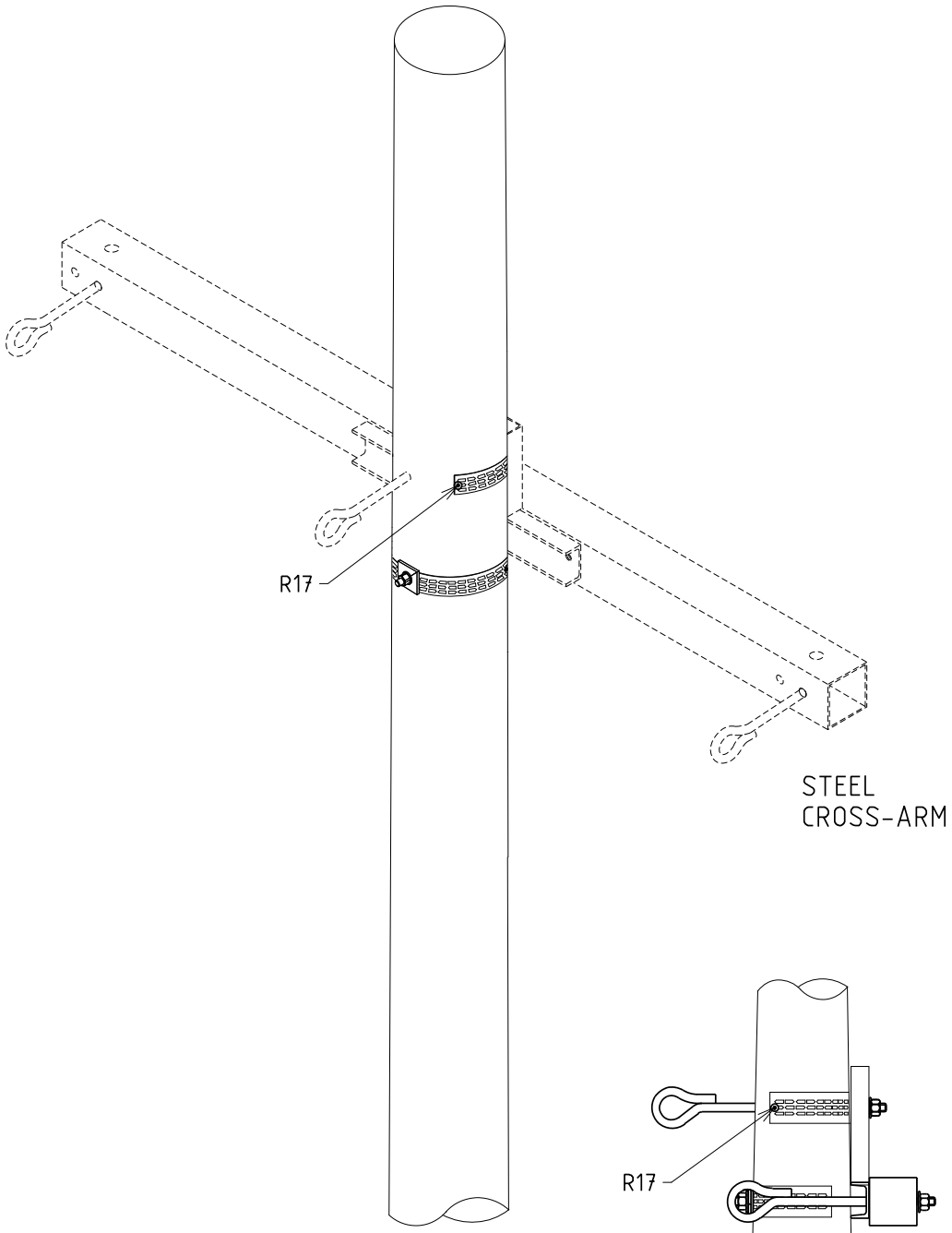
westernpower

DRAWN: JRR | DATE: 28-02-2014 | DRG. No. R02-1

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. D | SHT.



NOTES:-
1. INSTALL A DISPERSION PLATE TO ALL BOLTS WHICH PASS THROUGH A WOOD SECTION OF A POLE INCLUDING STAYS & STREET LIGHTS.
2. MUST BE SECURED DIRECTLY OVER THE HOLE, IN DIRECT CONTACT WITH A SQUARE WASHER.
3. IF NO SQUARE WASHER AS IS THE CASE WITH EYE BOLT THEN MUST BE SECURED BY METAL CROSS-ARM.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	18.01.21	NOTE REVISED	REE	NMc	GS
B	07.05.15	FORMAT AND TITLE CHANGED	REE	REE	GS
A	05.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: BONDING - STRAIN

DISTRIBUTION CONSTRN. STANDARD

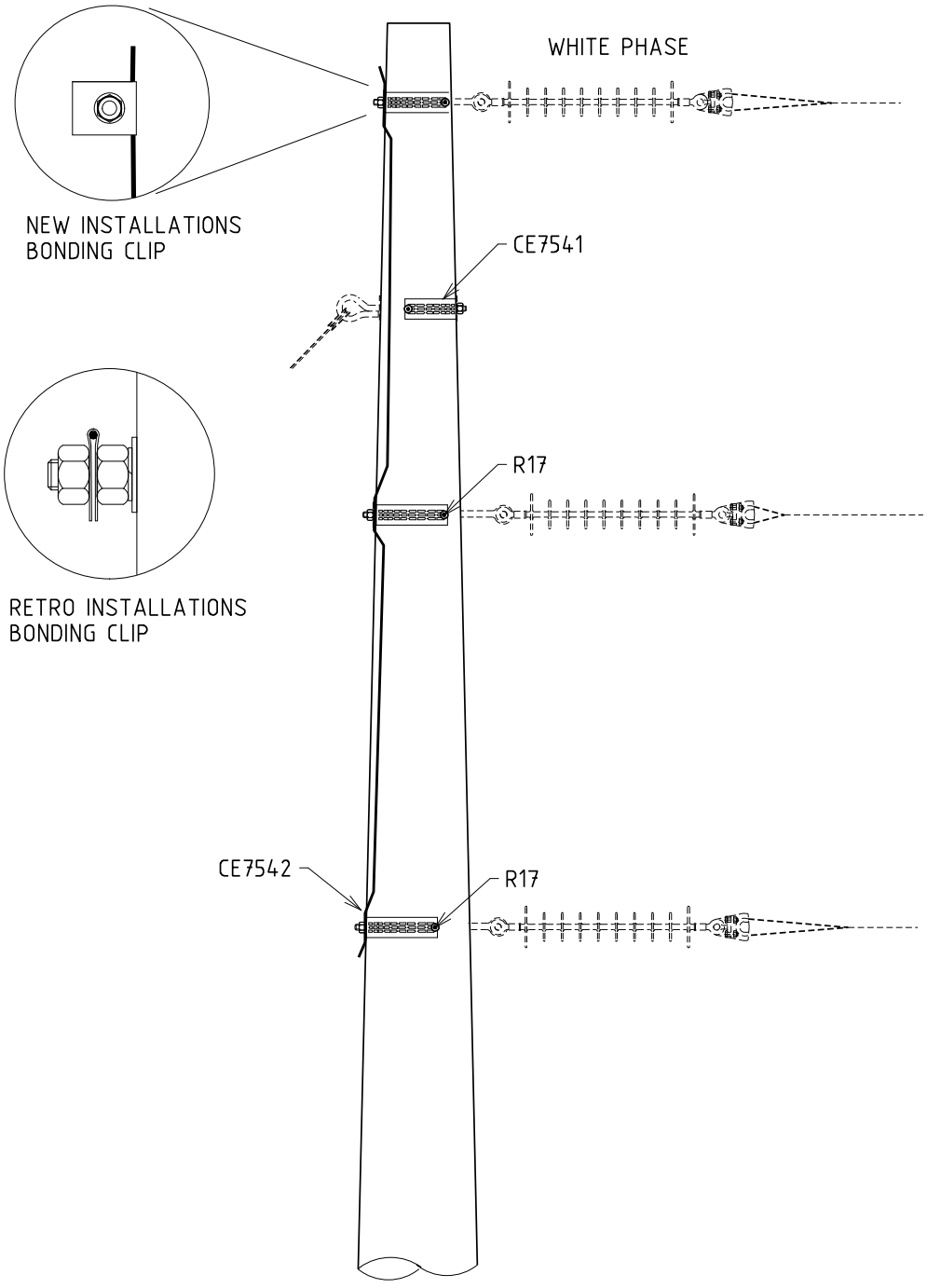
westernpower

DRAWN: JRR | DATE: 28-02-2014 | DRG. No. R02-2

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. C | SHT.



NOTES:-
1. INSTALL A DISPERSION PLATE TO ALL BOLTS WHICH PASS THROUGH A WOOD SECTION OF A POLE INCLUDING STAYS & STREET LIGHTS.
2. MUST BE SECURED DIRECTLY OVER THE HOLE, IN DIRECT CONTACT WITH A SQUARE WASHER.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	18.01.21	NOTE REVISED	REE	NMc	GS
B	07.05.15	FORMAT AND TITLE CHANGED	REE	REE	GS
A	05.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: BONDING - RUNNING DISC ANGLE

DISTRIBUTION CONSTRN. STANDARD

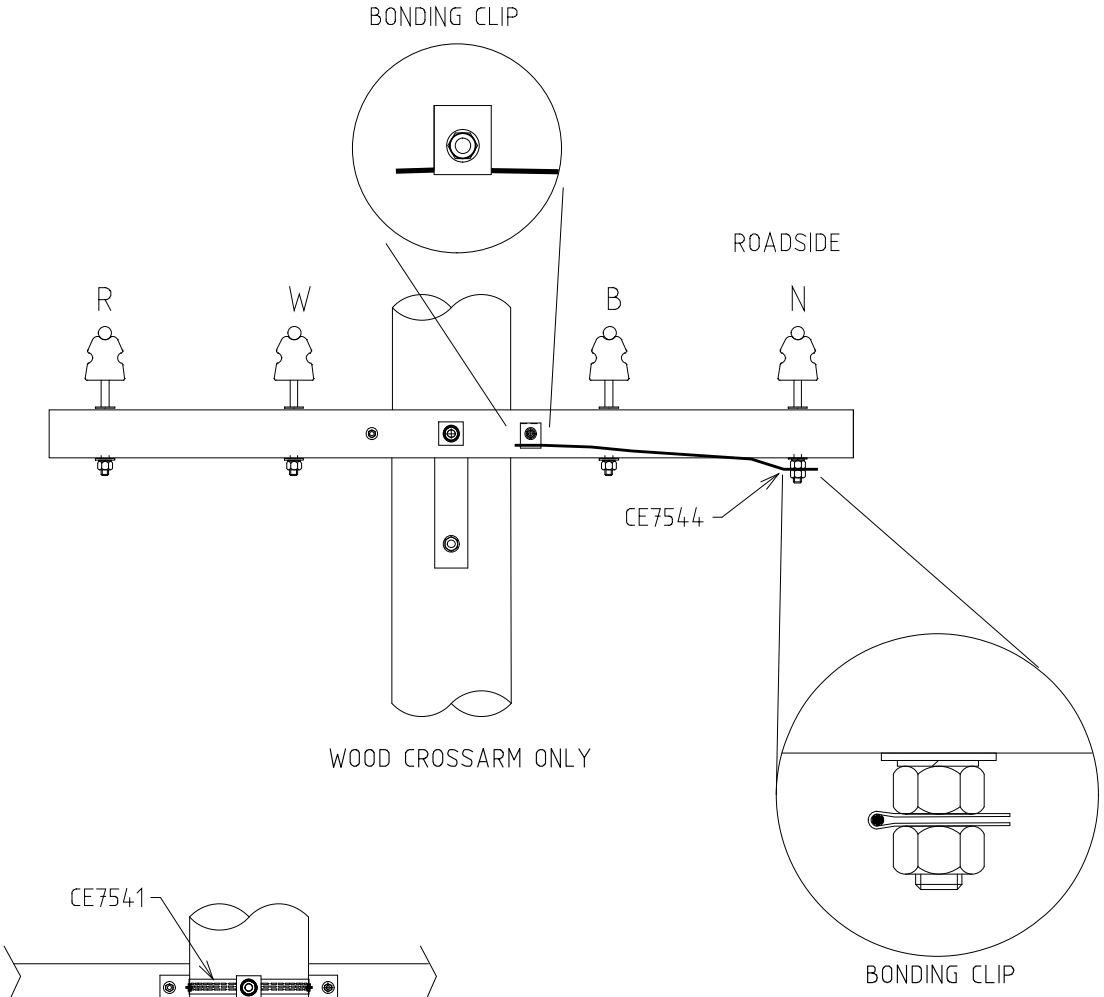
westernpower

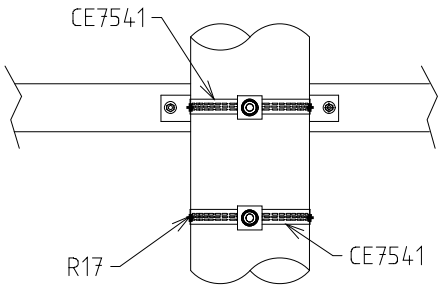
DRAWN: JRR | DATE: 28-02-2014 | DRG. No. R02-3

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. C | SHT.





NOTES:-

1. NO LV BONDING WIRE OR DISPERSION PLATES ON LV REQUIRED IF ONLY LV ON STRUCTURE OR HV WITH R/E PRESENT.
2. POLES CARRYING BOTH HV AND LV REQUIRE ALL BOLTS ASSOCIATED WITH HV AND LV CONDUCTORS TO BE FITTED WITH DISPERSION PLATES.
   - THIS INCLUDES THE BOLTS FOR R/E, STAYS AND STREETLIGHT FITTINGS.
   - DISPERSION PLATES MUST BE SECURED DIRECTLY OVER THE HOLE, IN DIRECT CONTACT WITH A SQUARE WASHER OR METAL CROSS ARM.
3. POLES CARRYING HV COVERED CONDUCTORS (HENDRIX OR HVABC) WITH OR WITHOUT LV CONDUCTORS DON'T REQUIRE DISPERSION PLATES.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	12.11.15	NOTES 1 AND TITLE REVISED	FK	REE	GS
E	03.06.15	FORMAT CHANGED AND NOTE REVISED	CO	JC	GS
D	05.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: BONDING WOOD LV CROSS-ARM

DISTRIBUTION CONSTRN. STANDARD

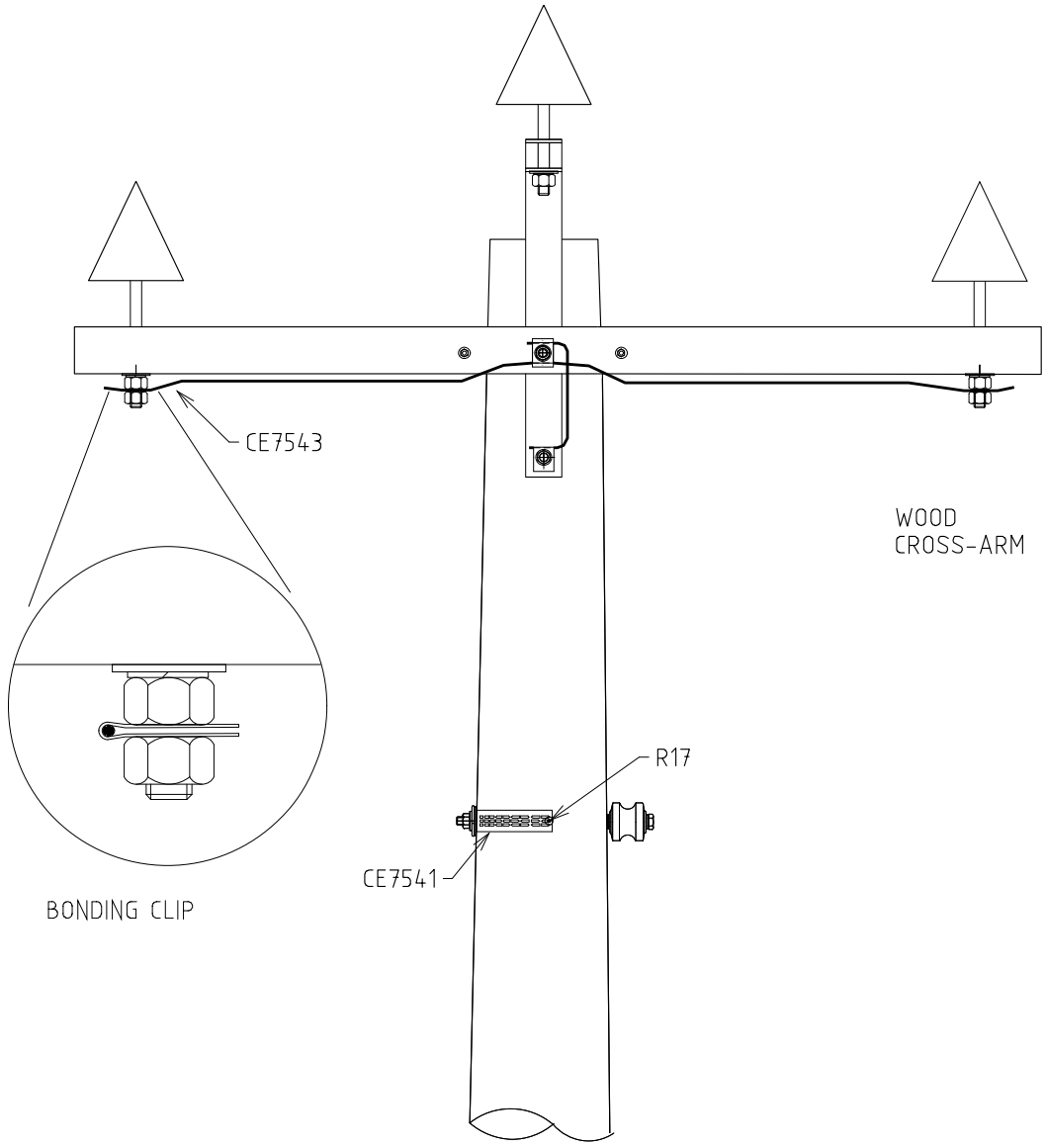
westernpower

DRAWN: JRR | DATE: 28-02-2014 | DRG. No. R02-4

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. F | SHT.



NOTES:-
1. INSTALL A DISPERSION PLATE TO BOLTS WHICH PASS THROUGH A WOOD SECTION OF A POLE.
2. MUST BE SECURED DIRECTLY OVER THE HOLE, IN DIRECT CONTACT WITH A SQUARE WASHER OR METAL CROSS-ARM.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	07.05.15	FORMAT AND TITLE CHANGED	REE	REE	GS
A	05.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: BONDING - RETRO-FIT WOOD CROSS-ARM

DISTRIBUTION CONSTRN. STANDARD

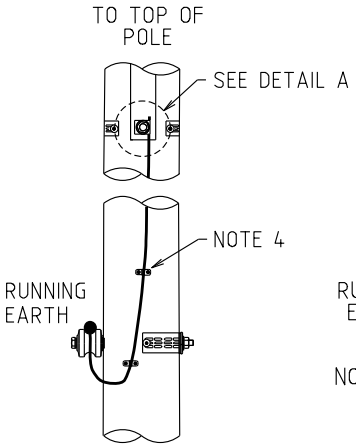
westernpower

DRAWN: JRR | DATE: 28-02-2014 | DRG. No. R02-5

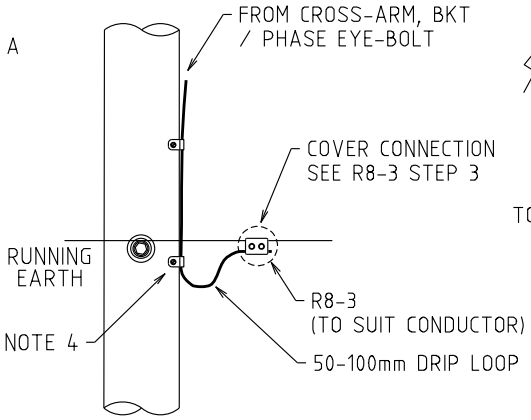
ORIGINATED: | SCALE: NTS

CHECKED: REE

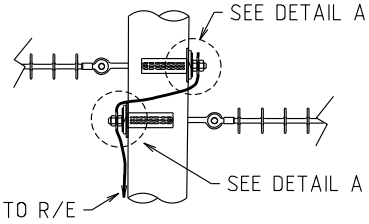
APPROVED: GRANT STACY | REV. B | SHT.



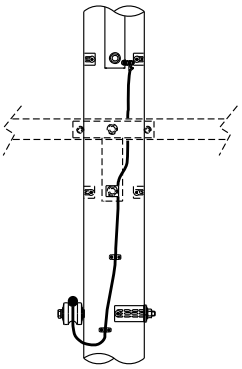
IN-LINE VIEW



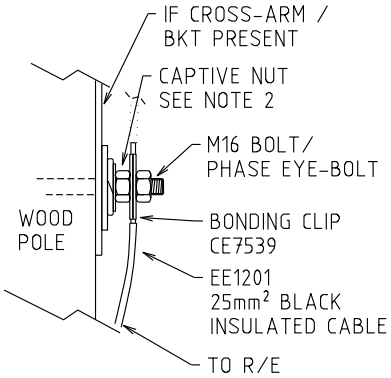
SIDE VIEW



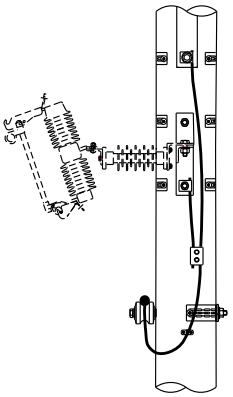
PHASE EYE-BOLTS



SERIES BONDED
(NOTE 3)



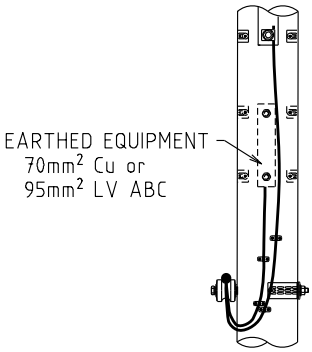
DETAIL A



BONDS PG CLAMPED
(NOTE 3)

NOTES:-

1. A 25mm² Cu BOND TO BE APPLIED BETWEEN ALL HV ATTACHMENTS & THE R/E. E.G. CROSS-ARMS, BRACKETS & PHASE EYE BOLTS.
2. BOLTED ARRANGEMENTS MAKE USE OF A CAPTIVE NUT, TO ENABLE SIMPLIFIED BOND REMOVAL & RE-APPLICATION DURING FAULT FINDING.
3. WHEN MULTIPLE HV ATTACHMENTS EXIST, THEY CAN BE BONDED TOGETHER EITHER USING SERIES BONDING CLIPS OR PG CLAMPED TOGETHER AS ILLUSTRATED.
4. SADDLE THE BOND TO THE POLE, NOT WITHIN 400mm OF THE HV SIDE ATTACHMENT, FOR FAULT FINDING REMOVAL CLEARANCE PURPOSES.
5. BONDING AND EARTHING CONNECTIONS ONTO THE R/E TO BE KEPT SEPARATE, E.G. SURGE ARRESTERS, TRANSFORMERS, RECLOSERS, CONTROL KIOSKS, ETC. TO BE EARTHED.
6. STAY EYE-BOLTS NOT BONDED.



BONDING & EARTHING SEPARATED
(NOTE 5)

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	06.03.24	ORIGINAL ISSUE	NMc	TCM	CO

REFERENCE DRAWING

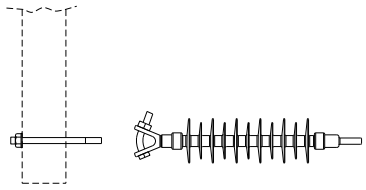
TITLE: BOND HV ATTACHMENTS TO THE RUNNING EARTH CONDUCTOR

DISTRIBUTION CONSTRN. STANDARD

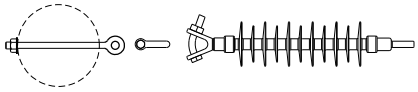
westernpower

DRAWN: JRR	DATE: 16-02-2023	DRG. No. R02-06
ORIGINATED: NMc	SCALE: NTS	
CHECKED: NMc		
APPROVED: CHRIS OMODEI		REV. A / SHT.

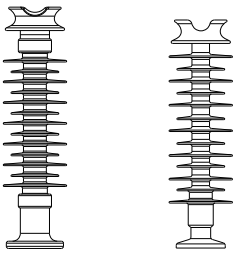
HIGH VOLTAGE (UP TO 33 kV)



STRAIN/LONG ROD INSULATOR



RUNNING DISC ANGLE



RED EVA POST INSULATORS

GREY SILICONE

APPLY AS PER DEB ISSUE 70

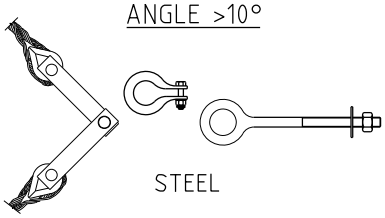
LOCATION	INSULATOR TYPE & STOCK CODE
EXTREME POLLUTION AREAS - NORTH COUNTRY AREA - WITHIN 10km OF THE COAST FOR THE REMAINDER OF THE SWIN	* LINE POST IF0001 (GREY SILICONE) * LONG ROD IC0031 (GREY SILICONE) * STAND-OFF IC0083 (RED EVA) * LONG ROD (FALCON 22kV PTS) (BRAID SIDE) IC0040 (RED EVA)
ELSEWHERE	* LINE POST IC0086 (RED EVA) * LONG ROD IC0041 (RED EVA) * STAND-OFF IC0083 (RED EVA) * LONG ROD (FALCON 22kV PTS) (BRAID SIDE) IC0040 (RED EVA)
LOCAL KNOWLEDGE OF HIGH POLLUTION - EG. NEAR SALT LAKES	APPLY AS IN EXTREME POLLUTION AREAS

RUNNING EARTH

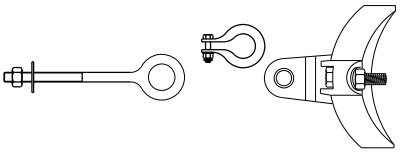
ANGLE < 2°

ANGLE 2° TO 10°

ANGLE >10°

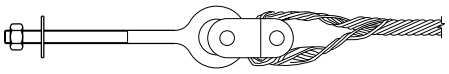


STEEL

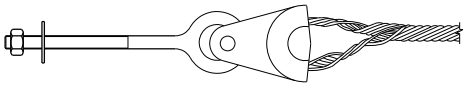


ACSR & ALUMINIUM

TERMINATION

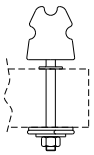


STEEL (SCGZ) & COPPER

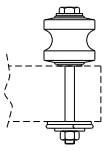


ACSR, ALUMINIUM & SCAC

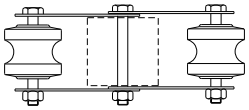
LOW VOLTAGE



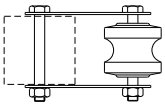
INTERMEDIATE 0° - 2°



ANGLE UP TO 20°



STRAIN OR ANGLE 20°-40°



TERMINATION

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
K	23.11.23	TABLE ADDED, TITLE REVISED AND DETAILS REARRANGED	ML	NMc	CO
J	29.08.19	SUB TITLES REVISED	NN		GS
H	15.01.16	SUB TITLES REVISED	ME	FK	GS
G	24.04.15	REFERENCE NOTE ADDED	FK	AK	GS
F	26.03.15	DEVIATION ANGLES REVISED	FK	AK	GS

REFERENCE DRAWING

TITLE: INSULATORS AND RUNNING EARTH

DISTRIBUTION CONSTRN. STANDARD

westernpower

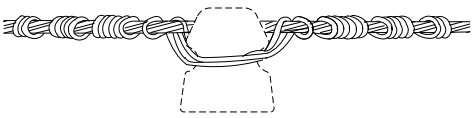
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R03-1

ORIGINATED: | SCALE: NTS

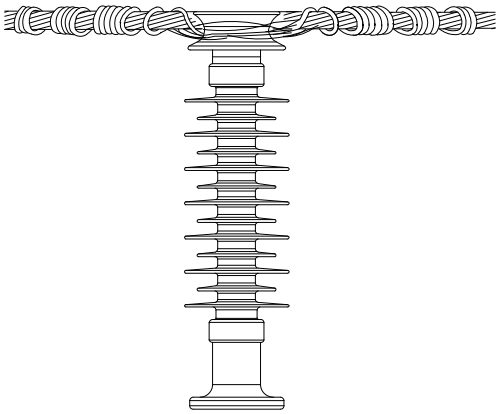
CHECKED: REE

APPROVED: GRANT STACY | REV. K | SHT.

TOP TIE



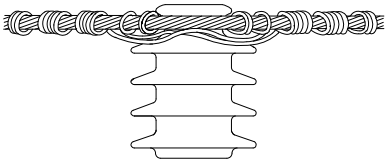
LOW VOLTAGE

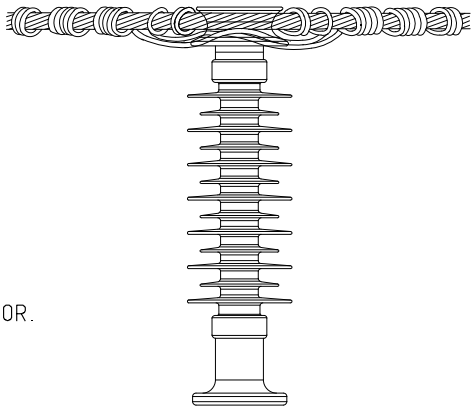


HIGH VOLTAGE

SEQUENCE OF OPERATIONS FOR HV & LV
HALVE TIE. START WITH MIDDLE OF TIE AT BACK OF INSULATOR.
A) TAKE HALF TURN AROUND INSULATOR, UNDER AND AROUND CONDUCTOR FOR ONE TURN.
B) CROSS TIE AT THE FRONT OF INSULATOR AND CONTINUE UNDER AND AROUND CONDUCTOR FOR ONE TURN.
C) CROSS TIE AT THE BACK OF INSULATOR AND CONTINUE UNDER AND AROUND CONDUCTOR FOR SIX TURNS.
D) ONE OPEN TURN.
E) FIVE TURNS.
F) ONE OPEN TURN.
G) THREE TURNS.
H) TURN ENDS OF TIE DOWN AGAINST THE CONDUCTOR.

SIDE TIE





SEQUENCE OF OPERATIONS
HALVE TIE. START WITH MIDDLE OF TIE AT BACK OF INSULATOR.
A) TAKE HALF TURN AROUND INSULATOR AND UNDER CONDUCTOR ON EACH SIDE.
B) TAKE ONE AND HALF TURNS AROUND CONDUCTOR ON EACH SIDE OF INSULATOR.
C) CROSS ENDS AROUND BACK OF INSULATOR AND RETURN TO BOTTOM OF CONDUCTOR ON EACH SIDE.
D) TAKE ONE TURN AROUND CONDUCTOR ON EACH SIDE OF INSULATOR
E) PASS ENDS OVER AND ACROSS IN FRONT OF INSULATOR CARRYING EACH END TO BOTTOM OF CONDUCTOR.
F) TAKE FIVE TURNS AROUND CONDUCTOR.
G) ONE OPEN TURN.
H) FIVE TURNS.
J) ONE OPEN TURN.
K) THREE TURNS.
L) TURN ENDS OF TIE DOWN AGAINST CONDUCTOR.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	11.08 22	NOTE REVISED	NMc	CO	GS
A	09.11.10	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: INSULATOR TIES

DISTRIBUTION CONSTRN. STANDARD

westernpower

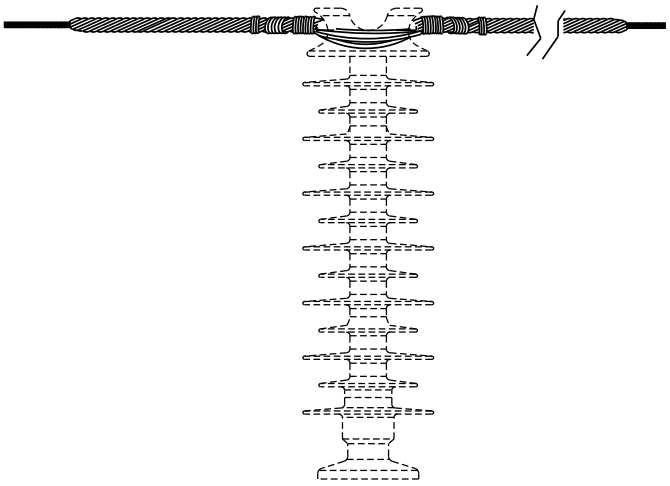
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R03-2

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. B | SHT.

ARMOUR ROD



NOTES:
1. ARMOUR RODS TO BE INSTALLED ON ALL BAYS (PHASE AND RUNNING EARTH) FOR THE FOLLOWING
   - STEEL CONDUCTORS (SCAC & SCGZ)
   - ALUMINIUM CONDUCTORS (AAC, AAAC, ACSR, AACSR) TENSIONED AT 15% CBL OR GREATER

2. NOT REQUIRED ON RDA, IN-LINE STRAIN OR TERMINATION STRUCTURE

VIBRATION DAMPER (SVD)

GRIPPING SECTION DAMPING SECTION

STOCK CODE	DIAMETER RANGE	CONDUCTOR
CD0022	4.42-6.24mm	7/1.6 SCGZ 3/2.75 SCAC/SCGZ
CD0023	6.35-8.29mm	6/1/2.50 ACSR 6/1/2.75 ACSR
CD0024	8.30 - 11.74mm	6/1/3.00 ACSR/AACSR
CD0025	11.75 - 14.30mm	6/4.75+7/1.6 ACSR

GENERAL NOTES:
1. INSTALLED ON ALL STEEL AND ACSR/AACSR CONDUCTORS BOTH SIDES OF A POST INSULATOR.
   GRIPPING SECTION TO BE INSTALLED BETWEEN 100 AND 150MM FROM ARMOUR ROD.
2. FOR BAYS >250M, A SECOND SVD IS REQUIRED AT EITHER END OF THE SPAN , NO MORE THAN 150MM APART
3. SVD'S NOT REQUIRED AT STRAIN ATTACHMENTS.
4. SVDS ARE TO BE APPLIED UNDER ALL WORK PROGRAMS INCLUDING RECONDUCTORING, UPGRADES, MAINTENANCE AND DURING FAULT WORK.
5. IF SPLICE INSTALLED AFTER ROD - DAMPER TO BE INSTALLED AFTER SPLICE WITH ALL 100MM APART.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
M	07.11.25	NOTE 4 UPDATED & TABLE ADDED	CO	KT	MM
L	18.08.21	NOTES REVISED	REE	CO	GS
K	14.11.18	NOTE 5 ADDED & ARMOUR ROD NOTE REVISED	NN	REE	GS
J	07.03.18	ARMOUR ROD NOTE REVISED	REE	CO	GS
I	03.06.15	ARMOUR ROD NOTE REVISED	CO	JC	GS

REFERENCE DRAWING

TITLE: ARMOUR RODS & SPIRAL VIBRATION DAMPERS

DISTRIBUTION CONSTRN. STANDARD

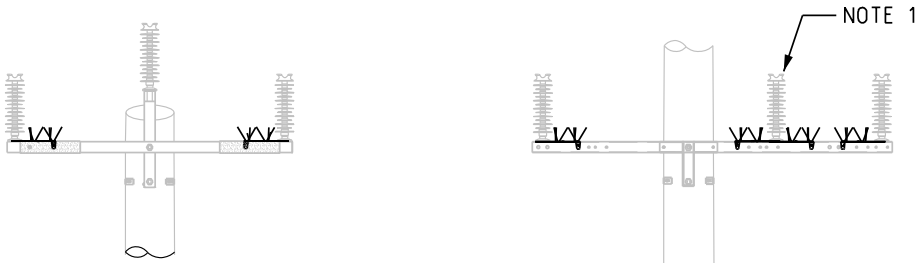
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R03-3

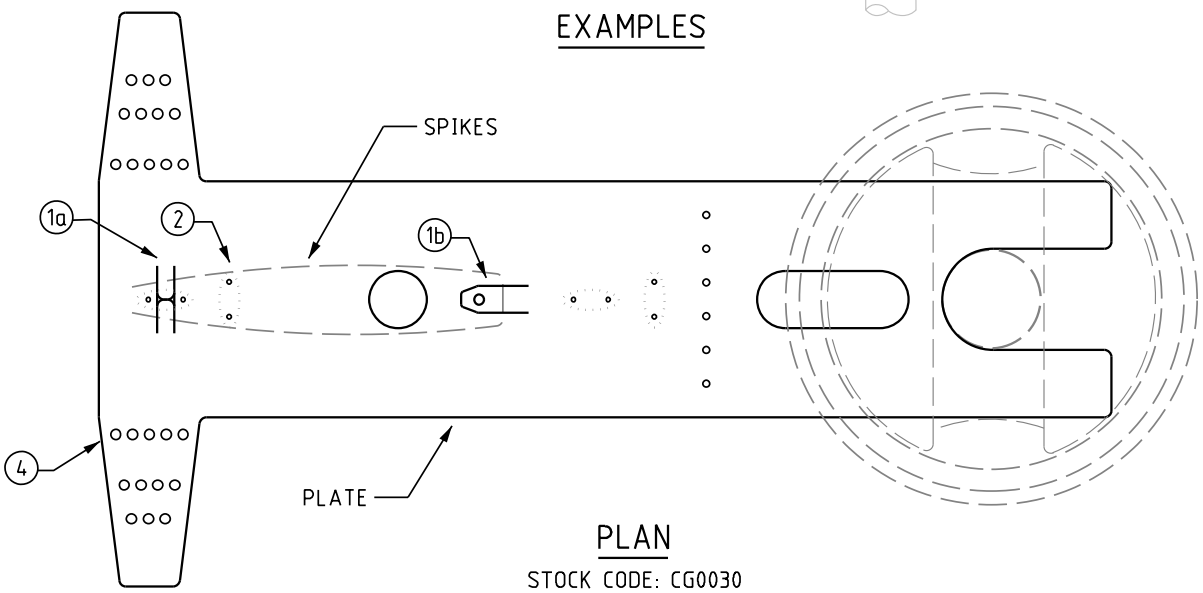
ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. M | SHT. 1/1

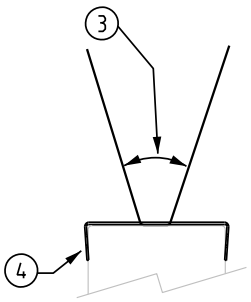


EXAMPLES



PLAN

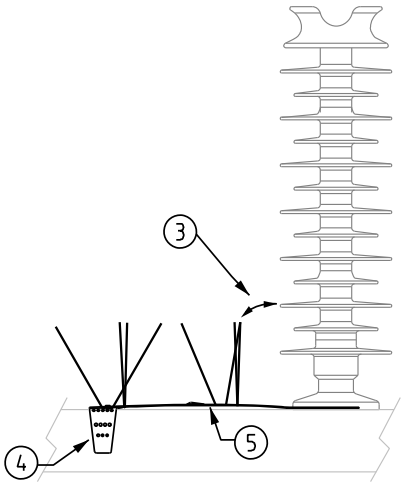
STOCK CODE: CG0030



SIDE VIEW

INSTALLATION INSTRUCTIONS:

1. UNHOOK THE SPIKES FROM THE PLATE.
2. SLOT SPIKES INTO THE HOLE SETS FROM THE BOTTOM OF THE PLATE (SPIKE HOLDING TABS FACING UP).
3. BEND SPIKES JUST ABOVE THE PLATE TO MATCH THE CROSS-ARM WIDTH.
   IN-LINE SPIKES BENT AS SHOWN, MIN. 30MM FROM INSULATOR SHEDS
4. FOLD THE METAL WINGS AT PERFORATION HOLES TO FIT CROSSARM TIGHTLY.
5. BEND PLATE WITH A SLIGHT BOW TO SQUEEZE THE UNATTACHED END DOWN ONTO CROSS-ARM SURFACE.
6. INSTALL THE WILD-LIFE DETERRENT UNDER THE INSULATOR AS SHOWN.



ELEVATION ASSEMBLED

NOTE:

1. 2 x WILD-LIFE DETERRENTS REQUIRED FOR INSULATORS NOT AT THE ENDS OF THE CROSSARM.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	30.06.25	ORIGINAL ISSUE	SL	NMc	CO

STRUCTURE

TITLE: WILDLIFE DETERRENT

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: SL | DATE: 27-06-2025 | DRG. No. R03-4

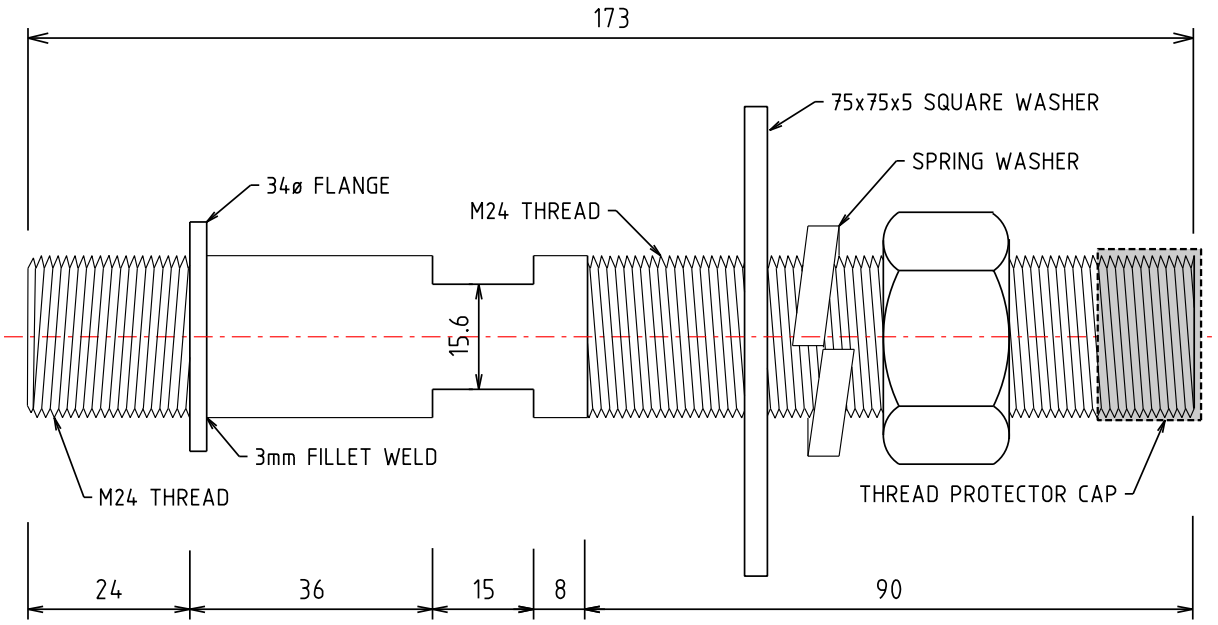
ORIGINATED: NMc | SCALE: NTS

CHECKED:

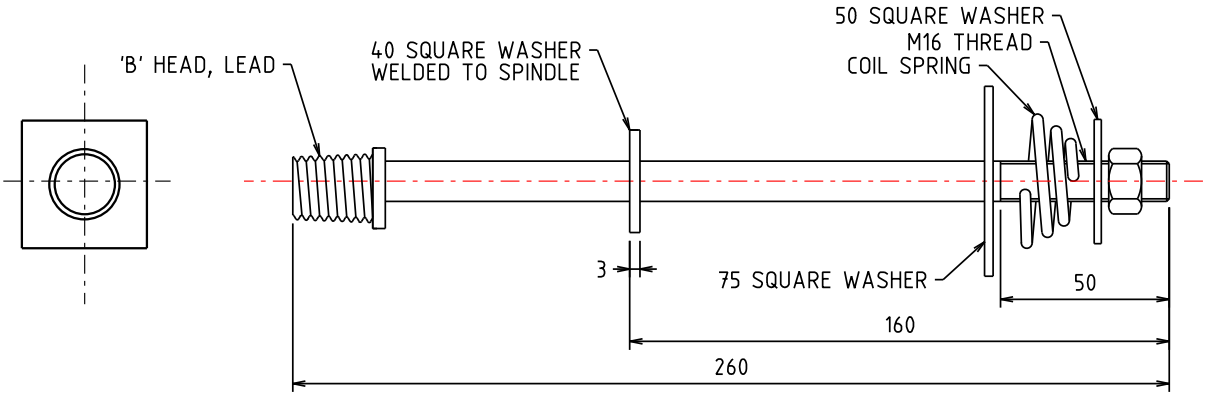
APPROVED: CHRIS OMODEI

REV A | SHT. 1/1

HV INSULATOR BOLT



LV INSULATOR PIN



NOTE:
1. ALL DIMENSIONS ARE IN MILLIMETRES.

R. No.	DATE	DESCRIPTION	ORGD.	CHED.	APRD.
B	28.01.15	FORMAT CHANGED AND HV INSULATOR BOLT REVISED	REE	REE	GS
A	11.01.10	ORIGINAL ISSUE			

STRUCTURE

TITLE: INSULATOR PIN & PIN DETAILS

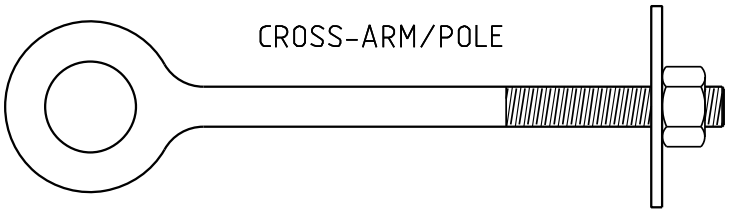
DISTRIBUTION CONSTRN. STANDARD

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R4

ORIGINATED: | SCALE: NTS

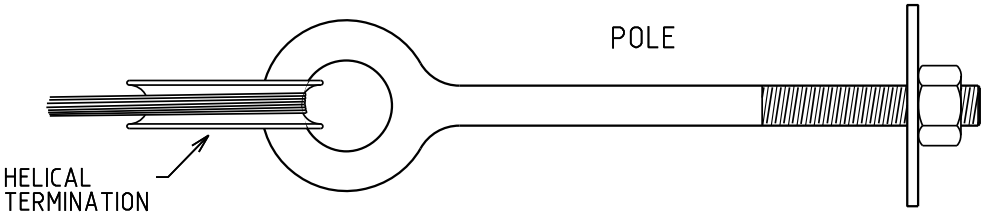
CHECKED: REE

APPROVED: GRANT STACY | REV. B | SHT.

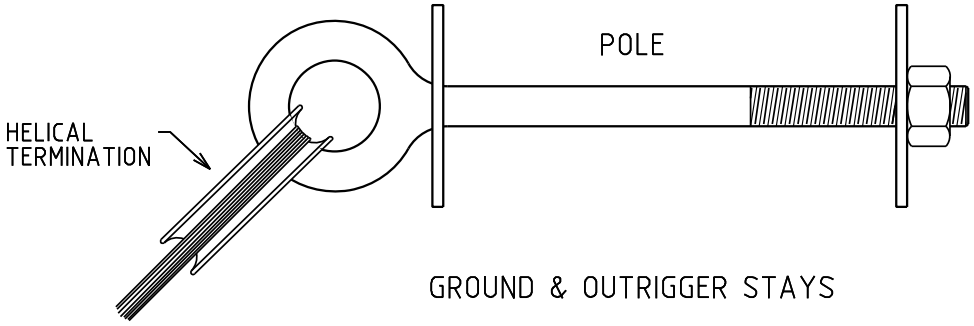


16mm EYEBOLTS

- CENTRE PHASE
- RUNNING DISC ANGLE
- CROSS-ARM



AERIAL STAYS



GROUND & OUTRIGGER STAYS

20mm EYEBOLTS

16mm EYEBOLT (ALL) 20mm EYEBOLT (AERIAL STAY)	- WASHER REQUIRED ON NUT SIDE ONLY. - EYE RETURN NOT REQUIRED HARD AGAINST POLE.
20mm EYEBOLT (GROUND/OUTRIGGER STAY)	- WASHERS REQUIRED BOTH SIDES OF THE POLE. - EYE RETURN REQUIRED HARD AGAINST POLE.

NOTES:
1. 75x75 SQUARE WASHERS ALWAYS IN DIRECT CONTACT WITH THE POLE.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	26.05.25	NOTES AMENDED	VAS	NMc	CO
F	23.05.23	20mm EYEBOLTS WASHER SIZE CORRECTED	NMc	VS	CO
E	16.04.19	TABLE FOR 20mm EYEBOLTS ADDED	NMc	NN	GS
D	13.10.17	FOOT NOTE FOR 20mm EYEBOLT CHANGED	NMc	JC	GS
C	20.05.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: EYEBOLTS

DISTRIBUTION CONSTRN. STANDARD

westernpower

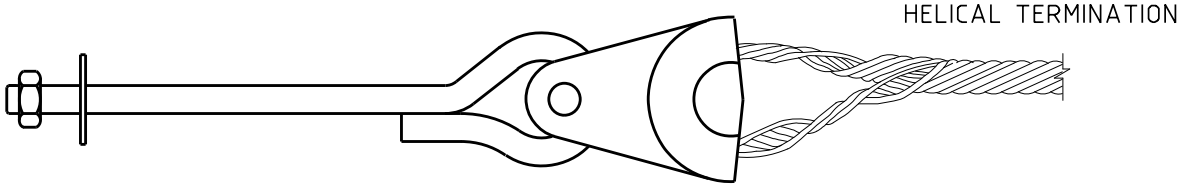
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R05-1

ORIGINATED: | SCALE: NTS

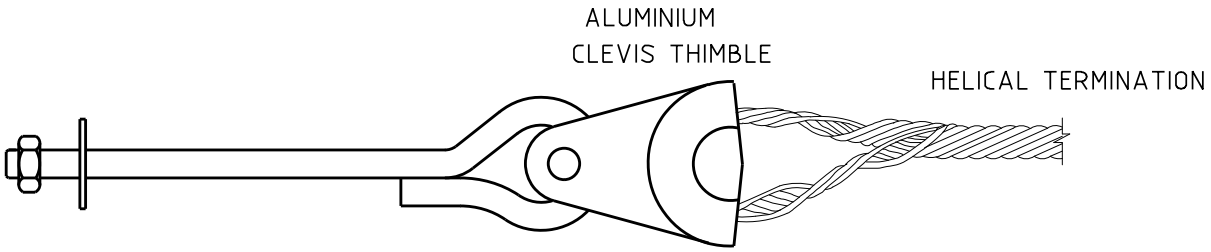
CHECKED: REE

APPROVED: GRANT STACY

REV G | SHT. 1/1



ACSR AND ALUMINIUM CONDUCTOR
(ACSR, AAC & AAAC)



STEEL CONDUCTOR
(SCAC)

STEEL CONDUCTOR
(SCGZ)

COPPER CONDUCTOR
(CU)

STANDARD CONSTRUCTION 16mm EYE BOLTS

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	29.08.19	SUB TITLE REVISED	NN		GS
A	08.09.03	ORIGINAL ISSUE			

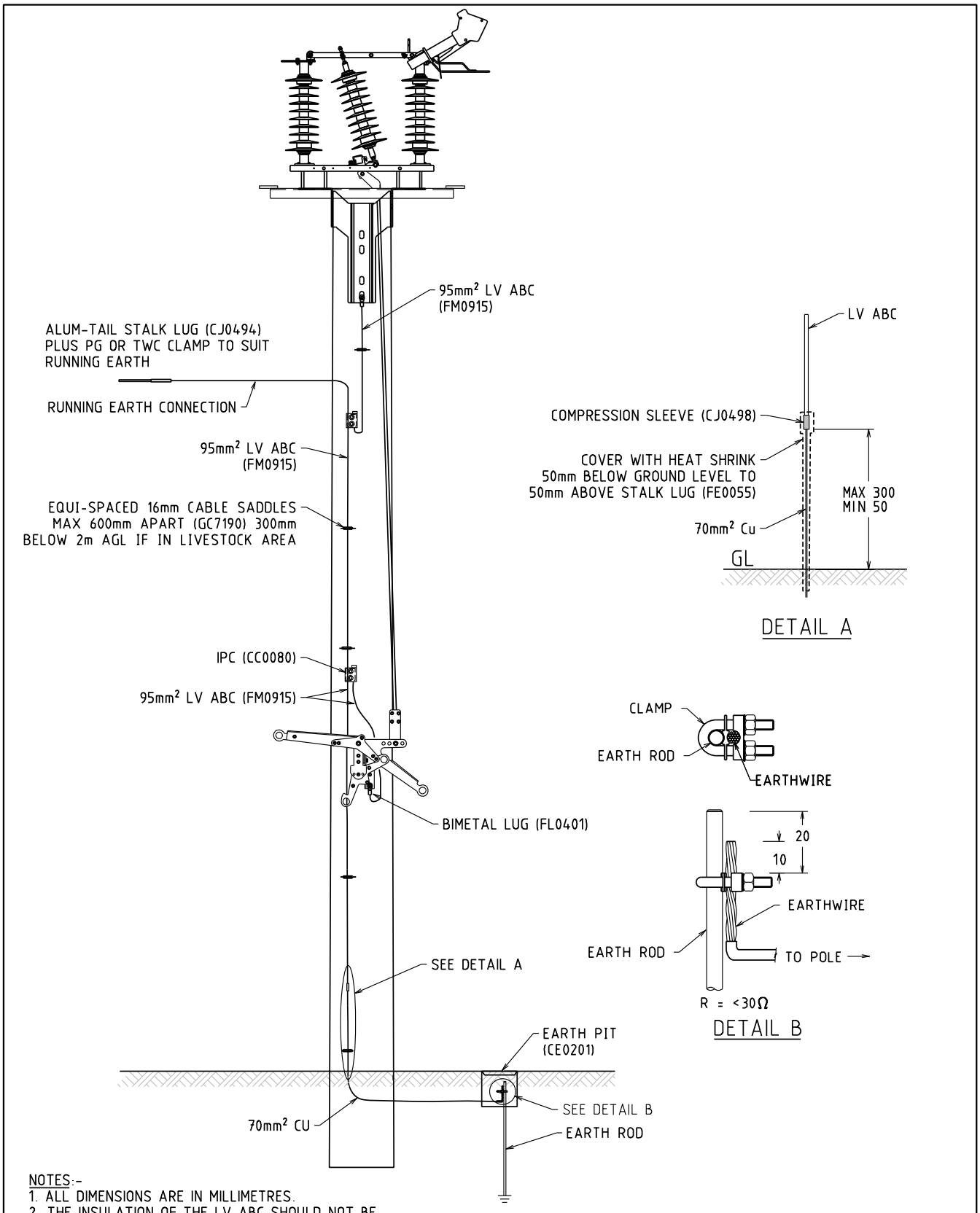
REFERENCE DRAWING

TITLE
EYEBOLT
CONDUCTOR TERMINATIONS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R05-2
ORIGINATED: | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. B | SHT.



