



DISTRIBUTION CONSTRUCTION STANDARDS MANUAL

Part 2

Date Published: 31 May 2021

R - Reference

For application to
Horizon Power
Electricity Distribution Networks

Part 2 – Reference – Drawing Register

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R4	Insulator Pin and Bolt Details
R5-1	Eyebolt Details
R5-2	Conductor Terminations
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Number	Description
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R52	Cable and Duct Placements on Truncations
R53	Cross Section Details of Cable Easement
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R55	Cable Trench Layout Green Field Site Two Layers (1 Tx and 5 LV Cables)
R56	Cable Trench Layout Green Field Site Two Layers (1 HV Feeder, 1 Tx and LV Cables)
R57	Cable Trench Layout Green Field Site Two Layers (1 HV Feeder, 1 Tx and 2 LV Cables)
R58	Cable Trench Layout Green Field Site One Layer (1 Tx and 3 LV Cables)
R59	Cable Trench Layout Green Field Site One Layer (1 HV Feeder and LV Cables)

ROUND WASHER

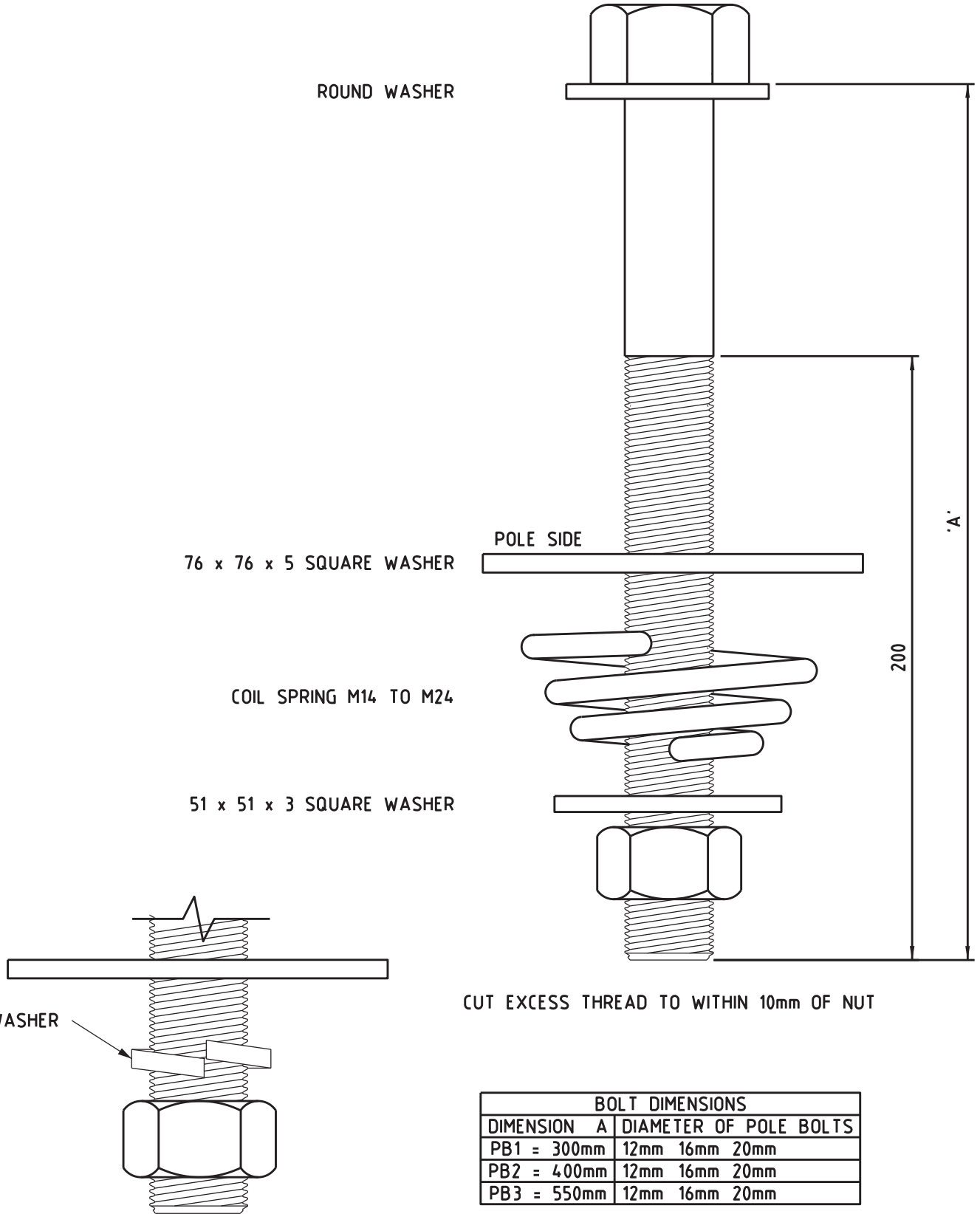
76 x 76 x 5 SQUARE WASHER

COIL SPRING M14 TO M24

51 x 51 x 3 SQUARE WASHER

SPRING WASHER

CUT EXCESS THREAD TO WITHIN 10mm OF NUT



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

FOR STEEL POLES, USE SPRING WASHER AS SHOWN ABOVE

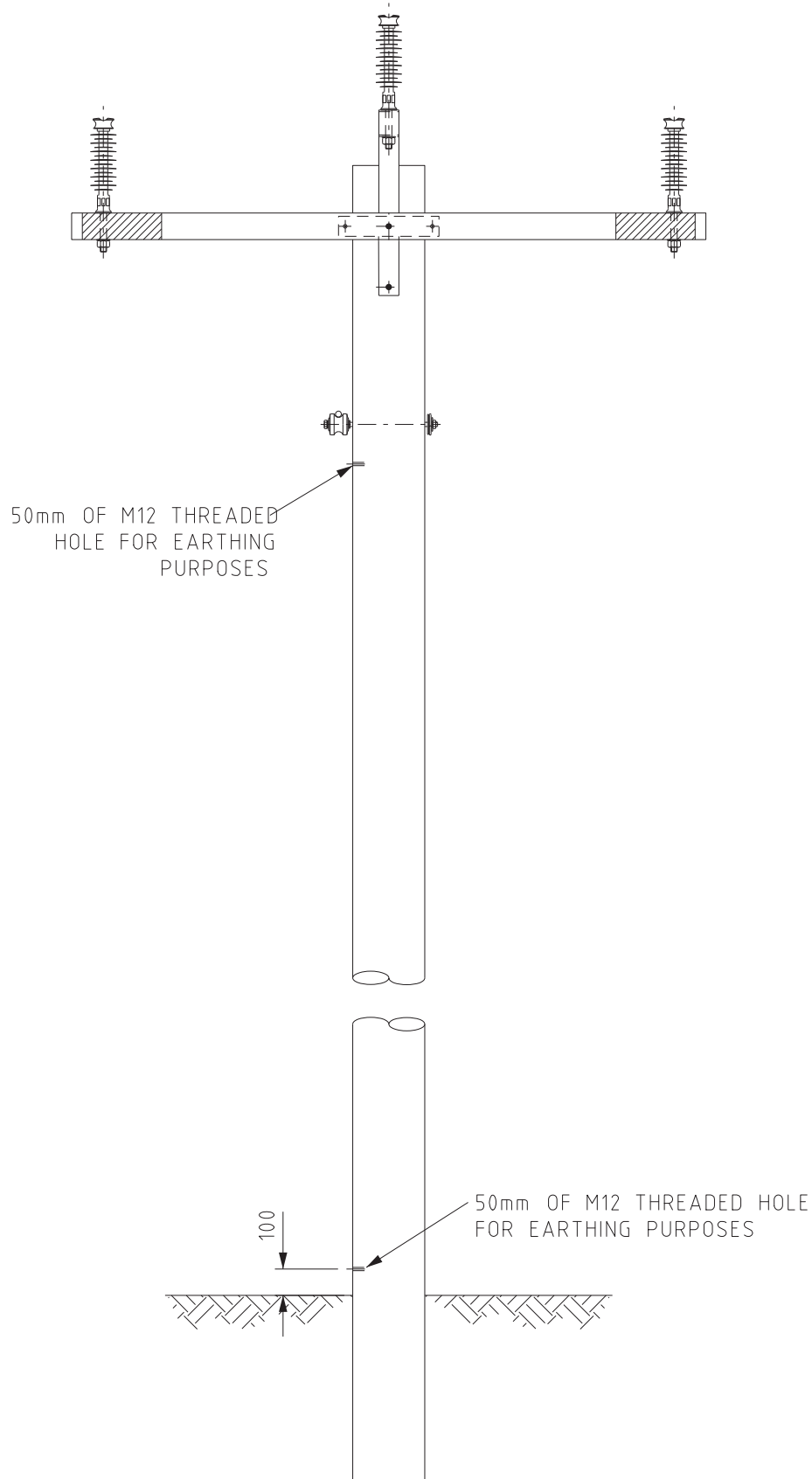


DISTRIBUTION CONSTRUCTION STANDARDS

POLE BOLT DETAILS

REVISION C DATE OCT 17

DRAWING No. R1



DISTRIBUTION CONSTRUCTION STANDARDS

OPERATIONS

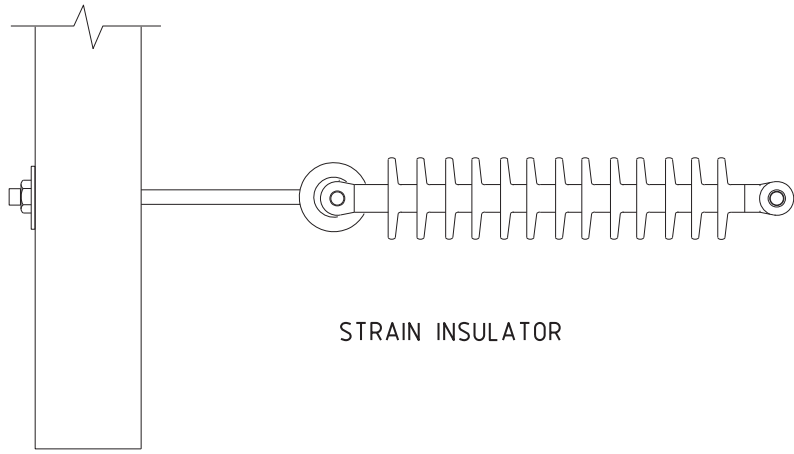
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BONDING INTERMEDIATE

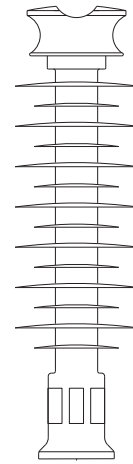
REVISION B	DATE JUNE 2011
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DRAWING No.
R2-1

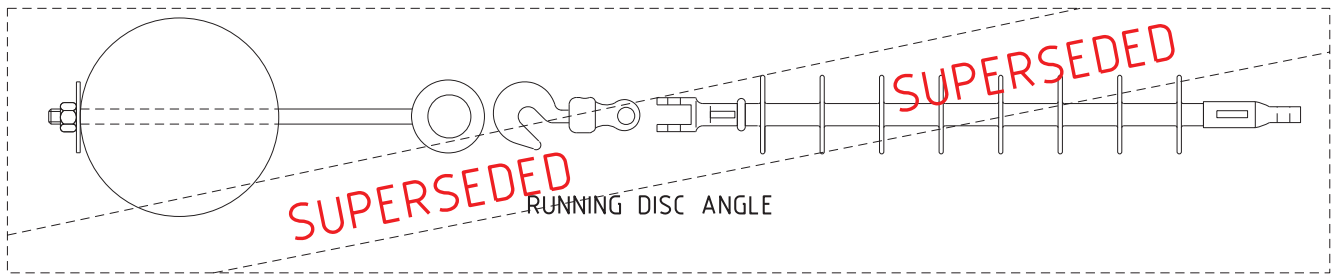
HIGH VOLTAGE (33,22,11,6.6kV)