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THE INSULATION OF THE LV ABC SHOULD NOT BE BROKEN AT ANY POINT ALONG ITS LENGTH.
3. SADDLES TO BE FIXED TO POLE WITH 60mm WOOD SCREWS (AS2511)
4. IF TRANSFORMER ON POLE, TANK IS THE POINT OF COMMON CONNECTION. SEE R6-1-2.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
H	21.05.19	EARTH CONNECTION MODIFIED	REE	NN	FK
G	31.01.18	REVISED TO SUIT NEW PTS	REE	JC	GS
F	18 12 17	DWG. # & TITLE REVISED, LV ABC & STALK LUG ADDED	GS	JC	GS

REFERENCE DRAWING

TITLE: POLE TOP SWITCH EARTHING

DISTRIBUTION CONSTRN. STANDARD

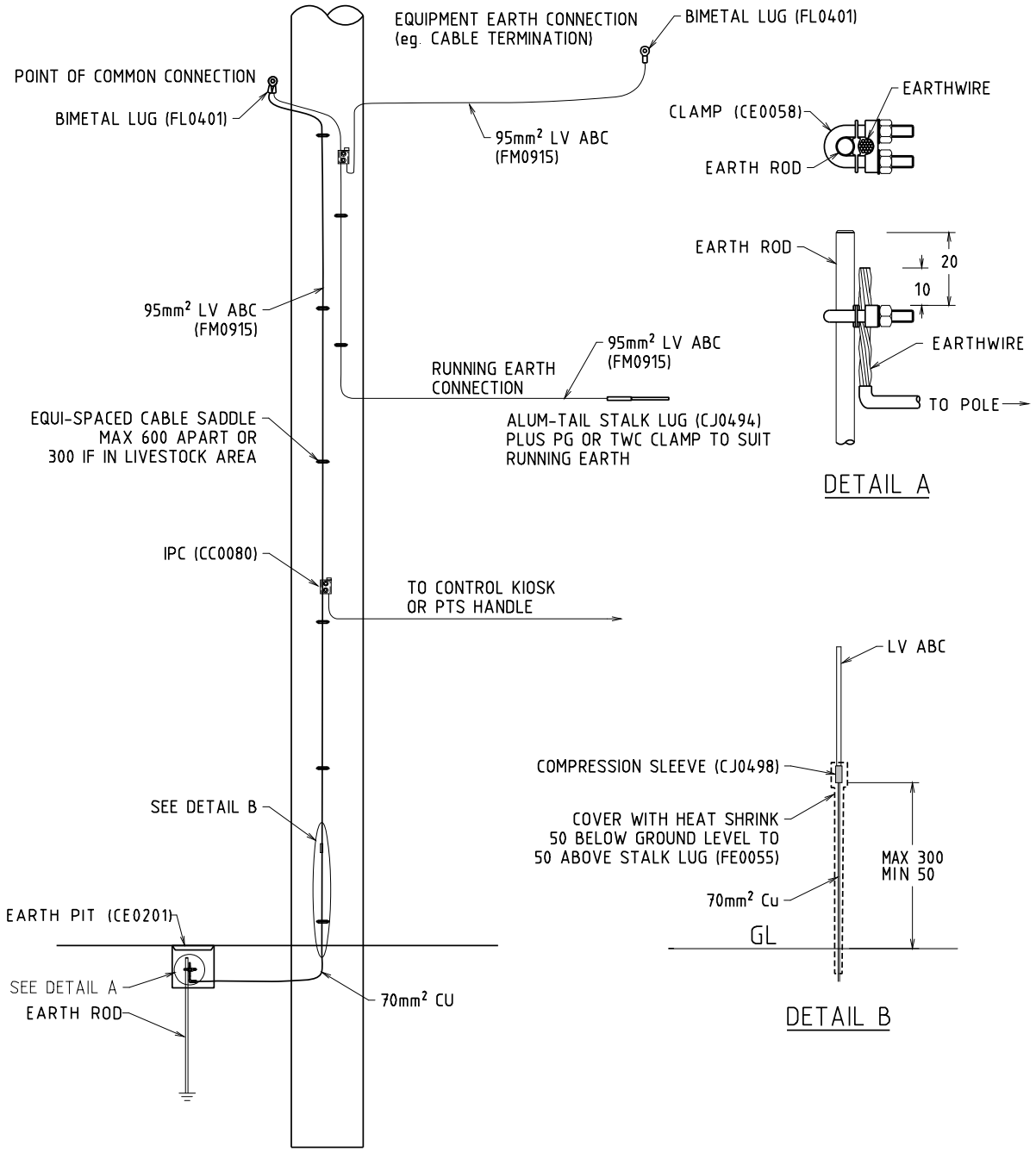
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R6-1-1

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. H | SHT.



NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. LV ABC SHOULD NOT BE PLACED BELOW GROUND. PVC INSULATED 70mm² Cu CABLE SHOULD BE USED FOR ALL UNDERGROUND CONNECTIONS TO THE EARTH STAKE.
3. THE INSULATION OF THE LV ABC SHOULD NOT BE BROKEN AT ANY POINT ALONG ITS LENGTH.
4. PRIMARY EARTH CONNECTION TO TRANSFORMER TANK. IF NO TRANSFORMER ON POLE THEN RE AND THEN RECLOSER, PTS, CABLE TERM IS THE PRIMARY POINT OF COMMON CONNECTION.
5. SECONDARY EARTH CONNECTIONS SHOULD BE CONNECTED TO THE PRIMARY CONNECTION DOWN-EARTH USING LUGS.
6. ALL LV ABC EARTH WIRE CONNECTIONS TO EQUIPMENT MUST BE BI-METAL LUGS.
7. SADDLES TO BE FIXED TO POLE WITH 60mm WOOD SCREWS (AS2511).
8. WHERE A VALUE OF <30Ω CANNOT BE ACHIEVED (AFTER INSTALLING THE MAXIMUM NUMBER OF RODS POSSIBLE USING A JACK HAMMER), THE VALUE SHOULD BE RECORDED AND FLAGGED AS A NON-CONFORMANCE ON THE CHECK SHEET. A DRILLED 'DEEP EARTH' SHOULD NOT BE INSTALLED TO OBTAIN AN EARTH RESISTANCE READING LESS <30Ω. PLEASE NOTE THAT THE EARTH RESISTANCE MEASUREMENT SHOULD BE TAKEN OFF THE EARTH STAKE BEFORE IT IS CONNECTED TO THE UNDERSLUNG RUNNING EARTH. PLEASE NOTE THAT THIS RELAXATION APPLIES TO INTERMEDIATE POLES. EARTH RESISTANCE VALUES AT KEY STRUCTURE POLES SUCH AS TRANSFORMERS, POLE TOP SWITCHES, CABLE HEADS ETC. ARE STILL REQUIRED TO BE EARTHED TO <30Ω.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	21.05.19	EARTH CONNECTIONS MODIFIED	REE	NN	FK
B	14.11.18	EARTH CONNECTIONS MODIFIED & NOTE 8 ADDED	REE	CO	GS
A	14.12.17	ORIGINAL ISSUE	GS	JC	GS

REFERENCE DRAWING

TITLE: POLE EARTHING

DISTRIBUTION CONSTRN. STANDARD

westernpower

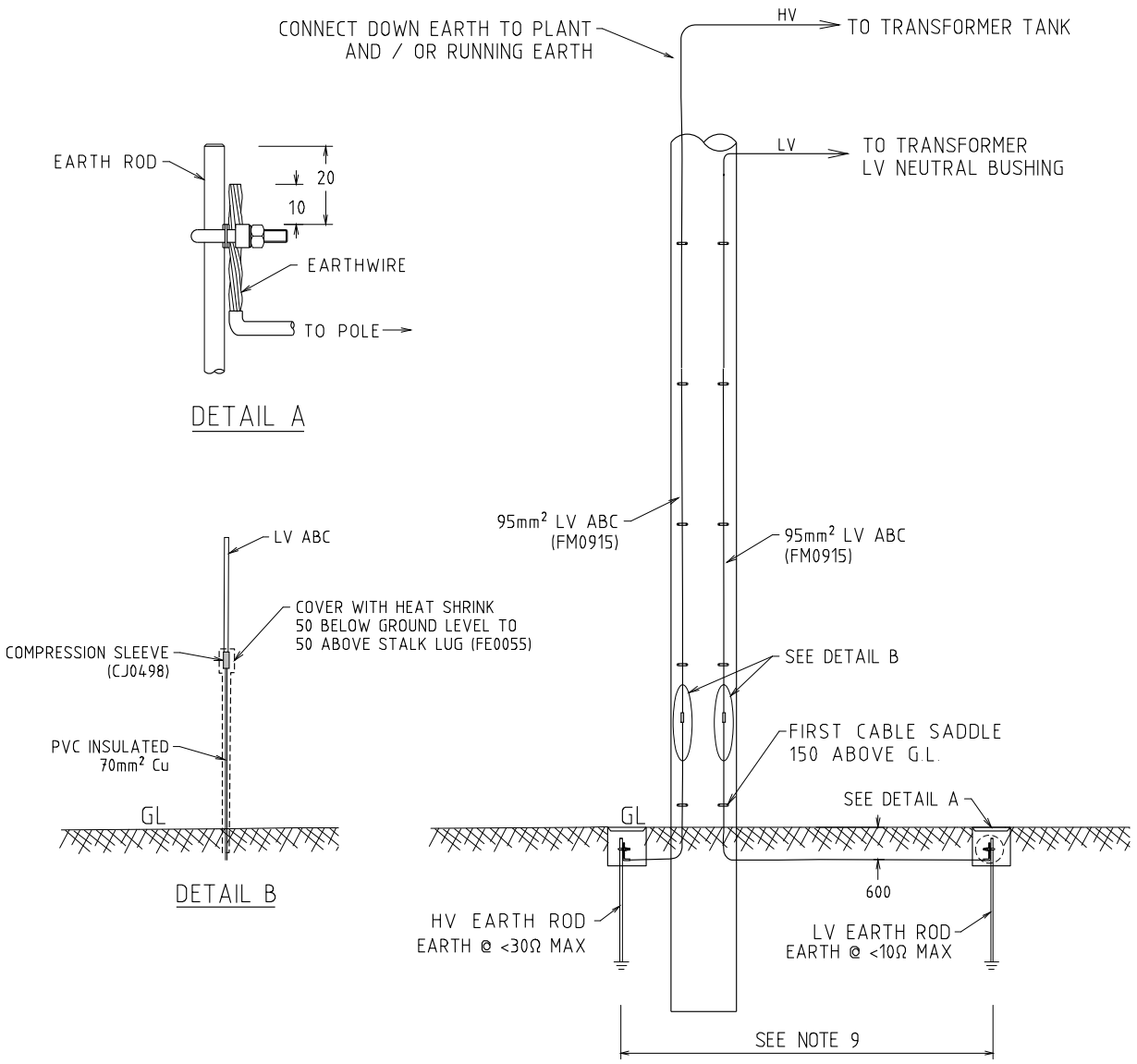
DRAWN: JRR | DATE: 02-08-2017 | DRG. No. R6-1-2

ORIGINATED: JC | SCALE: NTS

CHECKED: CO

APPROVED: GRANT STACY

REV: C | SHT.



NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ONLY TO BE USED WHEN THE REQUIREMENTS FOR COMMON HV & LV EARTHING (<1Ω) CAN NOT BE MET.
3. NOT TO BE USED FOR TRANSFORMER INSTALLATIONS WHERE BARE HV CONDUCTORS ARE ABOVE BARE LV CONDUCTORS.
4. THE NEUTRAL EARTH LINK AT THE TRANSFORMER MUST BE REMOVED.
5. SCOTCH LINERLESS SPLICING TAPE 130C MUST BE APPLIED 4 LAYERS THICK TO EXPOSED METAL WORK ON ALL TRANSFORMER LV BUSHINGS INCLUDING THE NEUTRAL AND THEN COVERED WITH SCOTCH ELECTRICAL TAPE 22 TO INCREASE THE UV RATING OF THE INSULATION.
6. THE HV AND LV EARTH DOWNLEADS MUST BE SEPARATED BY A MINIMUM OF 150mm ON THE POLE.
7. LV FUSING MUST BE INSTALLED AT THE TRANSFORMER.
8. A LABEL READING "WARNING SEPARATE HV & LV EARTHING" SHOULD BE PLACED ON THE TRANSFORMER AND ON THE POLE.
9. HV AND LV EARTH ROD SEPARATION DISTANCE TO BE SPECIFIED BY EARTHING DESIGNER.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	02.12.22	NOTES REVISED	GS	NMc	GS
B	19.08.22	NOTES REVISED	GS	NMc	GS
A	03.08.22	ORIGINAL ISSUE	GS	NMc	GS

REFERENCE DRAWING

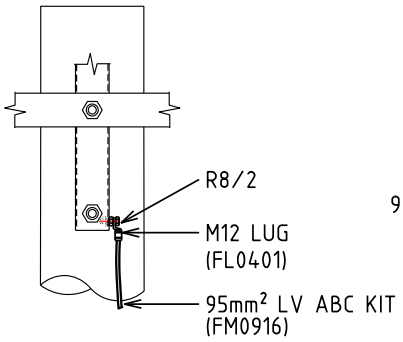
TITLE

SEPARATE LV & HV EARTHING
FOR POLE TRANSFORMER

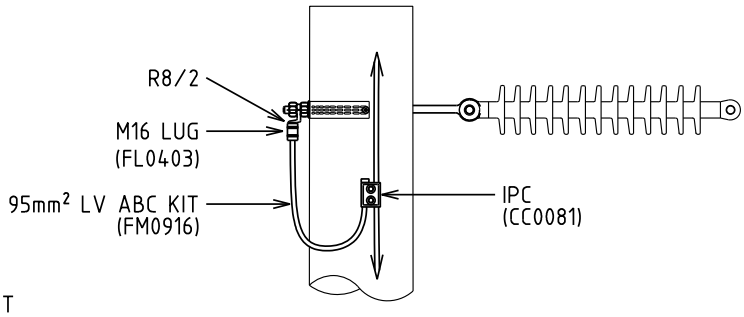
DISTRIBUTION CONSTRN. STANDARD

westernpower

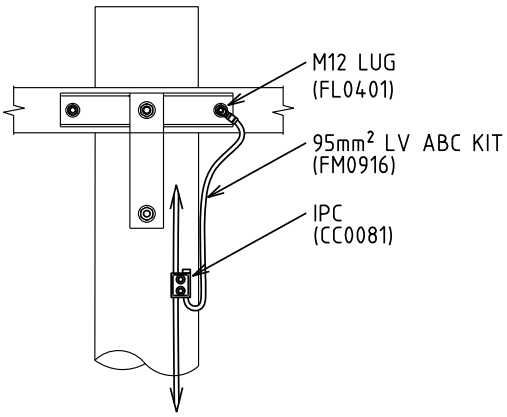
DRAWN: JRR	DATE: 22-07-2022	DRG. No.	
ORIGINATED: GS	SCALE: NTS	R06-1-3	
CHECKED: NMc			
APPROVED: GRANT STACY		REV. C	SHT.



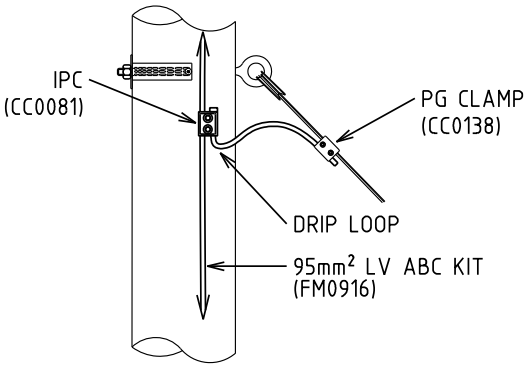
CONNECTION TYPE A
UNITISED CROSSARM (NOTE 2)
M12 LUG



CONNECTION TYPE C
TERMINATION OR DOF BRACKET
M16 LUG



CONNECTION TYPE B
TEE BRACKET
M12 LUG



CONNECTION TYPE D
STAY EARTHING

NOTE:
1. EARTHING TO BE APPLIED TO ALL EXPOSED METAL WORK ON TRANSFORMER STRUCTURES (TX, ISO TX, METERING UNITS, VRs, etc)
2. TYPE C CAN BE USED AS AN ALTERNATIVE.
3. GREASE TO BE APPLIED TO ALL LUG & PG CONNECTIONS.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	16.12.25	ORIGINAL ISSUE	CO	KT	MM

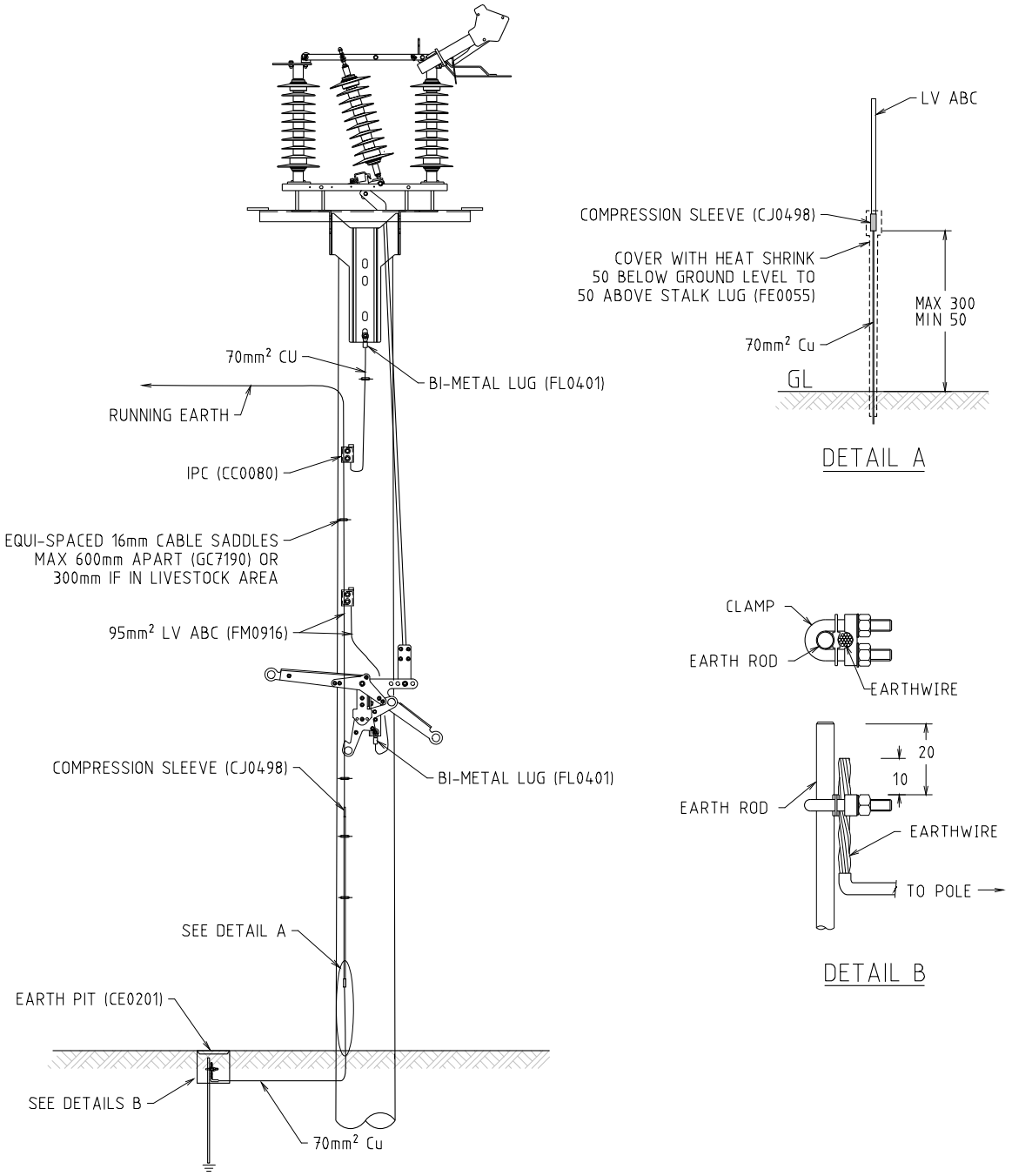
REFERENCE DRAWING

TITLE: POLE TOP EARTHING AT TRANSFORMER STRUCTURES

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: NC | DATE: 02-09-2025 | DRG. No. R06-1-4
ORIGINATED: CO | SCALE: NTS
CHECKED: KT
APPROVED: MARK MONTEMAYOR
REV. A | SHT. 1/1



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. UPPER MOST JOINT POSITION TO REMOVE RISK OF THEFT PREFERABLY AT LEAST 4m ABOVE GROUND, NOTE TO BE AT LEAST 760mm BELOW LV TO ALLOW MAD.
3. SADDLES TO BE FIXED TO POLE WITH 60mm WOOD SCREWS (AS2511).
4. EARTH PIT IS NOT REQUIRED TO BE FITTED, IF EARTH ROD CONNECTION IS ABOVE GROUND OR WATER PIPE.
5. THE INSULATION OF THE LV ABC SHOULD NOT BE BROKEN AT ANY POINT ALONG ITS LENGTH.

REV	DATE	DESCRIPTION	ORGD.	CHED.	APRD.
G	21.05.19	EARTH CONNECTION SYSTEM MODIFIED	REE	NN	FK
F	31.01.18	REVISED TO SUIT NEW PTS	REE	JC	GS
E	18.12.17	DWG # & TITLE REVISED, LV ABC & STALK LUG ADDED	GS	JC	GS

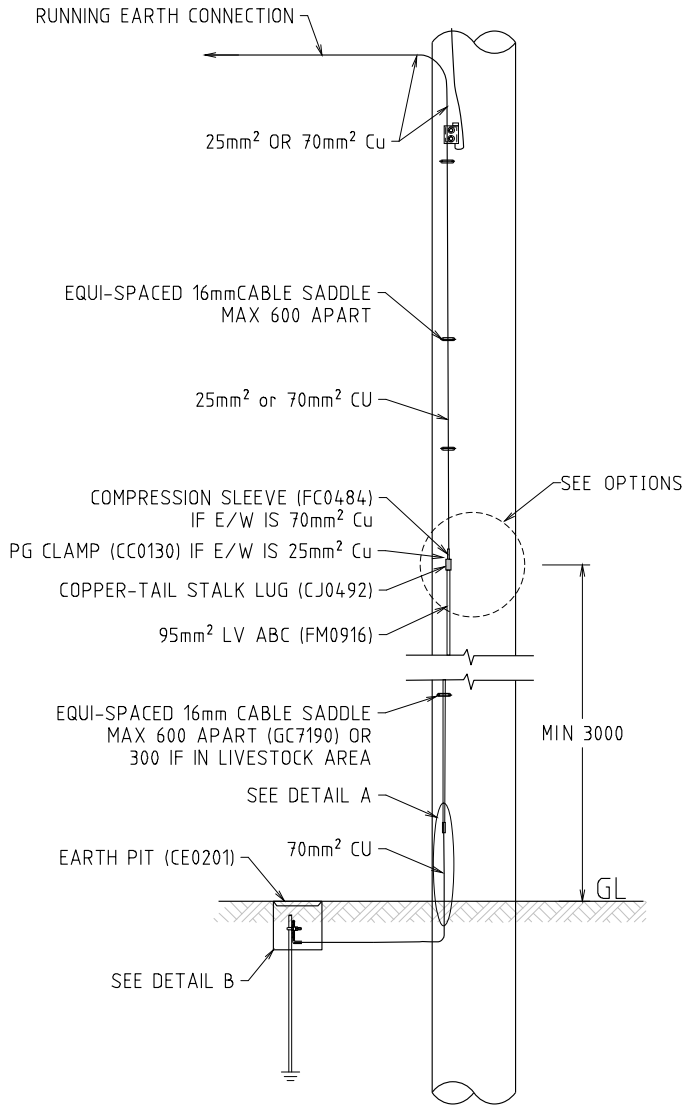
REFERENCE DRAWING

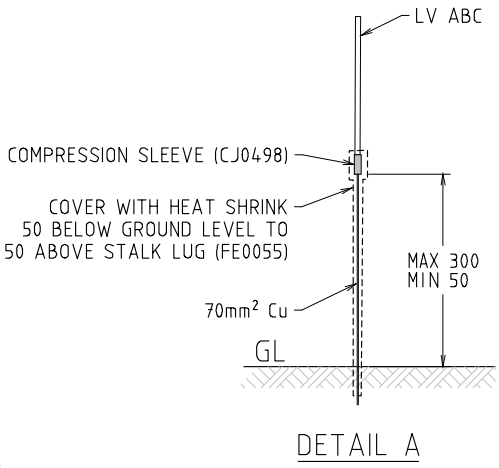
POLE TOP SWITCH DOWN EARTH REPAIR FOR VANDALISM/COPPER THEFT

DISTRIBUTION CONSTRN. STANDARD

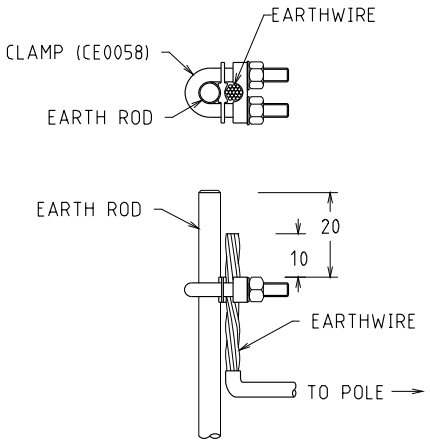
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R6-2-1
ORIGINATED: | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. G | SHT.

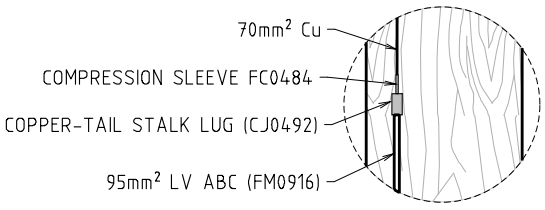




DETAIL A

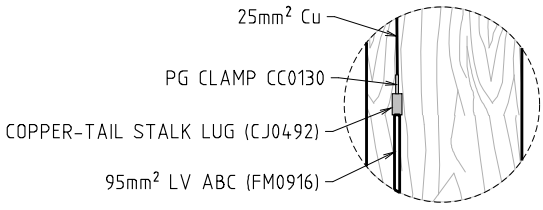


DETAIL B



OPTION 1

EARTH WIRE 70mm² Cu



OPTION 2

EARTH WIRE 25mm² Cu

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. UPPER MOST JOINT POSITION TO REMOVE RISK OF THEFT PREFERABLY AT LEAST 4m ABOVE GROUND, NOTE TO BE AT LEAST 760mm BELOW LV TO ALLOW MAD.
3. SADDLES TO BE FIXED TO POLE WITH 60mm WOOD SCREWS (AS2511).
4. EARTH PIT IS NOT REQUIRED TO BE FITTED, IF EARTH ROD CONNECTION IS ABOVE GROUND OR WATER PIPE.
5. THE INSULATION OF THE LV ABC SHOULD NOT BE BROKEN AT ANY POINT ALONG ITS LENGTH.

REV	DATE	DESCRIPTION	ORGD.	CHED.	APRD.
B	21.05.19	EARTH CONNECTION METHOD MODIFIED	REE	NN	FK
A	14.12.17	ORIGINAL ISSUE	GS	JC	GS

REFERENCE DRAWING

POLE DOWN EARTH REPAIR FOR VANDALISM/COPPER THEFT

DISTRIBUTION CONSTRN. STANDARD

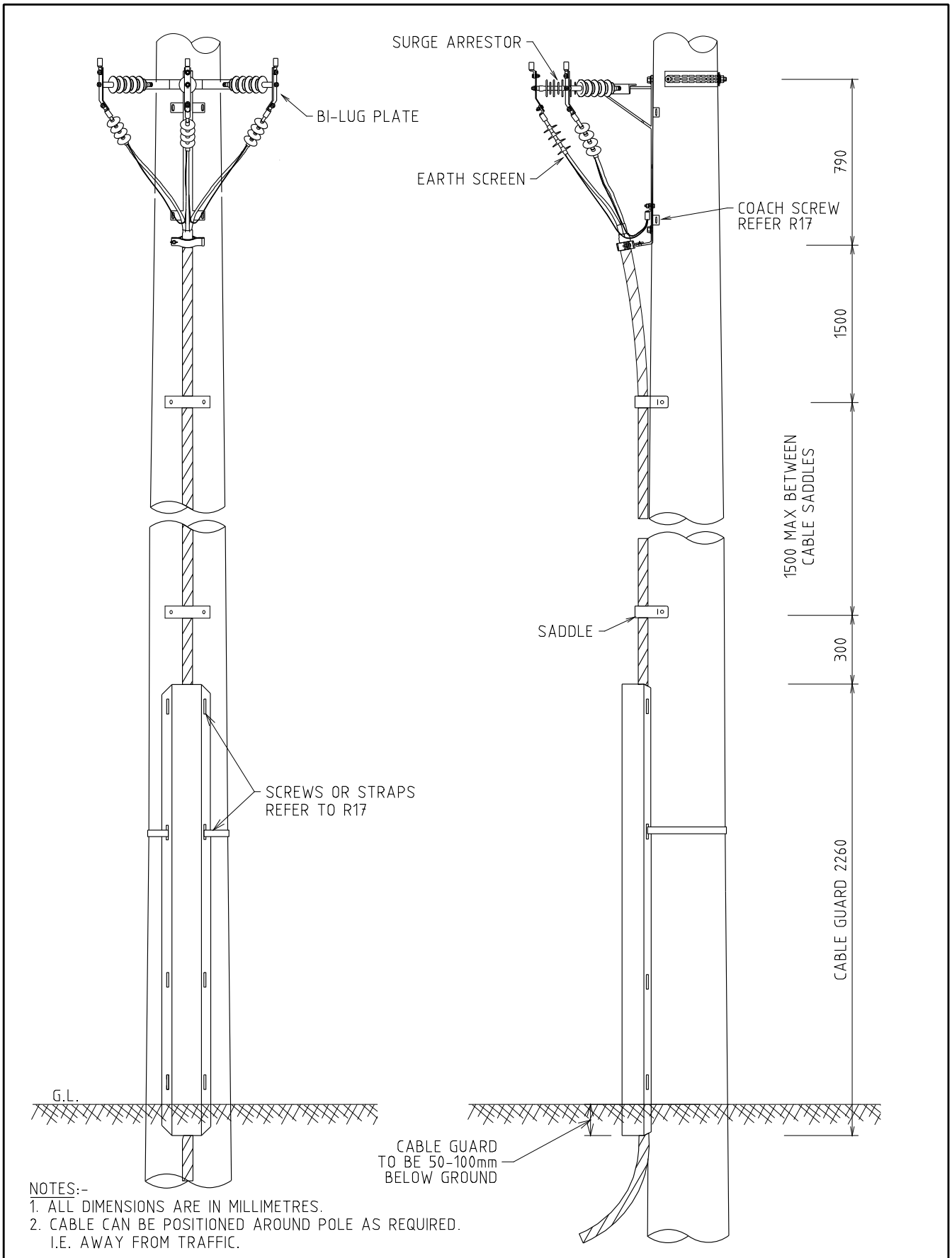
westernpower

DRAWN: JRR | DATE: 03-08-2017 | DRG. No. R6-2-2

ORIGINATED: JC | SCALE: NTS

CHECKED: CO

APPROVED: GRANT STACY | REV. B | SHT.



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CABLE CAN BE POSITIONED AROUND POLE AS REQUIRED.
   I.E. AWAY FROM TRAFFIC.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	05.08.21	TITLE CHANGED AND CABLE GUARD LENGTH REVISED	CO	NMc	GS
E	22.02.19	ANNOTATIONS REVISED	CO	NMc	GS
D	10.07.13	ORIGINAL ISSUE			

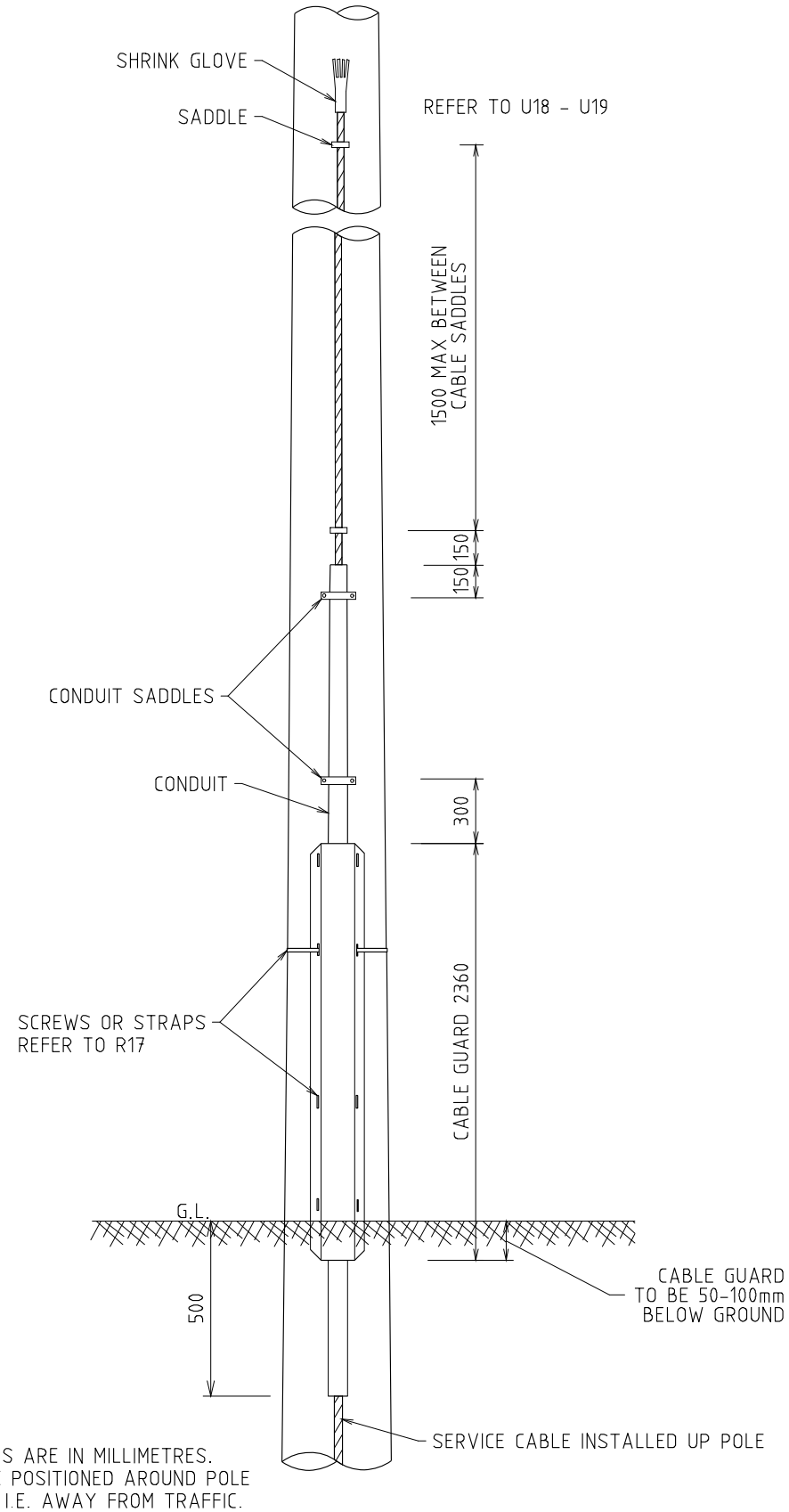
REFERENCE DRAWING

TITLE
CABLE SADDLE / CABLE GUARD
HV CABLES

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R07-1
ORIGINATED: | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. F | SHT.



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CABLE CAN BE POSITIONED AROUND POLE AS REQUIRED. I.E. AWAY FROM TRAFFIC.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	05.08.21	TITLE CHANGED AND CABLE GUARD LENGTH REVISED	CO	NMc	GS
E	22.02.19	ANNOTATIONS REVISED	CO	NMc	GS
D	10.07.13	ORIGINAL ISSUE			

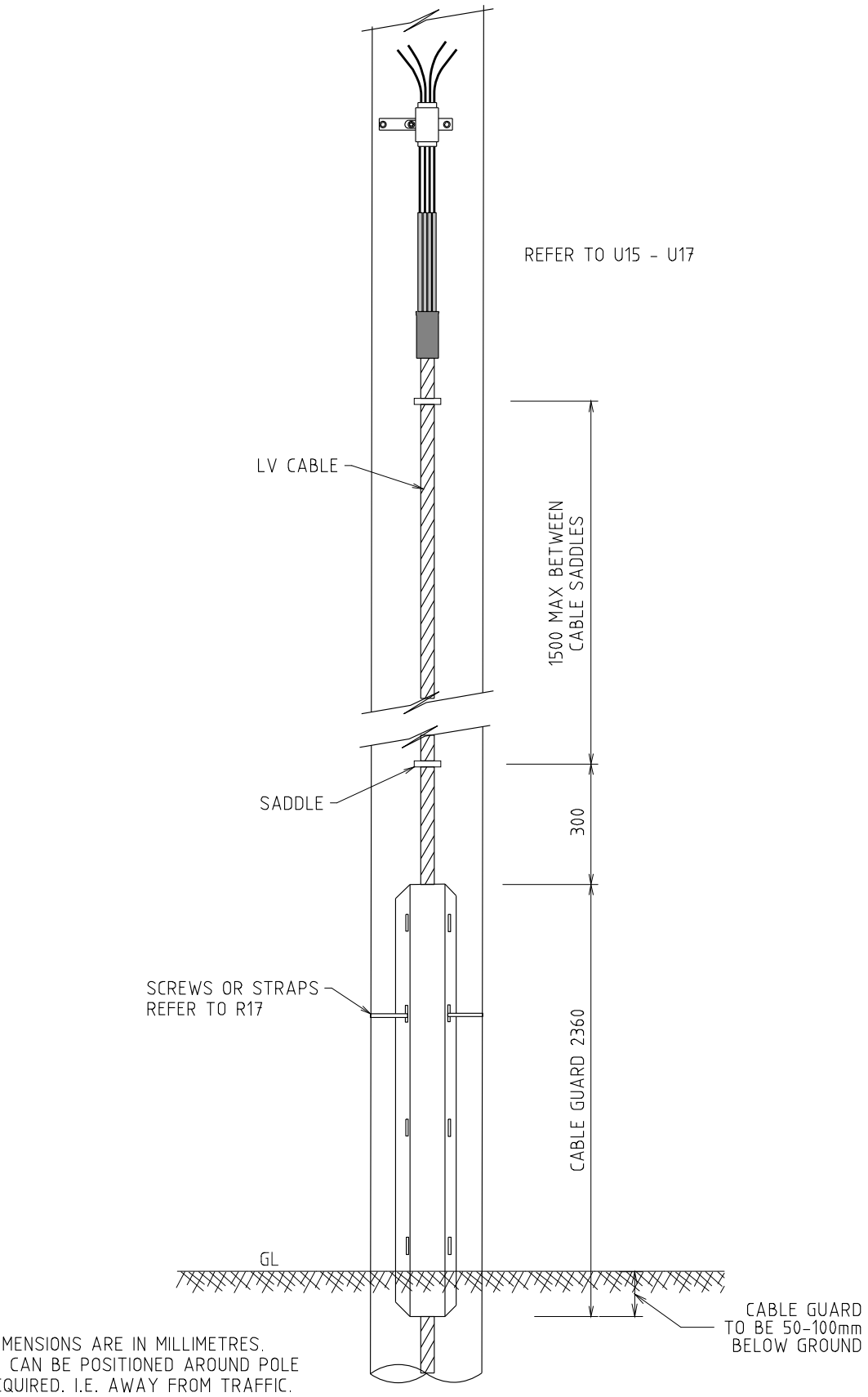
REFERENCE DRAWING

TITLE
CABLE SADDLES / CABLE GUARD
10, 16 & 25mm² SERVICE DETAIL

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R07-2
ORIGINATED: | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. F | SHT.



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CABLE CAN BE POSITIONED AROUND POLE AS REQUIRED. I.E. AWAY FROM TRAFFIC.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
D	05.08.21	TITLE CHANGED AND CABLE GUARD LENGTH REVISED	CO	NMc	GS
C	22.02.19	ANNOTATIONS REVISED	CO	NMc	GS
B	24.08.17	POLE TOP DETAILS DELETED	CO	JC	GS
A	10.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: CABLE SADDLE / CABLE GUARD 120 to 240mm² LV CABLES

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R07-3

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. D | SHT.

NOTES FOR R7/1 AND R7/2

IN ALL SECTIONS WHERE POLES ARE DRAWN WITH URD CABLES ON THEM THE FOLOWING WILL APPLY FOR THE CABLE INSTALLATION

1. ALL CABLES SHALL BE INSTALLED ON THE OPPOSITE SIDE OF THE POLE TO ON-COMING TRAFFIC

2. SHOULD POINT "1" BE IMPRACTICAL, THEN THE CABLES MAY BE INSTALLED ON THE FOOTPATH SIDE (BETWEEN POLE & PROPERTY BOUNDARY) THIS LOCATION ALSO APPLIES TO A SECOND CABLE INSTALLATION

3. IF THE CONNECTION POINT AT THE POLE TOP IS ON THE OPPOSITE SIDE OF THE INSTALLED CABLE, THEN THE CABLE MUST BE ROLLED AROUND THE POLE ON THE FOOTPATH SIDE (BETWEEN POLE & PROPERTY BOUNDARY) UP TO THE CONNECTION

4. FOR POLE TOP SWITCH POLES THE CABLE MUST BE INSTALLED ON THE FOOTPATH SIDE (BETWEEN POLE & PROPERTY BOUNDARY) THEN ROLLED AS HIGH UP AS POSSIBLE TO THE SIDE OF CONNECTION.

CABLE INSTALLED UP POLES

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	10.07.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: CABLE POSITION INSTALLING DETAILS

DISTRIBUTION CONSTRN. STANDARD

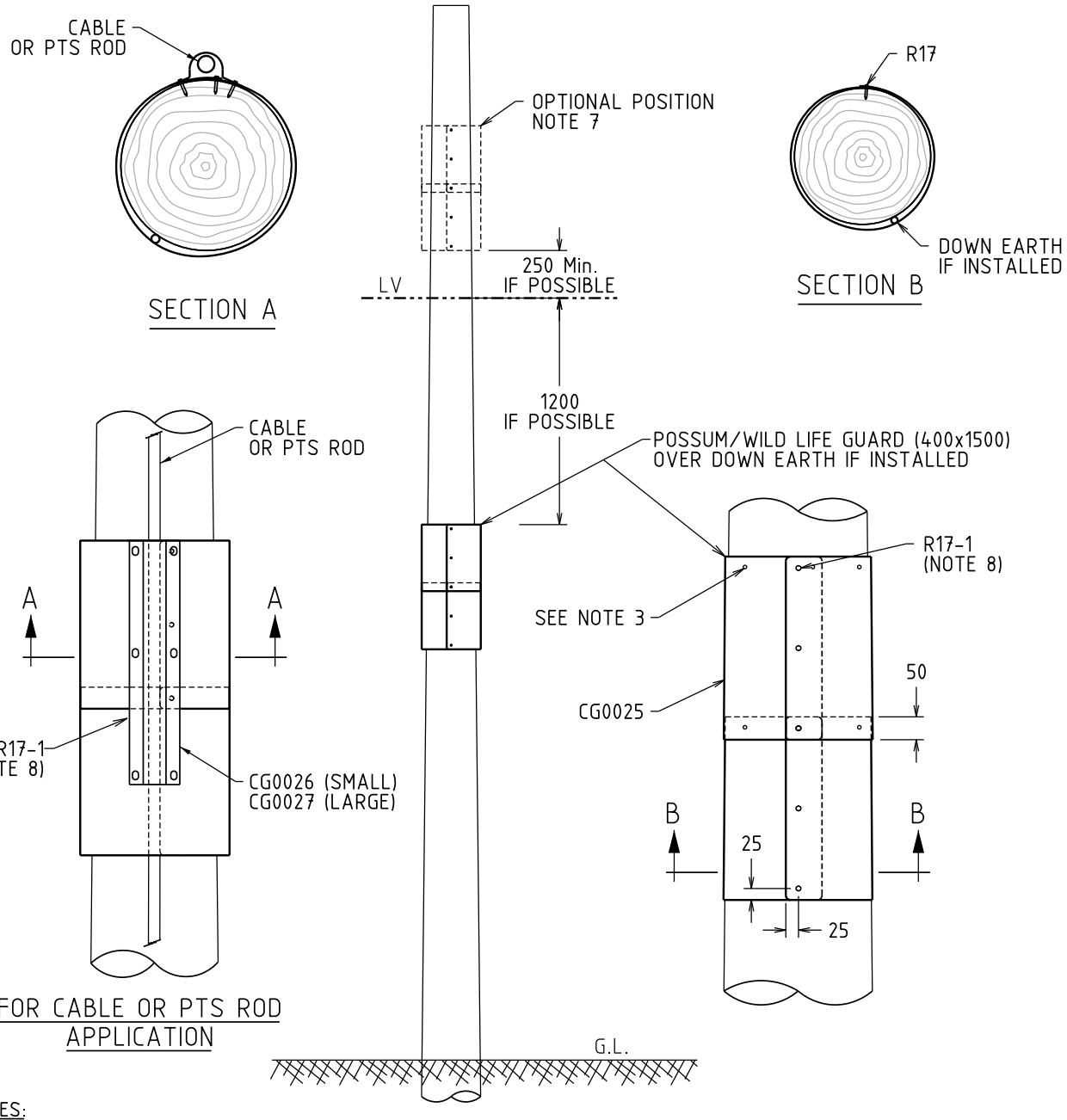
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R7/4

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. A | SHT.



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. GUARD TIGHTLY WRAPPED AROUND POLE.
3. SCREWS AROUND CIRCUMFERENCE TO ASSIST WITH EASE OF INSTALLATION ONLY AND TO BE KEPT TO A MINIMUM.
4. FOR LV/HV CABLES AND PTS ACTUATOR ROD, INSTALL POSSUM GUARD BETWEEN CABLE OR PTS ROD & POLE.
5. GUARD TO BE INSTALLED WITH MATT FINISH SIDE ON THE OUTSIDE, SHINY SIDE AGAINST POLE.
6. USE THE SMALLEST DIAMETER PLASTIC CABLE GUARD POSSIBLE TO COVER THE CABLE OR PTS ACTUATOR ROD WHICH WILL PREVENT WILDLIFE FROM CLIMBING THROUGH THE GUARD ITSELF.
7. UTILISE OPTIONAL OR ADDITIONAL POSITION IF POSSUM CAN ACCESS ABOVE LV DUE TO CLOSE TREES OR SERVICES.
8. USE SCREW (R17-1) WITH WASHER IF REQUIRED.

APPLICATION:
POSSUM GUARDS ARE TO BE INSTALLED ON POLES WHERE BOTH OF THE BELOW ARE MET WITHIN 20km OF THE COAST,
BETWEEN DAWESVILLE AND AUGUSTA INCLUSIVE,
WHERE HV EQUIPMENT IS EARTHED.
(E.G.TX, PTS, HV CABLE TERM, ETC.)

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD
F	28.08.25	APPLICATION NOTE ADDED AND NOTE 9 DELETED.	NG	VAS	CO
E	14.05.24	CABLE GUARD NUMBERS DOUBLED	NMc	ML	CO
D	12.11.19	CABLE GUARD DETAILS AND NOTE 8 ADDED	REE	CO	GS
C	22.02.19	WOOD SCREW DTAILS REVISED	CO	NMc	GS
B	03.03.15	FORMAT CHANGED AND NOTES REVISED.	REE	REE	GS
A	20.12.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: POSSUM/WILD LIFE GUARD

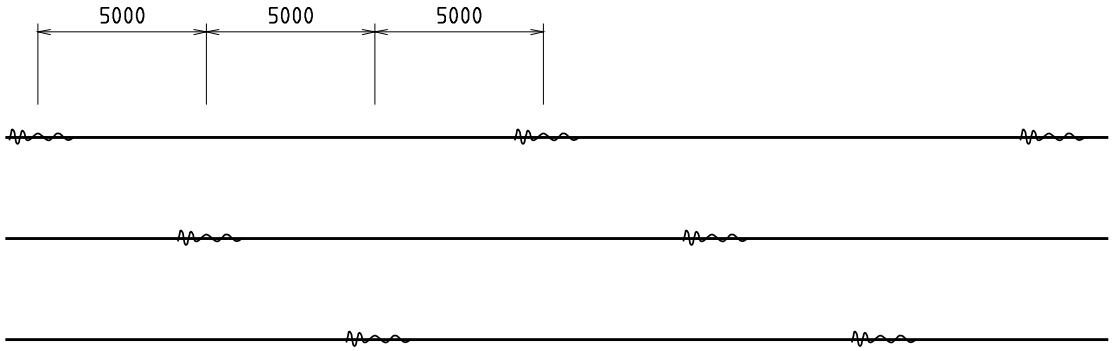
DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR 04-03-2014
ORIGINATED:
SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY

DRG. No. R07-5
REV. F
SHT. 1/1

THREE PHASES



TWO PHASES

SINGLE PHASE

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS DRAWING IS SUGGESTED INSTALLATION SPACING ONLY.
3. SEE CN79 TO SELECT CORRECT BIRD DIRECTORS FOR CONDUCTOR DIAMETERS.
4. USE ANTI-SWAN TYPE DIVERTOR FOR SWAN AS REQUIRED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	11.02.20	ORIGINAL ISSUE	REE	NN	GS

STRUCTURE

TITLE: BIRD FLIGHT DIVERTER SPACING

DISTRIBUTION CONSTRN. STANDARD

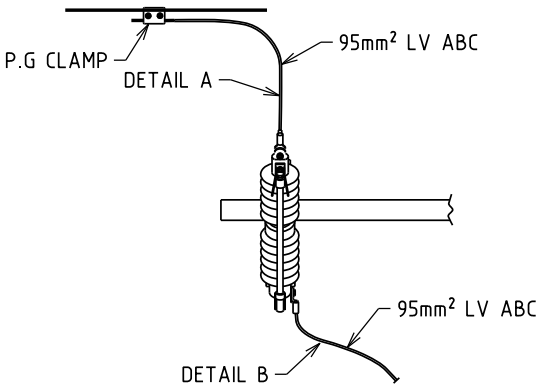
westernpower

DRAWN: JRR | DATE: 10-02-2020 | DRG. No. R07-6

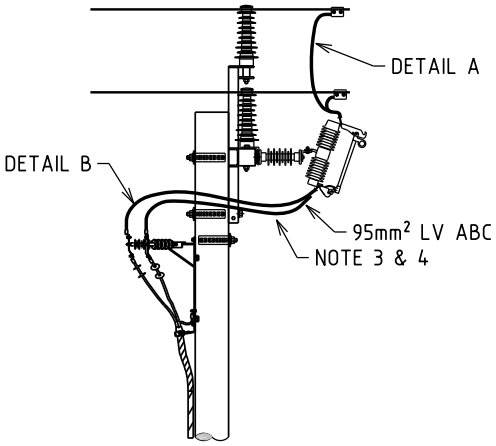
ORIGINATED: REE | SCALE: NTS

CHECKED: NN

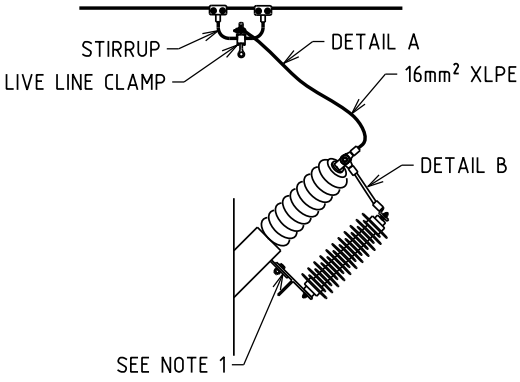
APPROVED: GRANT STACY | REV. A | SHT.



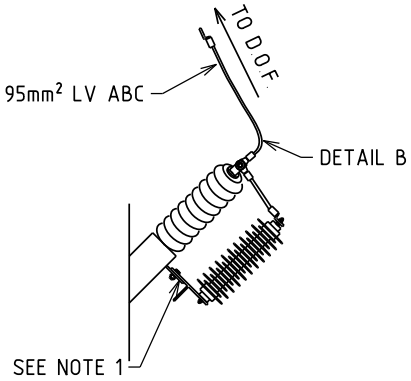
LINE TAPS TO ISOLATOR/DOF



DOF CABLE TERMINATION



LIVE LINE CLAMP TO SINGLE PHASE TRANSFORMER.



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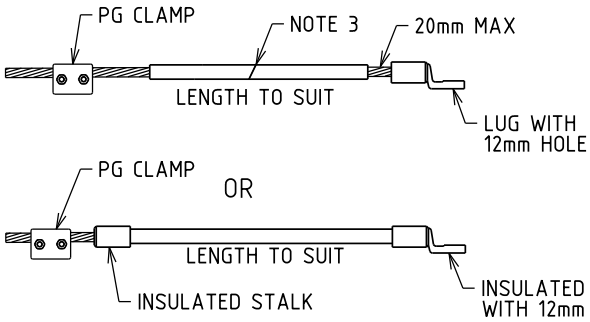
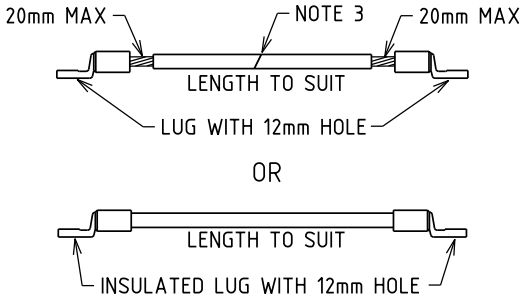


DETAIL A



DETAIL B

NOTES:
1. IF PAINTED, STRIP OFF PAINT TO ENSURE A GOOD ELECTRICAL CONTACT, APPLY INHIBITING GREASE.
2. EXISTING BARE CONDUCTOR CAN BE USED FOR TAPPING. APPLY GREY FLEXIBLE HOSE AND APPROPRIATE LUGS.
3. CUT INSULATION (50mm MAX) AT LOWEST POINT OF THE TAP TO DRAIN WATER, UNLESS WATER BLOCKED.
4. 95mm² LV ABC IS PREFERRED. 150mm² LV ABC MAY BE USED.
5. MAINTAIN PHASE CLEARANCES FROM ANY PART OF STRUCTURES AS PER TABLE 1.