STRAIN INSULATOR



HIGH POLLUTION
POST INSULATOR

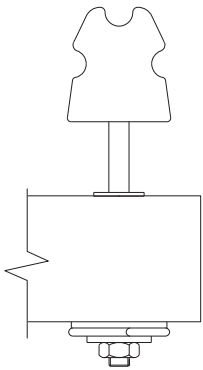


SUPERSEDED

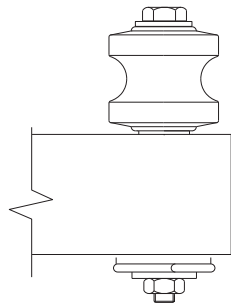
RUNNING DISC ANGLE

SUPERSEDED

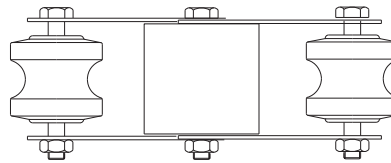
LOW VOLTAGE



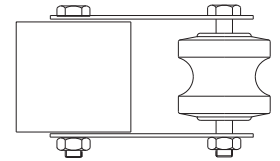
INTERMEDIATE



ANGLE UP
TO 20 DEG

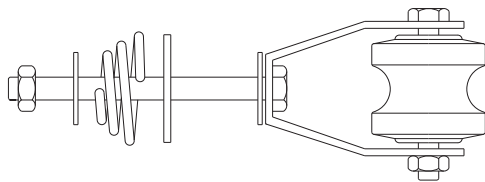


INLINE STRAIN
OR ANGLE 20-45 DEG

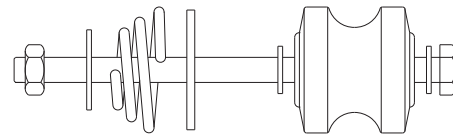


TERMINATION

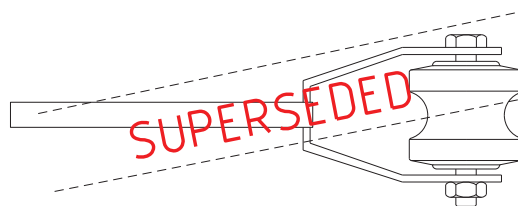
RUNNING EARTH



TERMINATION



INTERMEDIATE



SUPERSEDED

20mm BAND-IT STRAP TYPE



DISTRIBUTION CONSTRUCTION
STANDARDS

REFERENCE DRAWING

INSULATORS

REVISION
C

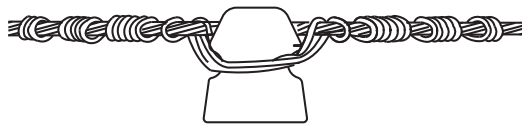
DATE
OCT 17

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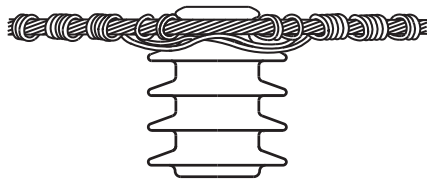
R3-1

SEQUENCE OF OPERATIONS FOR HV & LV

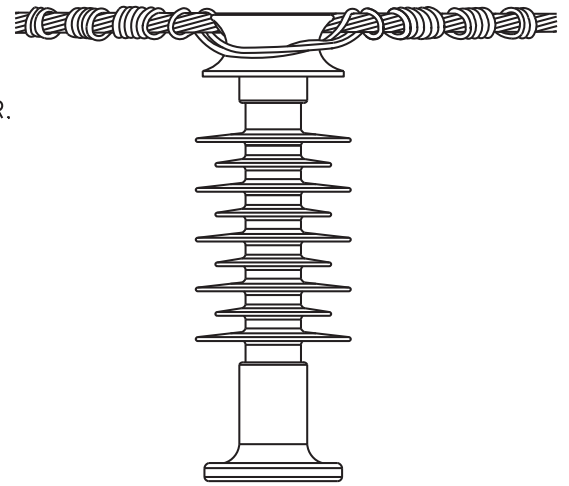
- HALVE TIE. START WITH MIDDLE OF TIE AT BACK OF INSULATOR.
- TAKE HALF TURN AROUND INSULATOR, UNDER AND AROUND CONDUCTOR FOR ONE TURN.
 - CROSS TIE AT THE FRONT OF INSULATOR AND CONTINUE UNDER AND AROUND CONDUCTOR FOR ONE TURN.
 - CROSS TIE AT THE BACK OF INSULATOR AND CONTINUE UNDER AND AROUND CONDUCTOR FOR SIX TURNS.
 - ONE OPEN TURN.
 - FIVE TURNS.
 - ONE OPEN TURN.
 - THREE TURNS.
 - TURN ENDS OF TIE DOWN AGAINST THE CONDUCTOR.



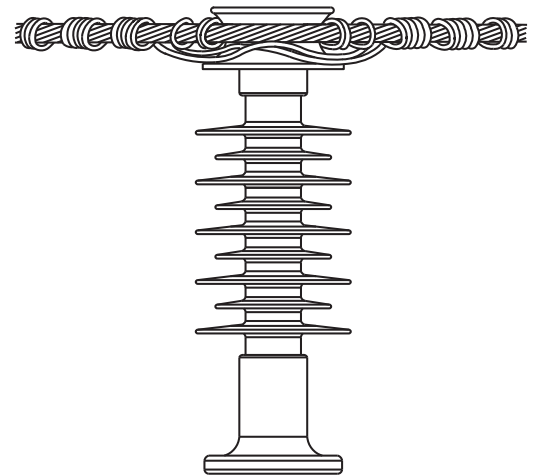
LOW VOLTAGE
TOP TIE



LOW VOLTAGE
SIDE TIE

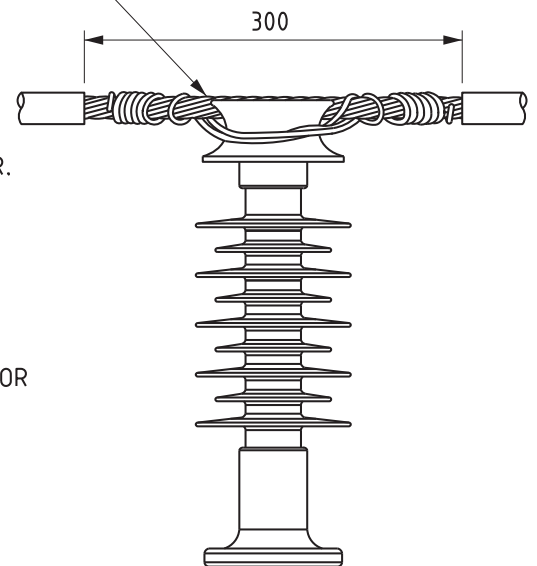


HIGH VOLTAGE
TOP TIE



HIGH VOLTAGE
SIDE TIE

BARE ABC 300mm OVER
CENTRE OF INSULATOR



95 & 150 mm² ABC
TOP TIE

SEQUENCE OF OPERATIONS

- HALVE TIE. START WITH MIDDLE OF TIE AT BACK OF INSULATOR.
- TAKE HALF TURN AROUND INSULATOR AND UNDER CONDUCTOR ON EACH SIDE.
 - TAKE ONE AND HALF TURNS AROUND CONDUCTOR ON EACH SIDE OF INSULATOR.
 - CROSS ENDS AROUND BACK OF INSULATOR AND RETURN TO BOTTOM OF CONDUCTOR ON EACH SIDE.
 - TAKE ONE TURN AROUND CONDUCTOR ON EACH SIDE OF INSULATOR
 - PASS ENDS OVER AND ACROSS IN FRONT OF INSULATOR CARRYING EACH END TO BOTTOM OF CONDUCTOR.
 - TAKE FIVE TURNS AROUND CONDUCTOR.
 - ONE OPEN TURN.
 - FIVE TURNS.
 - ONE OPEN TURN.
 - THREE TURNS.
 - TURN ENDS OF TIE DOWN AGAINST CONDUCTOR.