NOMINAL VOLTAGE	PHASE TO STRUCTURE (mm)	
	MINIMUM	PREFERRED
22kV OR BELOW	280	500
33kV	380	

TABLE 1 - CLEARANCES

GUIDANCE:
LV ABC FOR HV TAPPING DOES NOT NEED TO BE WATER BLOCKED. TO MANAGE MOISTURE:
- IF SEALED AT THE BOTTOM, THE TAP MUST ALSO BE SEALED AT THE TOP.
- IF OPEN AT THE TOP, THE INSULATION MUST BE CUT/OPEN AT THE LOWEST POINT TO DRAIN WATER.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
M	05.01.26	CLEARANCE REQUIREMENTS CLARIFIED	VAS	NMc	KT
L	24.01.24	TITLE UPDATED	NMc	SH	CO
K	22.08.22	NOTES, DETAIL A AND B REVISED	SH	CO	GS
J	24.07.18	NOTES ADDED	REE	CO	GS
H	29.06.18	TITLE CHANGED AND MORE DETAILS ADDED	REE	CO	GS

REFERENCE DRAWING

TITLE: TAPS ON HV FOR EQUIPMENT

DISTRIBUTION CONSTRN. STANDARD

westernpower

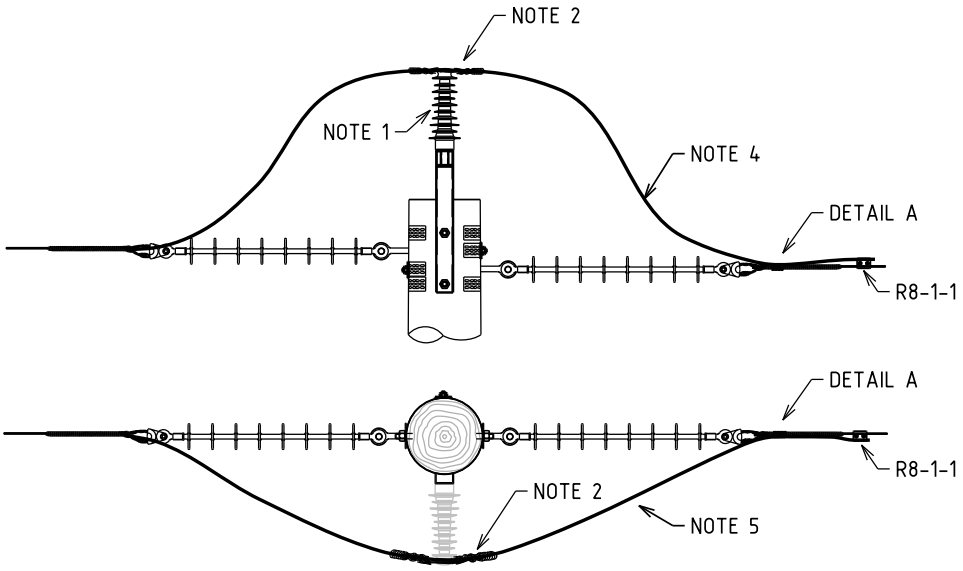
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R08-1-1

ORIGINATED: | SCALE: NTS

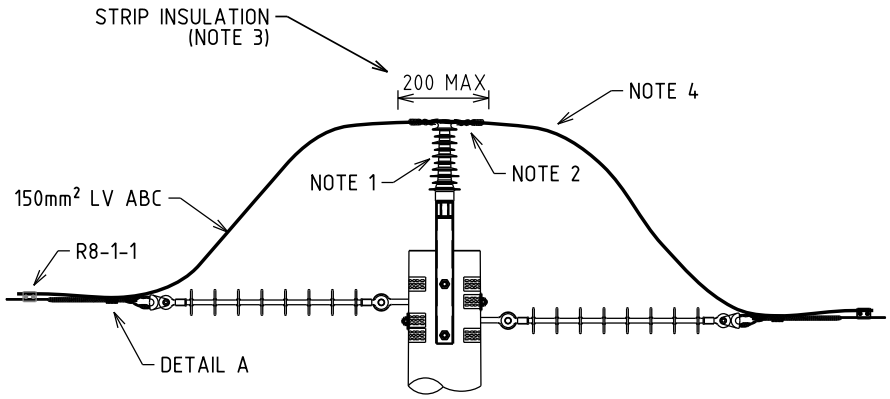
CHECKED: REE

APPROVED: GRANT STACY

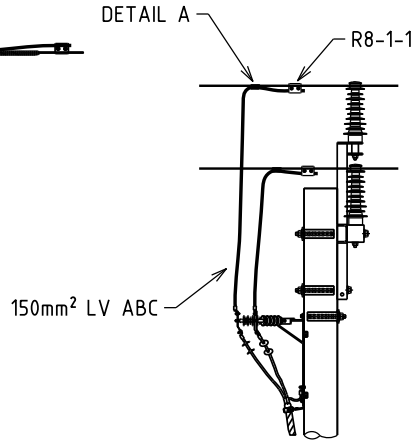
REV: M | SHT: 1/1



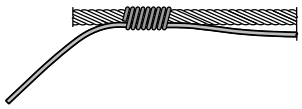
LINE TAPS - BARE



LINE TAPS - LV ABC



CABLE TERMINATION



SUPPORT TAP USING

- TIE WIRE (BARE) - 6 TO 10 WRAPS
- CABLE OR ZIP TIES NOT TO BE USED

DETAIL A

NOMINAL VOLTAGE	PHASE TO STRUCTURE (mm)	
	MINIMUM	PREFERRED
22kV or below	280	500
33kV	380	

TABLE 1 - CLEARANCES

NOTES:
1. WHERE TAP UNSUPPORTED >3m STAND-OFF INSULATOR REQUIRED.
2. APPLY AS PER R3-2, (FIRST 8 TIE WRAPS EACH SIDE ONLY).
3. 200mm OF INSULATION IS TO BE STRIPPED AT POST INSULATOR TIE.
4. MAINTAIN PHASE CLEARANCES FROMANY PART OF STRUCTURES AS PER TABLE 1.
5. IF BARE CONDUCTOR IS USED FOR TAPPING, APPLY GREY FLEXIBLE HOSE.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD
I	05.01.26	CLEARANCE REQUIREMENTS CLARIFIED	VAS	NMc	CO
H	22.08.22	NOTE 3 ADDED & LOOP TO DRAIN WATER ADDED	SH	CO	GS
G	16.04.19	DESCRIPTIONS REVISED AND DETAIL A ADDED	NMc	NN	GS

REFERENCE DRAWING

TITLE: TAPS ON HV MAIN LINE CONNECTIONS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 10-12-2014

ORIGINATED: REE | SCALE: NTS

CHECKED: REE

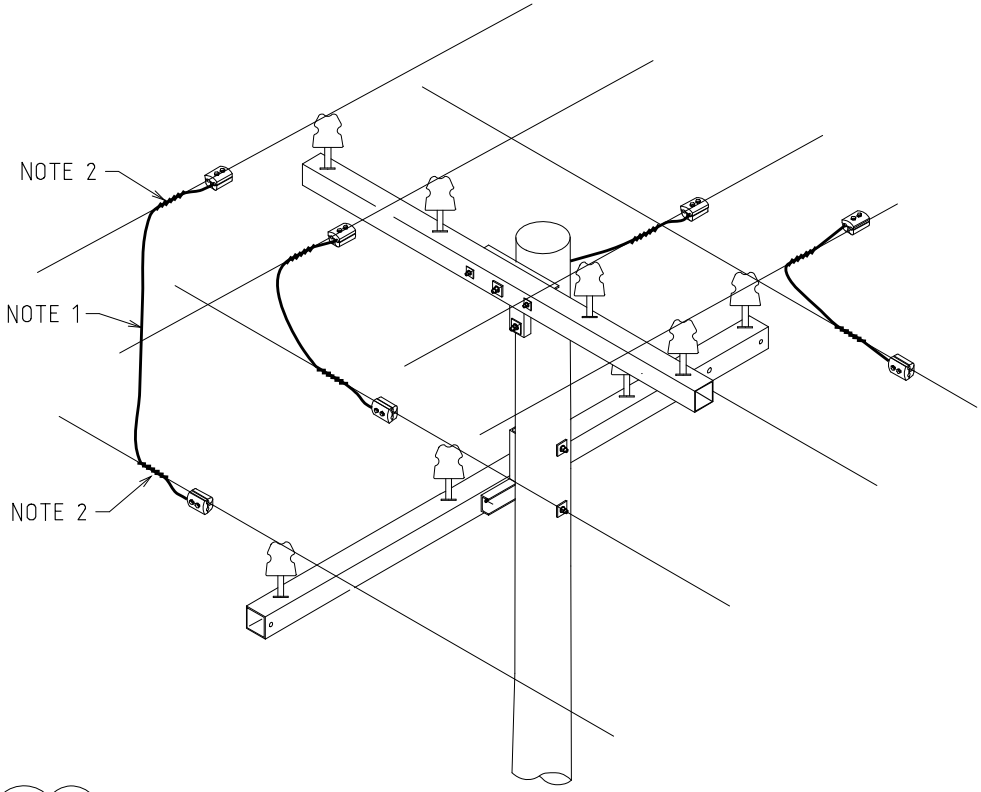
APPROVED: GRANT STACY

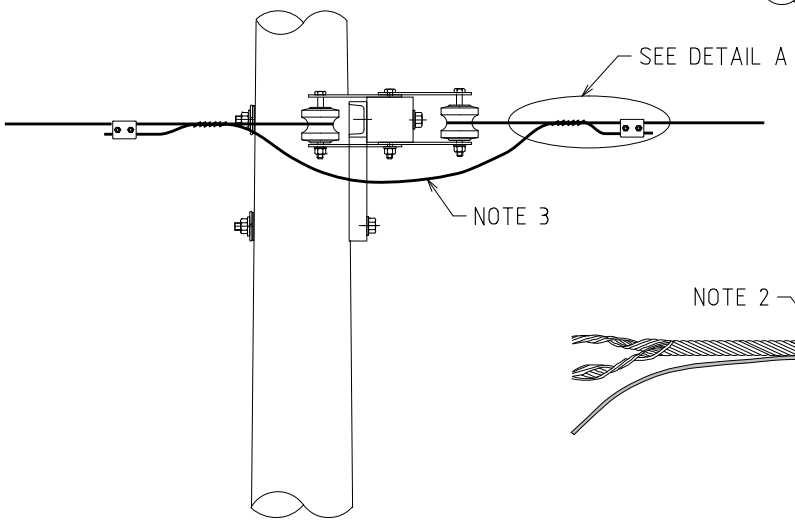
DRG. No. R08-1-2

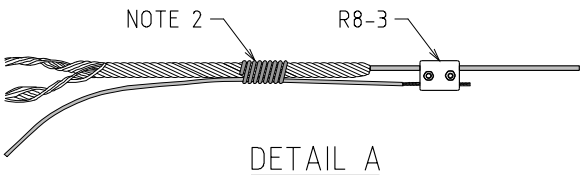
REV. I | SHT. 1/1

LV TAPPING

- IF TAP CONDUCTOR OF SAME SIZE AS EXISTING CONDUCTOR – COVER WITH FLEXIBLE HOSE.
- ALTERNATIVELY USE 150mm^2 LVABC CONDUCTOR.







DETAIL A

NOTES:-
1. ALLOW SUFFICIENT SLACK IN THE TAP TO ACCOMMODATE CONDUCTOR MOVEMENT.
2. SUPPORT TAP WITH TIE WIRE - 6 TO 10 WRAPS AS SHOWN IN DETAIL A.
   CABLE OR ZIP TIES NOT TO BE USED.
3. CUT INSULATION (50mm MAX) AT THE BOTTOM OF THE LOOP TO ALLOW WATER DRAINAGE.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	16.02.23	DETAIL A AND NOTES REVISED	CO	ML	PC
F	16.04.19	NOTES REVISED	NMc	NN	GS
E	10.10.17	LV ABC TAPPING UPDATED	CO	FK	GS
D	03.08.17	OPTION NOTES REVISED	GS	REE	GS

REFERENCE DRAWING

TITLE

TAPS ON L.V.
MAIN LINE CONNECTIONS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 21-08-2015

ORIGINATED: REE | SCALE: NTS

CHECKED: REE

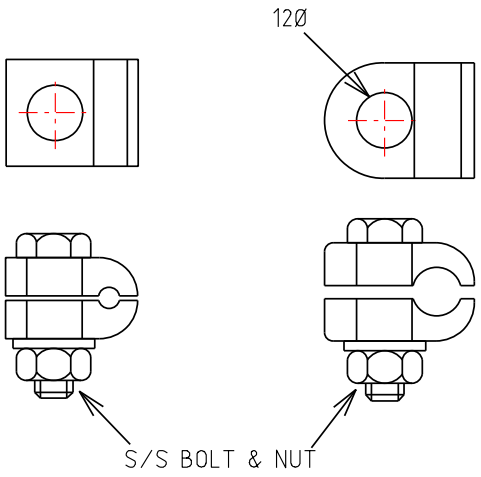
APPROVED: GRANT STACY

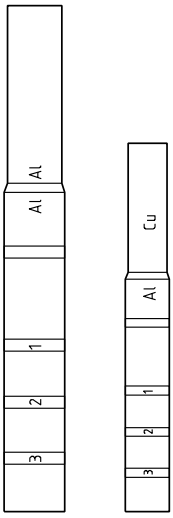
DRG. No. R08-1-3

REV. G | SHT.

CRIMP MARK

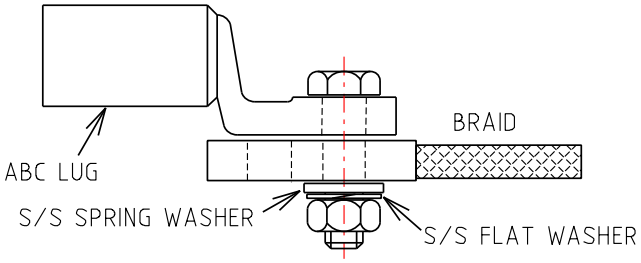
CABLE CRIMP

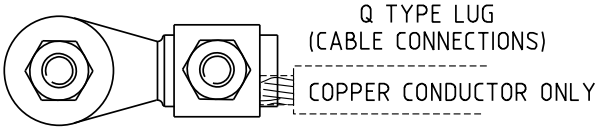


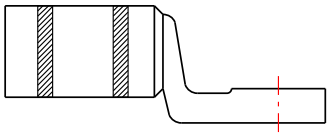


ABC TO AERIAL

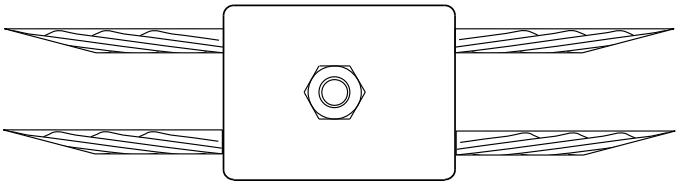
FOR THE CORRECT APPLICATION
OF CABLE CRIMP, REFER TO CN17
OF DISTRIBUTION DESIGN CATALOGUE.







LUG BI-METAL



SMALL COPPER PG CLAMP FOR
UP TO 70mm^2 COPPER CONDUCTOR
INCLUDING CU DOWN EARTH JOINTS

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	19.12.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: LUGS & CONNECTORS TRANSFORMER & CABLE

DISTRIBUTION CONSTRN. STANDARD

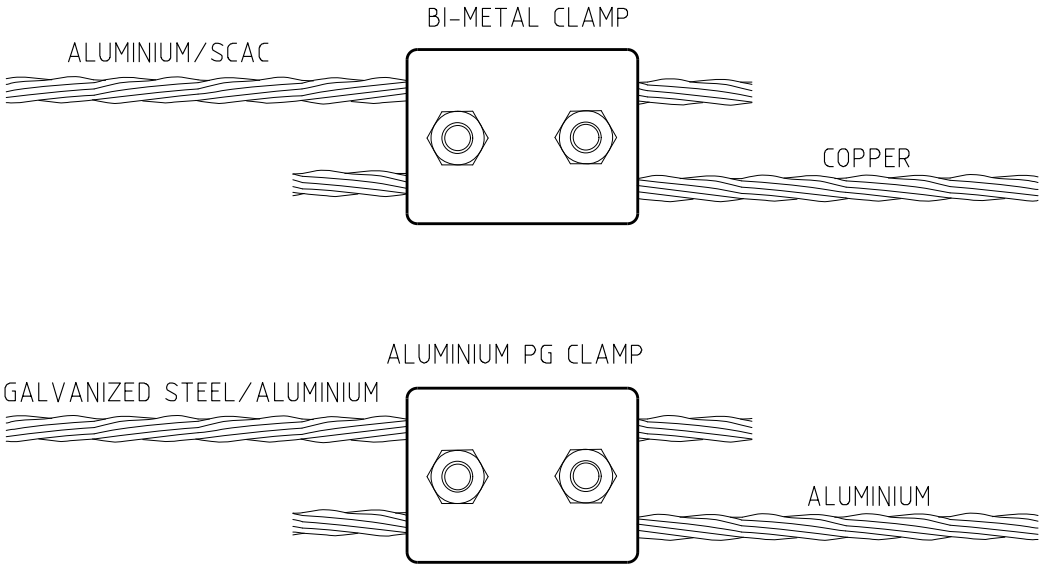
westernpower

DRAWN: JRR | DATE: 04-03-2011 | DRG. No. R8/2

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. C | SHT.



PARALLEL GROOVE CLAMPS

FOR NEW INSTALLATIONS/APPLICATIONS

STEP 1

- WIRE BRUSH SURFACE OF CONDUCTORS. THEN IMMEDIATELY APPLY JOINTING GREASE TO THE CONDUCTOR (STOCK CODE: PG0002)

STEP 2

- FIT CLAMP AND TIGHTEN BOLTS ACCORDING TO MANUFACTURER'S SPECIFIED TORQUE(Nm) SHOWN ON THE CLAMP.
- IF: * COPPER TO ALUMINIUM THEN ALUMINIUM CONDUCTOR TO BE ABOVE THE COPPER.
  * STEEL TO ALUMINIUM THEN STEEL CONDUCTOR TO BE ABOVE.

STEP 3

- IN EXTREMELY CORROSIVE ENVIRONMENTS:
  * WITHIN 5km OF THE COAST IN THE PERTH METRO AND SOUTH COUNTRY AREA.
  * WITHIN 20km OF THE COAST IN THE NORTH COUNTRY AREA.
  * NEAR HIGH POLLUTION INDUSTRIAL AREAS.
- APPLY GREASE (STOCK CODE: PG0126) TO COVER ALL PARTS OF JOINT.
- APPLY 510 DENSO TAPE OVER GREASE AND JOINT TO EXCLUDE ALL MOISTURE (STOCK CODE: KT0020)

REUSE OF PG CLAMPS

- DO NOT REUSE PG CLAMPS WHICH HAVE BEEN SUBJECTED TO HEAVY FAULT CONDITIONS OR EXCESSIVE CORROSION
- CONTACT GROOVES OF THE PG TO CONDUCTOR INTERFACES MUST BE THOROUGHLY CLEANED TO BRING THE SURFACE BACK TO "AS NEW" CONDITION.
- APPLY CORROSION INHIBITING GREASE (PG0126 OR PG0002) TO REINSTATE THE ENVIRONMENTAL PROTECTION AT THE INTERFACE (CONTACT GROOVES)
- REPEAT STEPS 1 TO 3.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	19.09.23	GRAMMAR CORRECTED	ML	NMc	CO
F	21.08.14	FORMAT CHANGED AND NOTE STEP 3 REVISED	REE	REE	GS
E	16.09.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: LUGS & CONNECTORS TRANSFORMER & CABLE

DISTRIBUTION CONSTRN. STANDARD

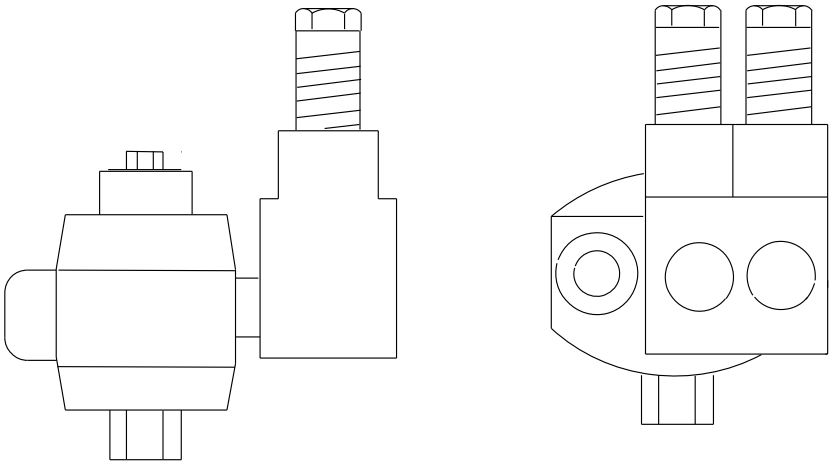
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R08-3

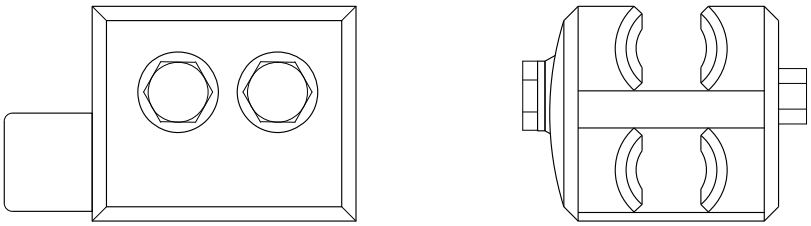
ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. G | SHT.



IPC ABC TO SERVICE



LV MAINS IPC ABC TO ABC

NOTES:-
1. IPC ARE SINGLE USE ONLY (NOT TO BE RE-USED).
2. SPACING BETWEEN IPCs ARE TO BE 150mm.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	11.02.22	NOTE 2 ADDED AND IPC & DWG. No REVISED	SH	CO	GS
F	19.06.18	NOTE 1 ADDED	JC	NMc	GS
E	09.09.14	FORMAT CHANGED AND BARE MAINS TO IPC ABC DELETED	REE	REE	GS
D	05.10.10	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE

LUGS & CONNECTORS
INSULATION PIERCING CLAMP

DISTRIBUTION CONSTRN. STANDARD

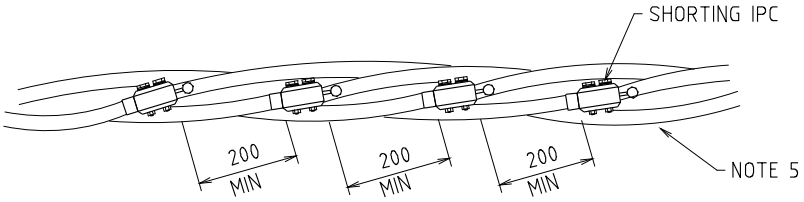
westernpower

DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R08-4-1

ORIGINATED: | SCALE: NTS

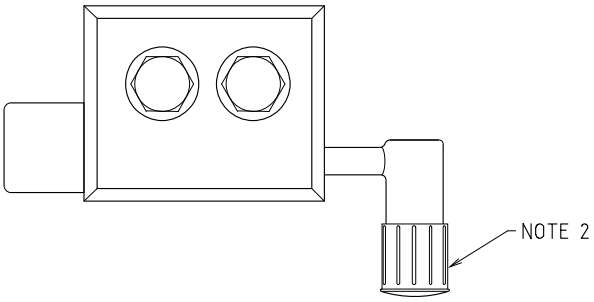
CHECKED: REE

APPROVED: GRANT STACY | REV. G | SHT.

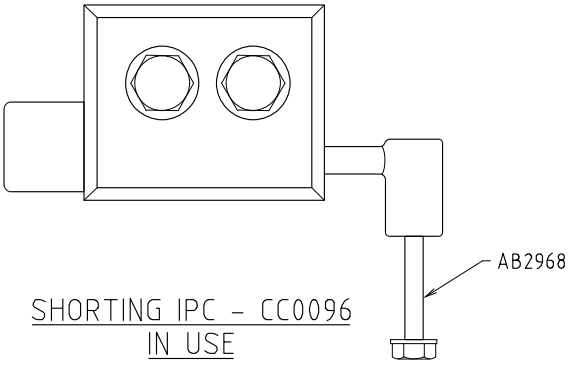


HORIZONTAL LAYOUT

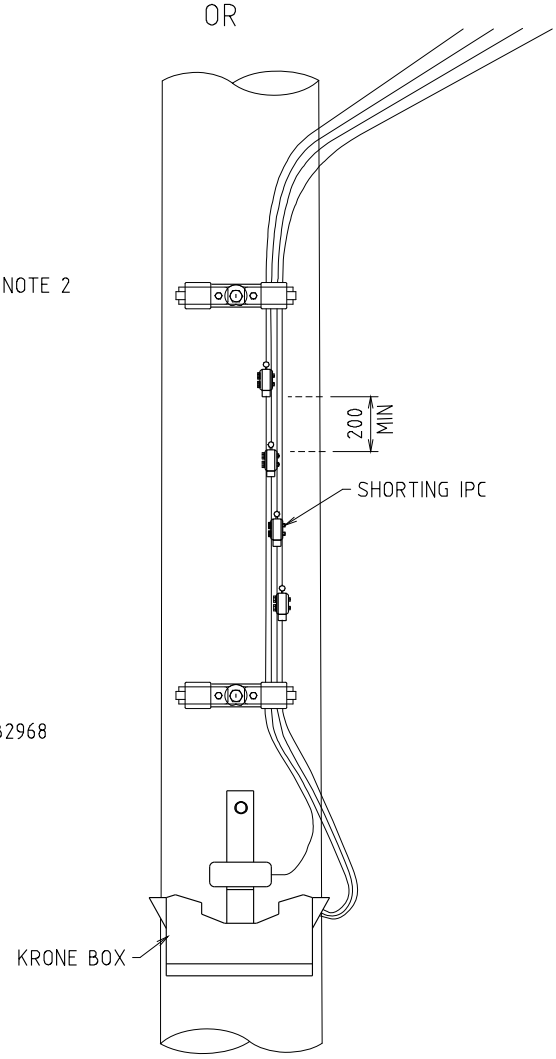
OR



SHORTING IPC - CC0096



SHORTING IPC - CC0096
IN USE



VERTICAL LAYOUT

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. APPLY ALUMINOX AND SECURE CAP AFTER USE.
3. SHORTING IPC MUST ONLY BE INSTALLED ON INSULATED NETWORK.
4. APPLY LV SHORT TO THE NEUTRAL FIRST AND THEN TO THE ACTIVES.
5. IN HORIZONTAL LAYOUT, INSTALL SHORTING IPC WITHIN 3m OF THE POLE.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	14.12.22	UPDATED FROM EARTH IPC TO SHORTING IPC	CO	SH	PC
A	04.02.22	ORIGINAL ISSUE	SH	CO	GS

REFERENCE DRAWING

TITLE: SHORTING LV ABC

DISTRIBUTION CONSTRN. STANDARD

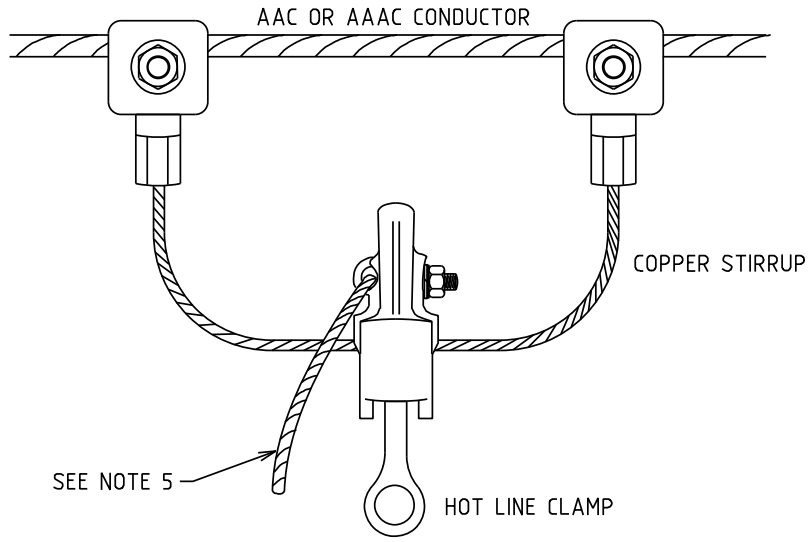
westernpower

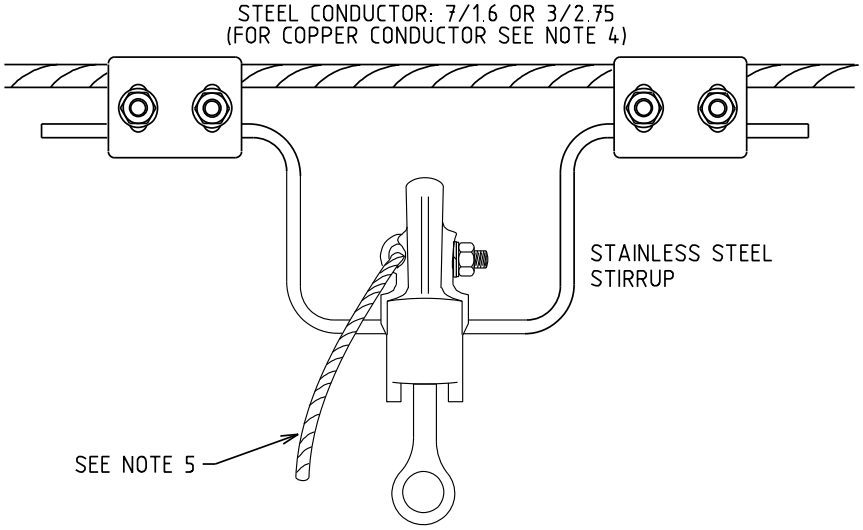
DRAWN: JRR | DATE: 19-01-2022 | DRG. No. R08-4-2

ORIGINATED: SH | SCALE: NTS

CHECKED: CO

APPROVED: GRANT STACY | REV. B | SHT.





NOTES:
1. FOR 7/16 SCGZ CONDUCTOR SEE R8-6.
2. FOR STEEL CONDUCTOR, ONE LEG OF THE STIRRUP MAY BE ATTACHED TO A PRE-FORMED DEAD-END OR ARMOUR ROD.
3. APPLY (FOR STEEL CONDUCTOR)/MOVE SVD (VIBRATION DAMPER) TO CONDUCTOR ON LINE SIDE OF STIRRUP.
4. FOR COPPER CONDUCTORS APPLY STAINLESS STEEL STIRRUP WITH SUITABLE COPPER PG CLAMPS.
5. 16mm² XLPE SERVICE CABLE.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	26.05.25	NOTES ADDED AND CONDUCTOR SPECIFICATION CHANGED	VAS	NMc	CO
B	02.06.21	CONDUCTOR SPECIFICATION CHANGED	REE	CO	GS
A	16.09.11	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: STIRRUP HOT LINE CLAMP TAP-OFF

DISTRIBUTION CONSTRN. STANDARD

westernpower

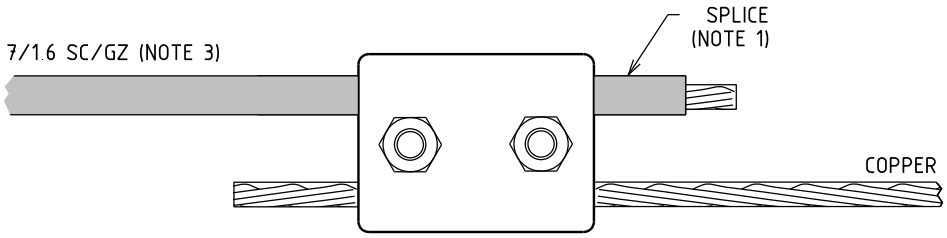
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R08-5

ORIGINATED: | SCALE: NTS

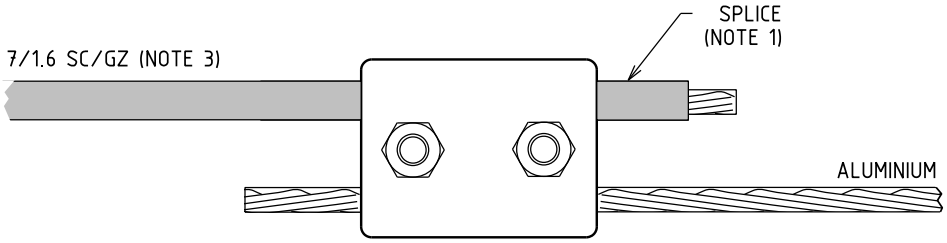
CHECKED: REE

APPROVED: GRANT STACY | REV C | SHT. 1/1

BI-METAL PG CLAMP



ALUMINIUM PG CLAMP



CONNECTION TO 7/1.6 SC/GZ

CONDUCTOR	SPLICE TO INCREASE ϕ	OTHER CONDUCTOR	PG CLAMP
7/1.6 SC/GZ	CF0479	ACSR CONDUCTORS	CC0138
7/1.6 SC/GZ	CF0479	ALUMINIUM CONDUCTORS[2]	CC0138
7/1.6 SC/GZ	CF0479	ALL COPPER CONDUCTORS	CC0125
7/1.6 SC/GZ	CF0479	70mm^2 EARTH EE1264 (CU)	CC0125
7/1.6 SC/GZ	CF0479	25mm^2 EARTH EE1205 (CU)	CC0125
7/1.6 SC/GZ	CF0479	BAIL STIRRUP FC0105	CC0224

NOTES:
1. SPLICE NOT TO BE CUT.
2. INCLUDES LV ABC (95mm^2 & 150mm^2).

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	31.07.25	TITLE AND DETAILS REVISED	VAS	NMc	CO
E	29.10.20	TITLE AND DETAILS REVISED	REE	CO	GS
D	14.11.18	CABLE TYPE AACSR ADDED	NN	REE	GS
C	11.04.16	TABLE REVISED	CO	REE	GS
B	04.03.14	FORMAT CHANGED			GS
A	16.09.13	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE
CONNECTORS FOR 7/1.6 SC/GZ

DISTRIBUTION CONSTRN. STANDARD
westernpower

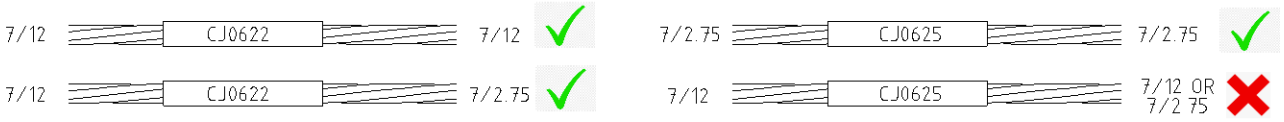
DRAWN: JRR | DATE: 04-03-2014 | DRG. No. R08-6
ORIGINATED: | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY
REV. F | SHT. 1/1

FULL TENSION SLEEVE

This uncontrolled EDM#58754162 is printed on 16/Dec/2021			FULL TENSION	Die (12 ton crimp)	Die A/F
Conductor Strands	Conductor Types	Conductor Diameter mm	WPC Stock Code	Utilux Die Catalogue number	mm
6/1/2.50	ACSR/AZ	7.50	CJ0600	38-140AL	14.0
6/1/2.75	ACSR/AZ	8.25	CJ0593	38-173AL	17.3
6/1/3.00	ACSR/AZ	9.00	CJ0593	38-173AL	17.3
6/4.75-7/1.6	ACSR/AZ	14.30	CJ0208	38-220AL	22.0
6/1/3.00	AACSR/AC	9.00	CJ0593	38-173AL	17.3
7/2.50	AAC / AAAC	7.50	CJ0600	38-140AL	14.0
7/3.00	AAC / AAAC	9.00	CJ0593	38-173AL	17.3
7/3.75	AAC / AAAC	11.30	CJ0583	38-180AL	18.0
7/4.50	AAC / AAAC	13.50	CJ0208	38-220AL	22.0
7/4.75	AAC / AAAC	14.30	CJ0208	38-220AL	22.0
19/3.25	AAC / AAAC	16.30	CJ0591	38-220AL	22.0
7/16 (7/.064)	HDBC	4.89	CJ0630	38-63CU	6.3
7/14 (7/.080)	HDBC	6.10	CJ0633	38-77CU	7.7
7/12 (7/0.104)	HDBC	7.92	CJ0622	38-104CU	10.4
19/16 (19/.064)	HDBC	8.15	CJ0622	38-104CU	10.4
7/2.75	HDBC	8.30	CJ0622	38-104CU	10.4
19/2.14	HDBC	10.70	CJ0636	38-153CU	15.3
95 LVABC	ABC	11.50	CJ0491	38-173AL9	17.3
150 LV ABC	ABC	14.40	CJ0490	38-215AL9	21.5

TABLE 1 - MATCHING TABLE FOR CONDUCTORS, SLEEVES AND DIES

NOTE:-



HELICAL SPLICE FOR SMALL HV STEEL CONDUCTORS

WP Stock code	Conductor
CF0471	3/2.75 SCGZ
CF0160	3/2.75 SCAC
CF0479	7/1.60 SCGZ
CF0475	7/2.75 SCGZ

TABLE 2 - STOCK CODES FOR HELICAL SPLICES

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	17.12.21	TABLE AND EDM # REVISED	REE		GS
B	15.11.18	TABLE 1 REVISED	NN	REE	GS
A	14.06.16	ORIGINAL ISSUE	REE	JC	GS

REFERENCE DRAWING

FULL TENSION COMPRESSION JOINTS & HELICAL SPLICES FOR BARE AAC/ AAAC, COPPER & STEEL CONDUCTORS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN: JRR | DATE: 08-06-2016 | DRG No: R08-7

ORIGINATED: REE | SCALE: NTS

CHECKED: JC

APPROVED: GRANT STACY

REV: C | SHT:

This uncontrolled EDM#58754313 is printed on 17/Dec/2021					
Conductor Strands	**Description**	**Conductor OD mm**	**WPC Stock Code**	**Utilux Die Catalogue number**	**Die A/F mm**
COPPER TERMINAL LUG; EYE					
..	0.5 - 2.5 sq mm; M6 hole	..	**FL1408**	hand tool	..
..	6 sq mm; INSUL; M6 hole; 32mm long	3.12	**FL0311**	hand tool	..
..	10 sq mm; M8 hole	4.05	**FL1423**	38-57CU	5.7
7/16	16 sq mm; M6 hole	4.90	**FL1427**	38-63CU	6.3
7/16	16 sq mm; M8 hole	4.90	**FL1428**	38-63CU	6.3
7/16	16 sq mm; M10 hole	4.90	**FB0256**	38-63CU	6.3
7/16	16 sq mm; M12 hole	4.90	**FL1430**	38-63CU	6.3
7/14	25 sq mm; M8 hole	6.1/6.75	**FL1442**	38-77CU	7.7
7/14	25 sq mm; M10 hole	6.1/6.75	**FL1448**	38-77CU	7.7
7/12	35 sq mm; M10 hole	7.9/8.25	**FL1453**	38-92CU	9.2
19/16	50 sq mm; M10 hole	8.15/8.30	**FL1458**	38-104CU	10.4
19/16	50 sq mm; M12 hole	8.15/8.30	**FL1459**	38-104CU	10.4
19/14	70 sq mm; M10 hole	10.50	**FL1463**	38-115CU	11.5
19/14	70 sq mm; M12 hole	10.50	**FL1465**	38-115CU	11.5
19/12 (2.56)	95 sq mm; M10 hole	12.83	**FL1468**	38-142CU	14.2
19/12 (2.75)	120 sq mm; M12 hole	13.75	**FL1473**	38-165CU	16.5
COPPER CRIMP SLEEVES					
..	6 sq mm; INSUL; 28mm long	3.12	**FC0149**	hand tool	..
7/16	16 sq mm; UNINSUL	4.90	**FC0126**	38-63CU	6.3
7/14	25 sq mm; UNINSUL	6.1/6.75	**FC0480**	38-77CU	7.7
19/2.14	70 sq mm; UNINSUL	10.50	**FC0484**	38-115CU	11.5
ALUMINIUM TERMINAL LUG; EYE					
..	2.5 - 6 sq mm; 12 - 10 awg; 23mm long	..	**FL0163**	hand tool	..
19/2.14	70 sq mm; M12 hole; 125mm long	10.70	**FL0230**	38-115CU	11.5
19/3.25	185 sq mm; M12 hole	16.30	**FL0028**	38-220AL	22.0
BI-METAL TERMINAL LUG; EYE					
7/2.5	35 sq mm; M10 hole	7.50	**FL7681**	38-90AL	9.0
7/2.5	35 sq mm; M12 hole	7.50	**FL7686**	38-90AL	9.0
7/2.5	35 sq mm; 2 X 11mm hole	7.50	**FL7691**	38-90AL	9.0
7/3.0	50 sq mm; M12 hole	9.00	**FL7687**	38-132AL	13.2
7/3.75	70 sq mm; M10 hole	11.30	**FL0139**	38-132AL	13.2
7/3.75	70 sq mm; M12 hole	11.30	**FL0140**	38-132AL	13.2
7/4.50	95 sq mm; M12 hole	13.50	**FL7688**	38-173AL	17.3
7/4.75	120 sq mm; M10 hole	14.30	**FL7684**	38-173AL	17.3
7/4.75	120 sq mm; M12 hole	14.30	**FL7689**	38-173AL	17.3
95 LVABC	95 sq mm; M12 hole	11.50	**FL0401**	38-215AL	21.5
150 LVABC	150 sq mm; M12 hole	14.30	**FL0402**	38-215AL	21.5
19/3.25	185 sq mm; M10 hole	16.30	**FL7685**	38-220AL	22.0
19/3.25	185 sq mm; M12 hole	16.30	**FL7690**	38-220AL	22.0
7/4.50	***STALK***; for 120 sq mm; 12mm dia copper stalk	13.50	**FL7722**	38-173AL	17.3
19/3.25	***STALK***; for 185 sq mm; 16 mm dia copper stalk	16.30	**FL7723**	38-220AL	22.0
ALUMINIUM CRIMP SLEEVES					
95 LVABC	95 sq mm; w/pre-crimped bare copper tail	11.50	**CJ0492**	38-173AL	17.3
150 LVABC	150 sq mm; w/pre-crimped bare copper tail	14.30	**CJ0493**	38-215AL	21.5
95 LVABC	95 sq mm; w/pre-crimped bare aluminium tail	11.50	**CJ0494**	38-215AL	21.5
150 LVABC	150 sq mm; w/pre-crimped bare aluminium tail	14.30	**CJ0496**	38-215AL	21.5
7/2.50 to 7/3.0	35 - 50 sq mm; REDUCING SPLICE	7.5/9.0	**FC0150**	38-132AL	13.2
7/2.50 to 19/2.14	35 - 70 sq mm; REDUCING SPLICE	7.5/10.7	**FC0151**	38-132AL	13.2
7/2.50	35 sq mm; SPLICE; parallel crimp	7.50	**FC0152**	38-90AL	9.0

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
D	17 12 21	TABLE AND EDM # REVISED	REE		GS
C	03 12 21	TABLE REVISED	REE		GS
B	30.06.16	TABLE REVISED	REE	JC	GS
A	21.06 16	ORIGINAL ISSUE	REE	JC	GS

REFERENCE DRAWING

TITLE: NON TENSION COMPRESSION LUGS AND SLEEVES

DISTRIBUTION CONSTRN STANDARD

westernpower

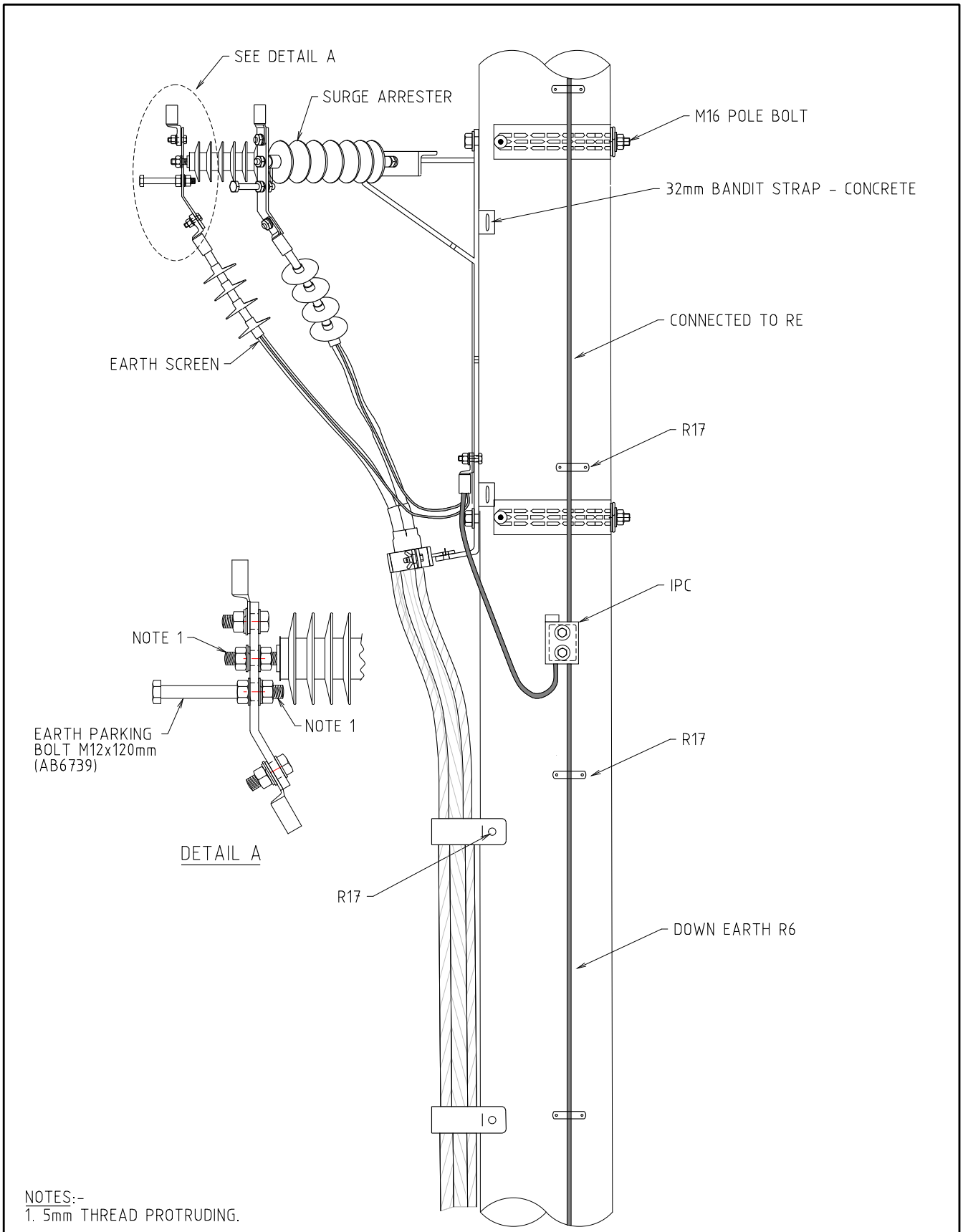
DRAWN: JRR | DATE 08-06-2016 | DRG No R08/8

ORIGINATED: REE | SCALE: NTS

CHECKED: JC

APPROVED: GRANT STACY

REV: D | SHT:



NOTES:-
1. 5mm THREAD PROTRUDING.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	23.08.22	CONNECTOR PLATE DETAILS ADDED	CO	NMc	GS
E	22.02.19	EARTHING SYSTEM MODIFIED	CO	NMc	GS
D	09.05.16	EARTHING SYSTEM MODIFIED	CO	FK	GS
C	08.10.10	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE

CABLE TERMINATION BRACKET
1 PH & 3 PH EARTH FITTING

DISTRIBUTION CONSTRN. STANDARD

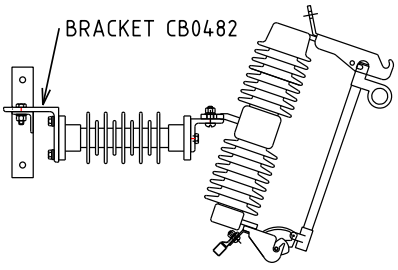
westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R09

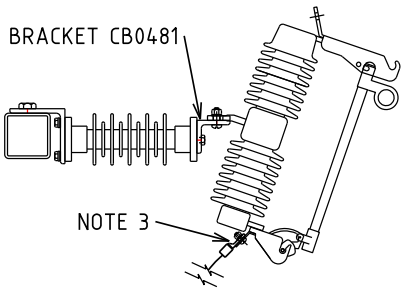
ORIGINATED: | SCALE: NTS

CHECKED: REE

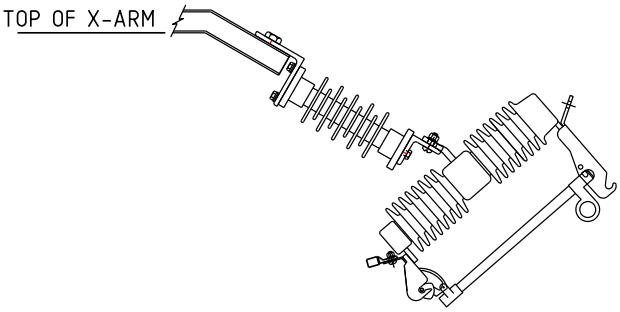
APPROVED: GRANT STACY | REV. F | SHT.



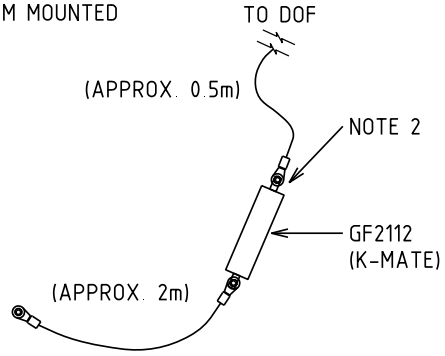
POLE MOUNTED



CROSSARM MOUNTED

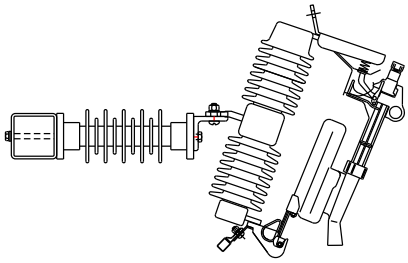


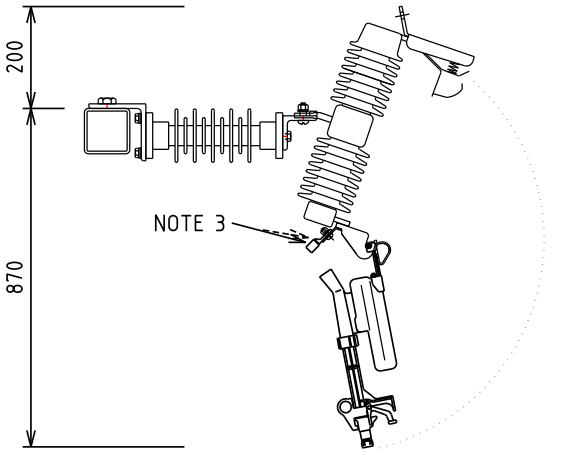
EXTENSION ARM MOUNTED



K-MATE INSTALLATION
REFER TO DCCR 1-00-3 NOTE 3
FOR APPLICATION

STANDARD 170kV TYPE C SERIES DOF - UP TO 33kV





FAULT TAMER SWING DIMENSIONS

FAULT TAMER FUSE - UP TO 22kV

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. REMOVE PG CLAMP COMPONENTS.
3. OFF-SET LUG TO SIDE AND TRAIN TAPS TO ALLOW FAULT TAMER/DOF TO FULLY OPEN/SWING DURING OPERATION.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
M	06.03.26	REARRANGED DRAWING LAYOUT AND ADDED NOTE 3	ML	NMc	CO
L	05.04.23	K-MATE INSTALLATION DETAILS REVISED	ML	NMc	CO
K	05.02.19	TITLE AND DRAWING NUMBER CHANGED	REE	NN	GS
J	09.01.18	INSULATOR, TITLE & DRAWING No. CHANGED	REE	JC	GS
H	05.04.17	INSULATOR AND K-MATE INSTALLATION NOTE REVISED	REE	JC	GS

STRUCTURE

TITLE: DROPOUT FUSE MOUNTING DETAILS

DISTRIBUTION CONSTRN. STANDARD

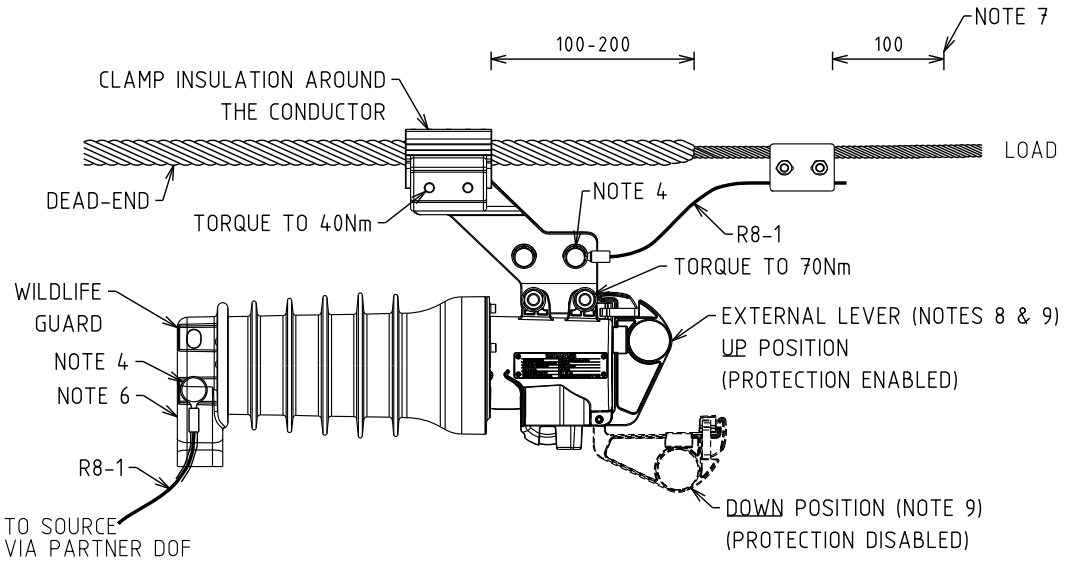
westernpower

DRAWN: JRR | DATE: 03-01-2018 | DRG. No. R10-1

ORIGINATED: REE | SCALE: NTS

CHECKED: JC

APPROVED: GRANT STACY | REV. M | SHT. 1/1



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. FUSE SAVER IS APPLICABLE TO 1PH DCSH STRUCTURES WITH DOFs (H40 SERIES).
3. TAPS COVERED OR LV ABC.
4. APPLY JOINTING GREASE (STOCK CODE: PG0002) TO THE LUG INTERFACE.
5. LABEL TO BE FITTED ABOVE EXISTING POLE LABEL. REFER TO EDM#40283998.
6. MAINTAIN MINIMUM 400mm CLEARANCES FOR TAPPING AND FROM THE INSULATOR.
7. WHERE REQUIRED, VIBRATION DAMPERS ARE TO BE INSTALLED AS INDICATED.
8. THE EXTERNAL LEVER DOES NOT OPEN OR CLOSE THE CIRCUIT.
9. THE EXTERNAL LEVER IS TO BE LEFT IN DOWN POSITION IF PROTECTION SETTINGS ARE NOT YET APPLIED BY THE AUTOMATION CREW.
10. REFER TO EDM# 34249668 FOR MORE INFORMATION ON THE FUSE SAVER.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	08-10-24	ORIGINAL ISSUE	SL	NMc	CO

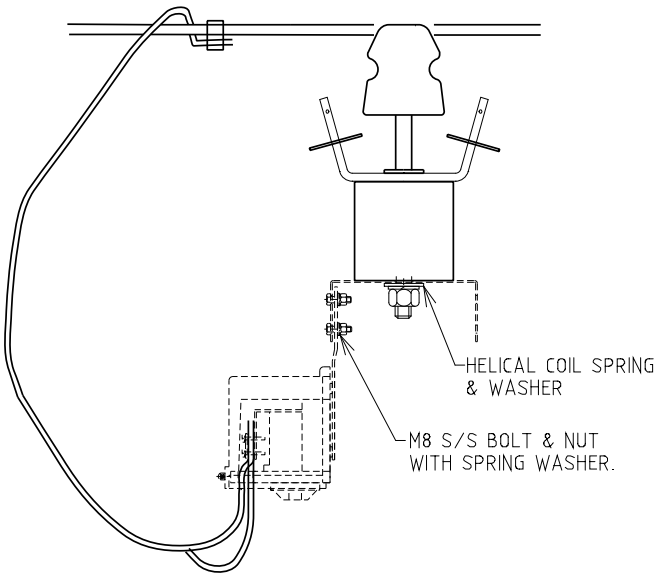
REFERENCE DRAWING

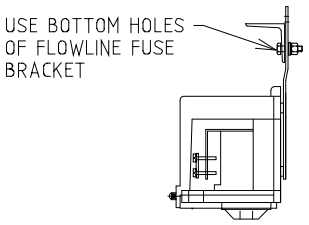
TITLE: FUSE SAVER INSTALLATION FOR 1PH LINES

DISTRIBUTION CONSTRN. STANDARD

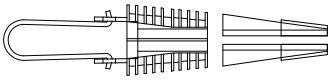
westernpower

DRAWN: SL	DATE: 01-10-2024	DRG. No. R10-2
ORIGINATED: SL	SCALE: NTS	
CHECKED: NMc		
APPROVED: CHRIS OMODEI		REV. A / SHT.