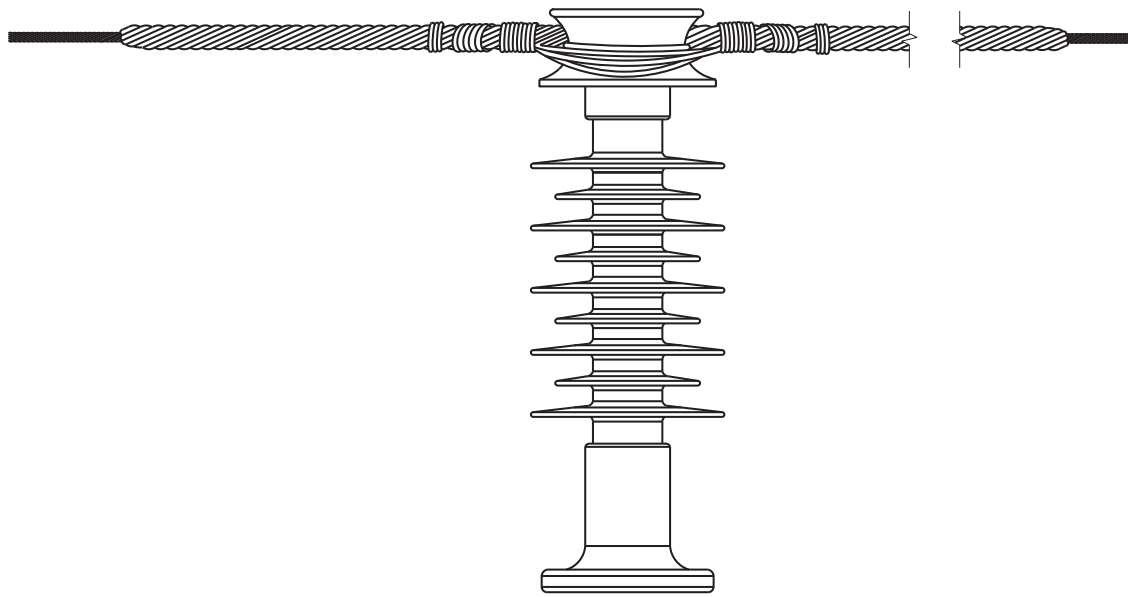
DISTRIBUTION CONSTRUCTION
STANDARDS

INSULATOR TIES

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DRAWING No.

R3-2



ARMOUR ROD

ARMOUR RODS ARE TO BE USED ON ALL BAYS OVER 60m (WAS 80m.)



DISTRIBUTION CONSTRUCTION
STANDARDS

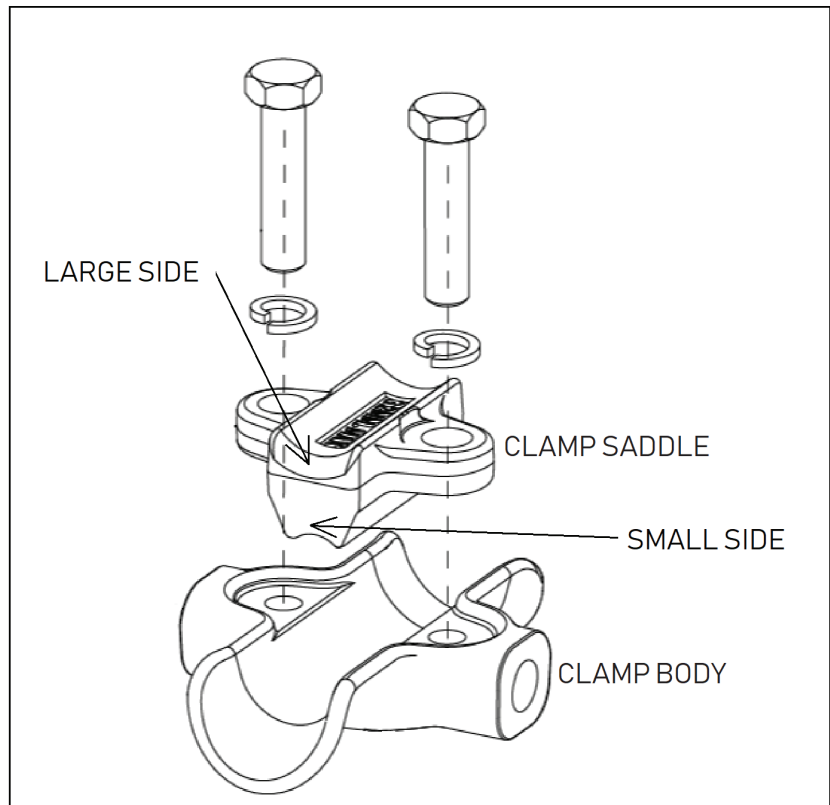
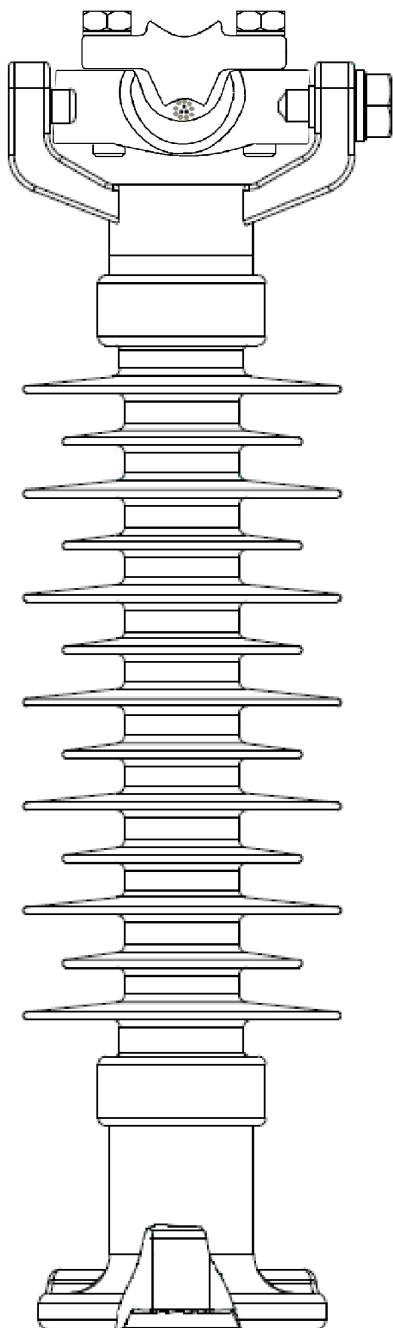
REVISION
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DATE
OCT.17