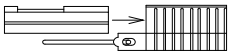




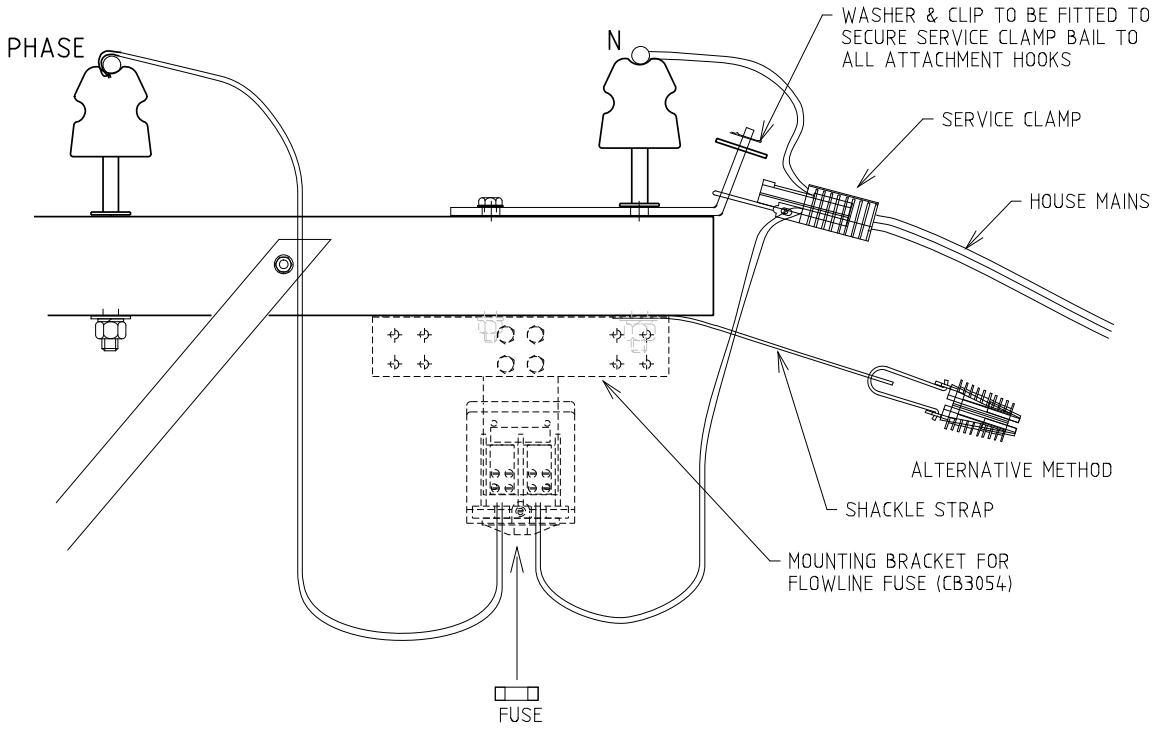
STREET LIGHT APPLICATION



WEDGE FOR 6MM ONLY



HOUSE SERVICE CLAMP



NOTE:-
1. FUSE CONNECTION IF REQUIRED SHOWN DOTTED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
E	03.11.15	DRAWING TITLE & NUMBER CHANGED AND NOTE 1 ADDED	REE	CO	GS
D	02.10.12	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE

CUSTOMER SERVICE
ARRANGEMENT FOR OPEN WIRE

DISTRIBUTION CONSTRN. STANDARD

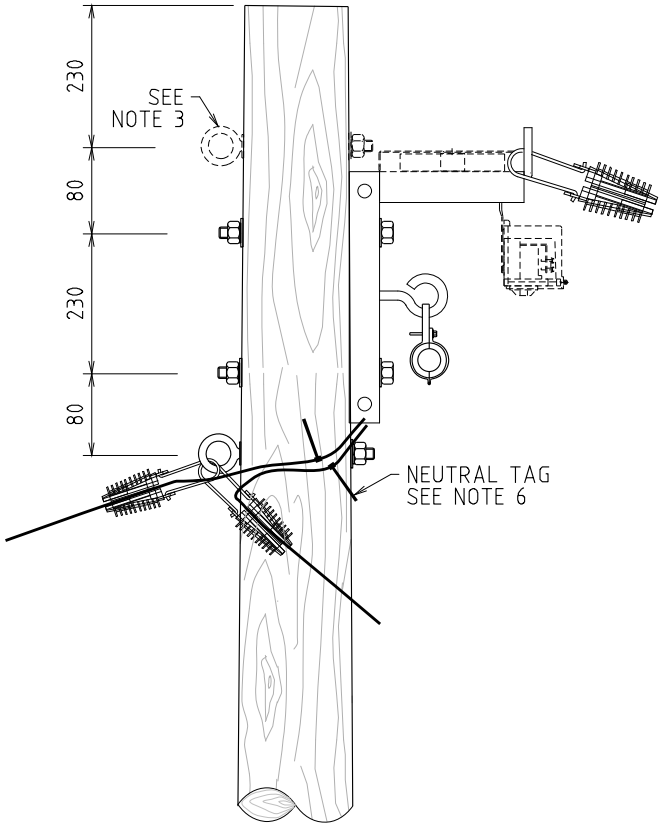
westernpower

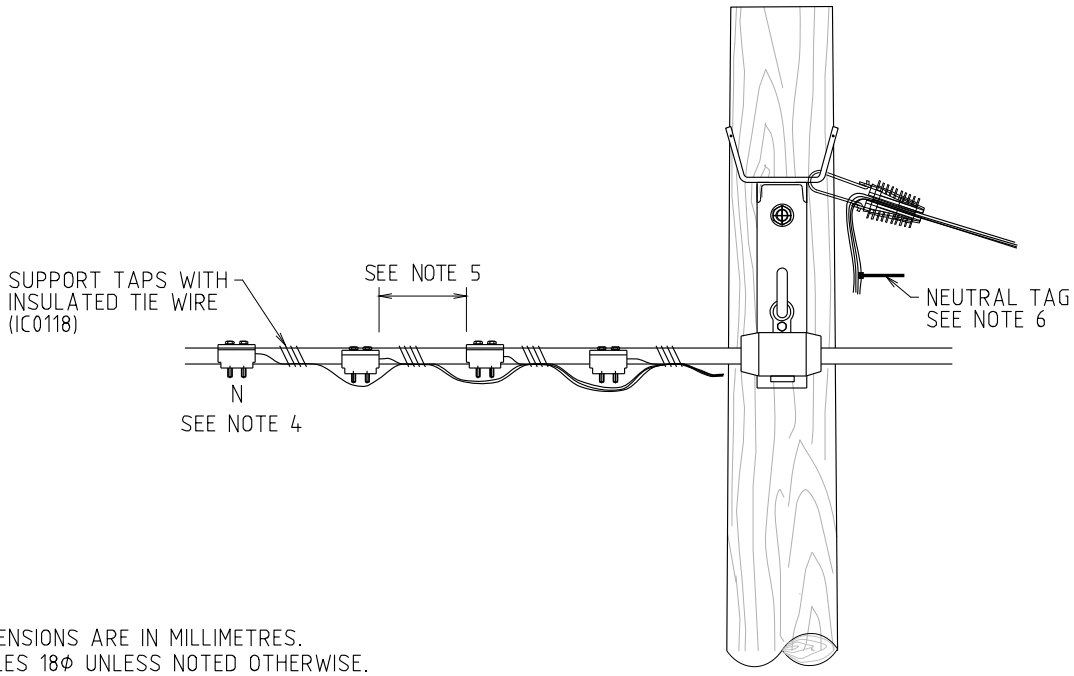
DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R11-1

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. E | SHT.





NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL HOLES 18Ø UNLESS NOTED OTHERWISE.
3. ALTERNATIVE POSITION OF SERVICE CONNECTION.
4. NEUTRAL IPC INSTALLED FURTHERMOST FROM THE POLE.
5. 150mm BETWEEN IPC'S.
6. NEUTRAL TAG (HG2101) APPLIED WITHIN 300mm OF THE WEDGE CLAMP.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	31.08.23	MORE DETAILS ADDED AND NOTES REVISED	SL	NMc	CO
A	03.11.15	ORIGINAL ISSUE	REE	CO	GS

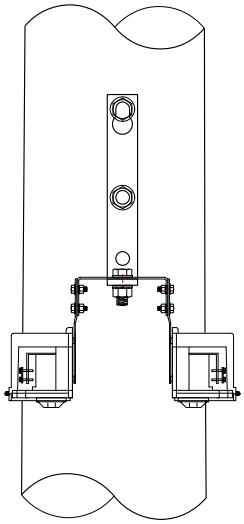
REFERENCE DRAWING

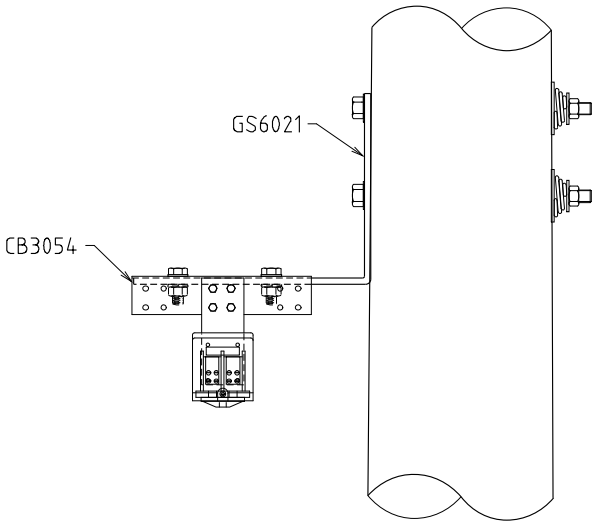
TITLE
CUSTOMER SERVICE
ARRANGEMENTS FOR LV ABC

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 02-11-2015 | DRG. No. R11-2
ORIGINATED: REE | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. B | SHT.

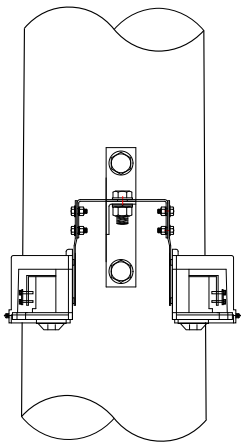


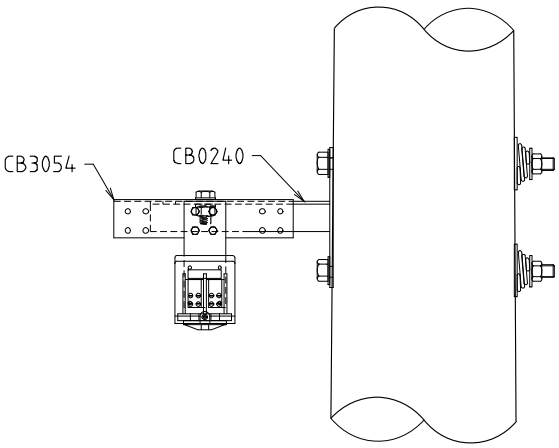


FRONT VIEW

SIDE VIEW

PREFERRED





FRONT VIEW

SIDE VIEW

ALTERNATIVE

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL HOLES 18Φ UNLESS NOTED OTHERWISE.
3. USED WHERE ADDITIONAL FUSES ARE REQUIRED ON A POLE.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	07.12.21	ORIGINAL ISSUE	CO	NMc	GS

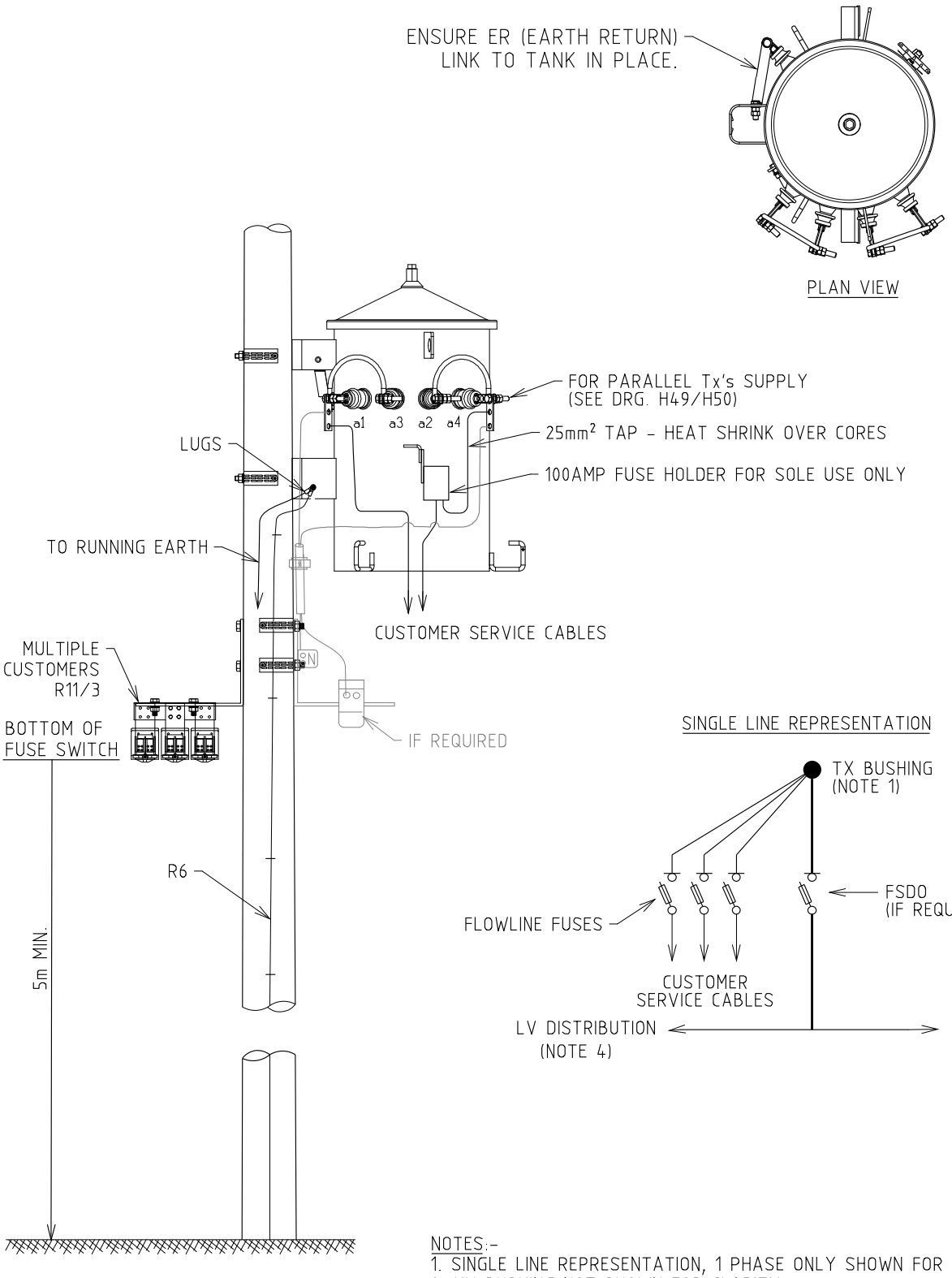
REFERENCE DRAWING

TITLE
CUSTOMER SERVICE ARRANGEMENTS
RURAL CONNECTIONS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 01-07-2020 | DRG. No. R11-3
ORIGINATED: CO | SCALE: NTS
CHECKED: NMc
APPROVED: GRANT STACY | REV. A | SHT.



NOTES:-
1. SINGLE LINE REPRESENTATION, 1 PHASE ONLY SHOWN FOR CLARITY.
2. HV BUSHING NOT SHOWN FOR CLARITY.
3. CAN BE APPLIED FOR SINGLE OR MULTIPLE TRANSFORMERS, ADJUST FUSE BRACKET ON POLE TO SUIT.
4. APPLIES ONLY TO EXISTING CONSTRUCTION.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	14.08.23	TITLE CHANGED	JT	NMc	CO
E	09.12.22	MORE DETAILS ADDED AND REARRANGED	CO	NMc	GS
D	31.10.17	TRANSFORMER TYPE CHANGED	NMc	CO	GS
C	15.10.14	REDRAWN AND TITLE MODIFIED	FK	REE	GS

REFERENCE DRAWING

TITLE: SINGLE PHASE TRANSFORMER LV ARRANGEMENT DETAILS 10 & 25kVA - LV ABC & BARE

DISTRIBUTION CONSTRN. STANDARD

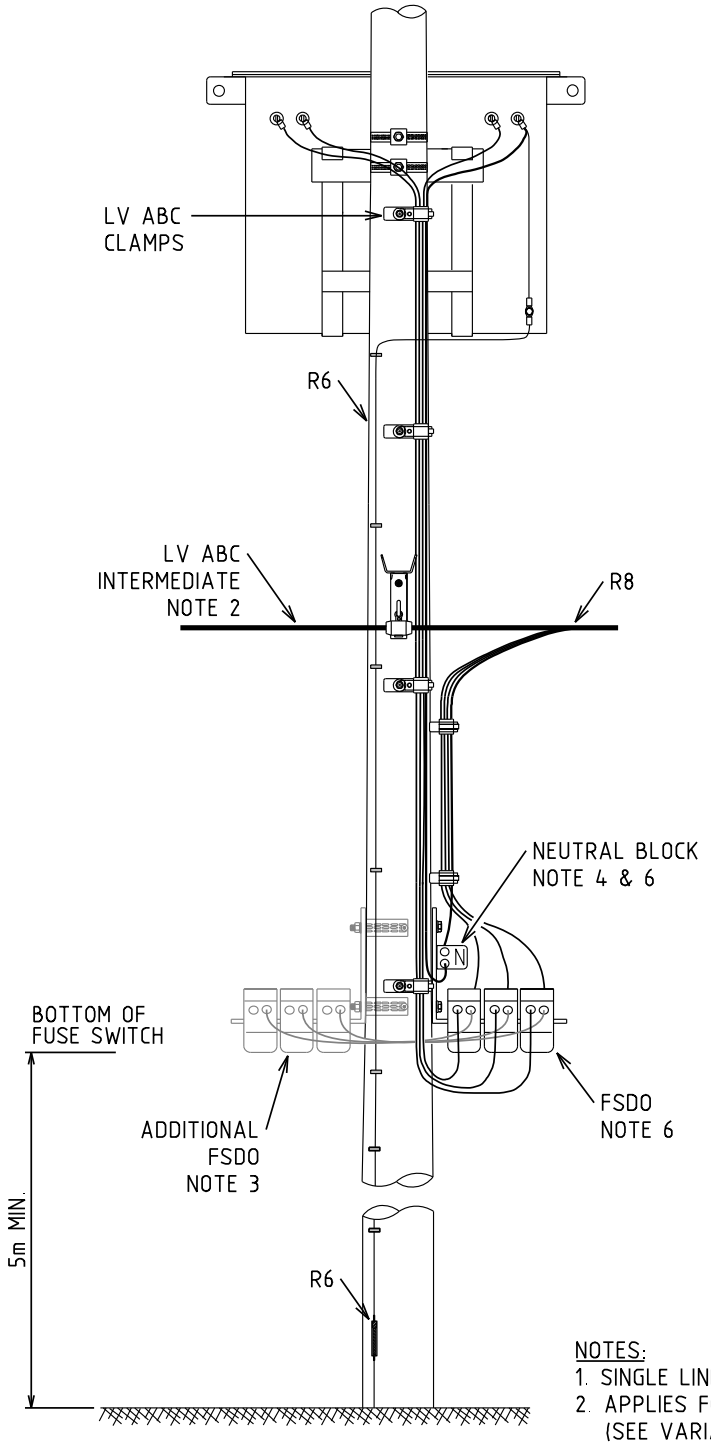
westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R12-1

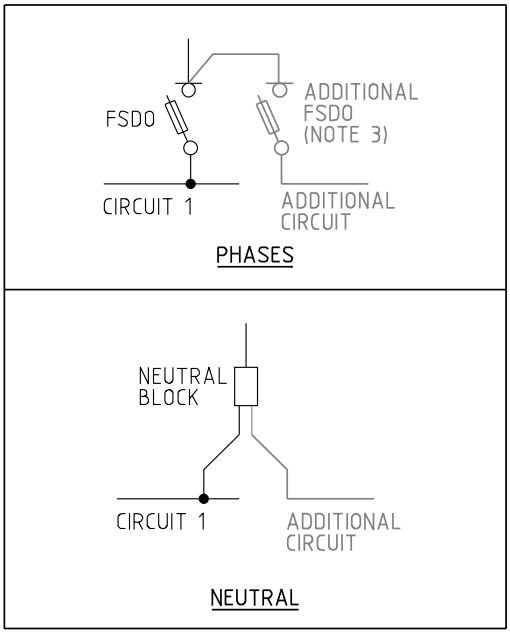
ORIGINATED: | SCALE: NTS

CHECKED: REE

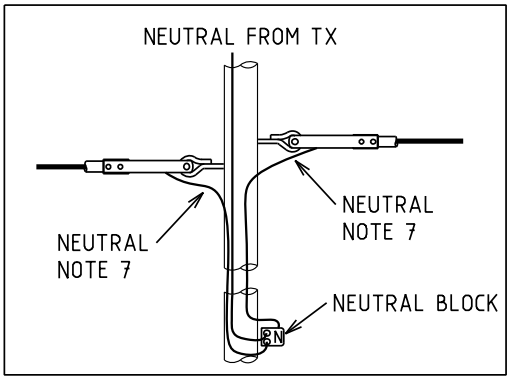
APPROVED: GRANT STACY | REV. F | SHT.



SINGLE LINE REPRESENTATION



VARIATION DETAIL



NOTES:

1. SINGLE LINE REPRESENTATION SHOWN FOR CLARITY.
2. APPLIES FOR LV ABC INTERMEDIATE OR LV ABC IN-LINE STRAIN. (SEE VARIATION DETAIL)
3. FSDO FOR ADDITIONAL CIRCUIT CONNECTED TO THE SOURCE SIDE OF FSDO. EG. CABLE TERMINATION.
4. NEUTRAL CONNECTION FOR ADDITIONAL CIRCUIT TO MATCH PHASE CIRCUIT TAKE-OFF SIDE.
5. TRAIN TAPS TO MAINTAIN OPERATIONAL ACCESS/CLEARANCE TO ALL FSDOs.
6. FOR SINGLE FSDO, INSTALL ON BACK OF POLE (PROPERTY SIDE).
7. STRAIN SECTION IF REQUIRED EXTEND NEUTRALS USING SPLICE/S NOT IPC/S. (MINIMIZE JOINTS).
8. FOR TRANSFORMER TO PILLAR, USE 3x FLOWLINE FUSES FOR 25mm2 CABLE (R11), FSDO FOR ALL OTHER CABLES.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	28.03.25	REPLACING R-12 (L) NEUTRAL CONNECTION ADDED	AC	NMc	CO

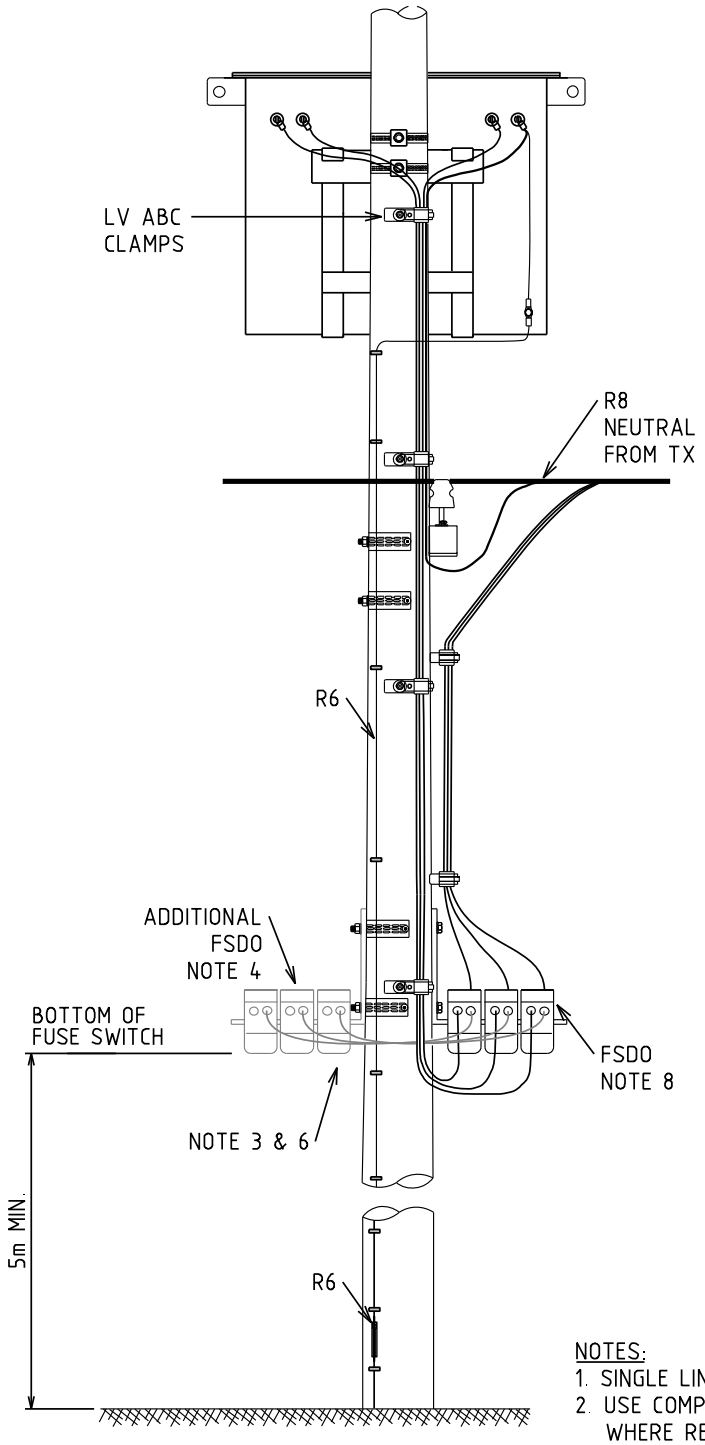
REFERENCE DRAWING

TITLE: THREE PHASE TRANSFORMER LV ARRANGEMENT DETAILS 25,63 & 100kVA - LV ABC ONLY

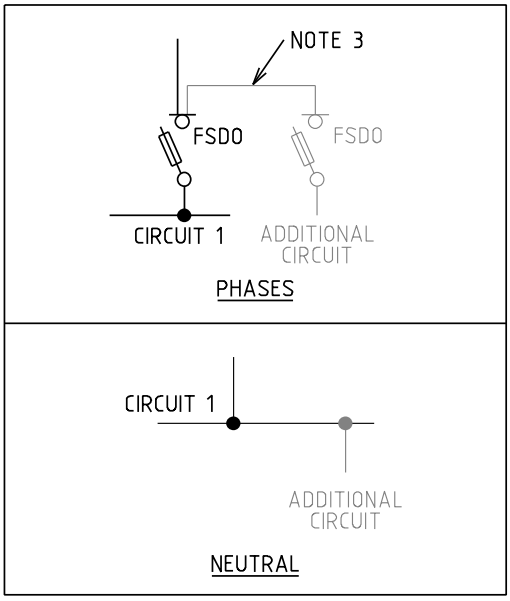
DISTRIBUTION CONSTRN. STANDARD

westernpower

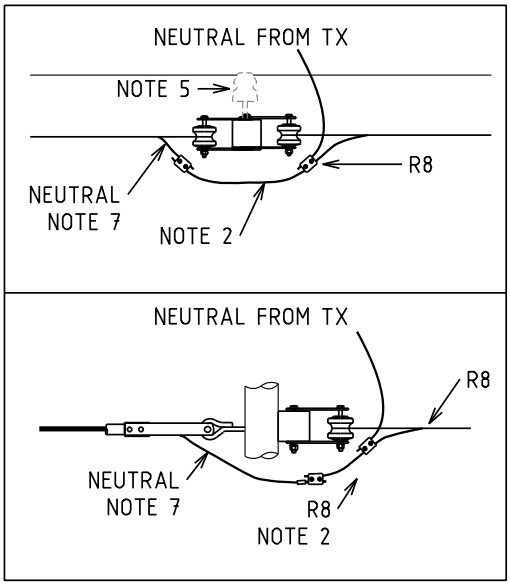
DRAWN: AC	DATE: 13-12-2024	DRG. No. R12-2-1
ORIGINATED: AC	SCALE: NTS	
CHECKED: NMc		
APPROVED: CHRIS OMODEI		REV A / SHT. 1/1



SINGLE LINE REPRESENTATION



VARIATION DETAIL



NOTES:

1. SINGLE LINE REPRESENTATION SHOWN FOR CLARITY.
2. USE COMPRESSION SLEEVE JOINTS FOR TAP EXTENSION WHERE REQUIRED.
3. FSDO FOR ADDITIONAL CIRCUIT CONNECTED TO THE SOURCE SIDE OF FSDO. EG. CABLE TERMINATION.
4. NEUTRAL CONNECTION FOR ADDITIONAL CIRCUIT TO MATCH PHASE CIRCUIT TAKE OFF SIDE.
5. NEUTRAL MAY REMAIN ON PIN INSULATOR IF EXISTING. EG. TX UPGRADE.
6. TRAIN TAPS TO MAINTAIN OPERATIONAL ACCESS/CLEARANCE TO ALL FSDOs.
7. NETWORK NEUTRAL CONTINUOUS IF STRAIN SECTION. SEE VARIATION DETAIL (MINIMIZE JOINTS)
8. FOR SINGLE FSDO, INSTALL ON BACK OF POLE (PROPERTY SIDE).

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	28.03.25	LV BARE VARIATION OF R12-2-1	AC	NMc	CO

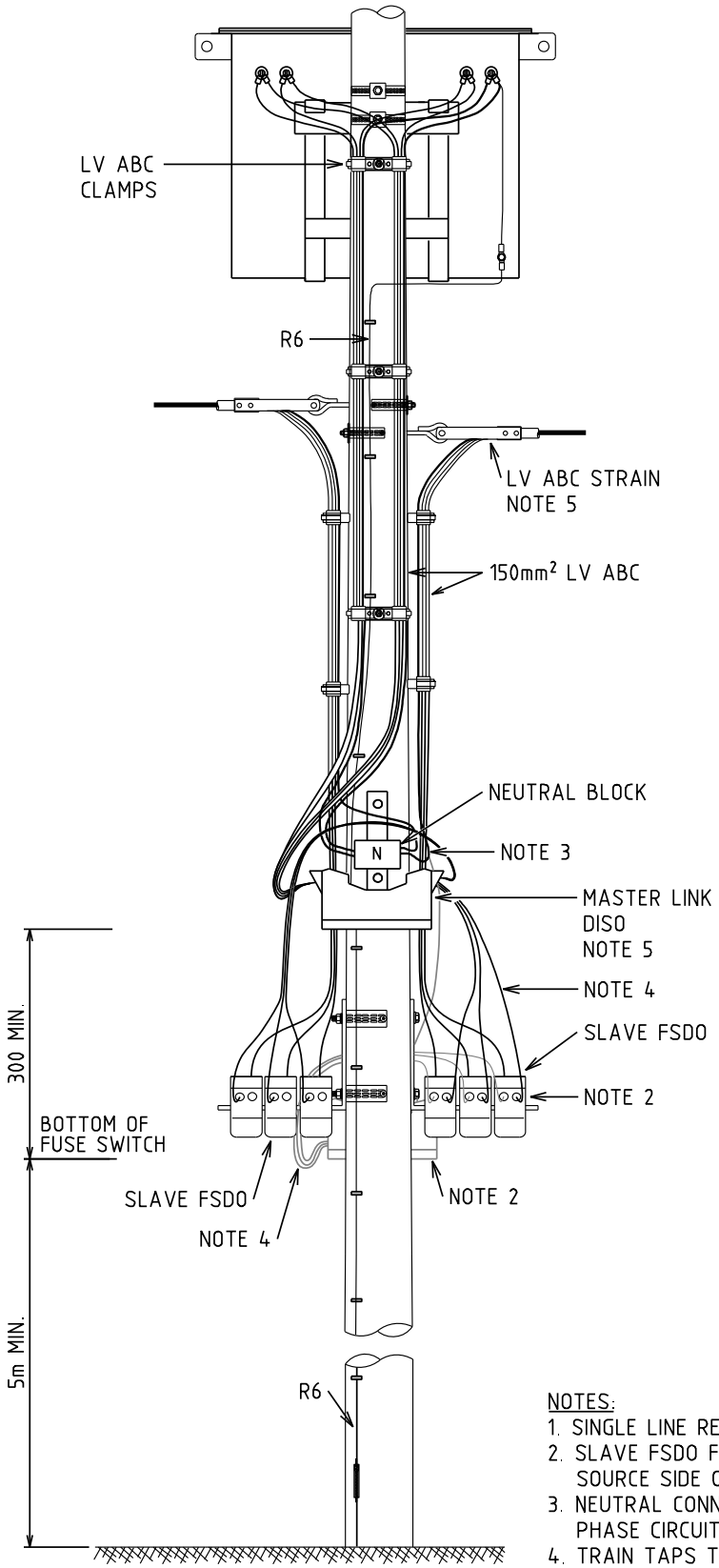
REFERENCE DRAWING

TITLE: THREE PHASE TRANSFORMER LV ARRANGEMENT DETAILS 25,63 & 100kVA - LV BARE

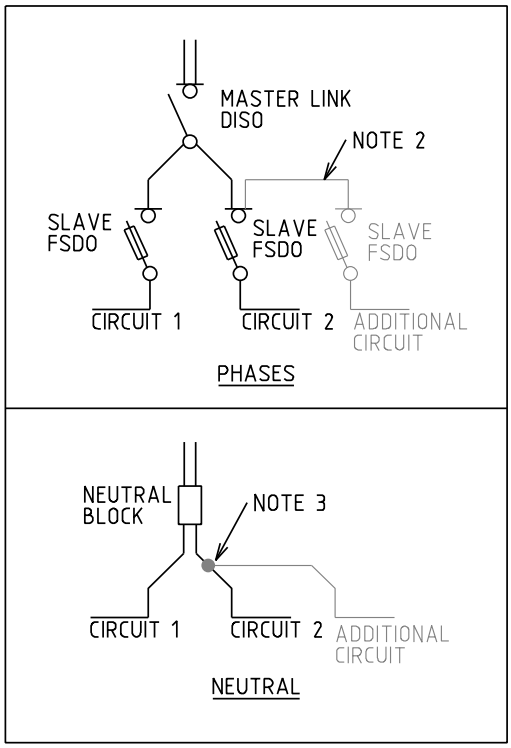
DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: AC	DATE: 13-12-2024	DRG. No.	
ORIGINATED: AC	SCALE: NTS	R12-2-2	
CHECKED: NMc			
APPROVED: CHRIS OMODEI		REV A	SHT. 1/1



SINGLE LINE REPRESENTATION



NOTES:
1. SINGLE LINE REPRESENTATION SHOWN FOR CLARITY.
2. SLAVE FSDO FOR ADDITIONAL CIRCUIT CONNECTED TO THE SOURCE SIDE OF SLAVE FSDO. EG. CABLE TERMINATION.
3. NEUTRAL CONNECTION FOR ADDITIONAL CIRCUIT TO MATCH PHASE CIRCUIT TAKE-OFF SIDE.
4. TRAIN TAPS TO MAINTAIN OPERATIONAL ACCESS/CLEARANCE TO ALL FSDOs.
5. FOR SOLE USE OH TX SINGLE FSDO TO BE USED.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	28.03.25	REPLACING R-12-3 (G) NEUTRAL CONNECTION ADDED	SL	NMc	CO

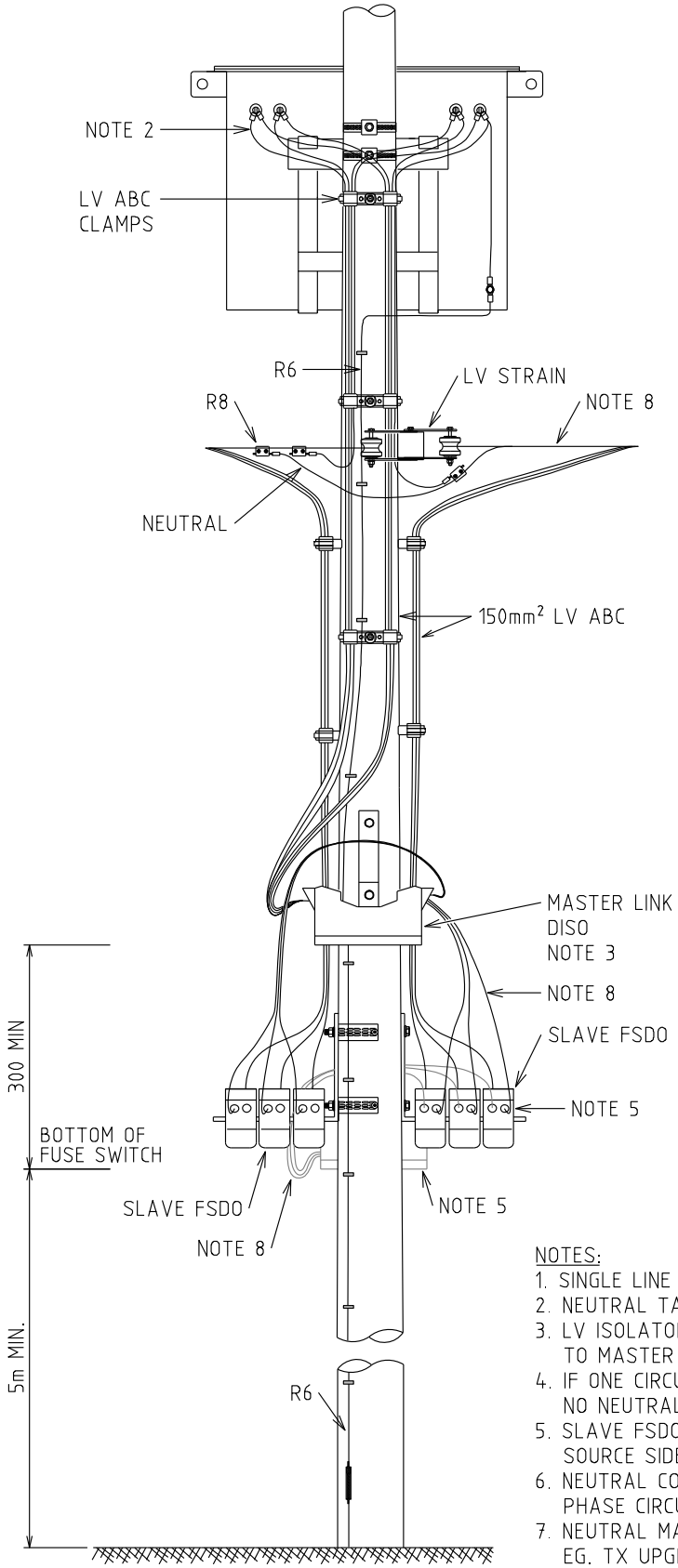
REFERENCE DRAWING

TITLE: THREE PHASE TRANSFORMER LV ARRANGEMENT DETAILS 200 & 315kVA - LV ABC ONLY

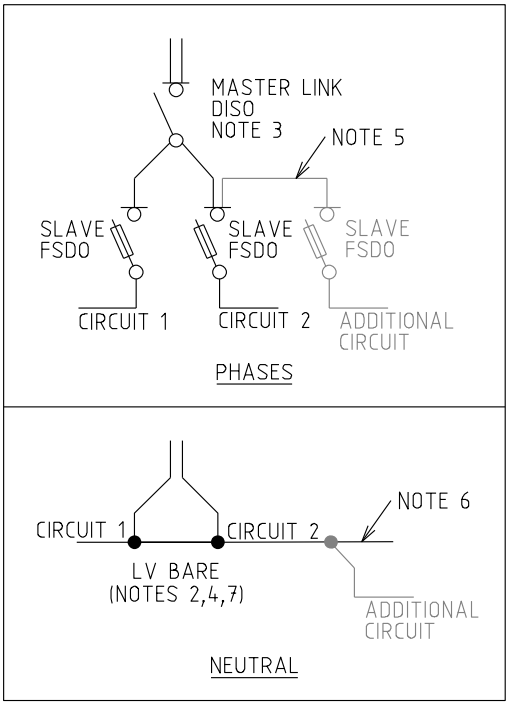
DISTRIBUTION CONSTRN. STANDARD

westernpower

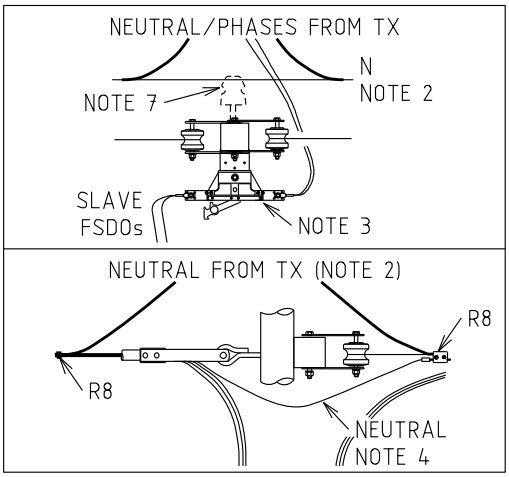
DRAWN: SL	DATE: 13-12-2024	DRG. No. R12-3-1
ORIGINATED: SL	SCALE: NTS	
CHECKED: NMc		
APPROVED: CHRIS OMODEI		REV A SHT. 1/1



SINGLE LINE REPRESENTATION



VARIATION DETAIL



NOTES:

1. SINGLE LINE REPRESENTATION SHOWN FOR CLARITY.
2. NEUTRAL TAPS FROM TX SPLIT TO BOTH CIRCUITS.
3. LV ISOLATORS (630A) MAY BE USED AS AN ALTERNATIVE TO MASTER LINK DISO. (NOT PREFERRED)
4. IF ONE CIRCUIT LV ABC, TAP NEUTRAL DIRECTLY TO LV BARE. NO NEUTRAL BLOCK REQUIRED.
5. SLAVE FSDO FOR ADDITIONAL CIRCUIT CONNECTED TO THE SOURCE SIDE OF SLAVE FSDO. EG. CABLE TERMINATION.
6. NEUTRAL CONNECTION FOR ADDITIONAL CIRCUIT TO MATCH PHASE CIRCUIT TAKE OFF SIDE.
7. NEUTRAL MAY REMAIN ON PIN INSULATOR IF EXISTING. EG. TX UPGRADE.
8. TRAIN TAPS TO MAINTAIN OPERATIONAL ACCESS/CLEARANCE TO ALL FSDOs.

REV.	DATE	DESCRIPTION	DRGD.	CHKD.	APRD.
A	28.03.25	LV BARE VARIATION OF R12-3-1	SL	NMc	CO

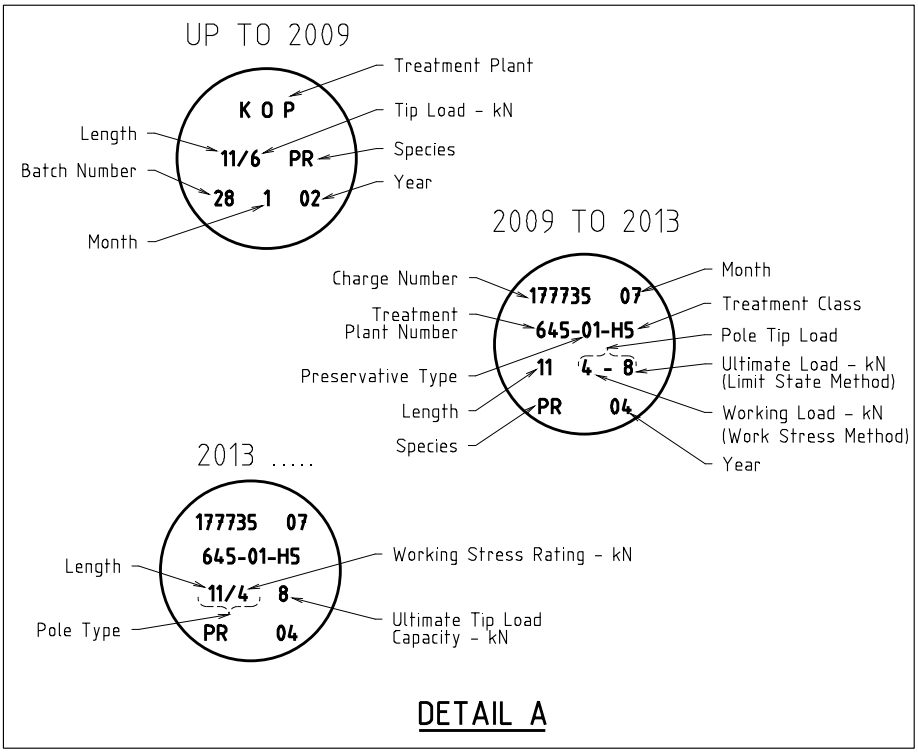
REFERENCE DRAWING

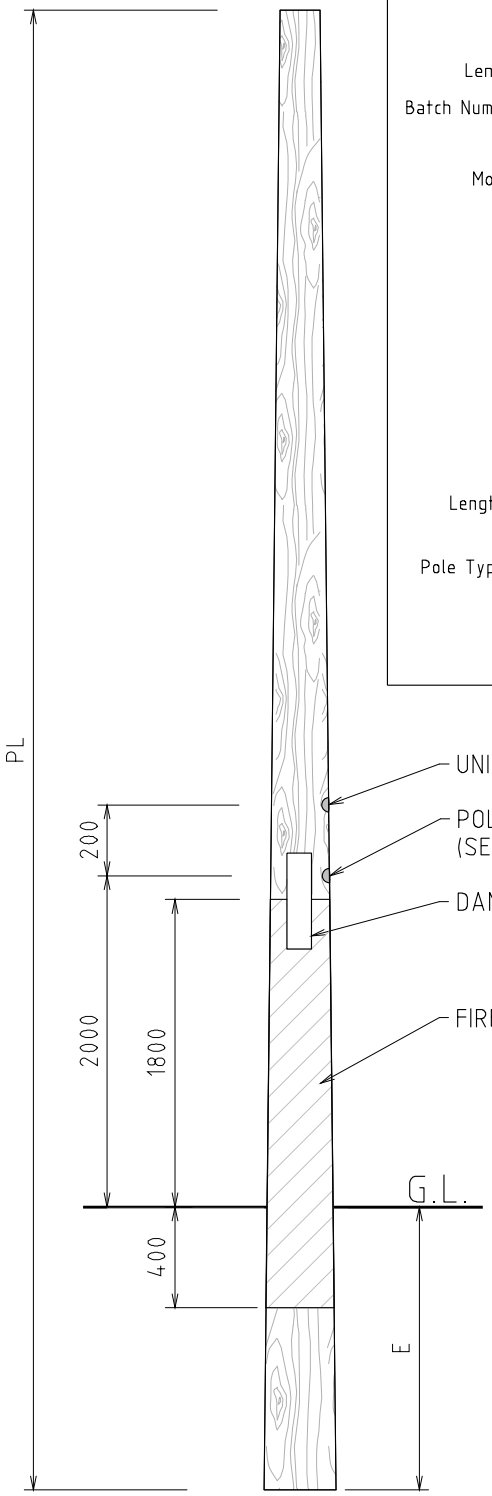
TITLE: THREE PHASE TRANSFORMER LV ARRANGEMENT DETAILS 200 & 315kVA - LV BARE

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: SL	DATE: 13-12-2024	DRG. No. R12-3-2
ORIGINATED: SL	SCALE: NTS	
CHECKED: NMc		
APPROVED: CHRIS OMODEI		REV A / SHT. 1/1





TRANSMISSION POLE EMBEDMENT

POLE LENGTH (PL) m	EMBEDMENT DEPTH m (E=PL/12+1.4)
15.5	2.70
17.0	2.80
18.5	2.95
20.0	3.10
21.5	3.20

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. FOR SELF SUPPORTING STRUCTURE DETAILS SEE DWG. R13-2.
3. FOR DISTRIBUTION POLE EMBEDMENT DEPTH SEE R13-3.

R No	DATE	DESCRIPTION	ORGD.	CHED.	APPRD.
F	17.06.21	DRAWING TITLE CHANGED & EQUIPMENT LABEL DELETED	CO	REE	GS
E	15.07.15	MORE DETAILS ADDED	DVT	AK	GS
D	13.08.14	FORMAT, DWG No. AND E OF PL 15.5 CHANGED		DVT	GS
C	12.08.13	ORIGINAL ISSUE			GS

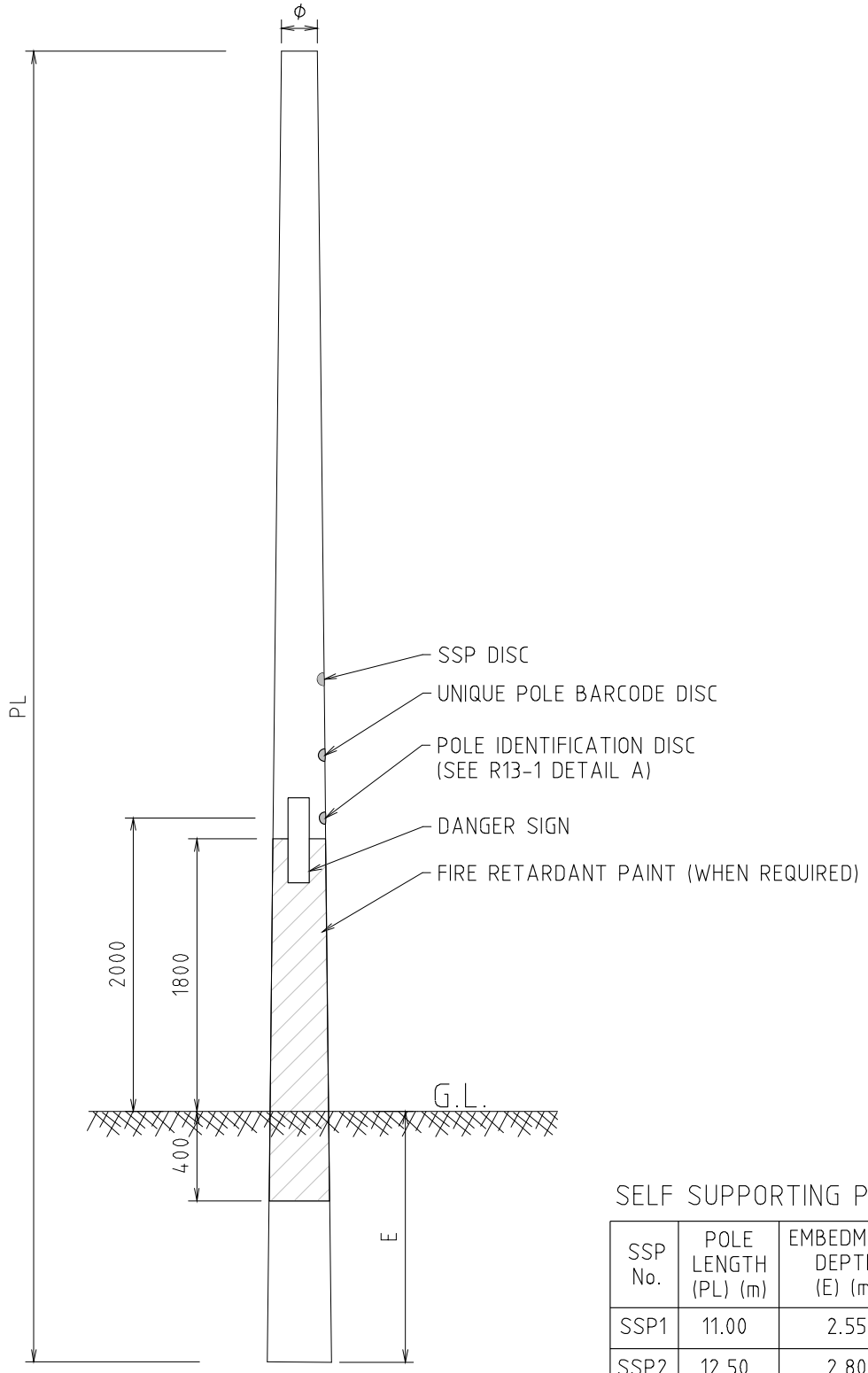
REFERENCE DRAWING

TITLE
POLE DETAILS
TRANSMISSION EMBEDMENT DEPTH, DANGER PLATE & EQUIPMENT LABELS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R13-1
ORIGINATED: DVT | SCALE: NTS
CHECKED: AK
APPROVED: GRANT STACY | REV. F | SHT.



SELF SUPPORTING POLE EMBEDMENT

SSP No.	POLE LENGTH (PL) (m)	EMBEDMENT DEPTH (E) (m)	RAKE OR POLE PRE-SET POLE DIAMETER
SSP1	11.00	2.55	1.0
SSP2	12.50	2.80	1.0
SSP3	14.00	3.00	2.0

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
E	22.02.23	REMOVED RULES	CD	LT	CO
D	17.06.21	POLE MOUNTED EQUIPMENT LABEL DELETED	CO	REE	GS
C	05.02.16	TABLE REVISED	DVT	AT	GS

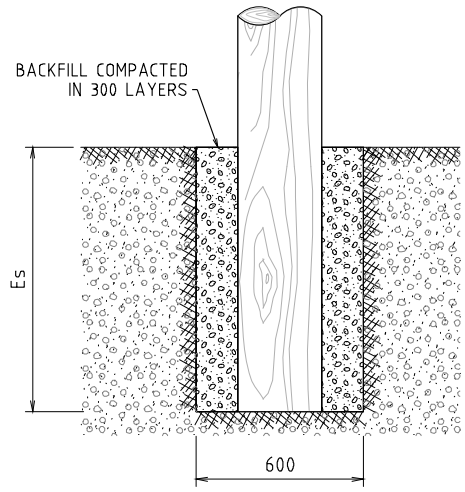
REFERENCE DRAWING

TITLE: SELF SUPPORTING WOOD POLE EMBEDMENT DEPTH

DISTRIBUTION CONSTRN. STANDARD

westernpower

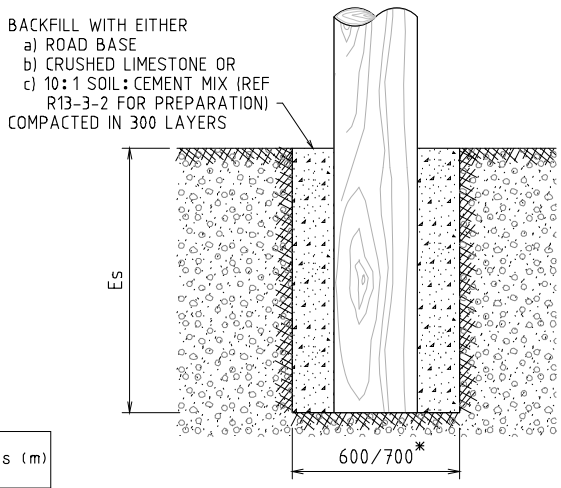
DRAWN: JRR | DATE: 01-07-2014 | DRG. No. R13-2
ORIGINATED: DVT | SCALE: NTS
CHECKED: AK
APPROVED: GRANT STACY | REV. E | SHT.



FIRM SANDY SOIL

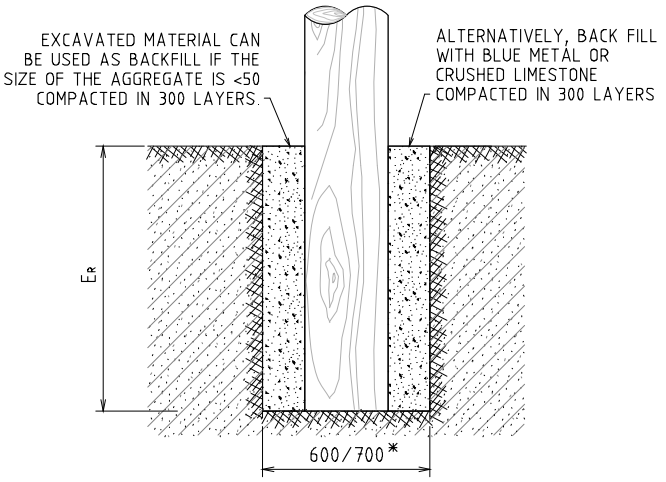
SOIL RATING = GOOD (NO ENHANCEMENT)

POLE LENGTH (m)	Es (m)
9.5	1.55
11	1.70
12.5	1.85
14	2.00
SSP1	2.55
SSP2	2.80
SSP3	3.00



FIRM SANDY SOIL (ENHANCED)

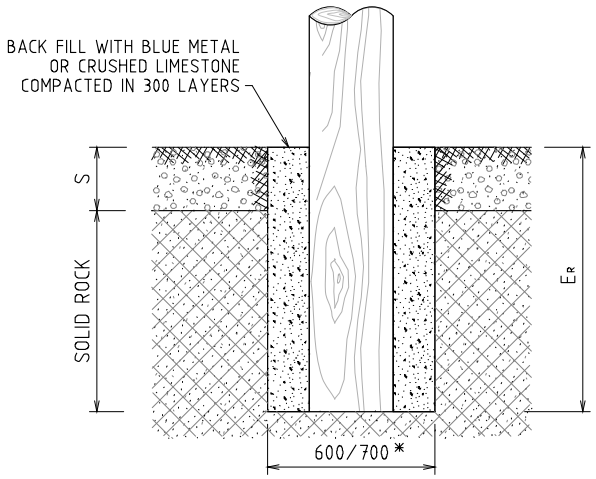
SOIL RATING = GOOD (BEFORE ENHANCEMENT)
VERY GOOD (AFTER ENHANCEMENT)



ROCKY SOIL
(eg. GRAVEL)

SOIL RATING = VERY GOOD (NO ENHANCEMENT)

POLE TYPE	ER (m)
9.5/5	1.45
11/4	1.40
11/5	1.50
11/6	1.60
12.5/4	1.50
12.5/6	1.70
12.5/8	1.90
14/8	1.90
SSP1	2.00
SSP2	2.20
SSP3	2.40



SOLID ROCK

SOIL RATING = EXCELLENT (BEFORE & AFTER ENHANCEMENT)

NOTE:- APPLICABLE ONLY WHEN REQUIRED DESIGN EMBEDMENT DEPTH IS UNACHIEVABLE.