ARMOUR RODS

DRAWING No.

R3-3



DETAIL A - CLAMP ASSEMBLY.

CLAMP SELECTION				
CONDUCTOR TYPE	DIAMETER (mm)	CLAMP	SADDLE SIDE	REMARKS
AAAC 19/3.25	16.3	ICH0091	SMALL	
AAAC 7/4.75	14.3	ICH0091	SMALL	
AAAC 7/2.50	7.5	ICH0091	SMALL	
AAC 7/3.00	9	ICH0091	SMALL	
AAC 19/3.25	16.3	ICH0091	SMALL	
SC/AC 3/2.75	5.9	ICH0090	SMALL	NOTE 1
SC/GZ 3/2.75	5.9	ICH0090	SMALL	NOTE 1

ACCEPTABLE CONDUCTOR SIZES			
STOCK #	CLAMP TYPE	SMALL SADDLE-SIDE CONDUCTOR DIAMETER	LARGE SADDLE-SIDE CONDUCTOR DIAMETER
ICH0090	FERROUS	8.9mm - 11.3mm	12.8mm - 21.3mm
ICH0091	ALUMINIUM ALLOY	7mm - 18mm	19mm - 32mm

NOTES:

- 1) ARMOUR ROD MUST BE USED TO INCREASE CONDUCTOR DIAMETER.
- 2) TORQUE ALL BOLTS IN ASSEMBLY TO 35Nm.