SOIL ABOVE ROCK S (m)	EMBEDMENT DEPTH ER (m) POLE TYPE			
	9.5m	11m	12.5m	14m
ROCK AT GROUND	0.90	1.00	1.15	1.20
Up to 0.25	1.00	1.10	1.20	1.35
0.25 to 0.50	1.10	1.20	1.30	1.40
0.50 to 0.75	1.25	1.35	1.45	1.50
0.75 to 1.00	1.35	1.45	1.55	1.65
1.00 to 1.25	1.50	1.60	1.70	1.75
1.25 to 1.50	Es	1.65	1.75	1.90
1.50 to 1.75	Es	Es	1.80	1.95
1.75 to 2.00	Es	Es	Es	Es

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. Es - STANDARD EMBEDMENT DEPTH.
3. ER - REDUCED EMBEDMENT DEPTH.
4. S - SOIL ABOVE ROCK.

* 700mm AUGERED HOLE IF THE POLE BUTT DIAMETER EXCEEDS 350mm.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APPRD.
D	08.12.22	FOUNDATION WIDTH AND NOTES REVISED	SJ	LT	GS
C	29.08.17	DRAWING NUMBER CHANGED & MORE DETAILS ADDED	DVT	LT	GS
B	17.02.16	ENHANCED FOUNDATION DETAILS ADDED & TABLE REVISED	DVT	AK	GS
A	15.07.15	ORIGINAL ISSUE	DVT	AK	GS

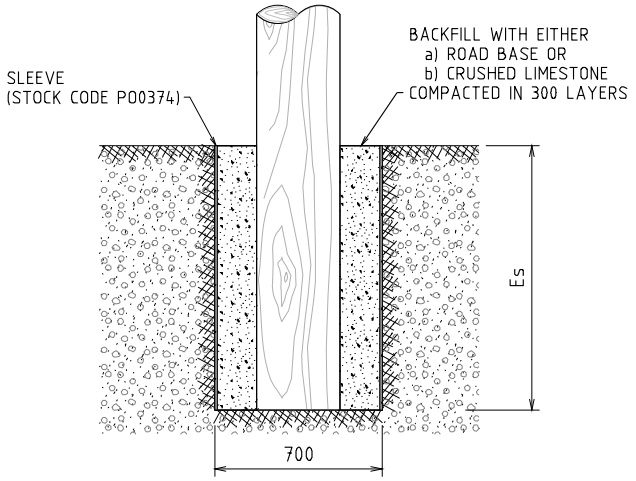
REFERENCE DRAWING

TITLE
DISTRIBUTION POLE EMBEDMENT DEPTH & FOUNDATION DETAILS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 12-06-2015 | DRG. No. R13-3-1
ORIGINATED: DVT | SCALE: NTS
CHECKED: AK
APPROVED: GRANT STACY | REV. D | SHT.

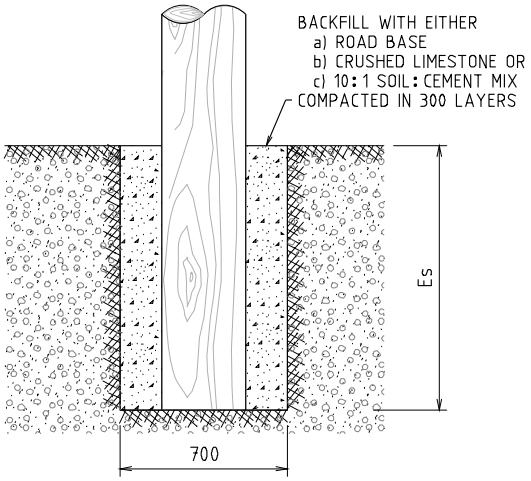


COLLAPSING SOIL (DRY OR WET)

(eg. LOOSE SANDY SOILS, PEAT SOILS)

SOIL RATING = POOR (BEFORE ENHANCEMENT)
MEDIUM (AFTER ENHANCEMENT)

NOTE: THE SOIL OUTSIDE THE SLEEVE, IF DISTURBED, MUST BE COMPACTED IN THE SAME MANNER AS INSIDE THE SLEEVE.



SOFT SANDY SOIL

SOIL RATING = MEDIUM (BEFORE ENHANCEMENT)
GOOD (AFTER ENHANCEMENT)

SOIL & CEMENT PREPARATION GUIDELINE

1. MATERIAL REQUIRED:

   a. SOIL - CLEAN NATIVE SOIL FREE FROM ORGANIC MATERIAL (GRASS, ROOTS ETC.,)
   b. CEMENT (DC0040 - 20KG BAGS)
   c. POTABLE WATER

2. SOIL & CEMENT DRY MIXING - MIX 10 PARTS SOIL TO 1 PART CEMENT
3. MOISTURE CONDITIONING - MOISTEN THE EXCAVATED AUGAR HOLE IF IT IS DRY.
4. BACKFILL WITH DRY SOIL & CEMENT MIX IN 300MM LAYER
5. SPRINKLE WITH CLEAN WATER AND WELL COMPACT
6. REPEAT STEP 3 TO 4 TILL GROUND LEVEL IS ACHIEVED

CAUTION - FOR WET SOILS, MOISTURE CONDITIONING IS NOT REQUIRED

POLE LENGTH (m)	Es (m)	CEMENT 20KG BAGS DC0040	SOIL MEASURED EQUIVALENT TO CEMENT BAG IN VOLUME
9.5	1.55	2	24
11	1.7	3	27
12.5	1.85	3	27
14	2	3	29
SSP1	2.55	3	33
SSP2	2.85	3	27
SSP3	3	4	45

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. Es - STANDARD EMBEDMENT DEPTH.
3. FOR SWAMPY SOILS/ POOR SOILS, ROAD BASE AS BACKFILL IS PREFERRED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APPRD.
B	08.12.22	FOUNDATION WIDTH CHANGED	SJ	LT	GS
A	29.08.17	ORIGINAL ISSUE	DVT	LT	GS

REFERENCE DRAWING

TITLE: DISTRIBUTION POLE EMBEDMENT DEPTH & FOUNDATION DETAILS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 20-06-2015 | DRG. No. R13-3-2
ORIGINATED: DVT | SCALE: NTS
CHECKED: LT
APPROVED: GRANT STACY | REV. B | SHT.

MAX ANGLE OF DEVIATION

Conductor Type	Equivalent Conductor
19/3.25 - AAC	19/3.25 AAAC Krypton
7/4.5 - AAC	
19/.083 Cu or 19/2.14 Cu	
19/14 Cu or 19/2.1 Cu	
19/16 Cu or 19/1.63 Cu	

TABLE 1

Conductor Type	Equivalent Conductor
7/4.75 - AAC	7/4.75 AAAC Iodine
7/4.5 - AAC	
7/3.75 - AAC	
7/3.0 - AAC	
7/2.5 - AAC	
7/4.50 - AAAC	
7/3.75 - AAAC	
7/3.0 - AAAC	
7/2.5 - AAAC	
7/14 Cu or 7/2.03 CU	
7/16 Cu or 7/1.63 Cu	
7/2.75 Cu	

TABLE 2

NOTES:

1 Select current Conductor from Tables 1 or 2
2 Read off equivalent Conductor
3 From Table 3, select the number of HV and LV conductors
4 Select Pole within the Allowable Angle Limit for the specific Wind Region
5 If angle exceeds Allowable Angle Limit, stay is required

URBAN/METRO Max Span = 60m				Standard Pole	SSP	Allowable Angle Wind Region A		Allowable Angle Wind Region B	
Equivalent SSP Conductor		No off Conductors				Standard Pole	SSP	Standard Pole	SSP
HV	LV	HV	LV						
	19/3.25AAAC-7%		4	9.5M	SSP 1	7	15	4	11
	7/4.75AAAC-7%		4	9.5M	SSP 1	9	19	6	14
	ABC150 (LV)-7%		1	9.5M	SSP 1	15	35	13	27
7/4.75AAAC-7%		3		11M	SSP 2	15	38	13	30
19/3.25AAAC-7%		3		11M	SSP 2	13	30	10	23
7/4.75AAAC-7%		4		11M	SSP 2	12	27	8	20
19/3.25AAAC-7%		4		11M	SSP 2	9	21	6	16
7/4.75AAAC-7%	7/4.75AAAC-7%	3	4	11M	SSP 2	4	12	2	9
19/3.25AAAC-7%	19/3.25AAAC-7%	3	4	11M	SSP 2	3	9	1	6
19/3.25AAAC-7%	7/4.75AAAC-7%	3	4	11M	SSP 2	4	11	1	7
7/4.75AAAC-7%	ABC150 (LV)-7%	3	1	11M	SSP 2	7	17	4	12
19/3.25AAAC-7%	ABC150 (LV)-7%	3	1	11M	SSP 2	5	15	3	11
7/4.75AAAC-7%	7/4.75AAAC-7%	4	4	11M	SSP 2	3	10	1	7
19/3.25AAAC-7%	19/3.25AAAC-7%	4	4	11M	SSP 2	2	7	0	5
19/3.25AAAC-7%	7/4.75AAAC-7%	4	4	11M	SSP 2	2	9	0	6
7/4.75AAAC-7%	ABC150 (LV)-7%	4	1	11M	SSP 2	5	14	2	9
19/3.25AAAC-7%	ABC150 (LV)-7%	4	1	11M	SSP 2	4	11	1	8

TABLE 3

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	16.02.16	TABLES AND TITLE REVISED	DVT	AT	GS
A	15.07.15	ORIGINAL ISSUE	DVT	AK	GS

REFERENCE DRAWING

TITLE: WOOD POLE DESIGN ANGLE OF DEVIATION FOR URBAN APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

western power

DRAWN JRR | DATE 04-06-2015 | DRG No R13-4

ORIGINATED DVT | SCALE NTS

CHECKED AK

APPROVED GRANT STACY | REV B | SHT

EQUIVALENT CONDUCTOR - RURAL/COUNTRY

EXISTING CONDUCTOR TYPE	EQUIVALENT CONDUCTOR TYPE
ACSR/AZ-6/4.75&7/1.6Fe ACSR/GZ-6/4.75&7/1.6Fe	19/3.25 AAAC KRYPTON
SC/GZ 7/1.6 SC/GZ 3/2.75	SC/AC 3/2.75 SCAC
7/3.0 - AAAC 7/3.75 - AAAC 7/4.0 - AAAC ACSR/GZ-6/1/3.75 ACSR/AZ-6/1/3.75	7/4.75 AAAC IODINE
7/2.5 - AAC	7/2.5 - AAAC CHLORINE
6/1/3.00 AACSR/AC ACSR/GZ-6/1/2.5 ACSR/GZ-6/1/3.0 ACSR/AZ-6/1/2.6 ACSR/AZ-6/1/3.0	6/1/3.00 AACSR/AC ARCHERY AA
SC/GZ 7/2.0 SC/GZ 7/2.75	SC/GZ 7/2.0 * SCGZ

TABLE 4

* QUERIES REGARDING SC/GZ 7/20 MUST BE SENT TO Dx STANDARD SUPPORT FOR ASSESSMENT.

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	CABLE TYPE AACSR/AC ADDED & DRAWING No CHANGED	SA	LT	GS
A	17.02.16	ORIGINAL ISSUE	DVT	AT	GS

REFERENCE DRAWING

TITLE: WOOD POLE DESIGN ANGLE OF DEVIATION RURAL APPLICATION

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR DATE 15-02-2016

ORIGINATED DVT SCALE NTS

CHECKED AT

APPROVED GRANT STACY

DRG No R13-5-1

REV. B SHT.

EQUIVALENT CONDUCTOR		No OF CONDUCTORS		SPAN LENGTH (m)	ALLOWABLE ANGLE WIND REGION A								ALLOWABLE ANGLE WIND REGION B							
					STANDARD POLE / STANDARD FOUNDATION								STANDARD POLE / STANDARD FOUNDATION				STANDARD POLE / STANDARD FOUNDATION			
HV	RE	HV	RE		11/4	11/5	11/6	SSP2	12.5/4	12.5/6	12.5/8	SSP3	11/4	11/5	11/6	SSP2	12.5/4	12.5/6	12.5/8	SSP3
SC/AC 3/2.75-25%	SC/AC 3/2.75-25%	1	1	80	12	13	14	37	16	18	20	33	10	11	11	37	12	14	15	33
SCAC	SCAC			100	10	12	13	37	13	16	18	33	8	9	10	37	11	12	13	33
				120	9	11	12	37	12	15	17	33	7	8	8	36	9	11	12	33
				135	8	10	11	37	12	14	16	33	6	7	7	35	8	10	12	32
				150	8	10	10	37	11	13	15	32	5	6	6	33	7	9	10	32
				175	7	8	8	36	10	12	13	32	4	4	4	30	5	6	7	27
				200	6	7	8	35	9	11	12	32	3	3	4	27	5	6	7	26
				225	5	6	6	32	7	9	10	29	1	1	2	24	3	4	5	23
				250	5	5	6	31	7	9	10	29	1	1	2	23	3	4	4	21
				275	3	4	4	29	5	7	8	26	0	1	1	24	2	3	4	19
				300	3	4	4	27	5	7	8	25	NA	0	0	19	1	2	3	17
				325	2	2	3	24	3	4	6	22	NA	NA	NA	17	0	1	2	15
				350	2	2	3	23	3	5	6	20	NA	NA	NA	16	0	1	1	14
				375	1	1	2	22	2	4	5	20								
				400	1	1	2	21	2	4	5	19								
7/2.5 - AAAC		3		80	9	9	10	45	12	14	14	45	5	6	6	45	9	10	11	45
CHLORINE-18%				100	7	7	8	45	10	11	12	45								
				120																
7/2.5 - AAAC	7/2.5 - AAAC	3	1	80	6	8	9	45	10	13	14	40	3	2	4	30	5	7	7	30
CHLORINE-18%	CHLORINE-16%			100	4	5	6	35	7	9	10	30								
				120																
7/4.75AAAC-18%		3		80	1	1	2	21	2	3	3	16	NA	NA	NA	12	0	1	1	12
IODINE				100	0	0	1	17	1	2	2	12	NA	NA	NA	10	NA	NA	NA	9
				120	NA	NA	NA	15	0	1	1	10	NA	NA	NA	7	NA	NA	NA	6
				135	NA	NA	NA	13	NA	0	0	8	NA	NA	NA	6	NA	NA	NA	5
				150	NA	NA	NA	12	NA	NA	0	8	NA	NA	NA	4	NA	NA	NA	4
				175	NA	NA	NA	10	NA	NA	NA	6								
				200																

TABLE 5 (1/2)

NOTES:-
1. SELECT CURRENT CONDUCTOR FROM TABLE-4, R15-5-1.
2. READ OFF EQUIVALENT CONDUCTOR.
3. FROM TABLE 5, SELECT THE NUMBER OF HV AND LV CONDUCTORS.
4. SELECT POLE WITHIN THE ALLOWABLE ANGLE LIMIT FOR THE SPECIFIC WIND REGION.
5. IF ANGLE EXCEEDS ALLOWABLE ANGLE LIMIT, STAY IS REQUIRED.
6. STANDARD POLE AND STANDARD EMBEDMENT DEPTH IN "MEDIUM" FOUNDATION CONDITIONS.

FOR FIELD CREW ONLY.
DESIGNERS TO REFER TO OVERHEAD LINE DESIGN MANUAL POLE FOUNDATIONS CHAPTER FOR THE DESIGN ANGLES.
THIS TABLE IS FOR POLE LIMITATIONS ONLY.
THIS DRAWING READ IN CONJUNCTION WITH Dwg. R15

REV	DATE	DESCRIPTION	DRGD.	CHKD.	APPD.
A	01.05.20	ORIGINAL ISSUE	SA	LT	GS

STRUCTURE

TITLE: WOOD POLE DESIGN ANGLE OF DEVIATION FOR RURAL APPLICATION

DISTRIBUTION CONSTRN. STANDARD

DRAWN: JRR DATE: 19-03-2020
ORIGINATED: SA SCALE: NTS
CHECKED: NN
APPROVED: GRANT STACY

DRG. No. R13-5-2
REV A SHT.

westernpower

EQUIVALENT CONDUCTOR		No OF CONDUCTORS		SPAN LENGTH (m)	ALLOWABLE ANGLE WIND REGION A							ALLOWABLE ANGLE WIND REGION B						
					STANDARD POLE / STANDARD FOUNDATION							STANDARD POLE / STANDARD FOUNDATION						
HV	RE	HV	RE		11/4	11/5	11/6	SSP2	12.5/4	12.5/6	12.5/8	SSP3	11/4	11/5	11/6	SSP2	12.5/4	12.5/6	12.5/8	SSP3
7/4.75AAAC-18%	7/4.75AAAC-16%	3	1	80	0	0	1	12	1	2	2	10	NA	NA	NA	8	NA	NA	NA	7
IODINE				100	NA	NA	NA	9	0	0	0	8	NA	NA	NA	5	NA	NA	NA	5
				120	NA	NA	NA	9	NA	NA	NA	6	NA	NA	NA	3	NA	NA	NA	3
				135	NA	NA	NA	6	NA	NA	NA	5	NA	NA	NA	2	NA	NA	NA	1
				150	NA	NA	NA	5	NA	NA	NA	4	NA	NA	NA	1	NA	NA	NA	0
				175	NA	NA	NA	3	NA	NA	NA	2								
				200																
19/3.25AAAC-18%		3		80	0	1	1	13	1	2	2	12	NA	NA	NA	9	NA	0	0	8
KRYPTON				100	NA	0	0	11	0	1	1	10	NA	NA	NA	7	NA	NA	NA	6
				120	NA	NA	NA	9	NA	0	0	8	NA	NA	NA	5	NA	NA	NA	4
				135	NA	NA	NA	7	NA	NA	NA	6	NA	NA	NA	3	NA	NA	NA	3
				150	NA	NA	NA	6	NA	NA	NA	3	NA	NA	NA	2	NA	NA	NA	2
				175	NA	NA	NA	4	NA	NA	NA	3	NA	NA	NA	1	NA	NA	NA	0
				200	NA	NA	NA	3	NA	NA	NA	2	NA	NA	NA	0	NA	NA	NA	NA
19/3.25AAAC-18%	19/3.25AAAC-16%	3	1	80	NA	NA	NA	9	NA	0	1	8	NA	NA	NA	5	NA	NA	NA	5
KRYPTON	KRYPTON			100	NA	NA	NA	7	NA	NA	NA	6	NA	NA	NA	3	NA	NA	NA	3
				120	NA	NA	NA	5	NA	NA	NA	4	NA	NA	NA	2	NA	NA	NA	1
				135	NA	NA	NA	4	NA	NA	NA	3	NA	NA	NA	1	NA	NA	NA	0
				150	NA	NA	NA	3	NA	NA	NA	2	NA	NA	NA	0	NA	NA	NA	NA
				175	NA	NA	NA	1	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA
				200	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/1/3.00 AACSR/AC-22%		3		80	6	6	8	29	8	10	10	29	3	3	4	23	5	6	6	20
ARCHERY AA				100	5	5	6	25	7	8	9	25	1	1	2	18	3	4	4	18
				120	3	4	4	23	5	6	7	23	0	0	0	15	1	2	3	15
				135	2	3	3	19	4	5	6	19	NA	NA	NA	13	0	0	2	13
				150	1	1	2	18	3	4	4	17	NA	NA	NA	12	NA	0	0	10
				175	0	0	0	15	1	2	3	15								
				200																
6/1/3.00 AACSR/AC-22%	6/1/3.00 AACSR/AC	3	1	80	3	4	4	20	5	6	7	20	0	0	0	15	1	3	3	15
ARCHERY AA	ARCHERY AA			100	2	2	2	18	4	5	6	18	NA	NA	0	12	1	1	2	12
				120	0	2	2	16	3	4	4	16	NA	NA	NA	10	NA	0	0	7
				135	0	0	0	12	0	3	3	12	NA	NA	NA	8	NA	NA	NA	7
				150	NA	NA	0	11	0	1	1	11	NA	NA	NA	7	NA	NA	NA	5
				175																
				200																

TABLE 5 (2/2)

NOTES:
1. SELECT CURRENT CONDUCTOR FROM TABLE-4, R13-5-1.
2. READ OFF EQUIVALENT CONDUCTOR.
3. FROM TABLE 5, SELECT THE NUMBER OF HV AND LV CONDUCTORS.
4. SELECT POLE WITHIN THE ALLOWABLE ANGLE LIMIT FOR THE SPECIFIC WIND REGION.
5. IF ANGLE EXCEEDS ALLOWABLE ANGLE LIMIT, STAY IS REQUIRED.
6. STANDARD POLE AND STANDARD EMBEDMENT DEPTH IN "MEDIUM" FOUNDATION CONDITIONS.

FOR FIELD CREW ONLY.
DESIGNERS TO REFER TO OVERHEAD LINE DESIGN MANUAL POLE FOUNDATIONS CHAPTER FOR THE DESIGN ANGLES.
THIS TABLE IS FOR POLE LIMITATIONS ONLY.
THIS DRAWING READ IN CONJUNCTION WITH Dwg. R15.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	01.05.20	ORIGINAL ISSUE	SA	LT	GS

STRUCTURE

TITLE: WOOD POLE DESIGN ANGLE OF DEVIATION FOR RURAL APPLICATION

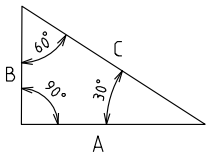
DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 19-03-2020 | DRG. No.
ORIGINATED: SA | SCALE: NTS | R13-5-3
CHECKED: NN
APPROVED: GRANT STACY | REV. A | SHT.

LENGTH TENSION IN STAY WIRE

30° STAY

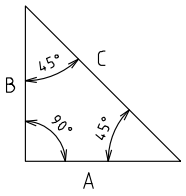


A=Bx1.73

C=Bx2

C = THE SUM OF THE LINE LOAD x 1.15

45° STAY



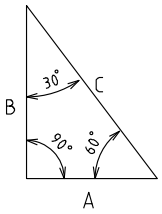
A=B

C=Bx1.41

C = THE SUM OF THE LINE LOAD x 1.41

A - POSITION OF STAY ROD FROM BASE OF POLE
B - HEIGHT OF STAY ATTACHMENT ABOVE GROUND
C - LENGTH OF STAY WIRE

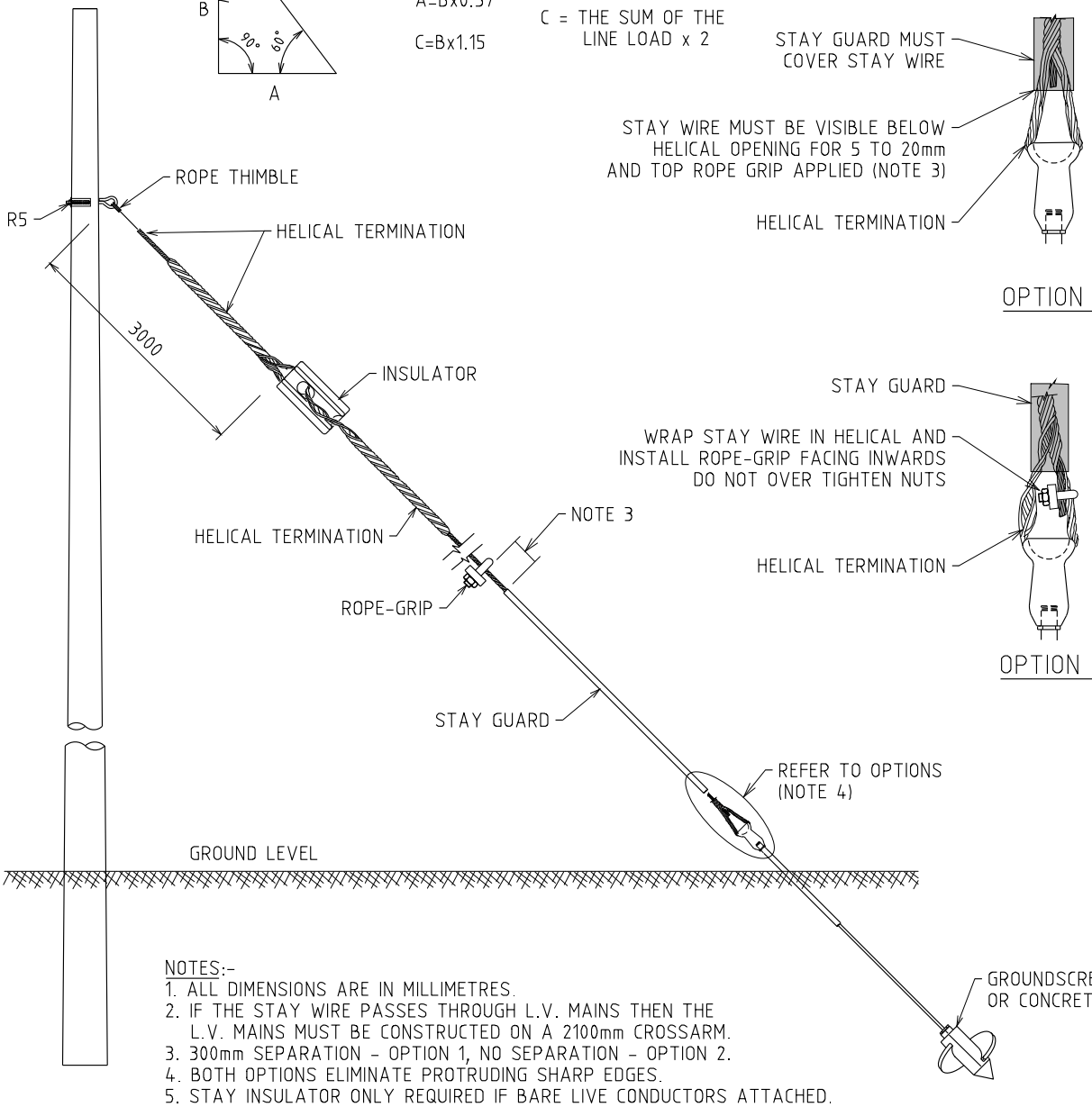
60° STAY



A=Bx0.57

C=Bx1.15

C = THE SUM OF THE LINE LOAD x 2



OPTION 1

OPTION 2

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. IF THE STAY WIRE PASSES THROUGH L.V. MAINS THEN THE L.V. MAINS MUST BE CONSTRUCTED ON A 2100mm CROSSARM.
3. 300mm SEPARATION - OPTION 1, NO SEPARATION - OPTION 2.
4. BOTH OPTIONS ELIMINATE PROTRUDING SHARP EDGES.
5. STAY INSULATOR ONLY REQUIRED IF BARE LIVE CONDUCTORS ATTACHED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
F	03.03.23	NOTES REVISED	CO	NMc	GS
E	05.08.20	SUB TITLES ADDED	CO	NMc	GS
D	22.02.19	HELICAL TERMINATION OPTIONS ADDED.	CO	NMc	GS

REFERENCE DRAWING

TITLE: GROUND STAY

DISTRIBUTION CONSTRN. STANDARD

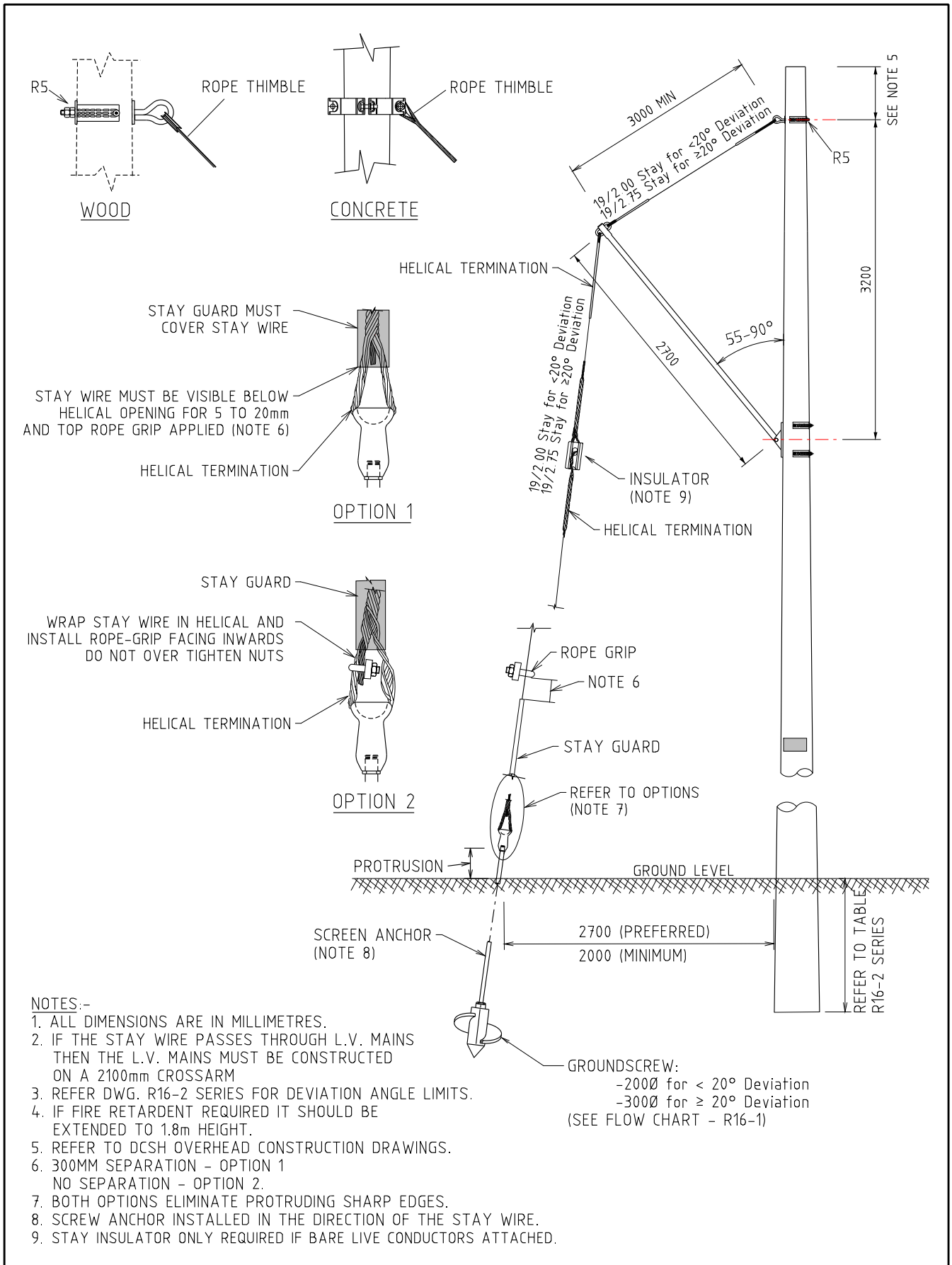
westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R14-1

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. F | SHT.



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. IF THE STAY WIRE PASSES THROUGH L.V. MAINS THEN THE L.V. MAINS MUST BE CONSTRUCTED ON A 2100mm CROSSARM
3. REFER DWG. R16-2 SERIES FOR DEVIATION ANGLE LIMITS.
4. IF FIRE RETARDENT REQUIRED IT SHOULD BE EXTENDED TO 1.8m HEIGHT.
5. REFER TO DCSH OVERHEAD CONSTRUCTION DRAWINGS.
6. 300MM SEPARATION - OPTION 1
   NO SEPARATION - OPTION 2.
7. BOTH OPTIONS ELIMINATE PROTRUDING SHARP EDGES.
8. SCREW ANCHOR INSTALLED IN THE DIRECTION OF THE STAY WIRE.
9. STAY INSULATOR ONLY REQUIRED IF BARE LIVE CONDUCTORS ATTACHED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
K	08.12.22	NOTES & DIMENSIONS REVISED	SJ	LT	GS
J	22.02 19	HELICAL TERMINATION OPTIONS ADDED.	CO	NMc	GS
H	30.06 15	DIM 2200 WAS 2000	AT	DVT	GS
G	16 06.15	NOTES AND STAY ARRANGEMENTS REVISED	AT	DVT	GS

REFERENCE DRAWING

TITLE: OUTRIGGER STAY

DISTRIBUTION CONSTRN. STANDARD

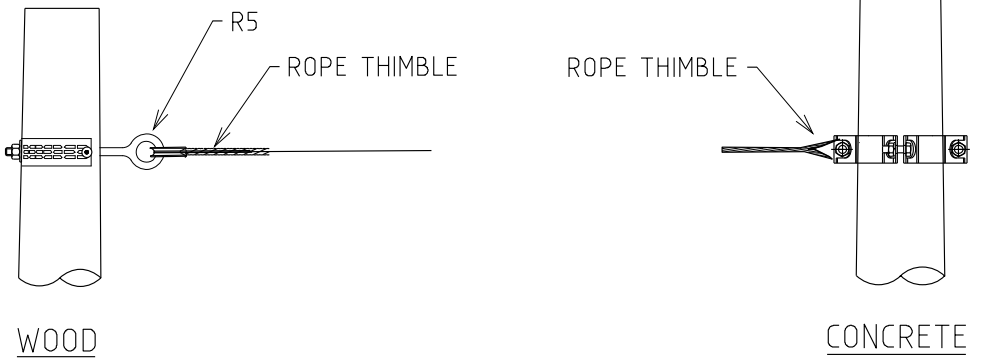
westernpower

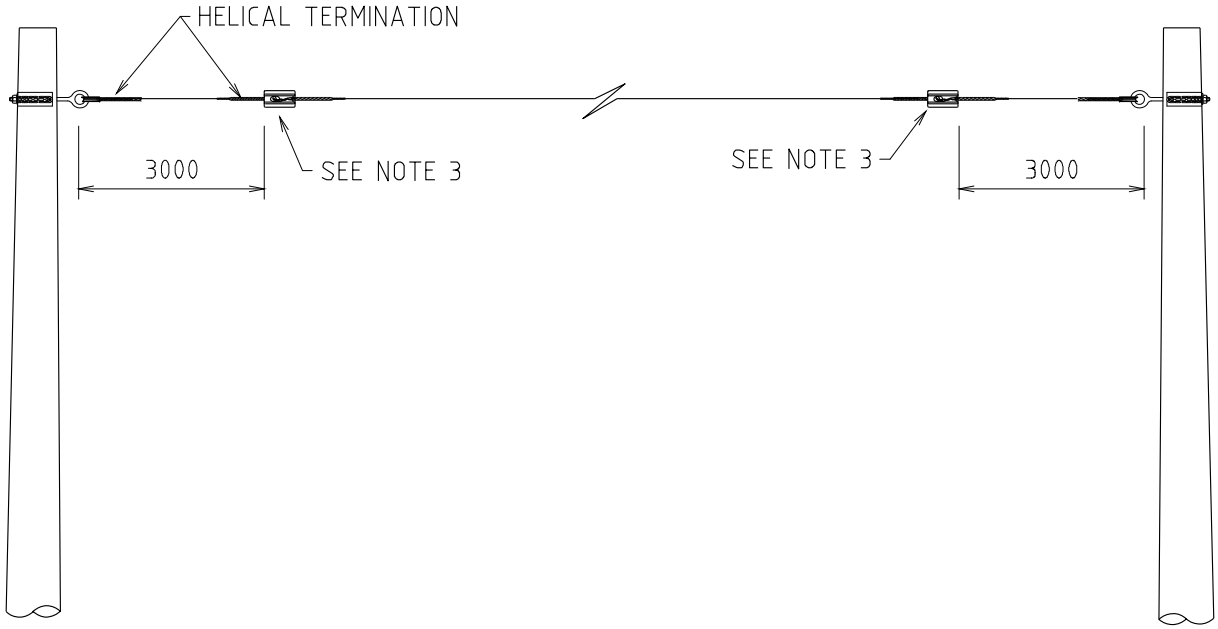
DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R14-2

ORIGINATED: | SCALE: NTS

CHECKED: DVT

APPROVED: GRANT STACY | REV. K | SHT.





NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. STAY WIRE SHOULD NOT BE INSTALLED ABOVE HV CONDUCTORS (INCLUDING LINE TAPS).
3. STAY INSULATOR ONLY REQUIRED ADJACENT TO POLE WHERE BARE CONDUCTORS PRESENT.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
D	19.09.23	DRAWING AND NOTES REVISED	NMc	ML	CO
C	16.04.19	NOTES REVISED	NMc	NN	GS
B	26.09.14	FORMAT CHANGED AND DRAWING & NOTES REVISED	REE	REE	GS
A	01.10.10	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE

AERIAL STAY

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R14-3

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. D | SHT.

URBAN/METRO

Existing Conductor Type	Equivalent Conductor Type
19/3.25 - AAC	19/3.25 AAAC Krypton
7/4.5 - AAC	
19/.083 Cu or 19/2.14 Cu	
19/14 Cu or 19/2.1 Cu	
19/16 Cu or 19/1.63 Cu	
7/3.0 - AAC	7/4.75 AAAC Iodine
7/3.75 - AAC	
7/4.75 - AAC	
7/3.0 - AAAC	
7/3.75 - AAAC	
7/4.0 - AAAC	
7/14 Cu or 7/2.03 CU	
7/16 Cu or 7/1.63 Cu	
7/2.75 Cu	
7/2.5 - AAC	7/2.5 - AAAC Chlorine

TABLE 1

RURAL/COUNTRY

Existing Conductor Type	Equivalent Conductor Type
ACSR/AZ-6/4.75&7/1.6Fe	19/3.25 AAAC Krypton
ACSR/GZ-6/4.75&7/1.6Fe	
SC/GZ 7/1.6	SC/AC 3/2.75 SCAC
SC/GZ 3/2.75	
7/3.0 - AAAC	7/4.75 AAAC Iodine
7/3.75 - AAAC	
7/4.0 - AAAC	
ACSR/GZ-6/1/3.75	
ACSR/AZ-6/1/3.75	
7/2.5 - AAC	7/2.5 - AAAC Chlorine
6/1/3.00 AACSR/AC	6/1/3.00 AACSR/AC ARCHERY AA
ACSR/GZ-6/1/2.5	
ACSR/GZ-6/1/3.0	
ACSR/AZ-6/1/2.6	
ACSR/AZ-6/1/3.0	
SC/GZ 7/2.0	SC/GZ 7/2.0 * SCGZ
SC/GZ 7/2.75	

TABLE 2

NOTES:-
1. SELECT CURRENT CONDUCTOR FROM TABLES 1 OR 2.

* QUERIES REGARDING SC/GZ 7/20 MUST BE SENT TO Dx STANDARD SUPPORT FOR ASSESSMENT.

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLE 2 REVISED	SA	REE	GS
A	29.08.16	ORIGINAL ISSUE	DVT	AT	GS

REFERENCE DRAWING

TITLE: EQUIVALENT CONDUCTOR

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR DATE 23-12-2015

ORIGINATED DVT SCALE NTS

CHECKED AT

APPROVED GRANT STACY

DRG No R15-2

REV B SHT

DDC HV01, HV12, HV21, HV38 & HV39
3phase - Intermediate (M16 king bolt)

Urban		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	45	38
	60	40	32
	70	35	25
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	18 (22*)	13 (16*)
	60	16 (19*)	11 (13*)
	70	14 (17*)	9 (11*)
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	14 (17*)	11 (13*)
	60	12 (15*)	9 (11*)
	70	10 (13*)	7 (9*)

*Use cross-arm bracing strap (CB0485)

DDC HV03 & HV30
Running Disc Angle

Urban		Minimum Angle of Deviation
Equivalent Conductor	Span Length (m)	
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	**<50**	22
	50-60	24
	60-70	26
7/4.75 AAAC 7% CBL @ 15 deg IODINE	**<50**	19
	50-60	21
	60-70	23
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	**<50**	12
	50-60	14
	60-70	16

DDC HV19, HV23, HV25 & HV40
Pole Top Switch

Urban		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	32	28
	60	28	24
	70	24	20
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	14	10
	60	12	8
	70	10	6
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	12	8
	60	10	6
	70	8	4

Use Shackle (OS0050) for deviation > 2^{o}

DDC HV45
3phase - Intermediate Double Cross-arm (M16 king bolt)

Urban		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	45	45
	60	45	45
	70	45	45
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	42	33
	60	38	29
	70	32	24
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	34	26
	60	30	23
	70	25	18

DDC HV06 & HV14
3 phase - Intermediate Offset

Urban		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	45	45
	60	45	40
	70	45	35
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	24	18
	60	22	15
	70	20	13
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	18	14
	60	16	12
	70	14	10

DDC HV09 & HV10
Strain (CB1121 - M16 strain eye bolt)

Urban		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	45	42
	60	45	38
	70	40	30
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	20	15
	60	18	13
	70	14	9
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	16	12
	60	14	10
	70	11	7

REV	DATE	DESCRIPTION			
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS
			ORGD	CHKD	APRD

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR URBAN APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR	DATE 21-12-2015	DRG No R15-3-1
ORIGINATED AT	SCALE NTS	
CHECKED DVT		
APPROVED GRANT STACY	REV. A	SHT.

DDC HV05 & HV07
Termination (CB0116) - Single Cross-arm

Urban		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	✓	✓
	60	✓	✓
	70	✓	✓
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	✓	✓
	60	✓	✓
	70	✓	✓
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	✓	✓
	60	✓	✓
	70	✓	✓

DDC HV15
Termination (CB1121) - Single Cross-arm

Urban		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	✓	✓
	60	✓	✓
	70	✓	✓
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	✓	✓
	60	✓	✓
	70	✓	✓
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	✓	✓
	60	✓	✓
	70	✓	✓

DDC HV08
Termination (CB0117) - Single Cross-arm

Urban		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/2.50 AAAC 7% CBL @ 15 deg CHLORINE	50	✓	✓
	60	✓	✓
	70	✓	✓
7/4.75 AAAC 7% CBL @ 15 deg IODINE	50	✓	✓
	60	✓	✓
	70	✓	✓
19/3.25 AAAC 7% CBL @ 15 deg KRYPTON	50	✓	✓
	60	✓	✓
	70	✓	✓

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR URBAN APPLICATION

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR | DATE 23-12-2015 | DRG No R15-3-2

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV. A | SHT.

DDC HV01, HV12, HV21, HV38 & HV39
3phase - Intermediate (M16 king bolt)

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	11 (13*)	8 (10*)
	80	8 (10*)	5 (7*)
	100	6 (8*)	3 (5*)
	135	3 (5*)	N/A
	185	N/A	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	8 (10*)	5 (7*)
	80	5 (7*)	3 (5*)
	100	4 (6*)	2 (4*)
	135	2 (4*)	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	13	13
	80	13	13
	100	13	12
	135	12	10
	185	10	7
	250	7	4
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	11 (13*)	8 (10*)
	80	8 (10*)	5 (7*)
	100	6 (8*)	3 (5*)
	135	3 (5*)	N/A
	185	N/A	N/A
	250	N/A	N/A

*Use cross-arm bracing strap (CB0485)

DDC HV03 & HV30
Running Disc Angle

Rural		Minimum Angle of Deviation
Equivalent Conductor	Span Length (m)	
7/4.75 AAAC 18% CBL @ 15 deg IODINE	<80	10
	80-135	14
	135-185	18
	185-250	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	<80	8
	80-135	12
	135-185	15
	185-250	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	<80	5
	80-135	7
	135-185	9
	185-250	12
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	<80	10
	80-135	14
	135-185	18
	185-250	N/A

DDC HV45
3phase - Intermediate Double Cross-arm (M16 king bolt)

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	26	22
	80	22	18
	100	18	15
	135	14	10
	185	10	N/A
	250	6	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	20	17
	80	18	14
	100	15	11
	135	10	8
	185	7	4
	250	4	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	32	32
	80	32	32
	100	32	30
	135	30	26
	185	25	20
	250	20	16
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	26	22
	80	22	18
	100	18	15
	135	14	10
	185	N/A	N/A
	250	N/A	N/A

DDC HV06 & HV14
3 phase - Intermediate Offset

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	15	12
	80	12	9
	100	10	6
	135	7	3
	185	3	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	11	9
	80	9	6
	100	7	4
	135	4	1
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	16	14
	80	16	14
	100	16	14
	135	16	12
	185	14	10
	250	10	6
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	15	12
	80	12	9
	100	10	6
	135	7	3
	185	N/A	N/A
	250	N/A	N/A

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLE REVISED	SA	LT	GS
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR RURAL APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR | DATE 14-01-2016 | DRG No R15-3-3

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV B | SHT

DDC HV19, HV23, HV25 & HV40
Pole Top Switch

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	9	8
	80	7	5
	100	5	3
	135	2	0
	185	N/A	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	7	5
	80	5	3
	100	3	0
	135	0	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	12	12
	80	12	12
	100	12	12
	135	12	9
	185	8	6
	250	6	4
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	9	8
	80	7	5
	100	5	3
	135	2	0
	185	N/A	N/A
	250	N/A	N/A

Use Shackle (OS0050) for deviation > 2°

DDC HV09 & HV10
Strain (CB1121 - M16 strain eye bolt)

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	12	9
	80	10	7
	100	8	4
	135	5	2
	185	2	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	9	7
	80	7	5
	100	N/A	N/A
	135	N/A	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	14	14
	80	14	14
	100	14	14
	135	14	11
	185	11	8
	250	8	5
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	12	9
	80	10	7
	100	8	4
	135	5	2
	185	N/A	N/A
	250	N/A	N/A

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLE REVISED	SA	LT	GS
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR RURAL APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR | DATE 29-12-2015 | DRG No R15-3-4

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV B | SHT

DDC HV08
Termination (CB0117) - Single Cross-arm

Rural		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	N/A
	185	N/A	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	✓	✓
	80	✓	✓
	100	✓	N/A
	135	N/A	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	✓
	250	✓	✓
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	N/A
	185	N/A	N/A
	250	N/A	N/A

DDC HV15
Termination (CB1121) - Single Cross-arm

Rural		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	✓	✓
	80	✓	✓
	100	✓	N/A
	135	✓	N/A
	185	N/A	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	✓	✓
	80	✓	N/A
	100	N/A	N/A
	135	N/A	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	✓
	250	✓	✓
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	✓	✓
	80	✓	✓
	100	✓	N/A
	135	✓	N/A
	185	N/A	N/A
	250	N/A	N/A

DDC HV05, HV07 & HV42
Termination (CB0118) - Single Cross-arm

Rural		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	N/A
	185	✓	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	✓
	250	✓	✓
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	N/A	N/A
	250	N/A	N/A

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLES CHANGED	SA	LT	GS
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR RURAL APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR | DATE 23-12-2015 | DRG No R15-3-5

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV B | SHT

DDC HV29
Single Phase Intermediate

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	24	20
	80	20	16
	100	17	13
	135	13	9
	185	9	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	19	15
	80	16	12
	100	13	10
	135	10	6
	185	6	3
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	24	24
	80	24	24
	100	24	24
	135	24	22
	185	22	18
	250	18	14
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	24	20
	80	20	16
	100	17	13
	135	13	9
	185	N/A	N/A
	250	N/A	N/A

DDC HV41
Single Phase Anti Galah Intermediate

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	18	15
	80	15	11
	100	12	9
	135	9	5
	185	5	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	14	11
	80	11	8
	100	9	6
	135	6	3
	185	3	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	18	18
	80	18	18
	100	18	18
	135	18	16
	185	16	12
	250	13	8
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	18	15
	80	15	11
	100	12	9
	135	9	5
	185	N/A	N/A
	250	N/A	N/A

DDC HV46
Single Phase Anti Galah Strain

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	24	20
	80	20	16
	100	17	13
	135	13	9
	185	9	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	19	15
	80	16	12
	100	13	10
	135	10	6
	185	6	3
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	24	24
	80	24	24
	100	24	24
	135	24	22
	185	22	18
	250	18	14
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	24	20
	80	20	16
	100	17	13
	135	13	9
	185	N/A	N/A
	250	N/A	N/A

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLES REVISED	SA	LT	GS
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR RURAL APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN JRR | DATE 14-01-2016 | DRG No R15-3-6

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV B | SHT

DDC HV43

Anti Swan - Intermediate (M16 Bolt)

Rural		Allowable Angle	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	9 (11*)	7 98*)
	80	7 (9*)	4 (5*)
	100	5 (7*)	2 (3*)
	135	2 (4*)	N/A
	185	N/A	N/A
	250	N/A	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	7 (9*)	5 (6*)
	80	5 (7*)	3 (4*)
	100	3 (5*)	1 (2*)
	135	1 (2*)	N/A
	185	N/A	N/A
	250	N/A	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	12	12
	80	12	12
	100	12	10
	135	10	8
	185	8	5
	250	5	3
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	9 (11*)	7 98*)
	80	7 (9*)	4 (5*)
	100	5 (7*)	2 (3*)
	135	2 (4*)	N/A
	185	N/A	N/A
	250	N/A	N/A

*Use cross-arm bracing starp (CB0485)

DDC HV44

Anti Swan Termination(CB0107) - Double Cross-arm

Rural		Allowable	
Equivalent Conductor	Span Length (m)	Wind Region A	Wind Region B
7/4.75 AAAC 18% CBL @ 15 deg IODINE	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	N/A
	250	✓	N/A
19/3.25 AAAC 18% CBL @ 15 deg KRYPTON	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	✓
	250	✓	N/A
3/2.75 SCAC 25% CBL @ 15 deg SCAC	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	✓	✓
	250	✓	✓
6/1/3.00 AACSR/AC 22% CBL @ 15 deg ARCHERY AA	60	✓	✓
	80	✓	✓
	100	✓	✓
	135	✓	✓
	185	N/A	N/A
	250	N/A	N/A

REV	DATE	DESCRIPTION	DRGD	CHKD	APPD
B	01.05.20	TABLES REVISED	SA	LT	GS
A	29.08.16	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: POLE TOP LIMITATIONS FOR RURAL APPLICATIONS

DISTRIBUTION CONSTRN STANDARD

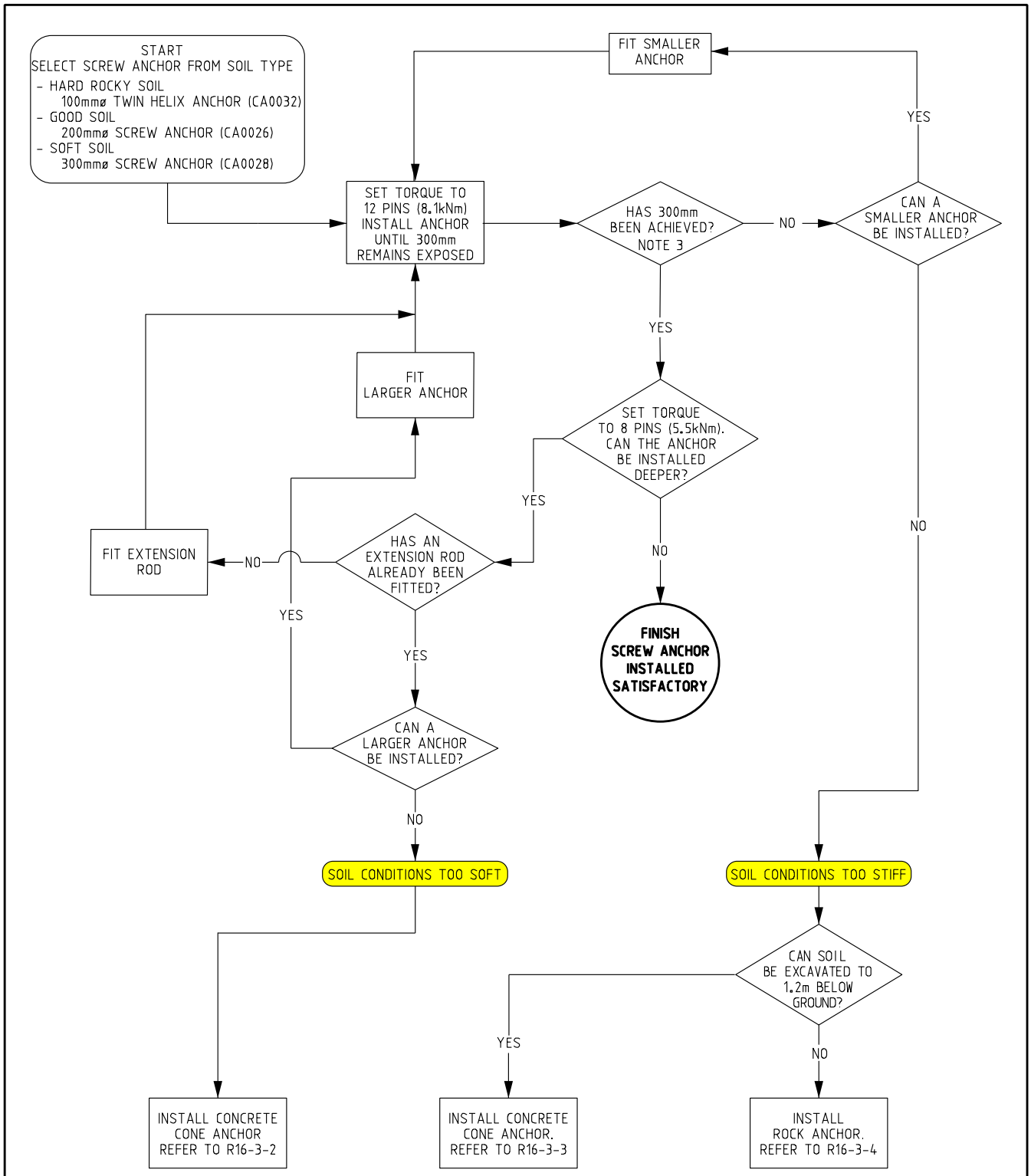
westernpower

DRAWN JRR | DATE 22-08-2016 | DRG No R15-3-7

ORIGINATED AT | SCALE NTS

CHECKED DVT

APPROVED GRANT STACY | REV B | SHT



VISUAL GRADING OF SOIL (Guide)
1. TAKE DRY SOIL IN HAND AND RUB IN TWO FINGERS. SANDY SOIL HAS COARSE FEEL; CLAYEY SOIL HAS SMOOTH FEEL
2. MAKE A SMALL BALL OF MOIST SOIL, TRY TO BREAK IT BY PRESSING BETWEEN THUMB AND FOREFINGER
 a. BREAKS TO POWDER UNDER SMALL PRESSURE - SOFT SOIL
 b. BARELY BREAKS BETWEEN FOREFINGER AND THUMB, BREAKS IN HAND WITHOUT DIFFICULTY - MEDIUM SOIL
 c. CANNOT BE BROKEN BREAKS BETWEEN FOREFINGER AND THUMB, BREAKS IN HAND WITH DIFFICULTY - GOOD SOIL

NOTES :-
1. IF THERE ARE UNDERGROUND SERVICES IN AREA, GO TO R16-3 (HAND EXCAVATION REQUIRED)
2. START WITH TWIN HELIX (CA0032) FOR HARD ROCK SOILS WITH MINIMUM 6PINS (4.1kNm) TORQUE TO ACHIEVE HOLDING CAPACITY
3. CHECK FOR MAXIMUM ALLOWABLE PROTRUSION ABOVE GROUND (MM) PROVIDED IN R16-2 TABLES (RAINBOW TABLES)

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	08.12.22	MORE DETAILS ADDED	SJ	LT	GS
F	02.08.17	MORE DETAILS ADDED	DVT	LT	GS
E	11.11.14	MORE DETAILS ADDED	TTT	DVT	GS

REFERENCE DRAWING

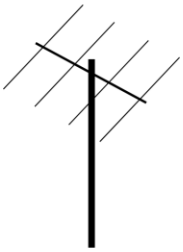
TITLE: ANCHOR INSTALLATION FLOW CHART

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 05-03-2014 | DRG. No. R16-1
ORIGINATED: DVT | SCALE: NTS
CHECKED: REE
APPROVED: GRANT STACY | REV. G | SHT

9.5m/5kN Pole

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm)						
					Wind Region A			Deviation Angle (deg)	Wind Region B		
					45° Stay	60° Stay	Out-rigger Stay		45° Stay	60° Stay	Out-rigger Stay
Metro or Urban	Span Length < 60m		4 LV 7/4.75 AAAC 7%	Up to 9 degrees	No stay required			Up to 6 degrees	No stay required		
				9 to 10	700	700	700	6 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	700
				15 to 20	700	700	700	15 to 20	700	700	11/6, 700
				20 to 25	700	700	11/6, 700	20 to 25	700	700	11/6, 700
				25 to 30	700	700	11/6, 700	25 to 30	700	700	SSP1, 700
				30 to 45	700	600	SSP1, 600	30 to 45	700	600	SSP1, 500
				45 to 90	DSC, 700	DSC, 700	N/A	45 to 90	DSC, 700	DSC, 600	N/A
				Inline termination	700	700	SSP1, 600	Inline termination	700	600	SSP1, 500
			4 LV 19/3.25 AAAC 7%	Up to 6 degrees	No stay required			Up to 4 degrees	No stay required		
				6 to 10	700	700	700	4 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	700
				15 to 20	700	700	11/6, 700	15 to 20	700	700	11/6, 600
				20 to 25	700	700	11/6, 700	20 to 25	700	700	SSP1, 600
				25 to 30	700	700	SSP1, 600	25 to 30	700	700	SSP1, 600
				30 to 45	700	600	SSP1, SS1, 500	30 to 45	700	500	SSP1, SS1, 500
				45 to 90	DSC, 700	DSC, 600	N/A	45 to 90	11/6, DSC, 700	11/6, DSC, 500	N/A
				Inline termination	700	600	SSP1, SS1, 500	Inline termination	700	500	SSP1, SS1, 500
			4 LV 7/2.75 Cu 15%	Up to 10 degrees	No stay required			Up to 8 degrees	No stay required		
								8 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	700
				15 to 20	700	700	700	15 to 20	700	700	700
				20 to 25	700	700	700	20 to 25	700	700	700
				25 to 30	700	700	700	25 to 30	700	700	11/6, 700
				30 to 45	700	700	SSP1, 700	30 to 45	700	700	SSP1, 700
				45 to 90	DSC, 700	DSC, 700	N/A	45 to 90	DSC, 700	DSC, 700	N/A
				Inline termination	700	700	SSP1, 700	Inline termination	700	700	SSP1, 700
			4 LV 19/0.101 HDBC 15%	Up to 4 degrees	No stay required			Up to 2 degrees	No stay required		
				4 o 10	700	700	700	2 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	SSP1, 700
				15 to 20	700	700	SSP1, 700	15 to 20	700	700	SSP1, 700
				20 to 25	700	700	SSP1, 700	20 to 25	700	700	SSP1, 700
				25 to 30	700	700	SSP1, 600	25 to 30	700	600	SSP1, 600
				30 to 45	600	SS1, 400	SSP1, SS1, 300	30 to 45	600	SS1, 400	SSP1, SS1, 300
				45 to 90	11/6, DSC, 600	11/6, DSC, 400	N/A	45 to 90	11/6, DSC, 400	11/6, DSC, 400	N/A
				Inline termination	600	SS1, 400	SSP1, SS1, 300	Inline termination	600	SS1, 400	SSP1, SS1, 300
			ABC LV ABC 150 7%	Up to 18 degrees	No stay required			Up to 13 degrees	No stay required		
								13 to 15	700	700	700
				18 to 20	700	700	700	15 to 20	700	700	700
				20 to 25	700	700	700	20 to 25	700	700	700
				25 to 30	700	700	700	25 to 30	700	700	700
				30 to 45	700	700	700	30 to 45	700	700	11/6, 700
				45 to 90	DSC, 700	DSC, 700	N/A	45 to 90	DSC, 700	DSC, 600	N/A
				Inline termination	700	700	700	Inline termination	700	700	11/6, 700

Notes:
- Use 9.5m/5kN pole with standard embedment depth (Drawing R13-3 in DCSH) for all cases unless otherwise specified
- Use 19/2.00 SC/GZ Stay and 200mm Screw Anchor for all cases unless otherwise specified
- **11/6** Use 11m/6kN pole with standard embedment depth
- **SS1** Increase stay size to 19/2.75 SC/GZ Stay with 300mm screw anchor
- **DSC** Double Stay (Stays to be inline with conductor's direction)

	19/2.00 SC/GZ Stay and 200mm Screw Anchor
	Use standard pole with standard embedment depth
SSP1	Use SSP1 as per Drawing R13-2 in DCSH (11m/6kN pole with Embedment Depth of 2.55m)
N/A	Not Applicable (Specific Design Required)

FOR FIELD CREW ONLY
DESIGNERS TO REFER TO OVERHEAD LINE DESIGN MANUAL, STAYS & GROUND ANCHORS CHAPTER SECTION 7.3 FOR STAY DESIGN.

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
F	08.03.16	TABLE REVISED AND FOOT NOTE ADDED	AT	DVT	GS
E	11.08.15	TABLE REVISED	AT	DVT	GS
D	16.06.15	DRG # & TITLE CHANGED AND TABLE REVISED	AT	DVT	GS
C	11.11.14	FORMAT CHANGED AND TABLE REVISED	TTT	SL	GS
B	17.09.14	MORE DETAILS ADDED		DVT	GS
A	07.08.14	ORIGINAL ISSUE		DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES - 9.5m

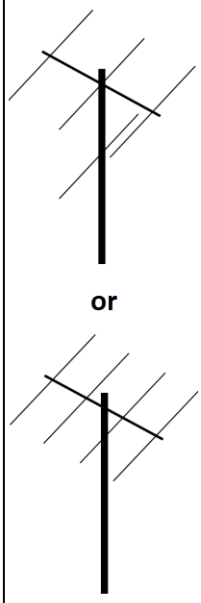
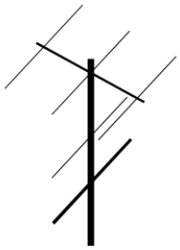
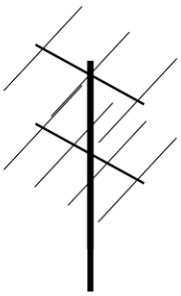
DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN	JRR	DATE: 07-08-2014	DRG No R16/2/1
ORIGINATED	TTT	SCALE NTS	
CHECKED:	DVT		
APPROVED	GRANT STACY	REV: F	SHT.

11m/6kN Pole (1 of 4)

Maximum Allowable Protrusion above Ground (mm)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Wind Region A 45° Stay	Wind Region A 60° Stay	Wind Region A Out-rigger Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay	Wind Region B Out-rigger Stay
Metro or Urban	Span Length < 60m		3HV + RE or 4 LV 7/4.75 AAAC 7%	Up to 13 degrees	No stay required			Up to 9 degrees	No stay required		
				13 to 15	700	700	700	10 to 15	700	700	700
				15 to 20	700	700	700	15 to 20	700	700	700
				20 to 25	700	700	700	20 to 25	700	700	700
				25 to 30	700	700	700	25 to 30	700	700	12/8, 500
				30 to 45	700	500	SSP2, 500	30 to 45	700	500	SSP2, 400
				45 to 90	DSC, 700	DSC, 300	N/A	45 to 90	DSC, 700	DSC, 500	N/A
				Inline termination	700	600	SSP2, 500	Inline termination	700	500	SSP2, 400
			3HV + RE or 4 LV 19/3.25 AAAC 7%	Up to 10 degrees	No stay required			Up to 7 degrees	No stay required		
				10 to 15	700	700	700	7 to 10	700	700	700
				15 to 20	700	700	700	10 to 15	700	700	700
				20 to 25	700	700	700	15 to 20	700	700	600
				25 to 30	700	700	12/8, 500	20 to 25	700	700	12/8, 500
				30 to 45	700	500	SSP2, 400	25 to 30	700	600	SSP2, 500
				45 to 90	DSC, 700	DSC, 500	N/A	30 to 45	600	400	SSP2, 300
				Inline termination	700	500	SSP2, 400	45 to 90	DSC, 400	12.5/8, DSC, 400	N/A
		or						Inline termination	600	400	SSP2, 300
			3HV + RE or 4LV 7/2.75 Cu 15%	Up to 15 degrees	No stay required			Up to 12 degrees	No stay required		
				15 to 20	700	700	700	12 to 15	700	700	700
				20 to 25	700	700	700	15 to 20	700	700	700
				25 to 30	700	700	700	20 to 25	700	700	700
				30 to 45	700	700	SSP2, 600	25 to 30	700	700	700
				45 to 90	DSC, 700	DSC, 500	N/A	30 to 45	700	600	SSP2, 500
				Inline termination	700	700	SSP2, 600	45 to 90	DSC, 700	DSC, 600	N/A
								Inline termination	700	600	SSP2, 600
			3HV + RE or 4LV 19/0.101 HDBC 15%	Up to 6 degrees	No stay required			Up to 4 degrees	No stay required		
				6 to 10	700	700	700	4 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	600
				15 to 20	700	600	12/8, 500	15 to 20	700	600	SSP2, 500
				20 to 25	700	600	SSP2, 600	20 to 25	700	600	SSP2, 500
				25 to 30	700	600	SSP2, 500	25 to 30	700	500	SSP2, 400
				30 to 45	500	300	N/A	30 to 45	500	300	SSP2, 300
				45 to 90	DSC, 500	DSC, 300	N/A	45 to 90	DSC, 500	12.5/8, DSC, 300	N/A
				Inline termination	500	300	N/A	Inline termination	500	300	SSP2, 300
			3HV + RE + ABC 7/4.75 AAAC 7% LV ABC 150 7%	Up to 5 degrees	No stay required			Up to 2 degrees	No stay required		
				5 to 10	700	700	700	2 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	12/8, 500
				15 to 20	700	700	12/8, 500	15 to 20	700	600	SSP2, 500
				20 to 25	700	700	SSP2, 600	20 to 25	700	600	SSP2, 500
				25 to 30	700	600	SSP2, 500	25 to 30	700	500	SSP2, 400
				30 to 45	600	400	SSP2, 300	30 to 45	500	300	SSP2, 300
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 300	N/A
				Inline termination	600	400	SSP2, 300	Inline termination	500	300	SSP2, 300
			3HV + RE + ABC 19/3.25 AAAC 7% LV ABC 150 7%	Up to 4 degrees	No stay required			Max 1 degree	No stay required		
				4 to 10	700	700	700	1 to 10	700	700	600
				10 to 15	700	700	SSP2, 600	10 to 15	700	500	SSP2, 500
				15 to 20	700	600	SSP2, 500	15 to 20	700	500	SSP2, SS1, 500
				20 to 25	700	600	SSP2, 500	20 to 25	700	500	SSP2, 500
				25 to 30	700	500	SSP2, 500	25 to 30	700	500	SSP2, 400
				30 to 45	500	300	N/A	30 to 45	400	300	N/A
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 300	N/A
				Inline termination	600	300	N/A	Inline termination	500	300	N/A
			3HV + 4LV 7/4.75 AAAC 7%	Up to 5 degrees	No stay required			Up to 2 degrees	No stay required		
				5 to 10	700	700	700	2 to 10	700	700	700
				10 to 15	700	700	12/8, 600	10 to 15	700	700	12/8, 500
				15 to 20	700	700	SSP2, 600	15 to 20	700	600	SSP2, 500
				20 to 25	700	600	SSP2, 600	20 to 25	700	600	SSP2, 500
				25 to 30	700	600	SSP2, 500	25 to 30	700	500	SSP2, 400
				30 to 45	600	400	SSP2, 300	30 to 45	500	300	SSP2, 300
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 500	12.5/8, DSC, 300	N/A
				Inline termination	600	400	SSP2, 300	Inline termination	500	300	SSP2, 300
			3HV + 4LV 19/3.25 AAAC 7%	Up to 3 degrees	No stay required			Max 1 degree	No stay required		
				3 to 10	700	700	700	1 to 10	700	700	12/8, 600
				10 to 15	700	700	SSP2, 600	10 to 15	700	600	SSP2, 400
				15 to 20	700	600	SSP2, 500	15 to 20	700	500	SSP2, SS1, 400
				20 to 25	700	600	SSP2, 500	20 to 25	700	500	SSP2, 400
				25 to 30	700	500	SSP2, 400	25 to 30	600	400	SSP2, 300
				30 to 45	500	300	N/A	30 to 45	400	DSL, 500	N/A
				45 to 90	DSC, 500	12.5/8, DSC, 300	N/A	45 to 90	DSC, 400	12.5/8, DSC, 300	N/A
				Inline termination	500	300	N/A	Inline termination	400	DSL, 500	N/A
			3HV + 4LV 7/2.75 Cu 15%	Up to 8 degrees	No stay required			Up to 6 degrees	No stay required		
				8 to 10	700	700	700	6 to 10	700	700	700
				10 to 15	700	700	700	10 to 15	700	700	700
				15 to 20	700	700	700	15 to 20	700	700	12/8, 600
				20 to 25	700	700	SSP2, 700	20 to 25	700	700	SSP2, 600
				25 to 30	700	700	SSP2, 600	25 to 30	700	600	SSP2, 600
				30 to 45	700	500	SSP2, 400	30 to 45	600	400	SSP2, 300
				45 to 90	DSC, 700	DSC, 500	N/A	45 to 90	DSC, 700	DSC, 400	N/A
				Inline termination	700	500	SSP2, 400	Inline termination	700	400	SSP2, 400
			3HV + 4LV 19/0.101 HDBC 15%	Up to 2 degrees	No stay required			Max 0 degree	No stay required		
				2 to 10	700	700	12/8, 600	Up to 10 degrees	700	700	SSP2, 600
				10 to 15	700	600	SSP2, SS1, 500	10 to 15	700	500	SSP2, SS1, 500
				15 to 20	700	SS1, 500	SSP2, SS1, 400	15 to 20	600	SS1, 400	SSP2, SS1, 400
				20 to 25	700	500	SSP2, 400	20 to 25	600	400	SSP2, 300
				25 to 30	600	400	SSP2, 300	25 to 30	600	300	SSP2, 300
				30 to 45	300	DSL, 400	N/A	30 to 45	300	12.5/8, DSL, 500	N/A
				45 to 90	12.5/8, DSC, 300	12.5/8, DSC, 400	N/A	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300	N/A
				Inline termination	300	DSC, 400	N/A	Inline termination	300	12.5/8, DSC, 500	N/A

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

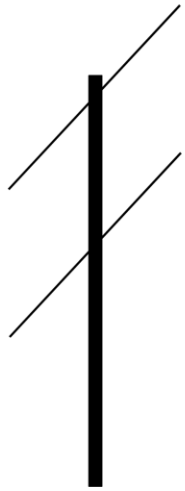
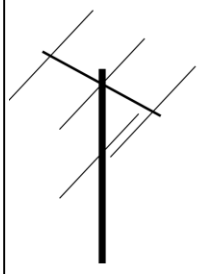
TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 11m (Sht. 1/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

DRAWN	JRR	DATE: 10-06-2015	DRG No
ORIGINATED	AT	SCALE NTS	R16/2/2
CHECKED: DVT			
APPROVED	GRANT STACY	REV: C	SHT.

11m/6kN Pole (2 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm) Wind Region A 45° Stay	Wind Region A 60° Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay
Country or Rural	Span Length < 135m		HV + RE 7/4.75 AAAC 18%	Up to 2 degrees	No stay required		Max 1 degree	No stay required	
				2 to 10	700	700	1 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	500
				30 to 45	700	500	30 to 45	600	400
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 600	DSC, 400
				Inline termination	700	500	Inline termination	600	400
			HV + RE 19/3.25 AAAC 18%	Up to 1 degrees	No stay required		Max 0 degree	No stay required	
				1 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	600
				15 to 20	700	600	15 to 20	700	500
				20 to 25	700	600	20 to 25	700	500
				25 to 30	700	600	25 to 30	700	500
				30 to 45	600	400	30 to 45	500	300
				45 to 90	DSC, 600	DSC, 400	45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300
				Inline termination	600	400	Inline termination	500	300
			HV + RE 6/4.75 & 7/1.60 ACSR/GZ 18%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	500
				30 to 45	600	400	30 to 45	500	300
				45 to 90	DSC, 600	DSC, 400	45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300
				Inline termination	600	400	Inline termination	500	300
			HV + RE 7/1.60 SC/GZ 25%	Up to 15 degrees	No stay required		Up to 12 degrees	No stay required	
							12 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	700	30 to 45	700	700
				45 to 90	DSC, 700	DSC, 700	45 to 90	DSC, 700	DSC, 700
				Inline termination	700	700	Inline termination	700	700
			HV + RE 19/0.101 HDBC 23%	Max 1 degree	No stay required		Max 0 degree	No stay required	
				1 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	600	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	500
				30 to 45	600	400	30 to 45	500	300
				45 to 90	DSC, 600	DSC, 400	45 to 90	DSC, 500	12.5/8, DSC, 300
				Inline termination	600	400	Inline termination	500	300
			3HV + RE 7/4.75 AAAC 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	SS1, 500
				10 to 15	700	SS1, 500	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	500	SS1, 300
				20 to 25	600	400	20 to 25	500	300
				25 to 30	500	300	25 to 30	400	DSL, 300
				30 to 45	300	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 300	12.5/8, DSL, 300
				45 to 90	12.5/8, DSC, 300	N/A	45 to 90	N/A	N/A
				Inline termination	300	12.5/8, DSC 400	Inline termination	12.5/8, DSC, 300	12.5/8, DSC, 300
			3HV + RE 19/3.25 AAAC 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	500	Up to 10 degrees	600	SS1, 400
				10 to 15	600	SS1, 400	10 to 15	500	SS1, 300
				15 to 20	500	SS1, 300	15 to 20	SS1, 400	SS1,300
				20 to 25	500	300	20 to 25	400	DSL, 300
				25 to 30	400	DSL, 500	25 to 30	300	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8 DSL, 300	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300
			3HV + RE 6/4.75 & 7/1.60 ACSR/GZ 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	SS1, 500
				10 to 15	700	SS1, 500	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	SS1, 500	SS1, 300
				20 to 25	600	300	20 to 25	500	300
				25 to 30	500	300	25 to 30	400	DSL, 500
				30 to 45	300	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	300	12.5/8, DSC, 400	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300
			3HV + RE 7/1.60 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 4 degrees	No stay required	
				6 to 10	700	700	4 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	600	400
				45 to 90	DSC, 500	DSC, 500	45 to 90	DSC, 600	DSC, 400
				Inline termination	700	500	Inline termination	600	400
			3HV + RE 19/0.101 HDBC 23%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	SS1, 500
				10 to 15	700	SS1, 400	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	SS1, 500	SS1, 300
				20 to 25	500	300	20 to 25	500	300
				25 to 30	500	DSL, 500	25 to 30	400	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 11m (Sht. 2/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

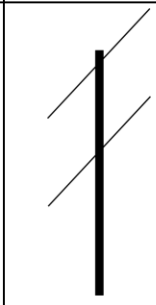
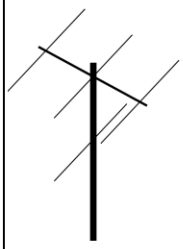
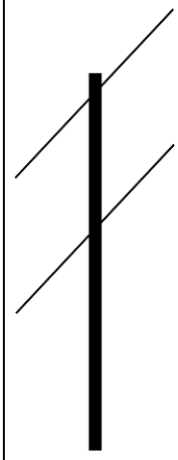
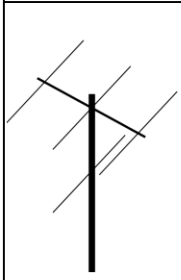
DRAWN JRR | DATE: 10-06-2015 | DRG No R16/2/3

ORIGINATED AT | SCALE NTS

CHECKED: DVT

APPROVED: GRANT STACY | REV: C | SHT:

11m/6kN Pole (3 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm) Wind Region A 45° Stay	Wind Region A 60° Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay
	Span Length <165m		HV + RE 7/2.00 SC/GZ 25%	Up to 8 degrees	No stay required		Up to 6 degrees	No stay required	
				8 to 10	700	700	6 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 7/2.75 SC/GZ 25%	Up to 4 degrees	No stay required		Up to 2 degrees	No stay required	
				4 to10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	600	15 to 20	700	600
				20 to 25	700	600	20 to 25	700	600
				25 to 30	700	500	25 to 30	700	500
				30 to 45	600	300	30 to 45	500	300
				45 to 90	DSC, 500	12.5/8, DSC, 300	45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 400
				Inline termination	500	300	Inline termination	500	300
			3HV + RE 7/2.00 SC/GZ 25%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	600	10 to 15	700	600
				15 to 20	700	500	15 to 20	700	500
				20 to 25	700	500	20 to 25	700	500
				25 to 30	700	400	25 to 30	600	400
				30 to 45	500	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 400	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	500	DSC, 500	Inline termination	400	DSC, 500
			3HV + RE 7/2.75 SC/GZ 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	500	Up to 10 degrees	700	500
				10 to 15	600	SS1, 400	10 to 15	600	SS1, 400
				15 to 20	500	SS1, 300	15 to 20	SS1, 500	SS1, 300
				20 to 25	500	300	20 to 25	400	300
				25 to 30	400	DSL, 400	25 to 30	400	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300
	Span Length < 250m		HV + RE 3/2.75 SC/AC 25%	Up to 6 degrees	No stay required		Up to 4 degrees	No stay required	
				6 to 10	700	700	4 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 3/2.75 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 4 degrees	No stay required	
				6 to 10	700	700	4 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 7/1.60 SC/GZ 25%	Up to 8 degrees	No stay required		Up to 6 degrees	No stay required	
				8 to 10	700	700	6 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	700	30 to 45	700	600
				45 to 90	DSC, 700	DSC, 700	45 to 90	DSC, 700	DSC, 600
				Inline termination	700	700	Inline termination	700	600
			HV + RE 7/2.00 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	600	30 to 45	600	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 7/2.75 SC/GZ 25%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	600	10 to 15	700	600
				15 to 20	700	500	15 to 20	700	SS1, 500
				20 to 25	700	500	20 to 25	700	500
				25 to 30	700	500	25 to 30	600	400
				30 to 45	500	DSL, 400	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 400	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	500	DSC, 400	Inline termination	400	DSC, 500
			3HV + RE 3/2.75 SC/AC 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Up to 10 degrees	700	700	Up to 10 degrees	700	600
				10 to 15	700	600	10 to 15	700	500
				15 to 20	700	500	15 to 20	600	SS1, 400
				20 to 25	700	500	20 to 25	600	400
				25 to 30	700	400	25 to 30	500	400
				30 to 45	500	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	500	DSC, 500	Inline termination	400	DSC, 500
			3HV + RE 3/2.75 SC/GZ 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Up to 10 degrees	700	700	Up to 10 degrees	700	600
				10 to 15	700	600	10 to 15	700	500
				15 to 20	700	500	15 to 20	600	SS1, 400
				20 to 25	700	500	20 to 25	600	400
				25 to 30	600	400	25 to 30	600	300
				30 to 45	400	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	400	DSC, 500	Inline termination	400	DSC, 500

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 11m (Sht. 3/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

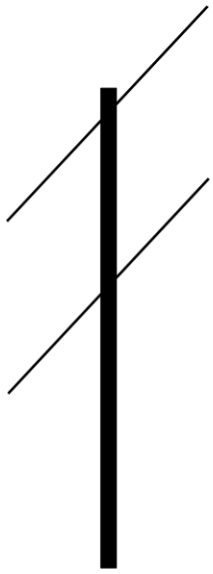
DRAWN JRR | DATE: 10-06-2015 | DRG No R16/2/4

ORIGINATED AT | SCALE NTS

CHECKED: DVT

APPROVED GRANT STACY | REV: C | SHT:

11m/6kN Pole (4 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm) Wind Region A 45° Stay	Wind Region A 60° Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay
Span Length <300m			HV + RE 3/2.75 SC/AC 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	500	Inline termination	700	500
			HV + RE 3/2.75 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	500	Inline termination	700	500
			HV + RE 7/1.60 SC/GZ 25%	Up to 8 degrees	No stay required		up to 4 degrees	No stay required	
				8 to 10	700	700	4 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	600
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 600
				Inline termination	700	600	Inline termination	700	600
			HV + RE 7/2.00 SC/GZ 25%	Up to 4 degrees	No stay required		Up to 2 degrees	No stay required	
				4 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	600	400
				45 to 90	DSC, 700	12.5/8, DSC, 500	45 to 90	DSC, 600	DSC, 400
				Inline termination	700	500	Inline termination	600	400
			HV + RE 7/2.75 SC/GZ 25%	Max 4 degrees	No stay required		Max 0 degree	No stay required	
				4 to 10	700	700	Up to 10 degrees	700	600
				10 to 15	700	600	10 to 15	700	500
				15 to 20	700	500	15 to 20	700	SS1, 500
				20 to 25	700	500	20 to 25	400	400
				25 to 30	700	400	25 to 30	600	400
				30 to 45	400	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 400	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	400	DSC, 500	Inline termination	400	DSC, 500

Notes:

- Use 11m/6kN pole with standard embedment depth (Drawing R13-3 in DCSH) for all cases unless otherwise specified
- **12.5/8** Use 12.5m/8kN pole with standard embedment depth (Drawing R13-3 in DCSH)
- **SS1** Increase stay size to 19/2.75 SC/GZ Stay with 300mm screw anchor
- **DSL** Double Stay (both stays inline with bisector load's direction)
- **DSC** Double Stay (Stays to be inline with conductor's direction)

- 19/2.00 SC/GZ Stay and 200mm Screw Anchor for < 20° Deviation
- 19/2.75 SC/GZ Stay and 300mm Screw Anchor for ≥ 20° Deviation
- Use standard pole with standard embedment depth
- **SSP2** Use Use SSP2 as per Drawing R13-2 in DCSH (12.5m/8kN pole with Embedment Depth of 2.8m)
- **N/A** Not Applicable (Specific Design Required)

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 11m (Sht. 4/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

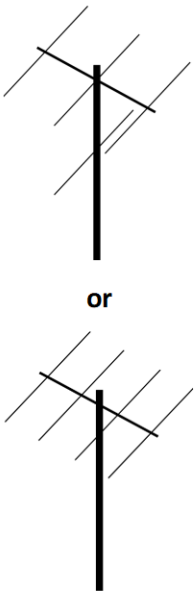
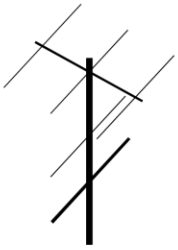
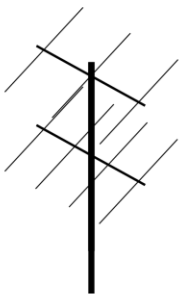
DRAWN JRR | DATE: 11-06-2015 | DRG No R16/2/5

ORIGINATED AT | SCALE NTS

CHECKED: DVT

APPROVED GRANT STACY | REV: C | SHT:

12.5m/6kN (1 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm)						
					Wind Region A				Wind Region B		
					45° Stay	60° Stay	Out-rigger Stay	Deviation Angle (deg)	45° Stay	60° Stay	Out-rigger Stay
Metro or Urban	Span Length < 60m		3HV + RE or 4 LV 7/4.75 AAAC 7%	Up to 18 degrees	No stay required			Up to 13 degrees	No stay required		
								13 to 15	700	700	700
				18 to 20	700	700	700	15 to 20	700	700	600
				20 to 25	700	700	700	20 to 25	700	700	600
				25 to 30	700	700	600	25 to 30	700	700	500
				30 to 45	700	600	SSP3, 400	30 to 45	700	500	SSP3, 300
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 700	DSC, 500	N/A
				Inline termination	700	600	SSP3, 400	Inline termination	700	500	SSP3, 300
			3HV + RE or 4 LV 19/3.25 AAAC 7%	Up to 13 degrees	No stay required			Up to 10 degrees	No stay required		
				13 to 15	700	700	700	10 to 15	700	700	600
				15 to 20	700	700	600	15 to 20	700	700	500
				20 to 25	700	700	600	20 to 25	700	700	500
				25 to 30	700	700	500	25 to 30	700	600	400
				30 to 45	700	500	SSP3, 300	30 to 45	600	400	N/A
				45 to 90	DSC, 700	DSC, 500	N/A	45 to 90	DSC, 600	DSC, 400	N/A
				Inline termination	700	500	SSP3, 300	Inline termination	600	400	N/A
		or	3HV + RE or 4LV 7/2.75 Cu 15%	Up to 18 degrees	No stay required			Up to 13 degrees	No stay required		
								13 to 15	700	700	700
				18 to 20	700	700	700	15 to 20	700	700	700
				20 to 25	700	700	700	20 to 25	700	700	700
				25 to 30	700	700	700	25 to 30	700	700	600
				30 to 45	700	700	500	30 to 45	700	700	400
				45 to 90	DSC, 700	DSC, 700	N/A	45 to 90	DSC, 700	DSC, 700	N/A
				Inline termination	700	700	500	Inline termination	700	700	400
			3HV + RE or 4LV 19/0.101 HDBC 15%	Up to 8 degrees	No stay required			Up to 6 degrees	No stay required		
				8 to 10	700	700	700	6 to 10	700	700	700
				10 to 15	700	700	600	10 to 15	700	700	600
				15 to 20	700	700	500	15 to 20	700	700	500
				20 to 25	700	700	500	20 to 25	700	600	400
				25 to 30	700	600	400	25 to 30	700	600	SSP3, 300
				30 to 45	500	400	N/A	30 to 45	500	300	N/A
				45 to 90	DSC, 500	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 300	N/A
				Inline termination	500	400	N/A	Inline termination	500	300	N/A
			3HV + RE + ABC 7/4.75 AAAC 7% LV ABC 150 7%	Up to 8 degrees	No stay required			Up to 4 degrees	No stay required		
				8 to 10	700	700	700	4 to 10	700	700	600
				10 to 15	700	700	600	10 to 15	700	700	500
				15 to 20	700	700	500	15 to 20	700	700	500
				20 to 25	700	700	500	20 to 25	700	600	SSP3, 400
				25 to 30	700	600	SSP3, 400	25 to 30	700	500	SSP3, 300
				30 to 45	600	400	N/A	30 to 45	500	400	N/A
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 400	N/A
				Inline termination	600	400	N/A	Inline termination	500	400	N/A
			3HV + RE + ABC 19/3.25 AAAC 7% LV ABC 150 7%	Up to 6 degrees	No stay required			Up to 3 degrees	No stay required		
				6 to 10	700	700	600	3 to 10	700	700	600
				10 to 15	700	700	500	10 to 15	700	700	500
				15 to 20	700	600	500	15 to 20	700	600	500
				20 to 25	700	600	400	20 to 25	700	600	SSP3, 400
				25 to 30	700	600	SSP3, 300	25 to 30	700	500	SSP3, 300
				30 to 45	500	400	N/A	30 to 45	500	300	N/A
				45 to 90	DSC, 500	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 300	N/A
				Inline termination	500	400	N/A	Inline termination	500	300	N/A
			3HV + 4LV 7/4.75 AAAC 7%	Up to 7 degrees	No stay required			Up to 4 degrees	No stay required		
				7 to 10	700	700	700	4 to 10	700	700	600
				10 to 15	700	700	600	10 to 15	700	700	500
				15 to 20	700	700	600	15 to 20	700	600	400
				20 to 25	700	700	SSP3, 500	20 to 25	700	600	SSP3, 300
				25 to 30	700	600	SSP3, 400	25 to 30	700	500	N/A
				30 to 45	600	400	N/A	30 to 45	500	300	N/A
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 500	DSC, 300	N/A
				Inline termination	600	400	N/A	Inline termination	500	300	N/A
			3HV + 4LV 19/3.25 AAAC 7%	Up to 5 degrees	No stay required			Up to 3 degrees	No stay required		
				5 to 10	700	700	600	3 to 10	700	700	600
				10 to 15	700	700	600	10 to 15	700	600	500
				15 to 20	700	600	SSP3, 500	15 to 20	700	500	SSP3, 400
				20 to 25	700	600	SSP3, 400	20 to 25	700	500	SSP3, 300
				25 to 30	700	500	SSP3, 300	25 to 30	600	500	SSP3, 300
				30 to 45	500	300	N/A	30 to 45	400	300	N/A
				45 to 90	DSC, 500	DSC, 400	N/A	45 to 90	DSC, 400	DSC, 300	N/A
				Inline termination	500	300	N/A	Inline termination	400	300	N/A
			3HV + 4LV 7/2.75 Cu 15%	Up to 15 degrees	No stay required			Up to 8 degrees	No stay required		
								8 to 10	700	700	700
								10 to 15	700	700	600
				15 to 20	700	700	600	15 to 20	700	700	600
				20 to 25	700	700	500	20 to 25	700	700	500
				25 to 30	700	700	500	25 to 30	700	700	SSP3, 400
				30 to 45	700	500	SSP3, 400	30 to 45	600	500	N/A
				45 to 90	DSC, 700	DSC, 500	N/A	45 to 90	DSC, 600	DSC, 500	N/A
				Inline termination	700	500	SSP3, 400	Inline termination	600	500	N/A
			3HV + 4LV 19/0.101 HDBC 15%	Up to 4 degrees	No stay required			Up to 2 degrees	No stay required		
				4 to 10	700	700	600	2 to 10	700	700	500
				10 to 15	700	600	500	10 to 15	700	600	SSP3, 400
				15 to 20	700	500	SSP3, 400	15 to 20	600	SS1, 500	SSP3, 300
				20 to 25	600	500	SSP3, 300	20 to 25	600	500	N/A
				25 to 30	600	400	N/A	25 to 30	500	400	N/A
				30 to 45	300	DSL, 500	N/A	30 to 45	300	DSL, 400	N/A
				45 to 90	DSC, 600	DSC, 400	N/A	45 to 90	DSC, 300	DSC, 300	N/A
				Inline termination	300	DSC, 500	N/A	Inline termination	300	DSC, 400	N/A

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 12.5m (Sht. 1/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

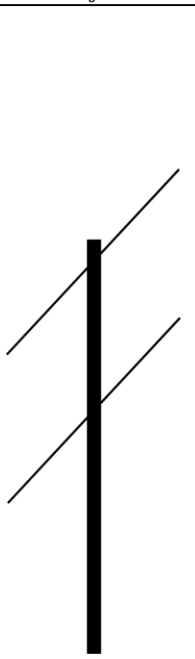
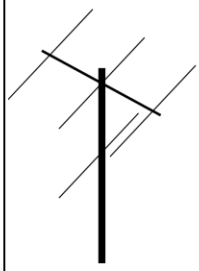
DRAWN JRR | DATE: 11-06-2015 | DRG No R16/2/6

ORIGINATED AT | SCALE NTS

CHECKED: DVT

APPROVED GRANT STACY | REV: C | SHT.

12.5m/6kN (2 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm) Wind Region A 45° Stay	Wind Region A 60° Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay
Country or Rural	Span Length < 135m		HV + RE 7/4.75 AAAC 18%	Up to 3 degrees	No stay required		Max 0 degree	No stay required	
				3 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	600	400
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 600	12.5/8, DSC, 400
				Inline termination	700	500	Inline termination	600	400
			HV + RE 19/3.25 AAAC 18%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	500
				30 to 45	600	400	30 to 45	500	300
				45 to 90	DSC, 600	DSC, 400	45 to 90	DSC, 500	12.5/8, DSC, 300
				Inline termination	600	400	Inline termination	500	300
			HV + RE 6/4.75 & 7/1.60 ACSR/GZ 18%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	600
				30 to 45	600	400	30 to 45	500	400
				45 to 90	DSC, 600	DSC, 400	45 to 90	DSC, 500	12.5/8, DSC, 400
				Inline termination	600	400	Inline termination	500	400
			HV + RE 7/1.60 SC/GZ 25%	Up to 15 degrees	No stay required		Up to 10 degrees	No stay required	
							10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	700	30 to 45	700	700
				45 to 90	DSC, 700	DSC, 700	45 to 90	DSC, 700	DSC, 700
				Inline termination	700	700	Inline termination	700	700
			HV + RE 19/0.101 HDBC 23%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	600
				30 to 45	600	400	30 to 45	500	400
				45 to 90	DSC, 600	DSC, 400	45 to 90	DSC, 500	12.5/8, DSC, 400
				Inline termination	600	400	Inline termination	500	400
			3HV + RE 7/4.75 AAAC 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	500
				10 to 15	700	500	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	500	SS1, 300
				20 to 25	600	400	20 to 25	500	300
				25 to 30	500	300	25 to 30	400	300
				30 to 45	12.5/8, 300	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, 300	12.5/8, DSC, 400	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300
			3HV + RE 19/3.25 AAAC 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	600	SS1, 500
				10 to 15	600	SS1, 500	10 to 15	500	SS1, 400
				15 to 20	500	SS1, 400	15 to 20	400	SS1, 300
				20 to 25	500	300	20 to 25	400	300
				25 to 30	400	12.5/8, DSL, 500	25 to 30	300	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 400	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 400	Inline termination	12.5/8, DSC, 400	12.5/8, DSC, 300
			3HV + RE 6/4.75 & 7/1.60 ACSR/GZ 18%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	500
				10 to 15	700	SS1, 500	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	500	SS1, 300
				20 to 25	600	400	20 to 25	500	300
				25 to 30	500	300	25 to 30	400	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 400	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300
			3HV + RE 7/1.60 SC/GZ 25%	Up to 8 degrees	No stay required		Up to 2 degrees	No stay required	
				8 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	500	30 to 45	700	700
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 700	DSC, 700
				Inline termination	700	500	Inline termination	700	700
			3HV + RE 19/0.101 HDBC 23%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	600	Up to 10 degrees	700	500
				10 to 15	700	500	10 to 15	600	SS1, 400
				15 to 20	600	SS1, 400	15 to 20	500	SS1, 300
				20 to 25	500	400	20 to 25	600	300
				25 to 30	500	300	25 to 30	400	300
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 400	30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 400	Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES - 12.5m (Sht. 2/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

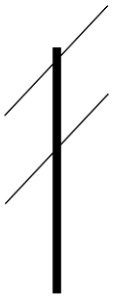
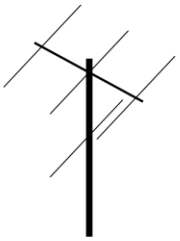
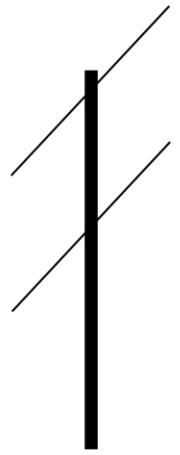
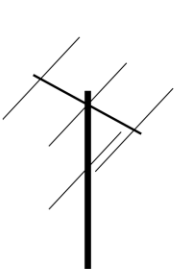
DRAWN JRR | DATE: 11-06-2015 | DRG No

ORIGINATED AT | SCALE NTS | R16/2/7

CHECKED: DVT

APPROVED GRANT STACY | REV: C | SHT:

12.5m/6kN (3 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm) Wind Region A 45° Stay	Wind Region A 60° Stay	Deviation Angle (deg)	Wind Region B 45° Stay	Wind Region B 60° Stay
Country or Rural	Span Length <165m		HV + RE 7/2.00 SC/GZ 25%	Up to 10 degrees	No stay required		Up to 4 degrees	No stay required	
				10 to 15	700	700	4 to 10	700	700
				15 to 20	700	700	10 to 15	700	700
				20 to 25	700	700	15 to 20	700	700
				25 to 30	700	700	20 to 25	700	700
				30 to 45	700	600	25 to 30	700	600
				45 to 90	DSC, 700	DSC, 600	30 to 45	DSC, 700	DSC, 600
				Inline termination	700	600	45 to 90	700	600
			HV + RE 7/2.75 SC/GZ 25%	Up to 4 degrees	No stay required		Up to 2 degrees	No stay required	
				4 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	600
				20 to 25	700	700	20 to 25	700	600
				25 to 30	700	600	25 to 30	700	500
				30 to 45	600	300	30 to 45	500	300
				45 to 90	DSC, 500	12.5/8, DSC, 300	45 to 90	DSC, 500	DSC, 300
				Inline termination	600	300	Inline termination	500	300
			3HV + RE 7/2.00 SC/GZ 25%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	600
				15 to 20	700	600	15 to 20	700	500
				20 to 25	700	600	20 to 25	700	500
				25 to 30	700	500	25 to 30	600	500
				30 to 45	500	200	30 to 45	400	DSL, 500
				45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 400
				Inline termination	500	300	Inline termination	400	DSC, 500
			3HV + RE 7/2.75 SC/GZ 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Up to 10 degrees	700	600	Up to 10 degrees	700	500
				10 to 15	600	SS1, 500	10 to 15	600	SS1, 400
				15 to 20	500	SS1, 400	15 to 20	SS1, 500	SS1, 300
				20 to 25	500	300	20 to 25	400	300
				25 to 30	400	DSL, 500	25 to 30	400	DSL, 500
				30 to 45	12.5/8, DSL, 500	12.5/8, DSL, 300	30 to 45	12.5/8, DSL, 400	12.5/8, DSL, 300
				45 to 90	N/A	N/A	45 to 90	N/A	N/A
				Inline termination	12.5/8, DSC, 500	12.5/8, DSC, 300	Inline termination	12.5/8, DSC, 400	12.5/8, DSC, 300
	Span Length < 250m		HV + RE 3/2.75 SC/AC 25%	Up to 8 degrees	No stay required		Up to 2 degrees	No stay required	
				8 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 500	DSC, 300
				Inline termination	700	600	Inline termination	700	600
			HV + RE 3/2.75 SC/GZ 25%	Up to 8 degrees	No stay required		Up to 2 degrees	No stay required	
				8 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 7/1.60 SC/GZ 25%	Up to 10 degrees	No stay required		Up to 4 degrees	No stay required	
				4 to 10	700	700			
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	700
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 700
				Inline termination	700	600	Inline termination	700	700
			HV + RE 7/2.00 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	700	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 700	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	700	Inline termination	700	500
			HV + RE 7/2.75 SC/GZ 25%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	600
				15 to 20	700	600	15 to 20	700	500
				20 to 25	700	600	20 to 25	700	500
				25 to 30	700	500	25 to 30	600	500
				30 to 45	500	300	30 to 45	400	DSL, 500
				45 to 90	DSC, 500	DSC, 300	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	500	300	Inline termination	400	DSC, 500
			3HV + RE 3/2.75 SC/AC 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	700	Up to 10 degrees	700	700
				10 to 15	700	600	10 to 15	700	600
				15 to 20	700	500	15 to 20	600	500
				20 to 25	700	500	20 to 25	600	500
				25 to 30	600	500	25 to 30	600	400
				30 to 45	500	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	DSC, 500	DSC, 300	45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300
				Inline termination	500	DSC, 500	Inline termination	400	DSC, 500
			3HV + RE 3/2.75 SC/GZ 25%	Max 0 degree	No stay required		Max 0 degree	No stay required	
				Upto 10 degrees	700	700	Up to 10 degrees	700	700
				10 to 15	700	600	10 to 15	700	600
				15 to 20	700	500	15 to 20	600	500
				20 to 25	700	500	20 to 25	600	500
				25 to 30	600	500	25 to 30	600	400
				30 to 45	400	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	DSC, 400	DSC, 300	45 to 90	12.5/8, DSC, 500	12.5/8, DSC, 300
				Inline termination	400	DSC, 500	Inline termination	400	DSC, 500

REV	DATE	DESCRIPTION	ORGD	CHKD	APPD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES - 12.5m (Sht. 3/4)

DISTRIBUTION CONSTRN STANDARD

westernpower

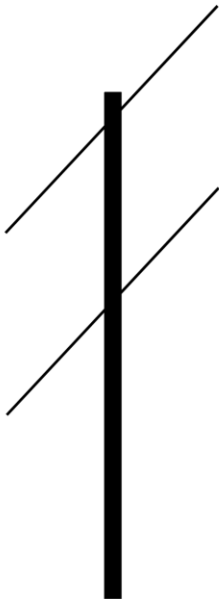
DRAWN JRR | DATE: 11-06-2015 | DRG No R16/2/8

ORIGINATED AT | SCALE NTS

CHECKED: DVT

APPROVED GRANT STACY | REV: C | SHT:

12.5m/6kN (4 of 4)

Location	Span Length	Configuration	Descriptions	Deviation Angle (deg)	Maximum Allowable Protrusion above Ground (mm)				
					Wind Region A			Wind Region B	
					45° Stay	60° Stay	Deviation Angle (deg)	45° Stay	60° Stay
Country or Rural	Span Length <300m		HV + RE 3/2.75 SC/AC 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 3/2.75 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	600	30 to 45	700	500
				45 to 90	DSC, 700	DSC, 600	45 to 90	DSC, 700	DSC, 500
				Inline termination	700	600	Inline termination	700	500
			HV + RE 7/1.60 SC/GZ 25%	Up to 10 degrees	No stay required		Up to 4 degrees	No stay required	
							4 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	700
				30 to 45	700	700	30 to 45	700	600
				45 to 90	DSC, 700	DSC, 700	45 to 90	DSC, 700	DSC, 600
				Inline termination	700	700	Inline termination	700	600
			HV + RE 7/2.00 SC/GZ 25%	Up to 6 degrees	No stay required		Up to 2 degrees	No stay required	
				6 to 10	700	700	2 to 10	700	700
				10 to 15	700	700	10 to 15	700	700
				15 to 20	700	700	15 to 20	700	700
				20 to 25	700	700	20 to 25	700	700
				25 to 30	700	700	25 to 30	700	600
				30 to 45	700	500	30 to 45	600	600
				45 to 90	DSC, 700	DSC, 500	45 to 90	DSC, 600	DSC, 500
				Inline termination	700	500	Inline termination	600	500
			HV + RE 7/2.75 SC/GZ 25%	Up to 2 degrees	No stay required		Max 0 degree	No stay required	
				2 to 10	700	700	Up to 10 degrees	700	700
				10 to 15	700	700	10 to 15	700	600
				15 to 20	700	600	15 to 20	700	500
				20 to 25	700	600	20 to 25	700	500
				25 to 30	700	500	25 to 30	600	400
				30 to 45	400	DSL, 500	30 to 45	400	DSL, 500
				45 to 90	DSC, 400	DSC, 300	45 to 90	12.5/8, DSC, 400	12.5/8, DSC, 300
				Inline termination	400	DSC, 500	Inline termination	400	DSC, 500

Notes:

- Use 12m/6kN pole with standard embedment depth (Drawing R13-3 in DCSH) for all cases unless otherwise specified
- **12.5/8** Use 12.5m/8kN pole with standard embedment depth (Drawing R13-3 in DCSH)
- **SS1** Increase stay size to 19/2.75 SC/GZ Stay with 300mm screw anchor
- **DSL** Double Stay (both stays inline with bisector load's direction)
- **DSC** Double Stay (Stays to be inline with conductor's direction)

- 19/2.00 SC/GZ Stay and 200mm Screw Anchor for < 20° Deviation
- 19/2.75 SC/GZ Stay and 300mm Screw Anchor for ≥ 20° Deviation
- Use standard pole with standard embedment depth
- **SSP3** Use SSP3 as per Drawing R13-2 in DCSH (14m/8kN pole with Embedment Depth of 3.0m)
- **N/A** Not Applicable (Specific Design Required)

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
C	08.03.16	TABLE REVISED	AT	DVT	GS
B	11.08.15	TABLE REVISED	AT	DVT	GS
A	16.06.15	ORIGINAL ISSUE	AT	DVT	GS

REFERENCE DRAWING

TITLE: SCREW ANCHOR EMBEDMENT DEPTH DISPENSATION TABLE FOR DISTRIBUTION POLES – 12.5m (Sht. 4/4)

DISTRIBUTION CONSTRN STANDARD

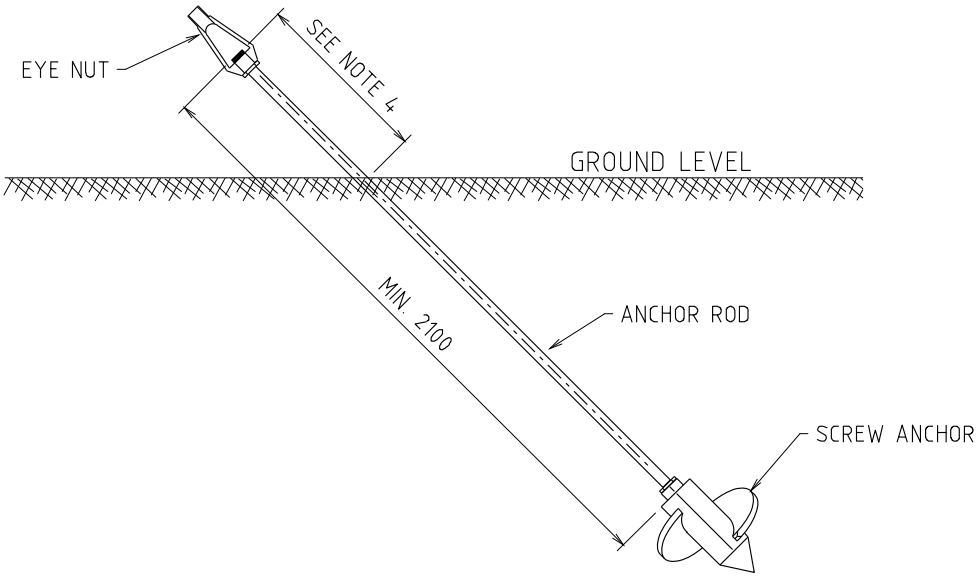
westernpower

DRAWN JRR | DATE: 11-06-2015 | DRG No R16/2/9

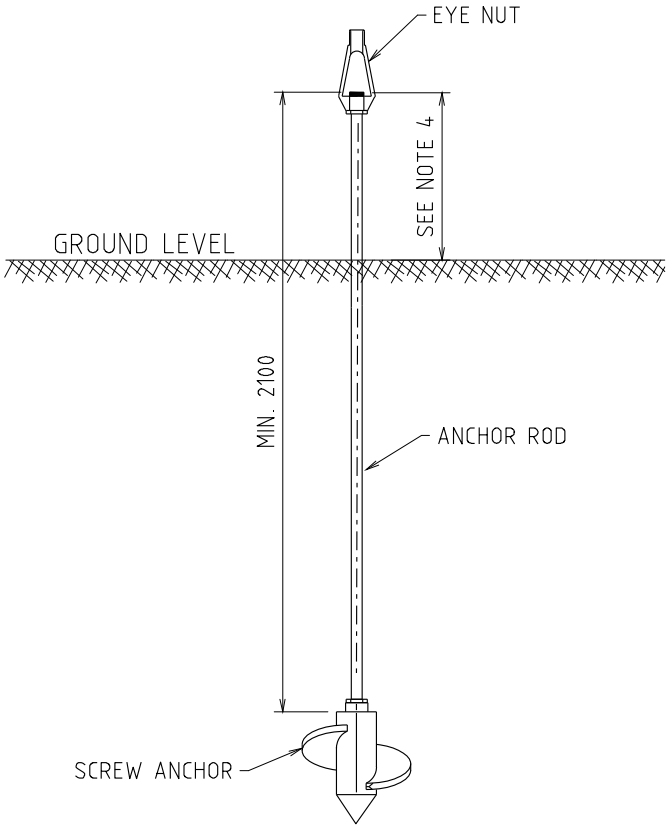
ORIGINATED AT | SCALE NTS

CHECKED: DVT

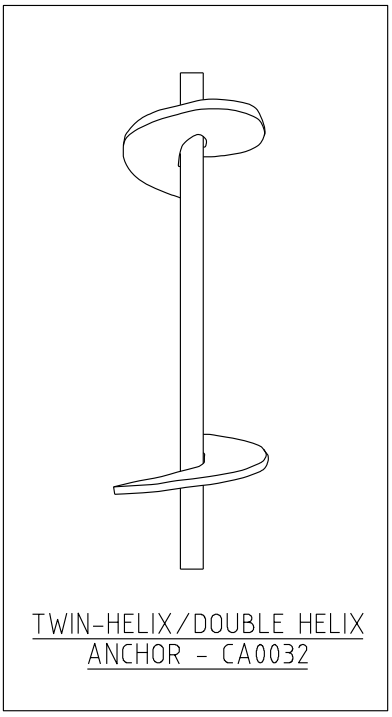
APPROVED GRANT STACY | REV: C | SHT:



GROUND STAY



OUTRIGGER STAY



TWIN-HELIX/DOUBLE HELIX ANCHOR - CA0032

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. START WITH TWIN HELIX FOR HARD ROCKY SOILS.
3. ANCHOR DIRECTION IS ALIGNED TO STAY WIRE.
4. CHECK FOR MAXIMUM ALLOWABLE PROTRUSION ABOVE GROUND IN R16-2.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	08.12.22	NOTES REVISED AND MORE DETAILS ADDED	SJ	LT	GS
A	02.08.17	ORIGINAL ISSUE	DVT	LT	GS

REFERENCE

TITLE: SCREW ANCHOR INSTALLATION FOR MEDIUM TO HARD SOIL

DISTRIBUTION CONSTRN. STANDARD

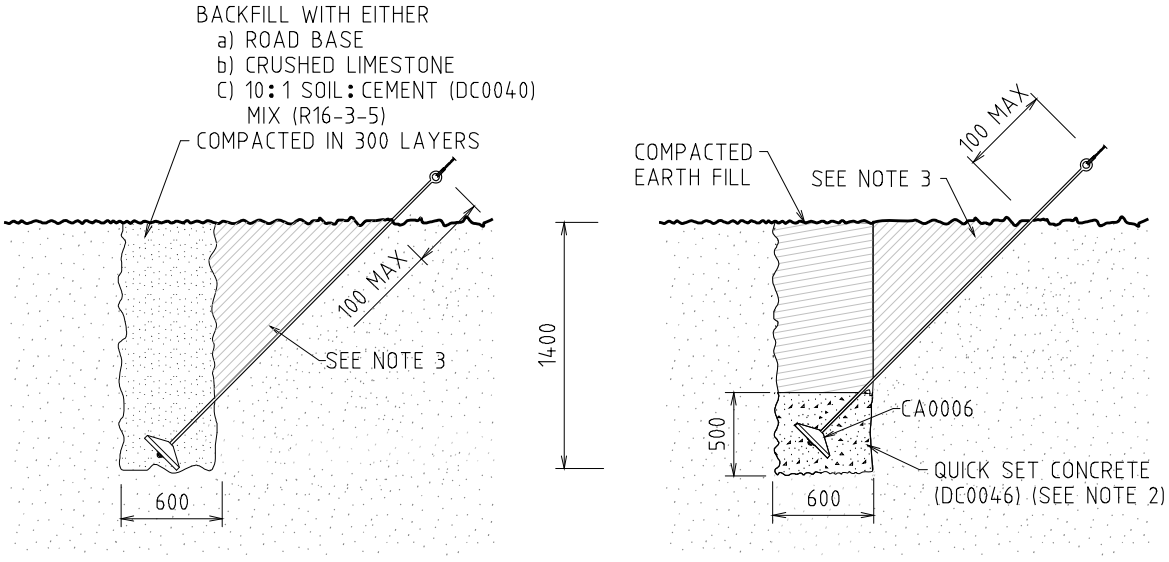
westernpower

DRAWN: JRR | DATE: 29-06-2017 | DRG. No. R16-3-1

ORIGINATED: DVT | SCALE: NTS

CHECKED: LT

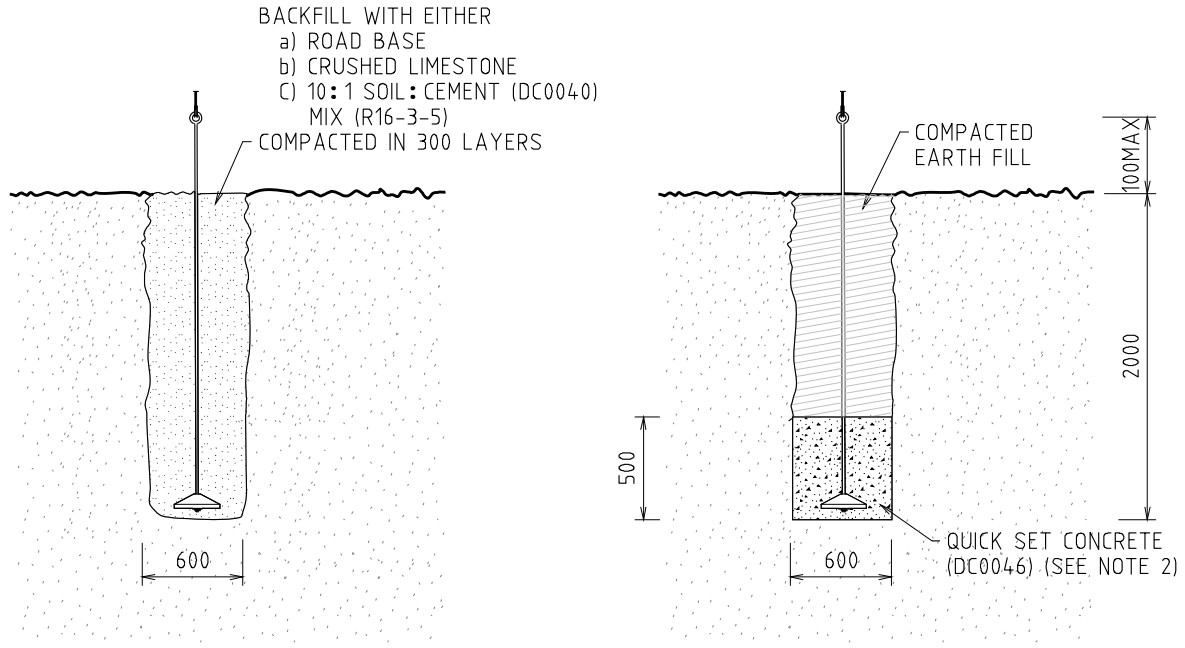
APPROVED: GRANT STACY | REV. B | SHT.