DISTRIBUTION CONSTRUCTION STANDARDS

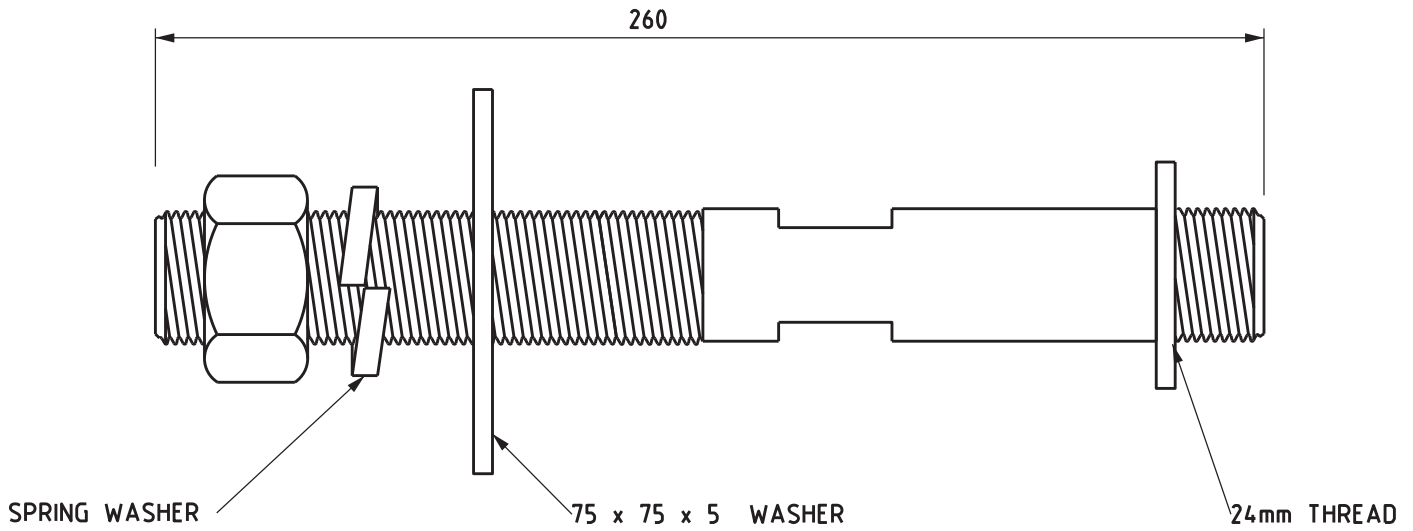
REFERENCE DRAWING

VERTICAL CLAMP-TOP INSULATOR

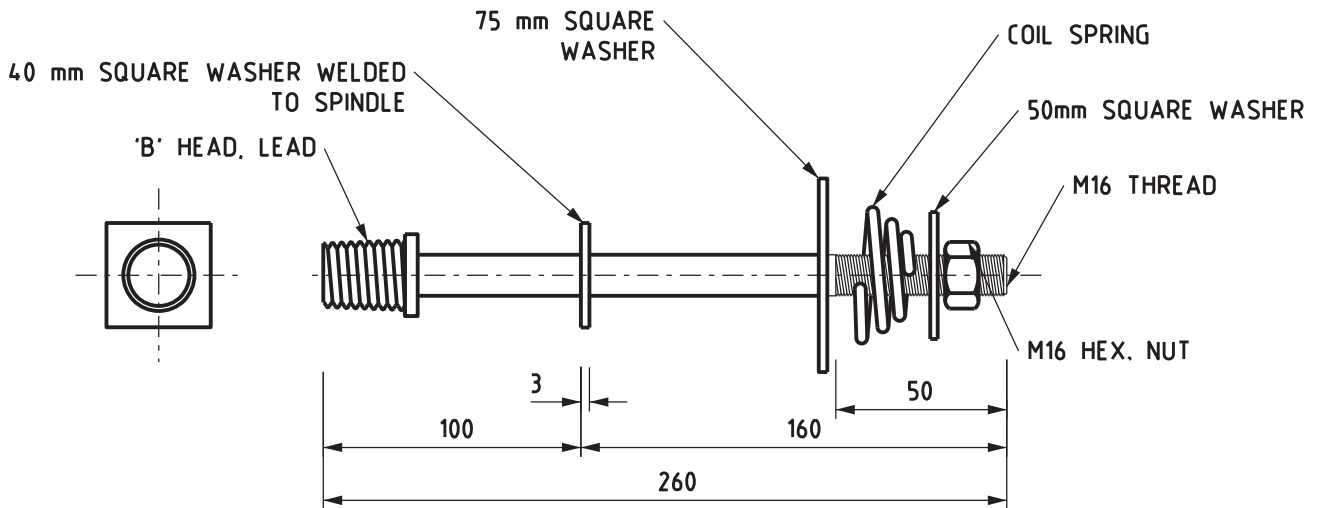
REVISION A DATE OCT 2018

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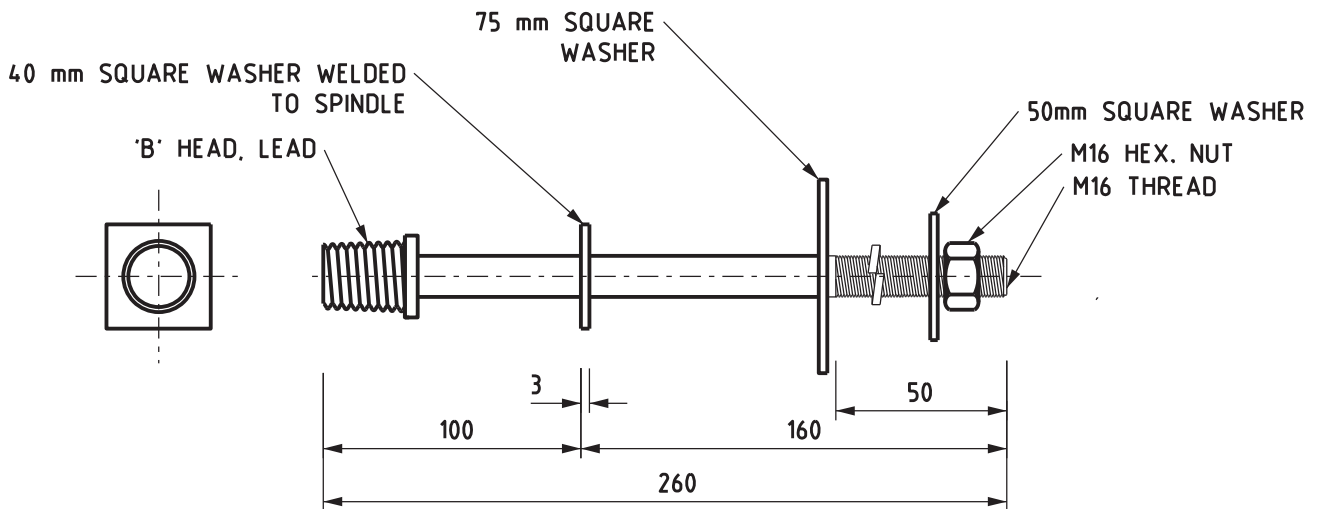
HV INSULATOR BOLT
(STEEL CROSSARM)



LV INSULATOR PIN
(WOOD CROSSARM)



LV INSULATOR PIN
(STEEL CROSSARM)



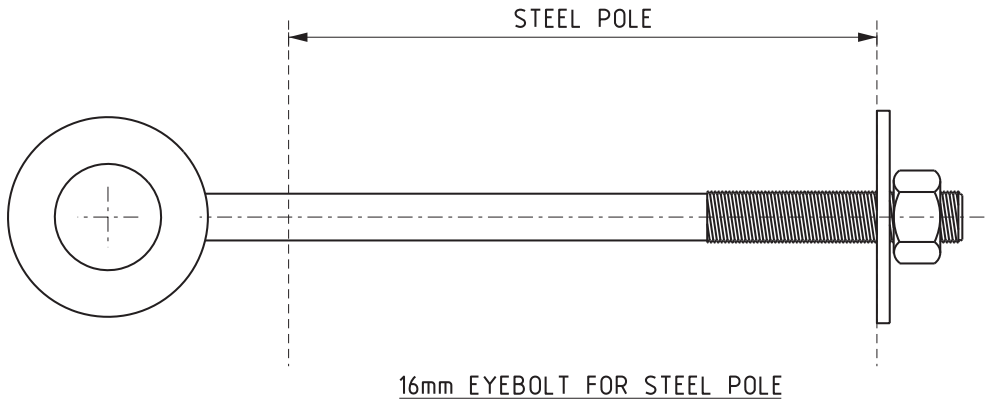
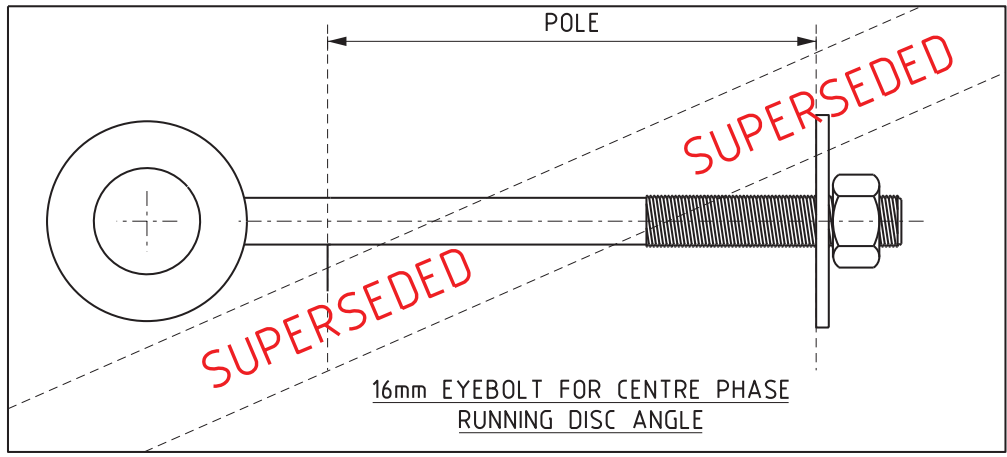
DISTRIBUTION CONSTRUCTION
STANDARDS

INSULATOR PIN AND BOLT DETAILS

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DRAWING No.