OPTION 1

OPTION 2

GROUND STAY



OPTION 1

OPTION 2

OUTRIGGER STAY

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. 18X20 KG BAGS OF QUICKSET CONCRETE (DC0046), ALLOW TO SET FOR 1.5 HRS. BEFORE TENSIONING TO ACHIEVE REQUIRED HOLDING CAPACITY (REF. R16-3-5).
3. EXCAVATE NARROW CHANNEL FOR STAY ROD TO PREVENT BENDING.
4. MAX ANCHOR CAPACITY 60kN.
5. ALIGN ANCHOR IN DIRECTION OF STAY WIRE.
6. RECORD DEPTH ON AS-CON DRAWINGS.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	08.12.22	ANCHOR CHANGED	SJ	LT	GS
A	02.08.17	ORIGINAL ISSUE	DVT	LT	GS

REFERENCE

TITLE: ANCHOR INSTALLATION FOR SOFT SOILS

DISTRIBUTION CONSTRN. STANDARD

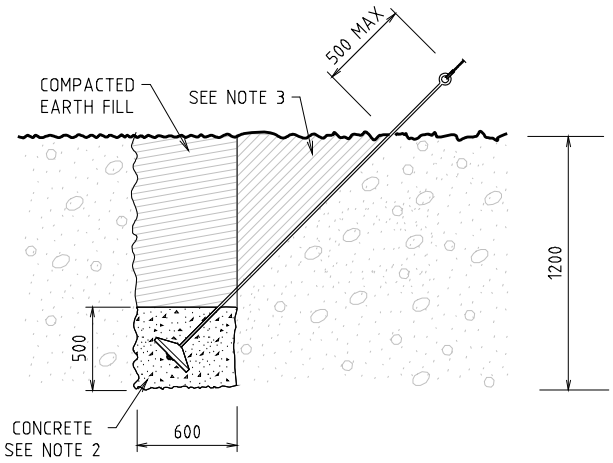
westernpower

DRAWN: JRR | DATE: 03-07-2017 | DRG. No. R16-3-2

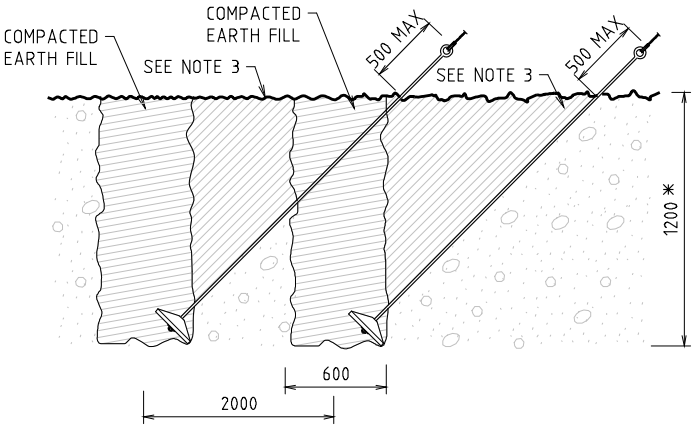
ORIGINATED: DVT | SCALE: NTS

CHECKED: LT

APPROVED: GRANT STACY | REV. B | SHT.



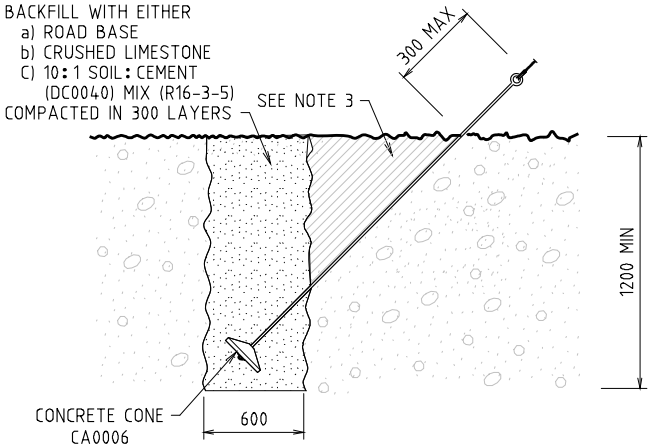
OPTION 1



OPTION 2

(ONLY IF TWO ANCHORS REQUIRED)

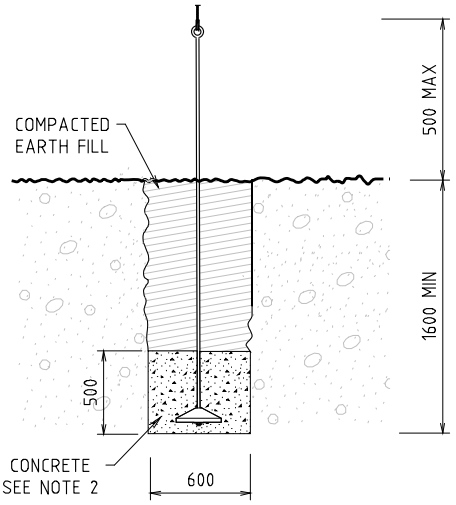
* FOR DEPTHS MORE THAN 1.2m USE OPTION 3 WITH MAX 300 ABOVE GROUND PROTRUSION



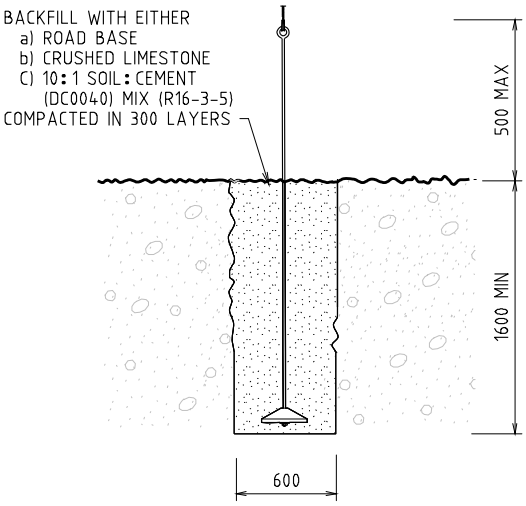
OPTION 3

USE ONLY IF MORE THAN 1200mm DEPTH CAN BE ACHIEVED

GROUND STAY



OPTION 1



OPTION 2

OUTRIGGER STAY

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. 18X20 kg BAGS OF QUICKSET CONCRETE (DC0046), ALLOW TO SET FOR 1.5 HRS BEFORE TENSIONING TO ACHIEVE REQUIRED HOLDING CAPACITY (REF. R16-3-5).
3. EXCAVATE NARROW CHANNEL FOR STAY ROD TO PREVENT BENDING.
4. MAX ANCHOR CAPACITY 60kN.
5. ALIGN ANCHOR IN DIRECTION OF STAY WIRE.
6. RECORD DEPTH ON AS-CON DRAWINGS.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	08.12.22	NOTE REVISED AND OPTION 3 ADDED	SJ	LT	GS
B	21.08.17	NOTE ADDED TO GROUND ANCHOR OPTION 2	DVT	LT	GS
A	02.08.17	ORIGINAL ISSUE	DVT	LT	GS

REFERENCE

TITLE: ANCHOR INSTALLATION FOR HARD SOIL

DISTRIBUTION CONSTRN. STANDARD

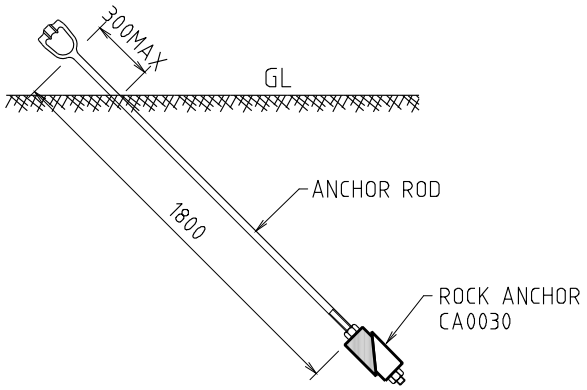
westernpower

DRAWN: JRR | DATE: 03-07-2017 | DRG. No. R16-3-3

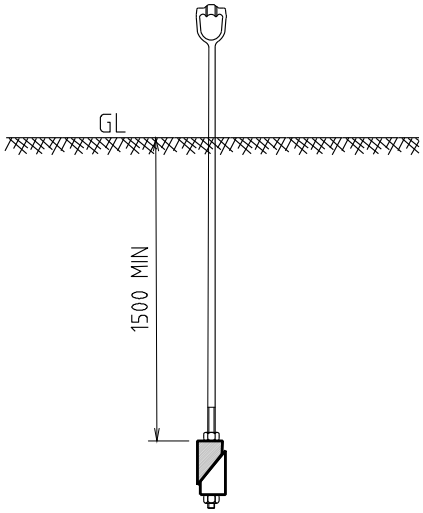
ORIGINATED: DVT | SCALE: NTS

CHECKED: LT

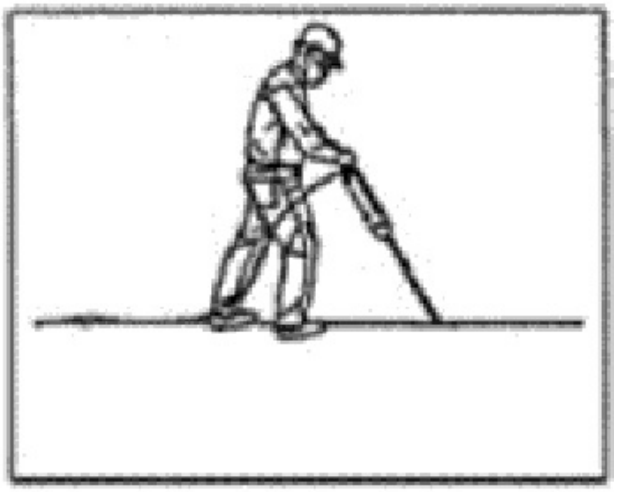
APPROVED: GRANT STACY | REV. C | SHT.



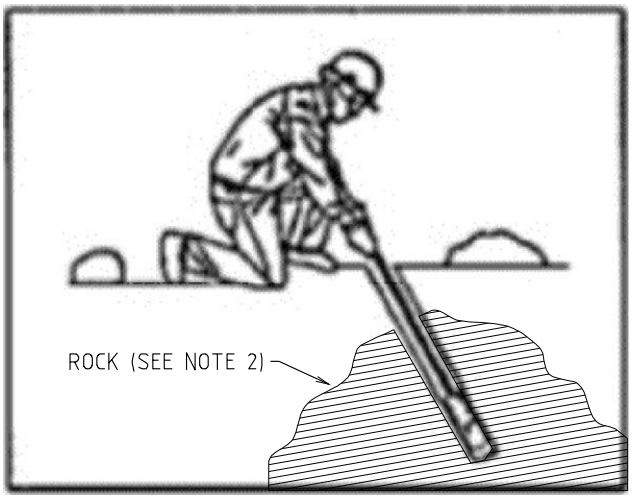
GROUND STAY



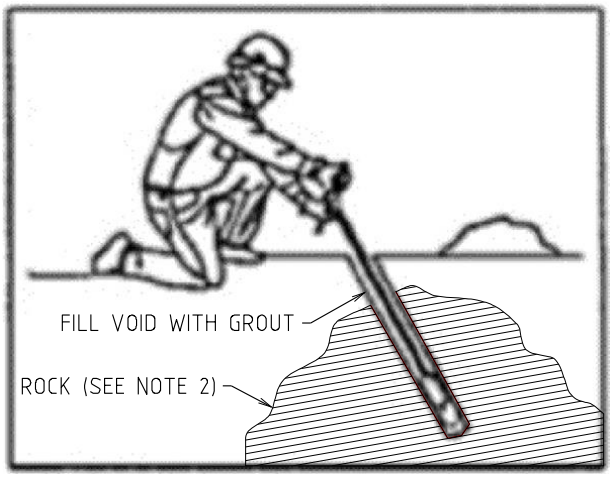
OUTRIGGER STAY



DRILL HOLE



PUSH ANCHOR INTO HOLE



USING BAR TURN ROD TO FIRMLY EXPAND AGAINST WALLS OF HOLE

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. MIN. PENETRATION IN ROCK 600mm TO ACHIEVE REQUIRED HOLDING CAPACITY.
3. MAX. HOLE SIZE 63mm, RECOMMENDED DRILL SIZE 60mm.
4. HOLE DRILLING SHALL ALIGN TO STAY WIRE.
5. FOR GROUT PREPARATION REF R16-3-5

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	08.12.22	EXPANSION ROCK ANCHOR ADDED	SJ	LT	GS
A	02.08.17	ORIGINAL ISSUE	DVT	LT	GS

REFERENCE

TITLE: ANCHOR INSTALLATION FOR ROCK

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 30-06-2017 | DRG. No. R16-3-4
ORIGINATED: DVT | SCALE: NTS
CHECKED: LT
APPROVED: GRANT STACY | REV. B | SHT.

SOIL & CEMENT PREPARATION GUIDELINE

1. MATERIAL REQUIRED:
   a SOIL - CLEAN NATIVE SOIL FREE FROM ORGANIC MATERIAL (GRASS, ROOTS ETC.,)
   b. CEMENT (DC0040 - 20KG BAGS)
   c. POTABLE WATER
2. SOIL & CEMENT DRY MIXING - MIX 10 PARTS SOIL TO 1 PART CEMENT
3. MOISTURE CONDITIONING - MOISTEN THE EXCAVATED AUGAR HOLE IF IT IS DRY.
4. BACKFILL WITH DRY SOIL & CEMENT MIX IN 300MM LAYER
5. SPRINKLE WITH CLEAN WATER AND WELL COMPACT
6. REPEAT STEP 3 TO 4 TILL GROUND LEVEL IS ACHIEVED

CAUTION - FOR WET SOILS, MOISTURE CONDITIONING IS NOT REQUIRED
FOR SWAMPY SOILS/ POOR SOILS, ROAD BASE AS BACKFILL IS PREFERRED OPTION.

MATERIAL ESTIMATE FOR R16-3-2 AND R16-3-3				
DIAMETER OF AUGAR HOLE	600MM		700MM	
	CEMENT 20KG BAGS (DC0046)	SOIL MEASURED EQUIVALENT TO CEMENT BAG IN VOLUME	CEMENT 20KG BAGS (DC0046)	SOIL MEASURED EQUIVALENT TO CEMENT BAG IN VOLUME
1200	2	12	3	17
1400	3	14	4	20
1600	3	16	4	22
2000	4	20	5	28

QUICKSET CONCRETE PREPARATION GUIDELINE

1. MATERIAL REQUIRED:
   a. QUICKSET CONCRETE - DC0046
   b. POTABLE WATER
2. USE APPROX 2 LITRE OF WATER PER BAG TO PREPARE QUICKSET CONCRETE (DC0046)
3. MIX WELL TO THICK CONSISTENCY.
4. MOISTURE CONDITIONING: MOISTEN THE EXCAVATED AUGAR HOLE IF IT IS DRY.
5. POUR THE MIXED QUICKSET CONCRETE IN EXCAVATED HOLE IN 150MM LAYER
6. PLACE CONCRETE CONE ANCHOR (CA006) AT REQUIRED ANGLE, POUR REMAINING CONCRETE AND TAMP
7. ALLOW TO SET FOR 1.5 HOURS BEFORE TENSIONING TO ACHIEVE REQUIRED HOLDING CAPACITY

CAUTION - CONCRETE STARTS TO SET IN 15 MINUTES OF MIXING

DIAMETER OF AUGAR HOLE	DEPTH OF IN SITU CONCRETE BLOCK	QUICKSET CONCRETE 20 KG BAG DC0046	POTABLE WATER LITRE	MIN. SETTING TIME BEFORE TENSIONING
700MM	500MM	18	36	1.5 Hrs.

GROUT PREPARATION GUIDELINE

1. MATERIAL REQUIRED:
   a. CEMENT - DC0040
   b. POTABLE WATER
2. SLOWLY ADD WATER TO DRY CEMENT (DC0040)
3. MIX WELL TO POURABLE CREAMY CONSISTENCY

DIAMETER OF HOLE	DEPTH	CEMENT BAG 20 KG BAG DC0040
63MM	UPTO 1000MM	1

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	08.12.22	ORIGINAL ISSUE	SJ	LT	GS

REFERENCE

TITLE: BACKFILL/ CONCRETE MIXING

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 24-11-2022 | DRG. No. R16-3-5

ORIGINATED: SJ | SCALE: NTS

CHECKED: LT

APPROVED: GRANT STACY | REV. A | SHT.

WOOD SCREWS

- WOOD SCREWS FOR FIXING SMALL ITEMS TO POLES, EG. SADDLES, CLEATS, END OF DISPERSION PLATES, GUARDS, SIGNS, POLE LABELS, ETC. (WOOD POLES ONLY).

STOCK CODE	DESCRIPTION	UNIT	TYPICAL APPLICATION
AS2512	WOOD SCREW 25mm LONG	PACK OF 500	HARD WOOD POLES *
AS2513	WOOD SCREW 50mm LONG	PACK OF 1000	SOFT WOOD POLES

*AS2512 MAY BE USED ON SOFT WOOD POLES TO ATTACH POLE LABELS.

COACH SCREWS

- COACH SCREWS FOR FIXING CABLE SUPPORTS (LV MAINS AND MV CABLES).
- REQUIRE PRE DRILLING (HOLE SIZE DEPENDANT ON WOOD TYPE)
- NOT TO BE HAMMER APPLIED.

STOCK CODE	DESCRIPTION	UNIT	HOLE SIZE	
			SOFT WOOD	HARD WOOD
AS1421	COACH SCREW M10, 50mm LONG	EACH	6mm MAX	8mm MAX
AS1423	COACH SCREW M10, 75mm LONG	EACH	6mm MAX	8mm MAX
AS1440	COACH SCREW M12, 65mm LONG	EACH	8mm MAX	10mm MAX
AS1441	COACH SCREW M12, 75mm LONG	EACH	8mm MAX	10mm MAX
AS1442	COACH SCREW M12, 90mm LONG	EACH	8mm MAX	10mm MAX
AS1443	COACH SCREW M12, 100mm LONG	EACH	8mm MAX	10mm MAX

POLE STRAPS

- POLE STRAPS FOR FIXING ITEMS TO CONCRETE POLES.

STOCK CODE	COMPATIBLE CLIP STOCK CODE	DESCRIPTION	UNIT	TYPICAL APPLICATION
OZ0012	OZ0017	STAINLESS STEEL STRAP 15.8mm	30m ROLL	NON-STRUCTURAL ATTACHMENTS
OZ0025	OZ0015	STAINLESS STEEL STRAP 32mm	30m ROLL	STRUCTURAL - MAX. 100kg

LOADS MORE THAN 100kg REQUIRE STRUCTURAL ASSESSMENT.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	22.02.19	ORIGINAL ISSUE	CO	NMc	GS

REFERENCE

TITLE: POLE FIXINGS

DISTRIBUTION CONSTRN. STANDARD

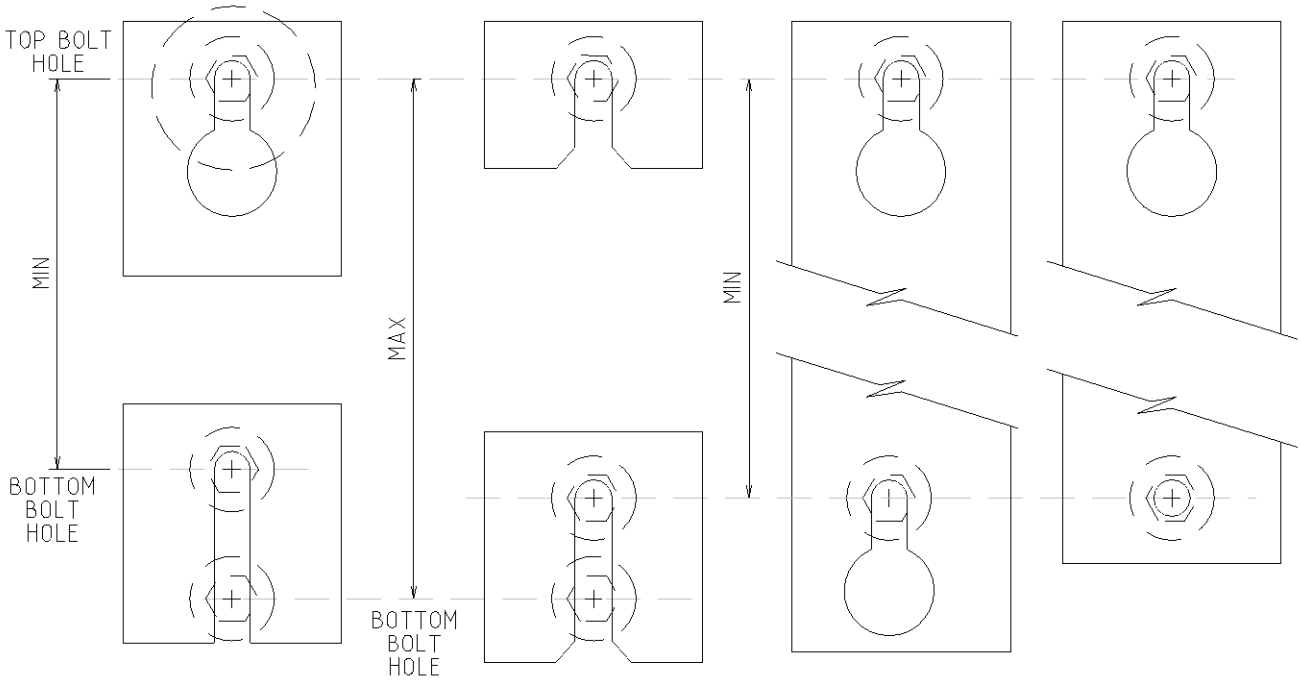
westernpower

DRAWN: JRR | DATE: 07-12-2018 | DRG. No. R17-1

ORIGINATED: CO | SCALE: NTS

CHECKED: NMc

APPROVED: GRANT STACY | REV. A | SHT.



Equipment Type	Make & Model	Stock Code	Dimension TOP bolt to BOTTOM bolt		Type
			MIN (mm)	MAX (mm)	
Transformers All single phase (old & new)	Tyree	XT0202-XT0210	285	335	2
	ETEL	XT0202-XT0210	285	335	2
	ABB	XT0007-XT0040	285	335	2
Reclosers	NuLec N Series (N27) 3 phase	GS0311	360	380	1
	NuLec N Series (N33) 3 phase	GS0312	360	380	1
	NuLec W Series (W24) 1 phase	GS0310	360	380	1
	NOJA OSM38 3 phase	GS0315* & GS0320	280	320	1
	NOJA OSM 1 phase	GS0314* & GS0319	280	320	1
LBS (Load Break Switch)	Nulec RL38	GS0131	360	380	1
Capacitor Banks	ABB 22kV	RC0001/RC0002	460	470	2
	ABB 33kV	RC0013/RC0014	450	455	2
	Cooper	RC0031/RC0032	480	490	2
Voltage Regulator	General Electric	XA2601	TBA	TBA	2
	General Electric	XA2602	900	930	2
Pole Top Switch	Acculec Power BTLD 36/400	GS0130	240		3
Control Kiosk	NOJA	GS0316	1020		4
	Voltage Regulator		550		4
	Cap Bank	RC0015	460		4
	Nulec (Ultra Enclosure)		1080		1

*DOES NOT INCLUDE CONTROL KIOSK

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. ALL DIMENSIONS ARE HOLE CENTRE TO CENTRE.
3. DRILLING TOLLERANCE -0/+5mm
4. NULEC CHANGED TO SCHNEIDER.

REV	DATE	DESCRIPTION	ORGD	CHKD	APRD
B	03.11.23	TABLE REVISED	JT	ML	CO
A	15.05.23	ORIGINAL ISSUE	LK	NMc	CO

REFERENCE DRAWING

TITLE: POLE FIXTURES DRILLING DIMENSIONS FOR SLOTTED POLE MOUNTED EQUIPMENT

DISTRIBUTION CONSTRN STANDARD

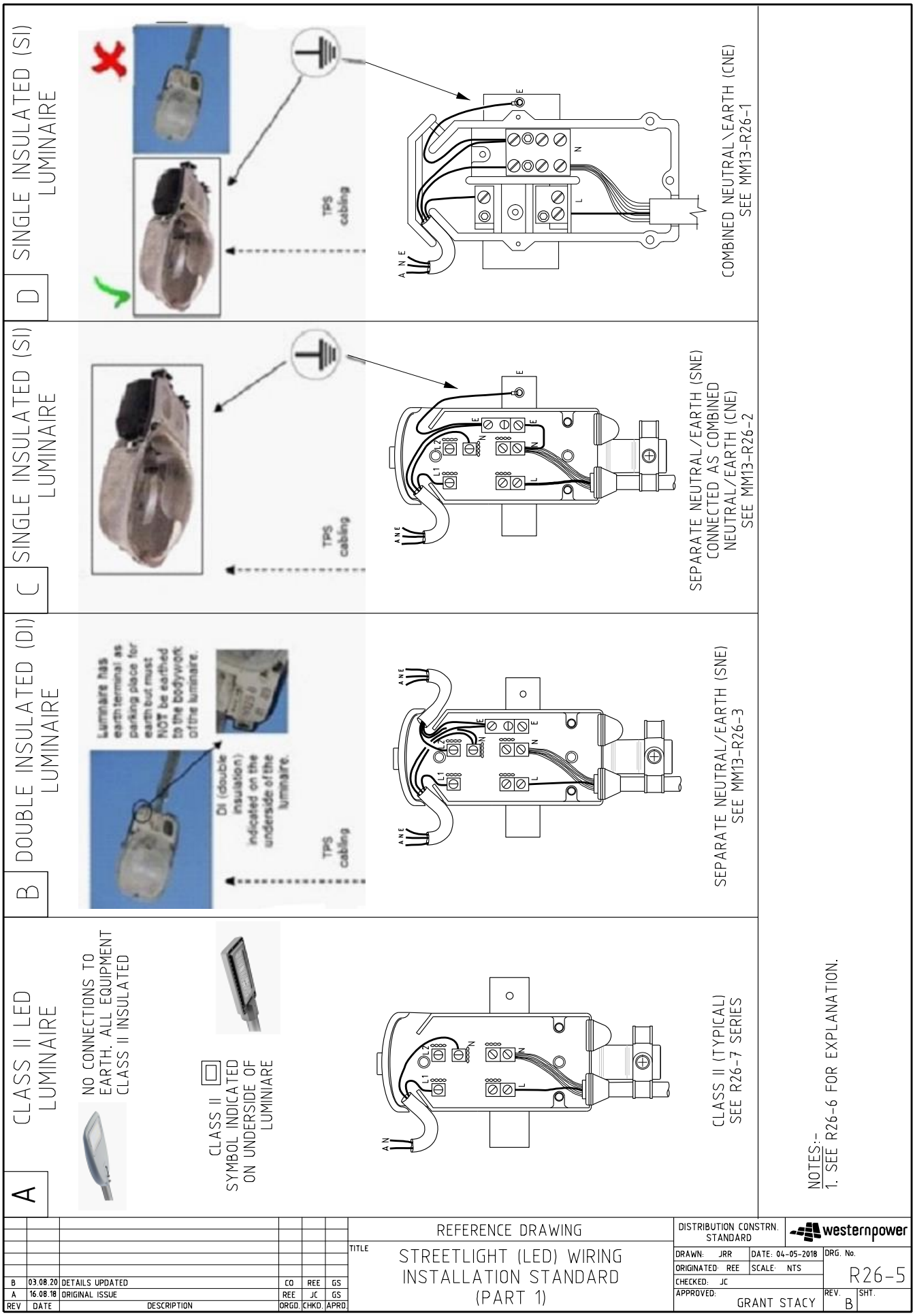
westernpower

DRAWN: JRR | DATE 26-04-2023 | DRG No R17-2

ORIGINATED: LK | SCALE: NTS

CHECKED: NMc

APPROVED: CHRIS OMODEI | REV. B | SHT.


A
CLASS II LED LUMINAIRE
NO CONNECTIONS TO EARTH. ALL EQUIPMENT CLASS II INSULATED
CLASS II SYMBOL INDICATED ON UNDERSIDE OF LUMINIARE
CLASS II (TYPICAL) SEE R26-7 SERIES
B
DOUBLE INSULATED (DI) LUMINAIRE
Luminaire has earth terminal as parking place for earth but must NOT be earthed to the bodywork of the luminaire.
DI (double insulation) indicated on the underside of the luminaire.
TPS cabling
SEPARATE NEUTRAL/EARTH (SNE) SEE MM13-R26-3
C
SINGLE INSULATED (SI) LUMINAIRE
TPS cabling
SEPARATE NEUTRAL/EARTH (SNE) CONNECTED AS COMBINED NEUTRAL/EARTH (CNE) SEE MM13-R26-2
D
SINGLE INSULATED (SI) LUMINAIRE
TPS cabling
COMBINED NEUTRAL\EARTH (CNE) SEE MM13-R26-1
NOTES:-
1. SEE R26-6 FOR EXPLANATION.
REFERENCE DRAWING
TITLE
STREETLIGHT (LED) WIRING INSTALLATION STANDARD (PART 1)
DISTRIBUTION CONSTRN. STANDARD
westernpower
DRAWN: JRR
DATE: 04-05-2018
ORIGINATED: REE
SCALE: NTS
CHECKED: JC
APPROVED: GRANT STACY
DRG. No. R26-5
REV. B
SHT.
REV | DATE | DESCRIPTION | ORGD. | CHKD. | APRD.
B | 03.08.20 | DETAILS UPDATED | CO | REE | GS
A | 16.08.18 | ORIGINAL ISSUE | REE | JC | GS

STANDARD A OF R26-5 :

- CLASS II INSTALLATIONS ARE NOW STANDARD FOR ALL LED LUMINAIRE INSTALLATION.
- CLASS II INSTALLATIONS REQUIRE NO EARTH CONNECTIONS AND USES 2 CORE CABLING (NO EARTH LEAD). ALTHOUGH THE CUTOUT HAS AN EARTHING TERMINAL THIS IS NEVER USED, THE EARTH AND NEUTRAL TERMINAL MUST NOT BE BRIDGED.

STANDARD B OF R26-5 :

- DOUBLE INSULATED INSTALLATION WAS THE STANDARD FROM 2006 TO 2019.
- THE INSTALLATION REQUIRES THE USE OF A SNE SEPARATE NEUTRAL EARTH CUT-OUT BOX AT THE BASE OF THE COLUMN. ALTHOUGH BOTH THE CUT OUT AND THE LUMINAIRE HAVE EARTHING TERMINALS THEY ARE PURELY A PARKING PLACE FOR THE EARTH CABLE. THE EARTH MUST NOT BE BONDED TO THE STEEL COLUMN OR LUMINAIRE BODY AT ANY POINT AND THE EARTH MUST NOT BE BRIDGED TO THE NEUTRAL AT ANY POINT. THE INSTALLATION MUST BE WIRED IN ACCORDANCE WITH STANDARD B AND R26/3.

STANDARD C OF R26-5 :

FOR SINGLE INSULATED INSTALLATIONS. WESTERN POWER ONLY STOCK SNE SEPARATE NEUTRAL EARTH CUT-OUTS. IF REPLACING AN OLDER CNE COMMON NEUTRAL EARTH CUT-OUT FROM A SINGLE INSULATED INSTALLATION WITH A SNE CUT-OUT, IT MUST BE WIRED IN ACCORDANCE WITH STANDARD C AND MM13 - R26-2. THE EARTH MUST BE BONDED TO THE STEEL COLUMN AT THE CUT-OUT AND BONDED TO THE LUMINAIRE BODY. THE EARTH MUST ALSO BE BRIDGED TO THE NEUTRAL AT THE CUT-OUT. THIS ARRANGEMENT CAN ONLY BE USED WITH SINGLE INSULATED EQUIPMENT.

STANDARD D OF R26-5 :

OLD SINGLE INSULATED INSTALLATIONS. THIS IS A SUPERSEDED INSTALLATION THAT SHOWS AN OLD HENLEY STYLE CNE CUT-OUT WHICH HAS A COMMON NEUTRAL EARTH TERMINATION BLOCK WHICH CAN ONLY BE USED FOR SINGLE INSULATED INSTALLATIONS. THE EARTH IS BONDED TO THE COLUMN AT THE CUT-OUT AND ALSO BONDED TO THE BODY WORK OF THE LUMINAIRE. SHOULD, UPON INSPECTION, YOU FIND ONE OF THESE INSTALLATIONS CONNECTED TO A DOUBLE INSULATED LUMINAIRE, MARKED DI AS IN THE PHOTO, IT MEANS THE CUT-OUT WIRING ARRANGEMENT IS NOT COMPLIANT WITH THE TYPE OF LUMINAIRE AND THE INSTALLATION MUST BE NOTED FOR REMEDIAL ACTION. THE DOUBLE INSULATED LUMINAIRES ARE CLEARLY MARKED DI AND ARE VISIBLE FROM STREET LEVEL.

THERE CAN NOT BE ANY COMBINATION OF SINGLE OR DOUBLE INSULATED / CLASS II EQUIPMENT.

FOR ALL SYSTEMS :

- CURRENT CABLING IS 2 CORE CABLE WITH PVC OVER SHEATH (BLUE, BROWN CORES)
- THERMO - PLASTIC SHEATHED CABLING (TWIN & EARTH TPS) WAS USED FOR STREETLIGHTING UP TO 2019.
- HOWEVER, OLDER INSTALLATIONS MAY HAVE SINGLE INSULATED CABLES AND THIS SHOULD BE NOTED DURING INSPECTION. SINGLE INSULATED CABLE BETWEEN THE CUT-OUT AND THE LUMINAIRE IS NOT ACCEPTABLE WITH DOUBLE INSULATED INSTALLATIONS. THE OUTER INSULATION OF THE TPS SHOULD ONLY BE BARED BACK THE MINIMUM NECESSARY TO CONNECT TO THE CUT-OUT AND LUMINAIRE. THERE SHOULD NOT BE EXCESSIVE AMOUNTS OF EXPOSED SINGLE INSULATED TPS VISIBLE. THE NEUTRAL SCREEN FROM THE INCOMING CABLE TO THE CUT-OUT MUST BE SLEEVED.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	16.08.18	INSTALLATION STANDARD REVISED	REE	JC	GS
A	30.12.15	ORIGINAL ISSUE	REE	REE	GS

REFERENCE DRAWING

TITLE: STREETLIGHT WIRING INSTALLATION STANDARD (PART 2)

DISTRIBUTION CONSTRN. STANDARD

westernpower

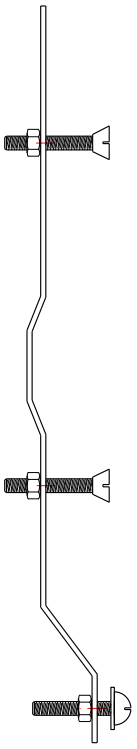
DRAWN: JRR | DATE: 30-12-2015 | DRG. No. R26-6

ORIGINATED: | SCALE: NTS

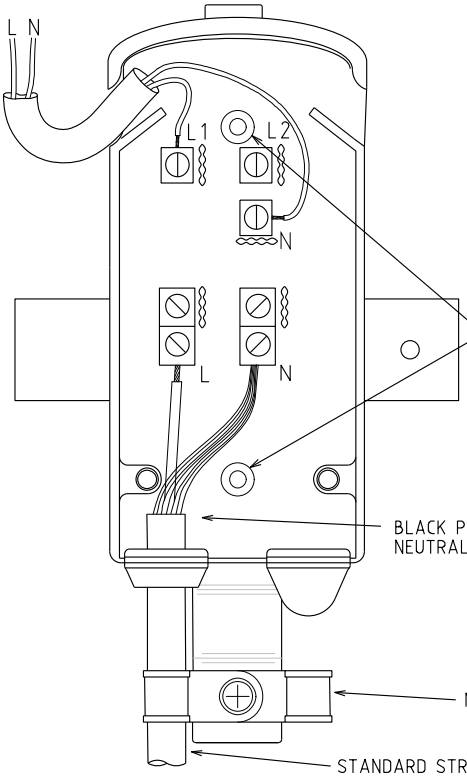
CHECKED: REE

APPROVED: GRANT STACY | REV. B | SHT.

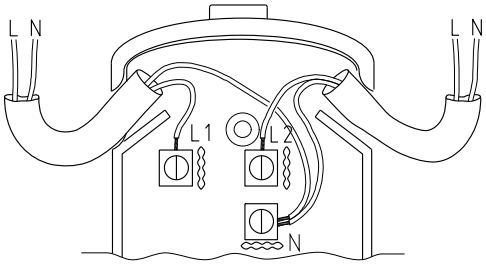
MOUNTING BRACKET (HZ0135)



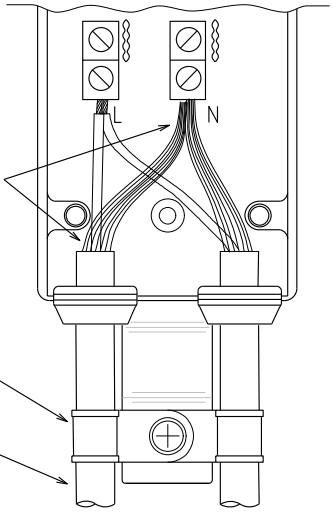
BILL CUTOUT (HZ0131)



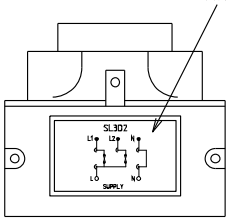
SINGLE LUMINAIRE WITH SINGLE SERVICE CABLE



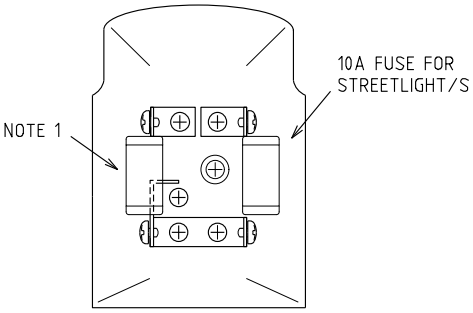
DOUBLE LUMINAIRE DETAIL



LOOPED SERVICE CABLE DETAIL



LOWER COVER



VIEW OF INSIDE OF FUSE LINK COVER

NOTES:-
1. INSERT SECOND FUSE FOR SECOND LUMINAIRE.
2. CABLE CLAMPS SUPPLIED WITH MOUNTING BRACKET.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
D	27.02.24	PHASE INSULATION CLARIFIED	NMc	NMc	CO
C	03.08.20	FUSE DETAILS REVISED	CO	NMc	GS
B	30.10.18	ANNOTATION REVISED	CO	REE	GS
A	16.08.18	ORIGINAL ISSUE	REE	JC	FK

REFERENCE DRAWING

TITLE
STREETLIGHT CUTOUT
LED CLASS II LUMINAIRES

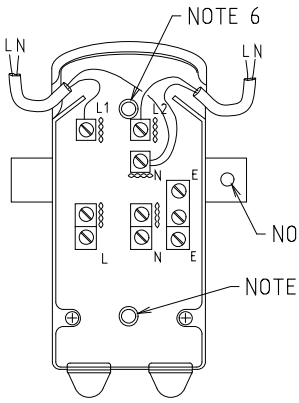
DISTRIBUTION CONSTRN. STANDARD

westernpower

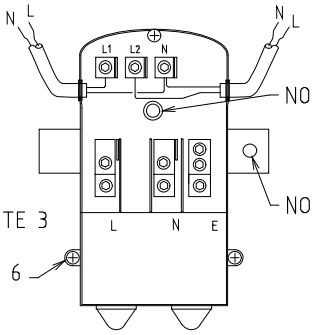
DRAWN: JRR | DATE: 27-04-2018 | DRG. No. R26-7-1
ORIGINATED: REE | SCALE: NTS
CHECKED: NMc
APPROVED: GRANT STACY | REV. D | SHT.

CUTOUT CONFIGURATIONS

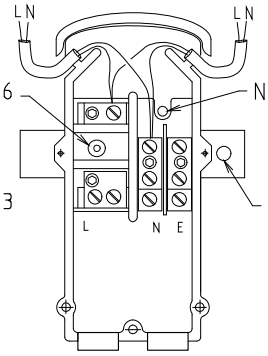
BILL - SEPARATE NEUTRAL/EARTH



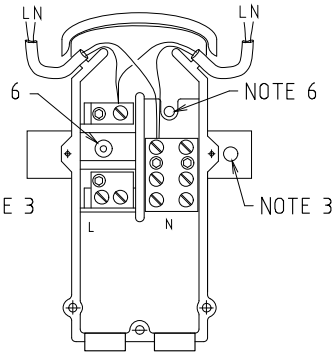
CHARLES - SEPARATE NEUTRAL/EARTH



HENLEY - SEPARATE NEUTRAL/EARTH

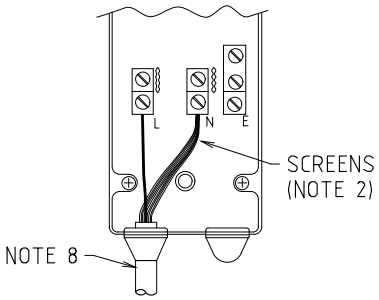


HENLEY - COMBINED NEUTRAL/EARTH



SUPPLY CABLE CONFIGURATIONS

DOUBLE INSULATED HELICAL SCREENED

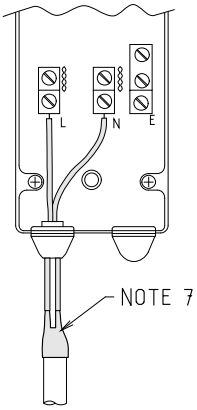


SINGLE INSULATION

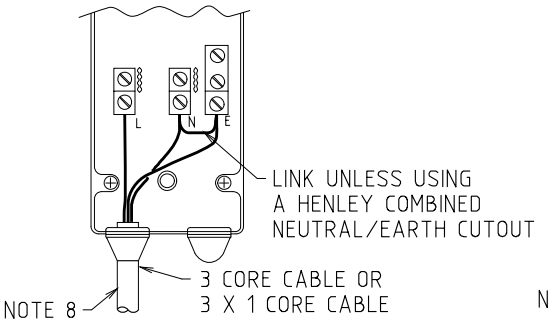
APPLY MM13-01 AND INSTALL HELICAL CABLE

BILL CUTOUT (OLD OR NEW) WITH NEW MOUNTING BRACKET (HZ0135) TO BE INSTALLED

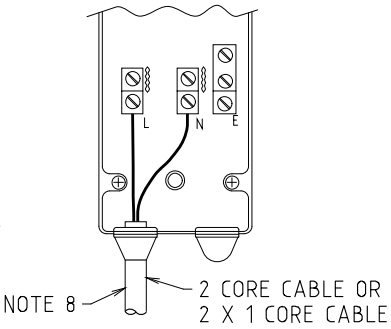
DOUBLE INSULATED HELICAL SCREENED WITH SHEATH CUT OUTSIDE OF CUTOUT



DOUBLE INSULATION TPS (ACTIVE, NEUTRAL & EARTH)



DOUBLE INSULATION TPS (ACTIVE & NEUTRAL)



NOTES:-

1. IF SIGNIFICANTLY DEGRADED OR UNSERVICEABLE REPLACE CUTOUT TO R26-7-1 STANDARD CONSTRUCTION. CONSIDER THE CONDITION OF THE CUTOUT BODY, SCREW HEADS, SPRING CONTACTS, CORROSION AT TERMINAL BLOCKS, EVIDENCE OF ARCING ETC.
2. NEUTRAL SCREEN WIRES SHALL BE TAPED WITH BLACK PVC TAPE.
3. NO EARTH CONNECTIONS FROM EARTH TERMINAL TO THE COLUMN OR LUMINAIRE.
4. ALL TERMINALS REQUIRED TO BE RE-TIGHTENED.
5. IF REPLACING A LUMINAIRE REPLACE ALL LUMINAIRES, E.G. LED AND TRADITIONAL SHALL NOT COEXIST ON A DOUBLE OUTREACH.
6. APPLY SILICONE SEALANT OVER FIXING SCREW HEAD(S) TO PREVENT ACCIDENTAL CONTACT WITH WIRES.
7. APPLY GLOVE AND HEAT SHRINK SLEEVE (FE0112) OVER PHASE AND NEUTRAL.
8. SUPPLY CABLE SHEATH MUST ENTER CUTOUT.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
B	23.05.22	DETAILS REVISED	CO	NMc	GS
A	23.07.21	ORIGINAL ISSUE	CO	NMc	GS

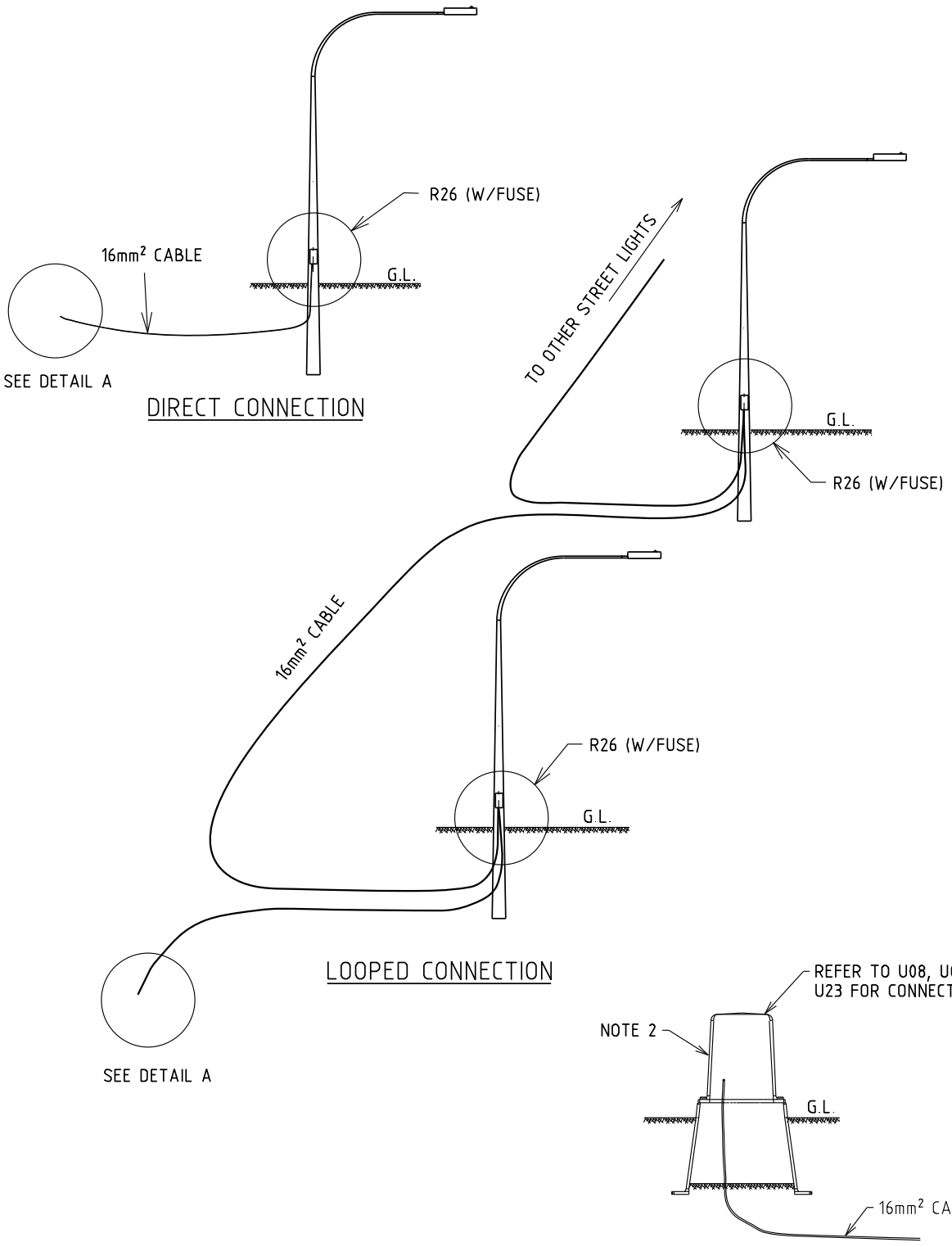
REFERENCE DRAWING

TITLE: EXISTING STREETLIGHT CUT-OUT AND SUPPLY CABLE WITH NEW LED CLASS II LUMINAIRES

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR	DATE: 16-06-2020	DRG. No. R26-7-2
ORIGINATED: CO	SCALE: NTS	
CHECKED: NMc		
APPROVED: GRANT STACY		REV. B / SHT.



NOTES:-
1. DISTRIBUTE LIGHTING LOAD ACROSS THE PHASES.
2. ALL PILLAR/PIT FUSE HOLDERS TO USE 20A FUSE.

REFER TO DETAILS IN R26 SERIES

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
H	30.10.18	NOTES REVISED	CO	REE	GS
G	16.08.18	NOTES REVISED	REE	JE	GS
F	09.01.18	ANNOTATION ADDED	REE	JE	GS
E	03.02.17	MOUNTING BOARD DELETED & NOTES REVISED	CO	RE	GS

REFERENCE DRAWING

TITLE: FUSING ARRANGEMENT FOR STREET LIGHT COLUMNS

DISTRIBUTION CONSTRN. STANDARD

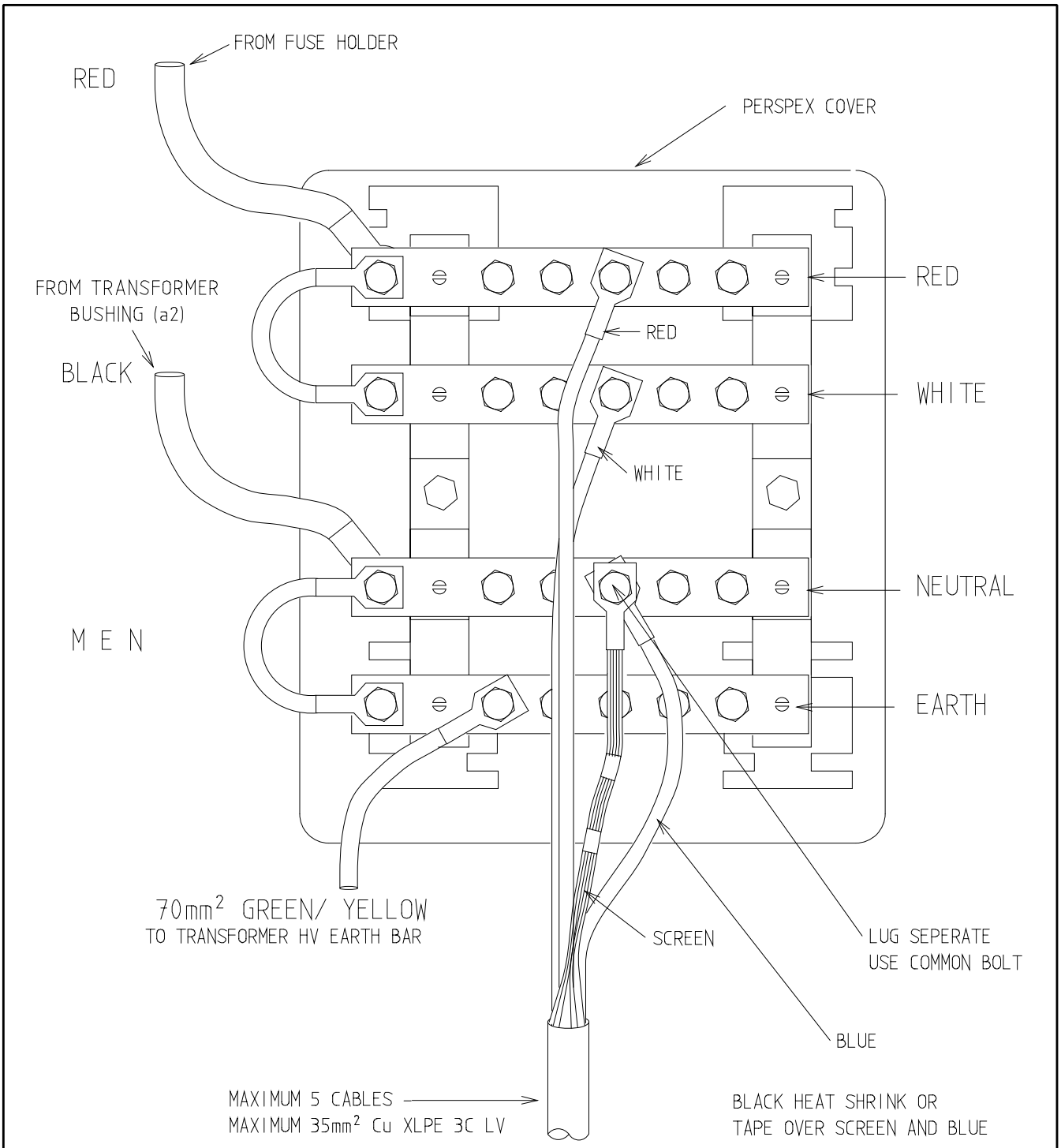
westernpower

DRAWN: JRR | DATE: 06-03-2014 | DRG. No. R27

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. H | SHT.



SEE R 35

240V CONFIGURATION

12.7kV OR 22kV 25kVA/240 - 480V TRANSFORMER

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	13.07.00	ORIGINAL ISSUE			

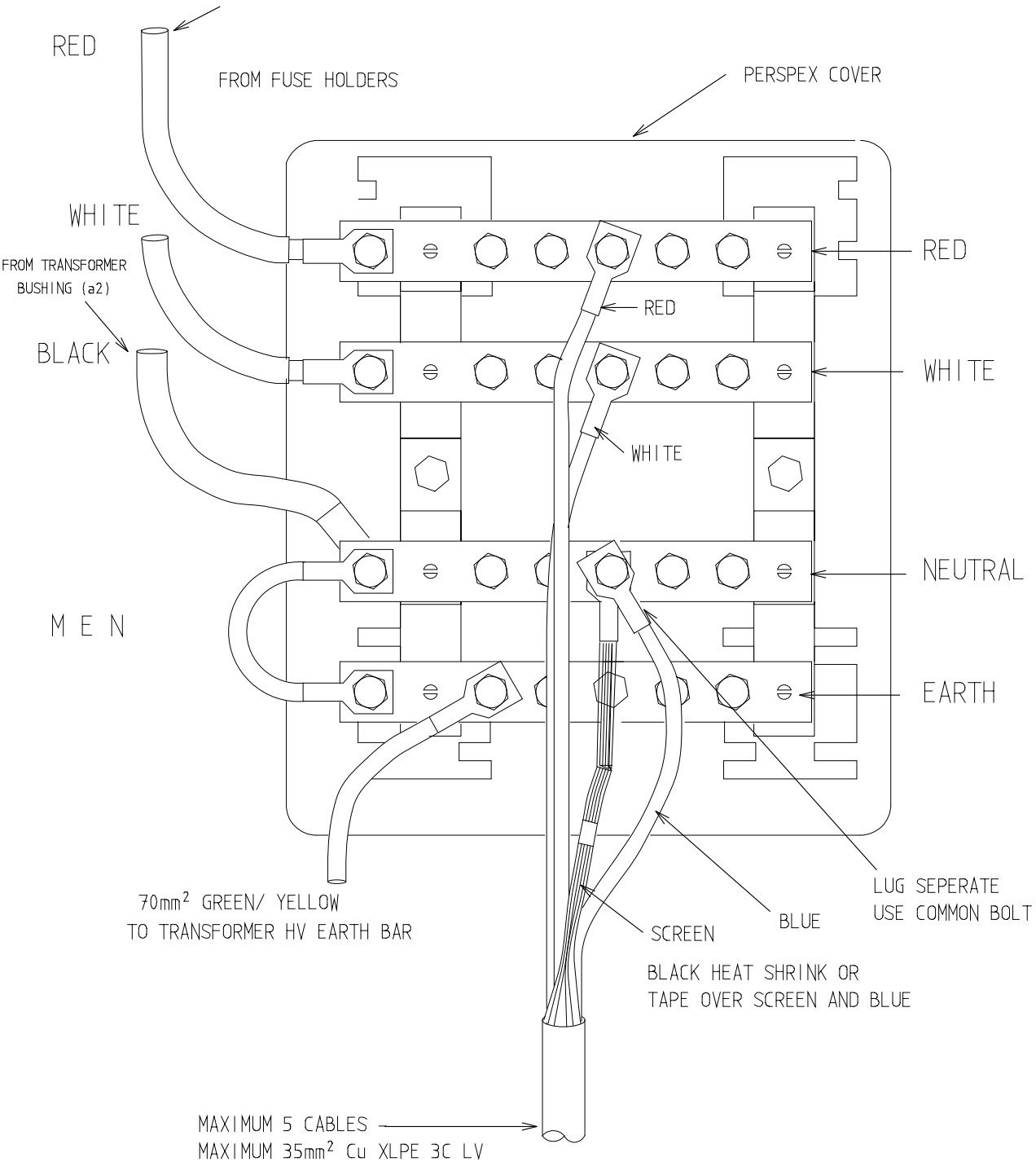
REFERENCE DRAWING

TITLE: 25kV PADMOUNT Tx LV DIST BOARD
240V STREET FEEDER/CONSUMER MAINS
TERMINAL BLOCK

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 06-03-2014 | DRG No R29
ORIGINATED: | SCALE: NTS
CHECKED: RE
APPROVED: GRANT STACY | REV. A | SHT.



480V CONFIGURATION

12.7kV OR 22kV 25kVA/240 - 480V TRANSFORMER

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	12.12.06	ORIGINAL ISSUE			

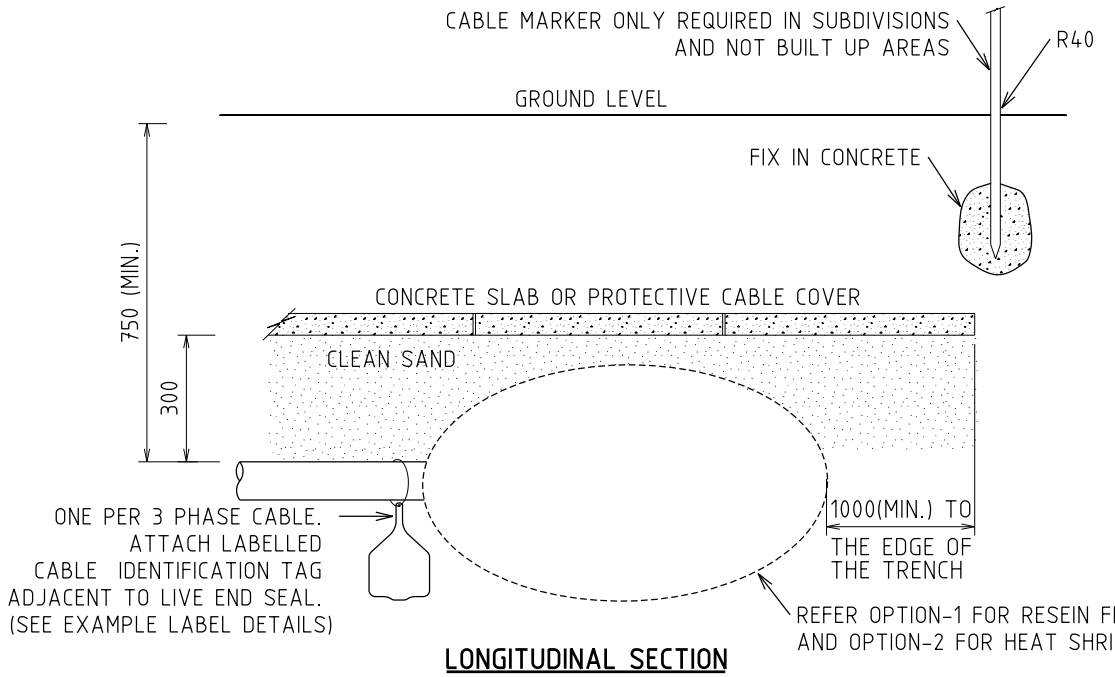
REFERENCE DRAWING

25kV PADMOUNT Tx LV DISTR BOARD)
480V STREET FEEDER/CONSUMER MAINS
TERMINAL BLOCK

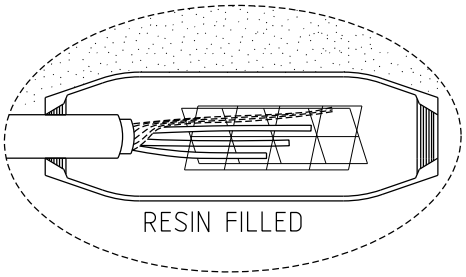
DISTRIBUTION CONSTRN. STANDARD

westernpower

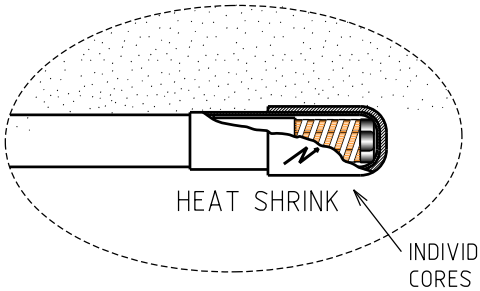
DRAWN: JRR	DATE: 06-03-2014	DRG No R30
ORIGINATED:	SCALE: NTS	
CHECKED: RE		
APPROVED: GRANT STACY		REV. A SHT.



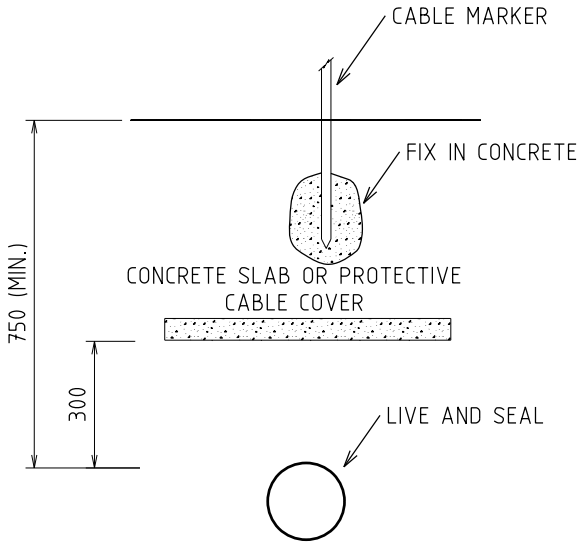
LONGITUDINAL SECTION



OPTION 1



OPTION 2



CROSS SECTION

FROM Tx/POLE/PILLAR Etc.
LOT 5 SMITH STREET

EXAMPLE OF LINE END SEAL LABEL DETAILS
(CABLE IDENTIFICATION TAG)

TO LIVE END SEAL
LOT 5 SMITH STREET

EXAMPLE OF SUPPLY LABEL DETAILS
(CAUTION TAG OR STANDARD WESTERN POWER LABEL)

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES.

REV.	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
G	10.11.25	OPTION 1 AND 2 ADDED	NG	VAS	CO
F	09.09.22	SHELL TYPE REVISED	CO	FK	GS
E	24.08.16	CABLE DEPTH CHANGED & PLAN DELETED	CO	NB	GS
D	08.01.16	TAG AND LABEL ADDED	CO	NB	GS
C	22.07.15	MORE DIMS & DETAILS ADDED	NB	CO	GS

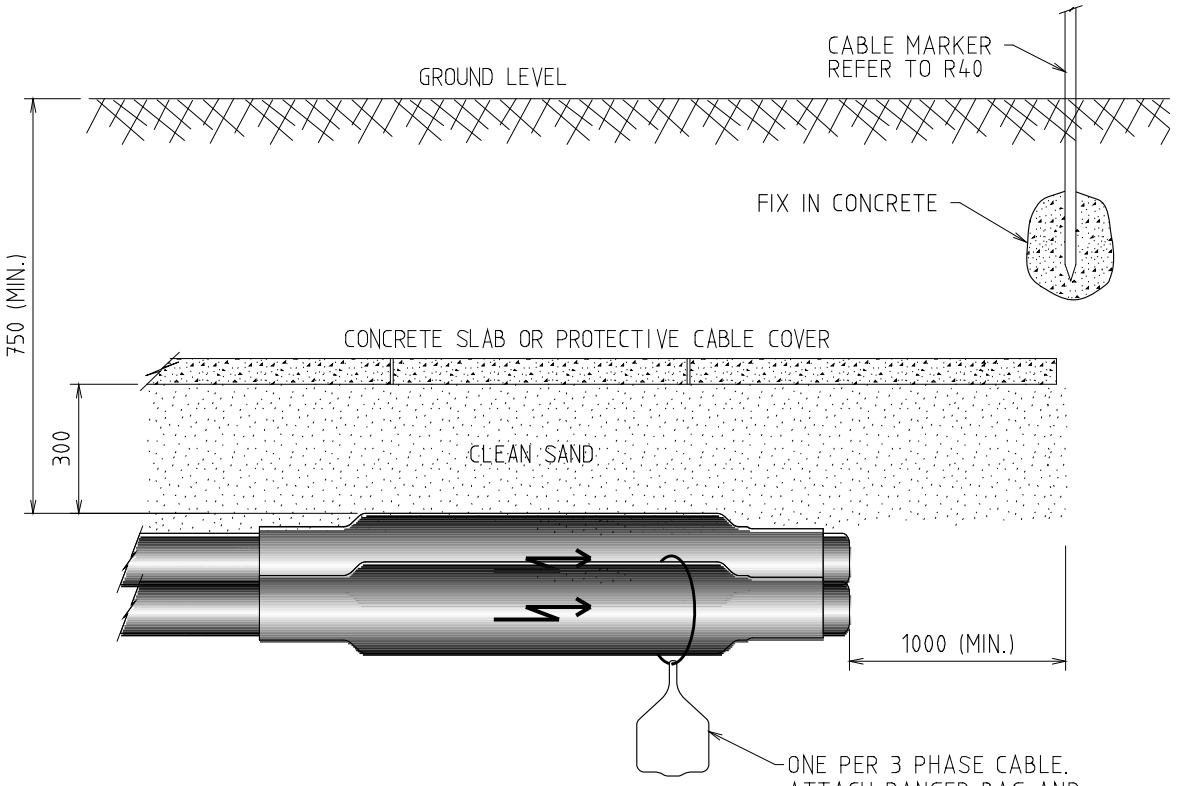
REFERENCE DRAWING

TITLE: LV CABLE LIVE END SEAL

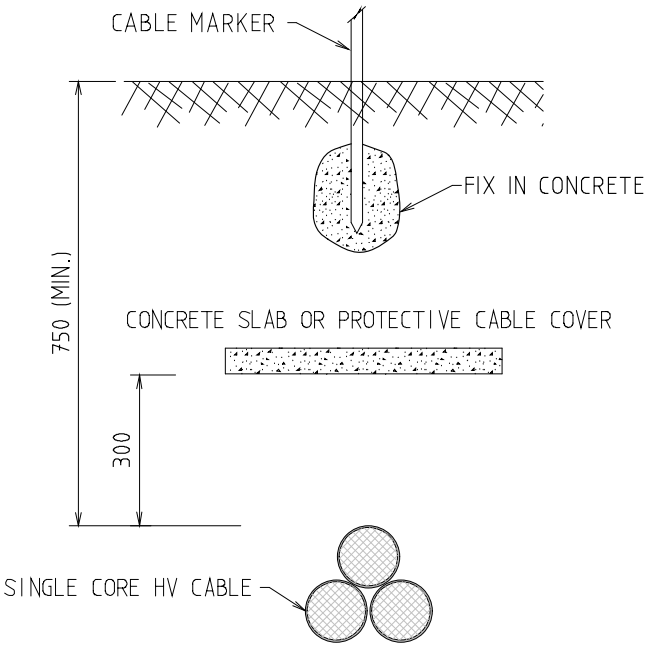
DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 29-06-2015 | DRG. No. R34-1
ORIGINATED: NB | SCALE: NTS
CHECKED: CO
APPROVED: GRANT STACY
REV. G | SHT. 1/1



LONGITUDINAL SECTION



CROSS SECTION

FROM Tx/RMU/POLE/PILLAR Etc.
LOT 5 SMITH STREET

EXAMPLE OF LINE END SEAL LABEL DETAILS

(CABLE IDENTIFICATION TAG)

TO LIVE END SEAL
LOT 5 SMITH STREET

EXAMPLE OF SUPPLY LABEL DETAILS

(CAUTION TAG OR STANDARD WESTERN POWER LABEL)

NOTES:-
1. DIMENSIONS ARE IN MILLIMETRES.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
E	24.08.16	PLAN DELETED, CABLE DEPTH CHANGED AND REARRANGED	CO	FK	GS
D	08.01.16	TAG AND LABEL ADDED	CO	NB	GS
C	22.07.15	LONGITUDINAL SECTION REVISED	NB	CO	GS
B	03.07.15	CABLE MARKER AND MORE DETAILS ADDED	NB	CO	GS
A	30.06.15	ORIGINAL ISSUE	NB	CO	GS

REFERENCE DRAWING

TITLE: HV CABLE LIVE END SEAL

DISTRIBUTION CONSTRN. STANDARD

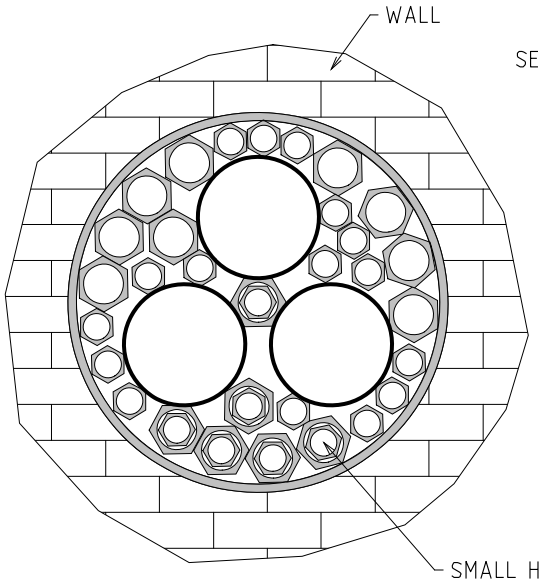
westernpower

DRAWN: JRR | DATE: 29-06-2015 | DRG. No. R34-2

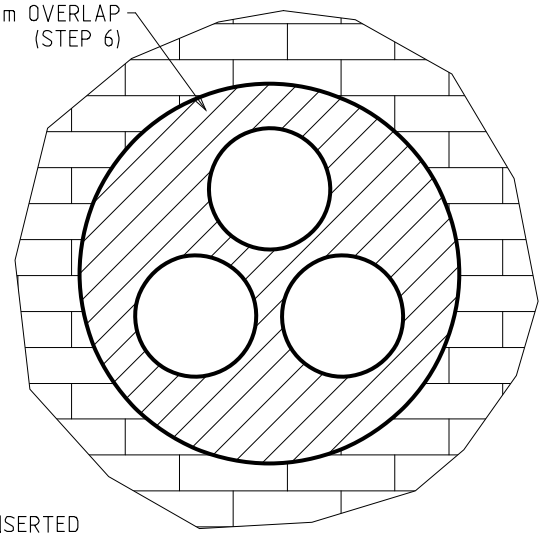
ORIGINATED: NB | SCALE: NTS

CHECKED: CO

APPROVED: GRANT STACY | REV. E | SHT.



DETAIL 1
INSTALL PRIOR TO SEALANT APPLICATION



DETAIL 2
FINISHED INSTALL

INSTALLATION INSTRUCTIONS FILOSEAL KIT FM0215

STEPS:-

1. INSERT HEX TUBES AROUND AND BETWEEN THE CABLES ENSURING 5mm SPACING IS MAINTAINED. ALL HEX TUBES SHOULD BE INSERTED SO THAT THE FIRST 25mm OF THE DUCT IS CLEAR IN FRONT FOR THEM WHERE THE SEALANT IS TO BE PLACED.
2. CLEAN THE FIRST 25mm OF THE DUCT INNER AND THE CABLES
3. ABRADE THE DUCT INNER AND CABLES FOR THE FIRST 25mm TO PROVIDE A SURFACE FOR THE SEALANT TO ADHERE TO.
4. APPLY THE SEALANT IN FRONT OF THE HEX TUBES UNTIL SLIGHTLY PROUD OF THE DUCT END.
5. IMMERSE THE PROVIDED FINISHING CLOTH IN WATER AND PAT THE SEALANT INTO THE DUCT ENSURING THE SEAL IS APPLIED EVENLY.
6. USE THE PAD TO APPLY SEALANT OVER WALL BY 50mm TO SEAL THE GAP BETWEEN CONDUIT AND WALL.
7. ONCE INSTALLED THE CABLES ARE NOT TO BE DISTURBED IN any WAY FOR 8-10 DAYS. THE INSTALLATION OF CABLE CLAMPS PRIOR TO SEALING WILL MITIGATE THIS RISK.

NOTES :-

1. 3x1 CORE FEEDER CABLE SHOWN. KIT CAN BE USED FOR VARYING CABLES TYPES AND DUCT SIZES.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	23.12.22	ORIGINAL ISSUE	CO	SH	PC

REFERENCE DRAWING

TITLE: CONDUIT SEALING DETAILS

DISTRIBUTION CONSTRN. STANDARD

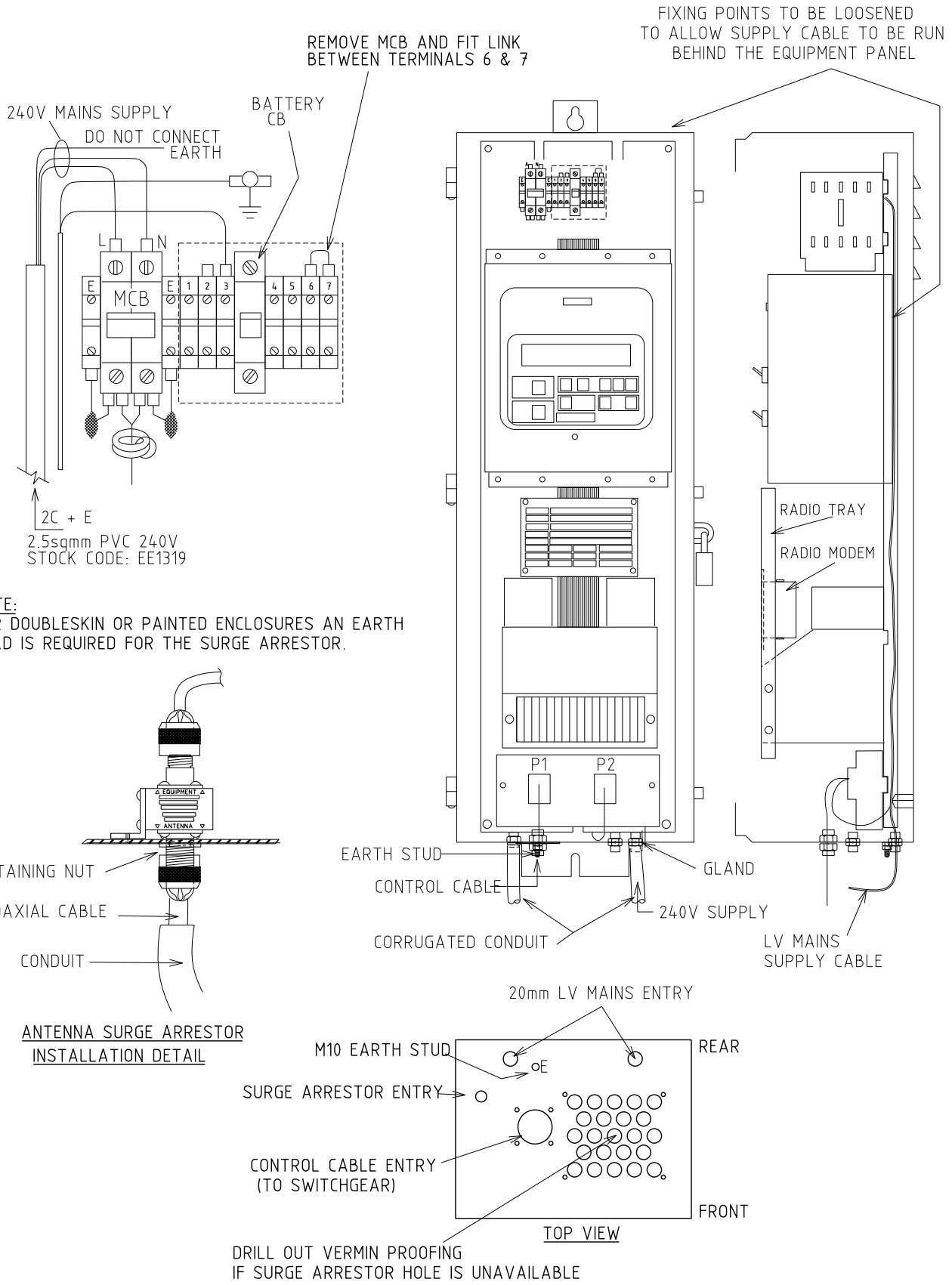
westernpower

DRAWN: JRR | DATE: 12-12-2022 | DRG. No. R34-3

ORIGINATED: CO | SCALE: NTS

CHECKED: SH

APPROVED: PHILLIP CAPPER | REV. A | SHT.



REV. No.	DATE	DESCRIPTION	APPRD.
B	18.07.2014	FORMAT & TITLE CHANGED AND SURGE ARRESTOR DELTD.	MG
A	10.12.2005	ORIGINAL ISSUE	

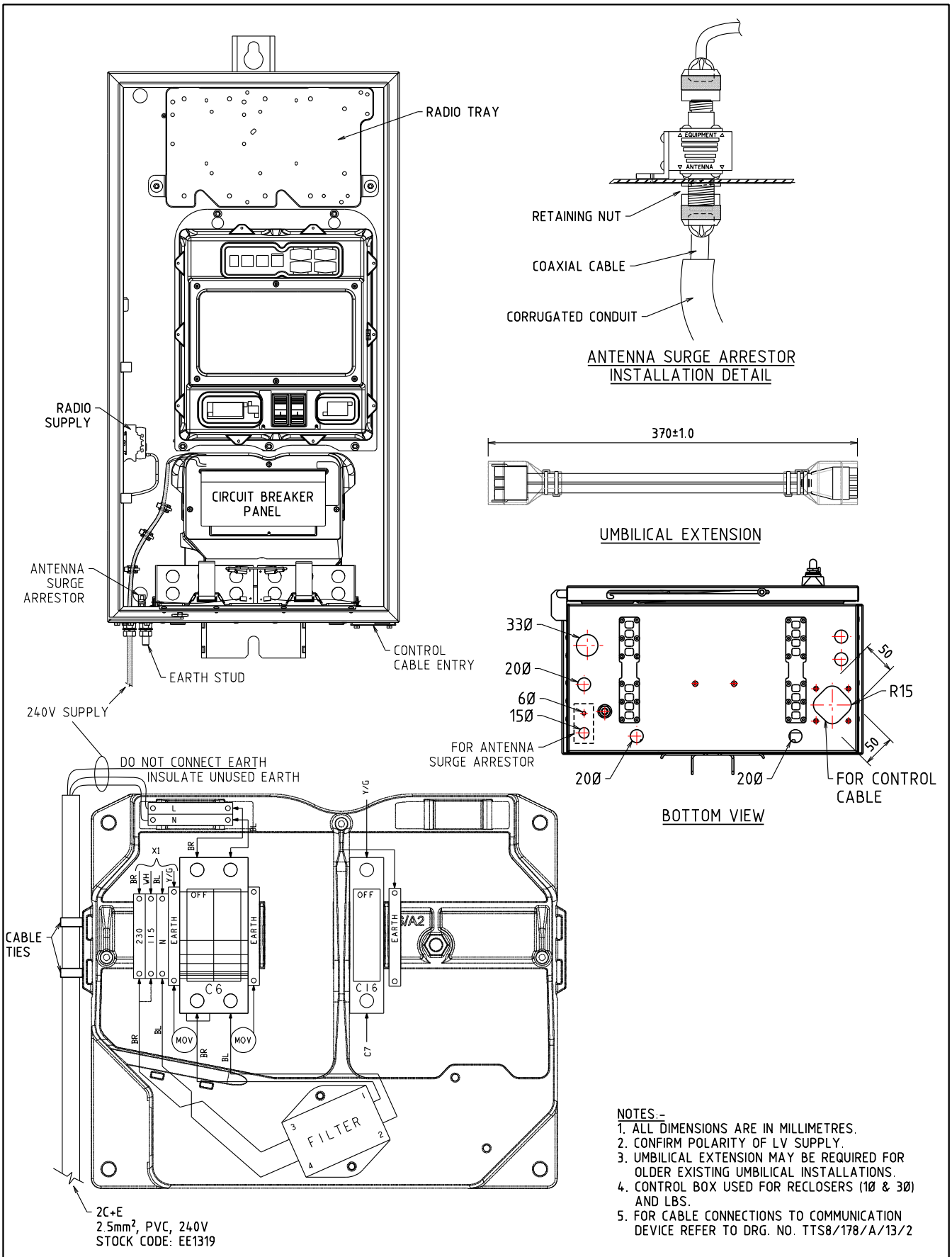
REFERENCE DRAWING

TITLE: SCHNEIDER (NULEC) RECLOSER CONTROL BOX CONNECTION DETAIL

DISTRIBUTION CONSTRUCTION STANDARD

westernpower

DRAWN: JRR	DATE: 07-03-2014	DRG. No. R36-1
CHD/EXAMD: KJ	SCALE: NTS	
APPROVED: MURALI GOVINDASWAMY DATE: 18-07-2014		REV. B



NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. CONFIRM POLARITY OF LV SUPPLY.
3. UMBILICAL EXTENSION MAY BE REQUIRED FOR OLDER EXISTING UMBILICAL INSTALLATIONS.
4. CONTROL BOX USED FOR RECLOSERS (10 & 30) AND LBS.
5. FOR CABLE CONNECTIONS TO COMMUNICATION DEVICE REFER TO DRG. NO. TTS8/178/A/13/2

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	18.07.14	ORIGINAL ISSUE	KJ	KJ	MG

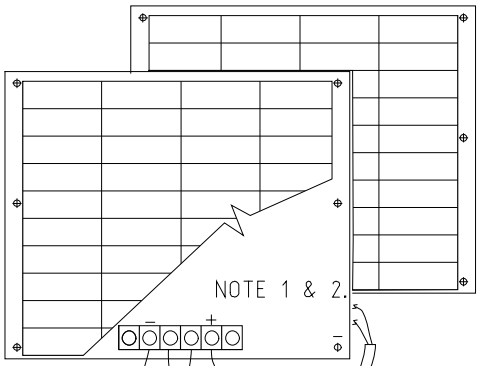
REFERENCE DRAWING

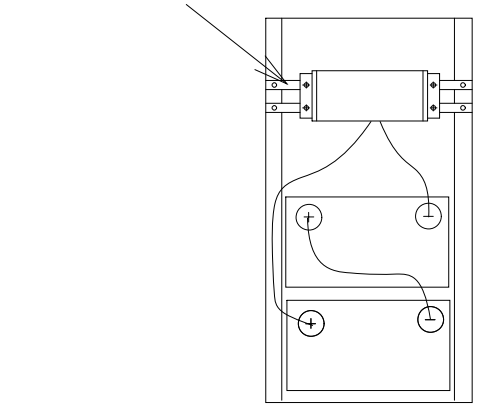
TITLE: SCHNEIDER - ADVC2 POWER SUPPLY CONTROL BOX CONNECTION DETAIL

DISTRIBUTION CONSTRN. STANDARD

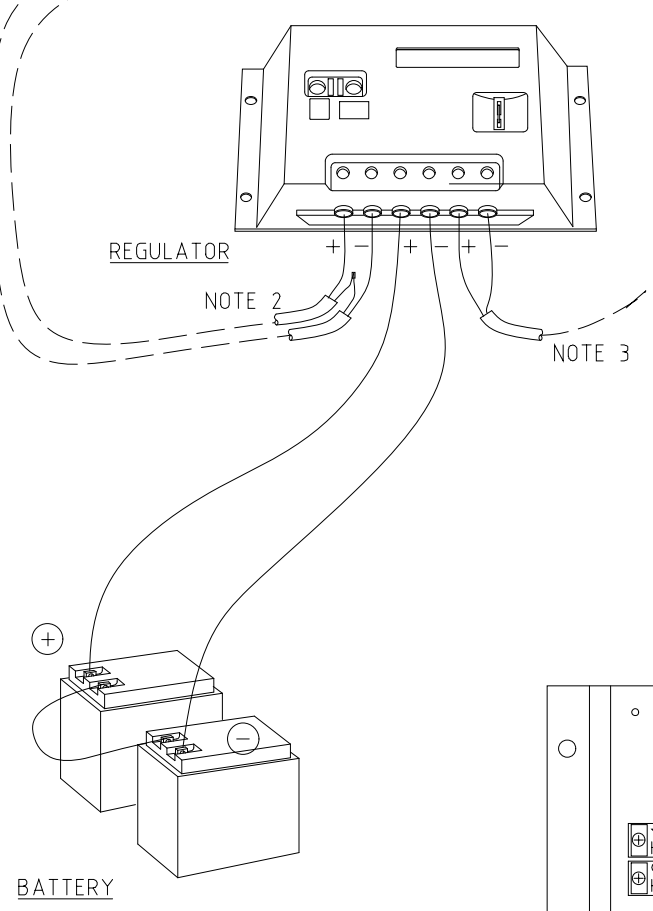
westernpower

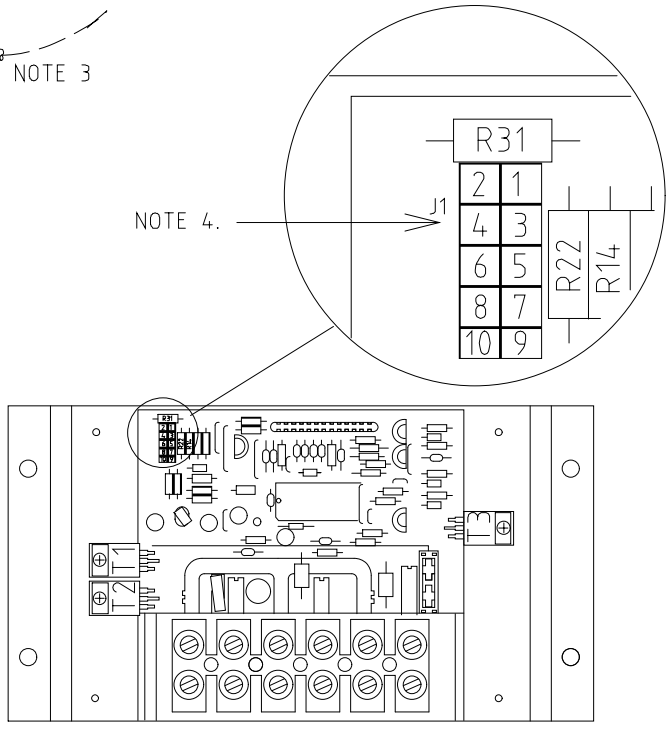
DRAWN: JRR	DATE: 06-06-2014	DRG. No. R36-2
ORIGINATED: KJ	SCALE: NTS	
CHECKED: KJ		
APPROVED: MURALI GOVINDASWAMY		REV. A SHT.





NOTES:
1. SOLAR PANEL MAY BE PROVIDED WITH FLEXIBLE CABLE TAIL.
2. FOR 2 X 20W PANELS, PROVIDE SERIES CONNECTION AT SOLAR PANEL OR REGULATOR
3. REMOVE EXISTING SPADE CONNECTORS FROM BATTERY LEADS IN RECLOSURE CONTROL BOX AND REPLACE WITH M/F BULLET CONNECTORS
4. REMOVE REGULATOR COVER AND CHANGE BLUE JUMPER FROM TERMINALS 4/6 TO 3/4





REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	10.07.01	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: NULEC RECLOSER SOLAR CONNECTION

DISTRIBUTION CONSTRN. STANDARD

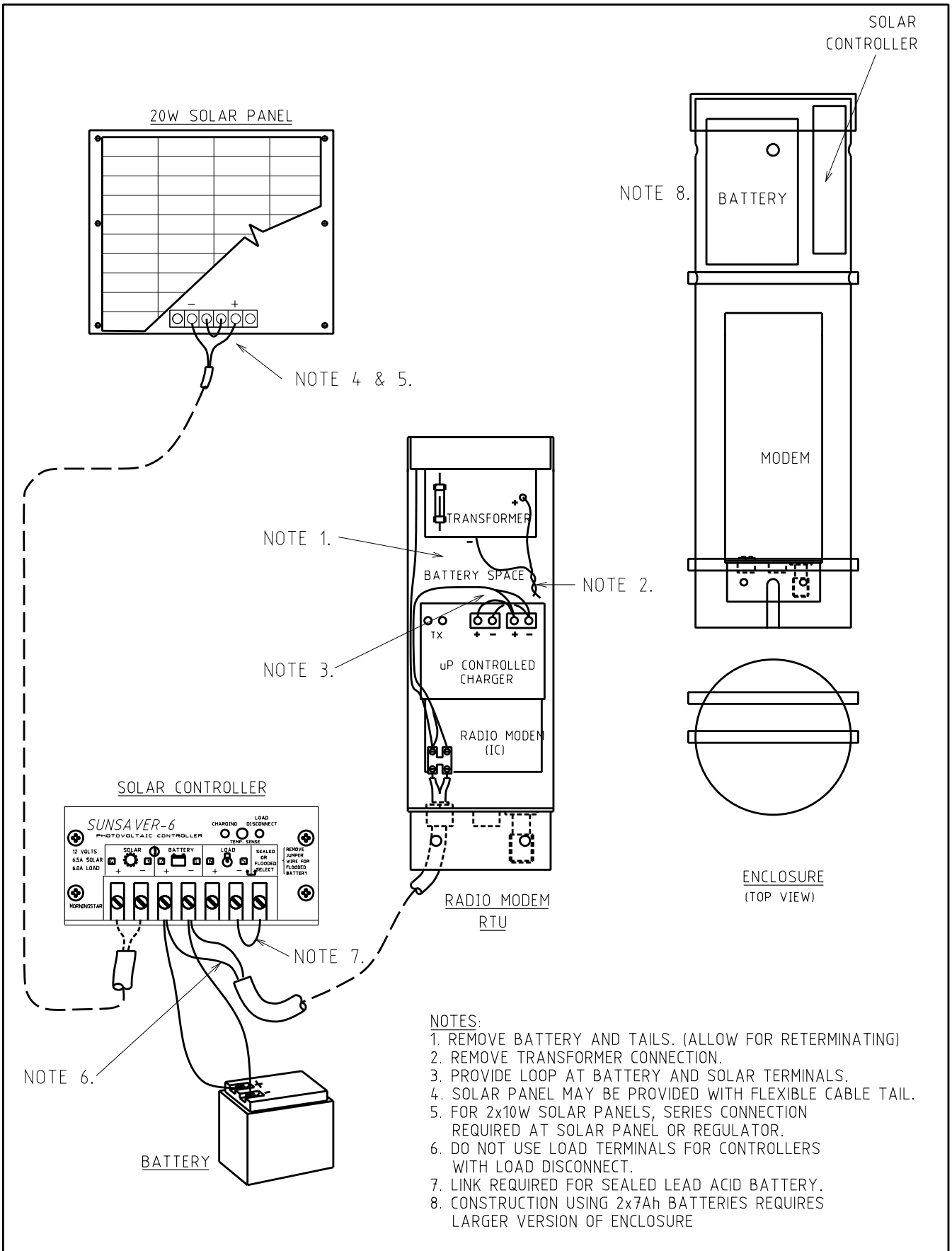
westernpower

DRAWN: JRR | DATE: 10-03-2014 | DRG. No. R37

ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. A | SHT.



NOTES:
1. REMOVE BATTERY AND TAILS. (ALLOW FOR RETERMINATING)
2. REMOVE TRANSFORMER CONNECTION.
3. PROVIDE LOOP AT BATTERY AND SOLAR TERMINALS.
4. SOLAR PANEL MAY BE PROVIDED WITH FLEXIBLE CABLE TAIL.
5. FOR 2x10W SOLAR PANELS, SERIES CONNECTION REQUIRED AT SOLAR PANEL OR REGULATOR.
6. DO NOT USE LOAD TERMINALS FOR CONTROLLERS WITH LOAD DISCONNECT.
7. LINK REQUIRED FOR SEALED LEAD ACID BATTERY.
8. CONSTRUCTION USING 2x7Ah BATTERIES REQUIRES LARGER VERSION OF ENCLOSURE

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	10.07.01	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: OVERHEAD FAULT INDICATOR SOLAR CONNECTION

DISTRIBUTION CONSTRN. STANDARD

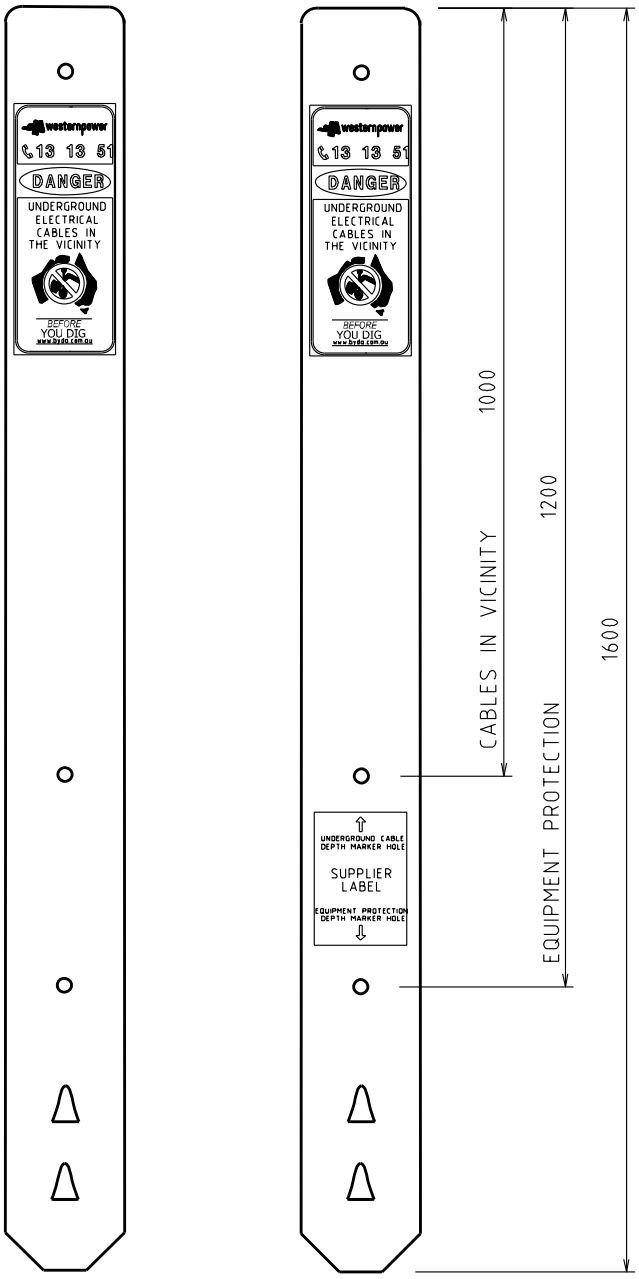
westernpower

DRAWN: JRR	DATE: 10-03-2014	DRG. No. R38
ORIGINATED:	SCALE: NTS	
CHECKED: REE		
APPROVED: GRANT STACY		REV. A / SHT.

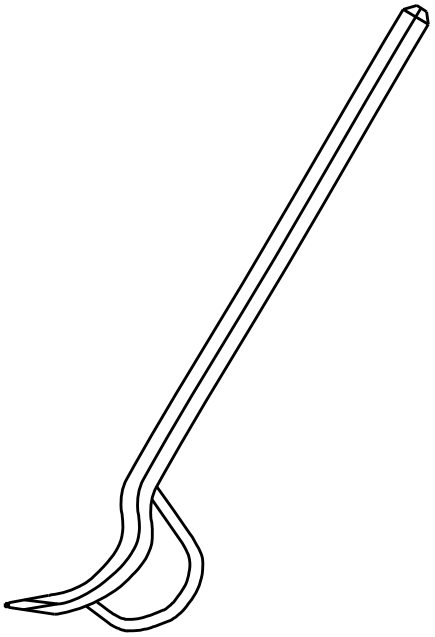
FRONT VIEW

BACK VIEW

STOCK CODE: CR0327

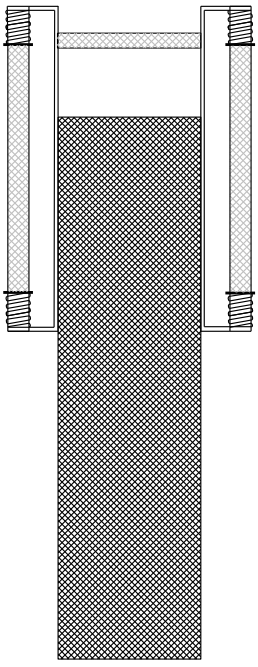


REMOVAL TOOL



INSTALLATION TOOL

STOCK CODE: CR0328



NOTES:

1. ALL DIMENSION ARE IN MILLIMETRES.
2. REMOVAL TOOL TO BE ORDERED FROM SUPPLIER AS NEEDED

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
C	02.05.24	UPDATED LABELS.	TCM	SH	CO
B	18.12.19	FORMAT CHANGED	CO	NMc	GS
A	30.07.09	ORIGINAL ISSUE			

REFERENCE DRAWING

TITLE: INSTALLATION OF ABOVE GROUND CABLE MARKER

DISTRIBUTION CONSTRN. STANDARD

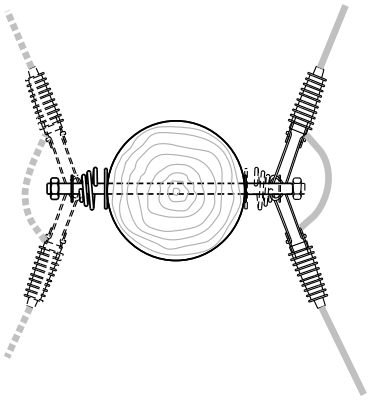
westernpower

DRAWN: JRR | DATE: 10-03-2014 | DRG. No. R40

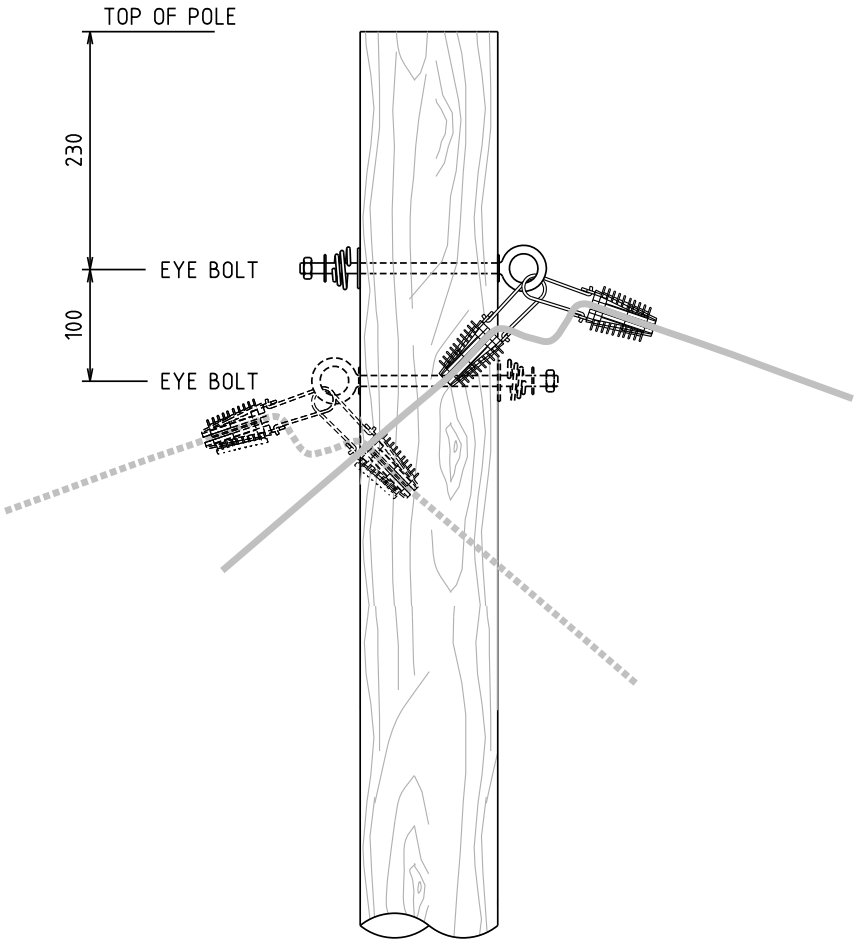
ORIGINATED: | SCALE: NTS

CHECKED: REE

APPROVED: GRANT STACY | REV. C | SHT.



TOP VIEW



WOOD POLE

NOTES:
1. MAXIMUM SPAN LENGTH OF 30m, GOVERNED BY THE STRENGTH OF THE WEDGE CLAMP.
2. THREE CUSTOMER SERVICE CONNECTIONS ARE ALLOWED PER EYEBOLT WITH THE CONDITION THAT THE CUSTOMER SERVICE WIRE DOES NOT RUB AGAINST THE POLE.

R. No.	DATE	DESCRIPTION	ORGD.	CHED.	APRD.
A	13.10.14	ORIGINAL ISSUE	JC	REE	GS

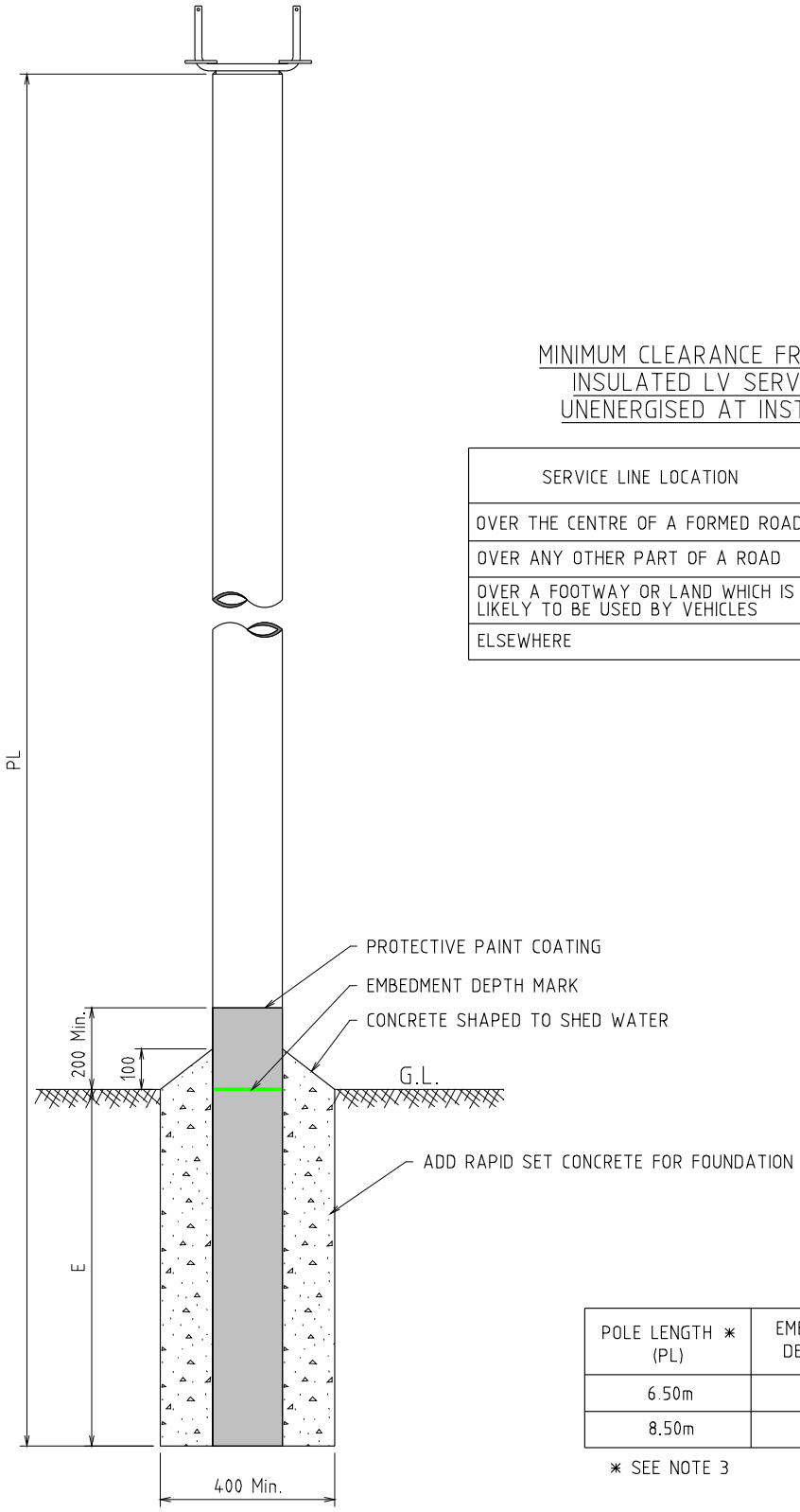
REFERENCE DRAWING

TITLE: CUSTOMER SERVICE CARRYOVER CONNECTION

DISTRIBUTION CONSTRN. STANDARD

western power

DRAWN: JRR	DATE: 30-09-2014	DRG. No. R41
ORIGINATED: JC	SCALE: NTS	
CHECKED: REE		
APPROVED: GRANT STACY		REV. A / SHT.



MINIMUM CLEARANCE FROM GROUND, INSULATED LV SERVICE LINES UNENERGISED AT INSTALLATION

SERVICE LINE LOCATION	DISTANCE TO GROUND IN ANY DIRECTION
OVER THE CENTRE OF A FORMED ROAD	5.8m
OVER ANY OTHER PART OF A ROAD	4.9m
OVER A FOOTWAY OR LAND WHICH IS LIKELY TO BE USED BY VEHICLES	3.3m
ELSEWHERE	3.0m

POLE LENGTH * (PL)	EMBEDMENT DEPTH (E)
6.50m	1.30m
8.50m	1.50m

* SEE NOTE 3

NOTES:-
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. REFER TO DRAWING No. R42-2 FOR CORROSION PROTECTION REQUIREMENTS.
3. 8.5m POLE REQUIRED FOR ROAD CROSSING WHEN USING 16mm² 4 CORE CU SERVICE LINE.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	18.02.16	ORIGINAL ISSUE	AK	DVT	GS

STRUCTURE

TITLE: CONSUMER SERVICE STEEL POLE

DISTRIBUTION CONSTRN. STANDARD

westernpower

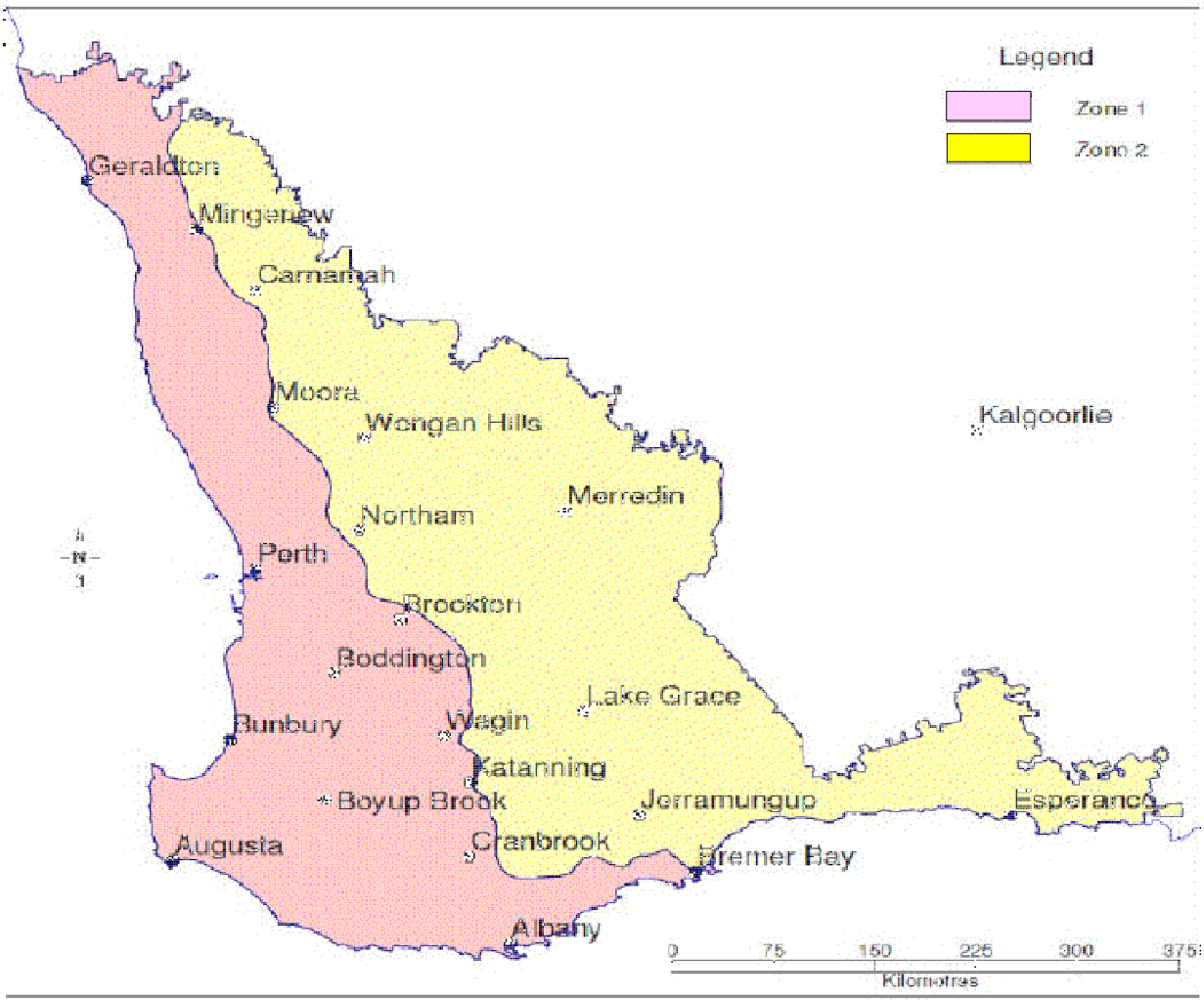
DRAWN: JRR | DATE: 11-02-2016 | DRG. No. R42-1

ORIGINATED: AK | SCALE: NTS

CHECKED: DVT

APPROVED: GRANT STACY

REV. A | SHT. 1/2



LOCATION (REFER TO THE MAP)	LOCAL GROUND CONDITION	REQUIRED POLE TYPES	
		UNPAINTED STEEL POLE	PAINTED STEEL POLE
ZONE 1	WELL DRAINED SOIL	✓	
	SALINE SOIL OR LOW LYING AREA SUBJECT TO SEASONAL FLOODING		✓
ZONE 2	ALL SOILS		✓
REST OF THE STATE	WELL DRAINED SOIL	✓	
	SALINE SOIL OR LOW LYING AREA SUBJECT TO SEASONAL FLOODING		✓

THIS DRAWING TO BE READ INCONJUCTION WITH Dwg. No. R42-1.

REV	DATE	DESCRIPTION	ORGD.	CHKD.	APRD.
A	18.02.16	ORIGINAL ISSUE	AK	DVT	GS

STRUCTURE

TITLE: CONSUMER SERVICE STEEL POLE CORROSION PROTECTION REQUIREMENTS

DISTRIBUTION CONSTRN. STANDARD

westernpower

DRAWN: JRR | DATE: 11-02-2016 | DRG. No. R42-2

ORIGINATED: AK | SCALE: NTS

CHECKED: DVT

APPROVED: GRANT STACY

REV. A | SHT. 2/2