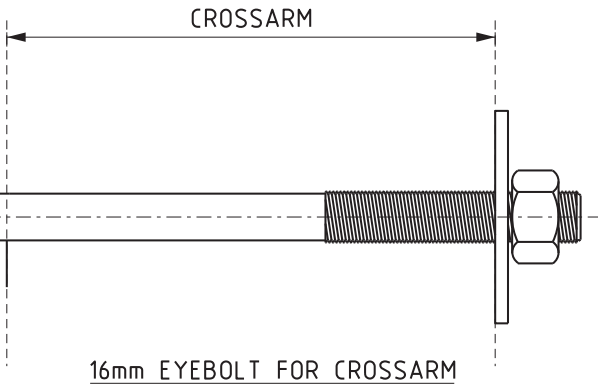
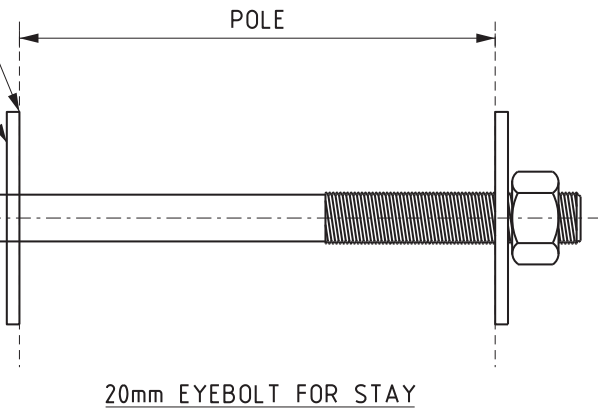
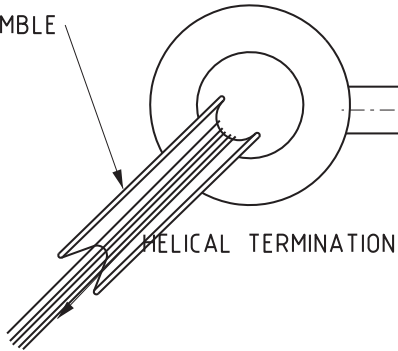
R4



EYE RETURN TO BE HARD
AGAINST POLE OR WASHER

76 x 76 x 5 SQUARE WASHER
(N/A FOR STEEL POLES)

ROPE THIMBLE



HORIZON
POWER

DISTRIBUTION CONSTRUCTION
STANDARDS

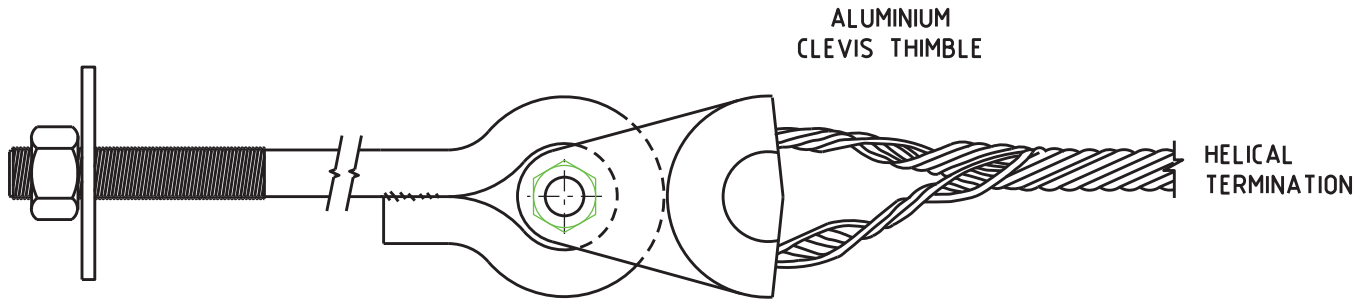
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EYEBOLT DETAILS

DRAWING No.

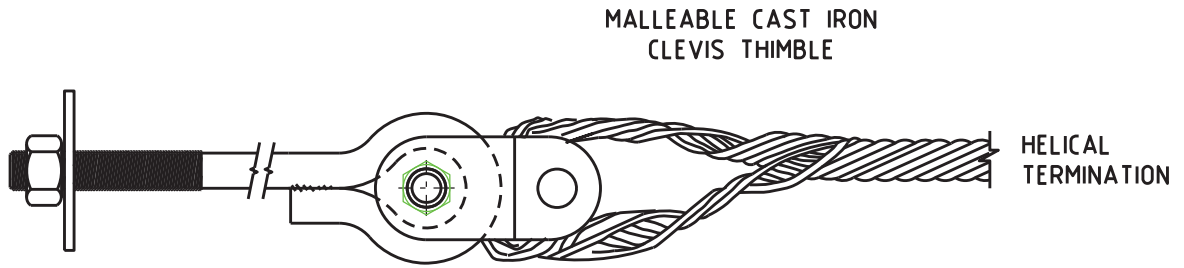
R5-1



ALUMINIUM
CLEVIS THIMBLE

HELICAL
TERMINATION

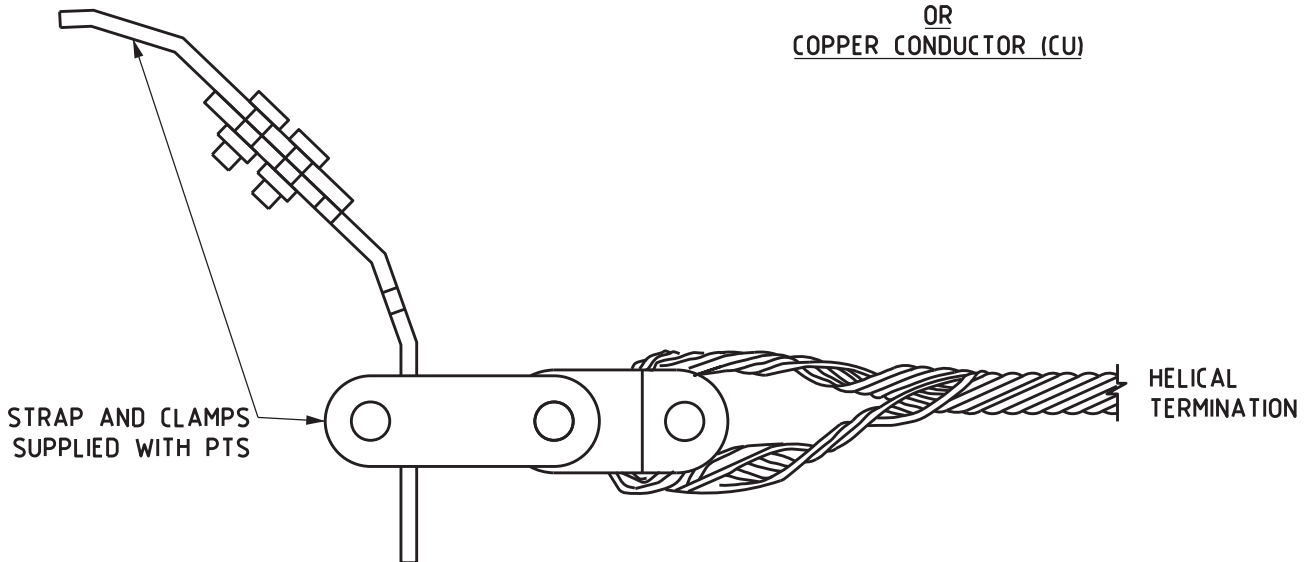
ALUMINIUM CONDUCTOR (AAC & AAAC)
OR
STEEL CONDUCTOR (SCAC)



MALLEABLE CAST IRON
CLEVIS THIMBLE

HELICAL
TERMINATION

STEEL CONDUCTOR (SCGZ)
OR
COPPER CONDUCTOR (CU)



HELICAL
TERMINATION

FOR PTS ARRANGEMENT



DISTRIBUTION CONSTRUCTION
STANDARDS

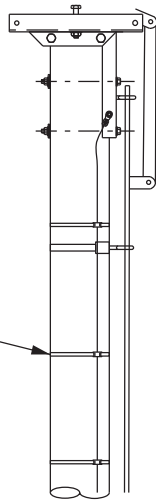
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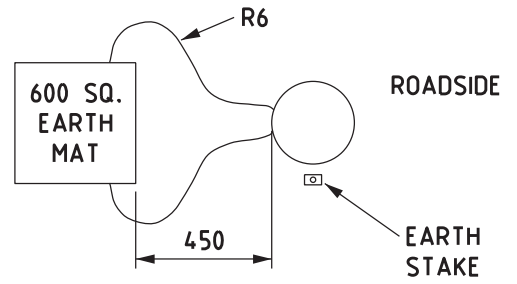
CONDUCTOR TERMINATIONS

DRAWING No.

R5-2



BAND-IT STRAPS FOR EARTHING
SEE NOTE 3

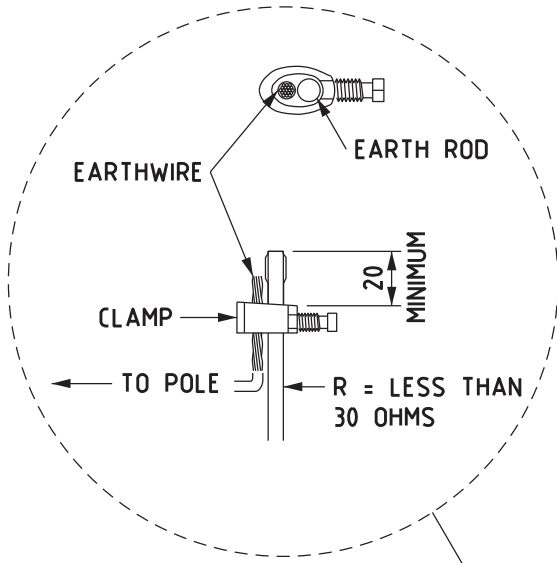


3 EXTRA ROD GUIDES REQUIRED
(POSITION TO SUIT)
SECURED WITH BAND-IT STRAPS

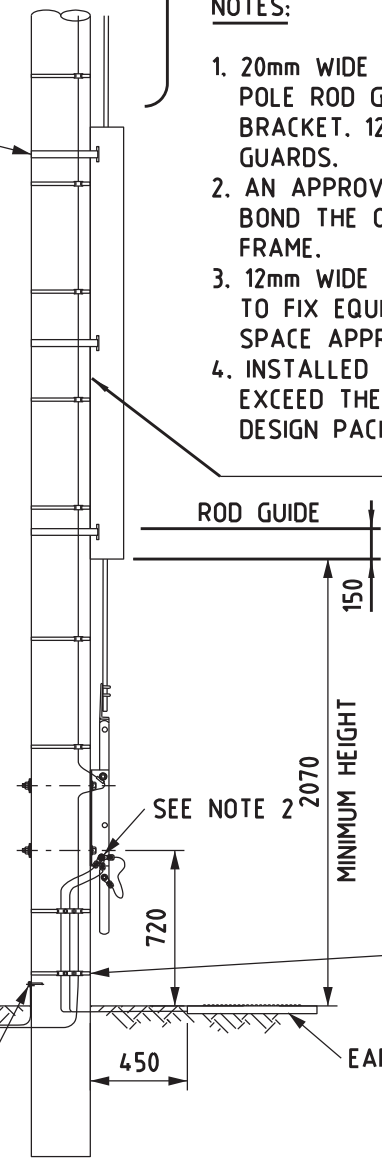
NOTES:

1. 20mm WIDE BAND-IT STRAPS ON RAYCHEM BRACKET, POLE ROD GUIDES AND LV ANGLE INSULATOR BRACKET. 12mm WIDE BAND-IT STRAPS ON CABLE GUARDS.
2. AN APPROVED EARTHING BRAID MUST BE FITTED TO BOND THE OPERATING HANDLE TO THE HANDLE FRAME.
3. 12mm WIDE BAND-IT STRAPS FITTED WITH SADDLES TO FIX EQUIPMENT DOWN EARTHS TO POLE. TO BE SPACE APPROXIMATELY 500mm APART.
4. INSTALLED EARTHING RESISTANCE SHALL NOT EXCEED THE MAXIMUM DESIGN VALUE STATED IN THE DESIGN PACKAGE.

BAND-IT STRAPS TO SUIT EQUIPMENT
SEE NOTE 1



R7 - STANDARD CABLE GUARD



ROD GUIDE
150

2070
MINIMUM HEIGHT

720

450

SEE NOTE 2

FIRST 12mm BANDIT STRAP 150 ABOVE G.L.

EARTH PIT
EARTH ROD
EARTH POINT
100 ABOVE G.L.

STEEL POLE



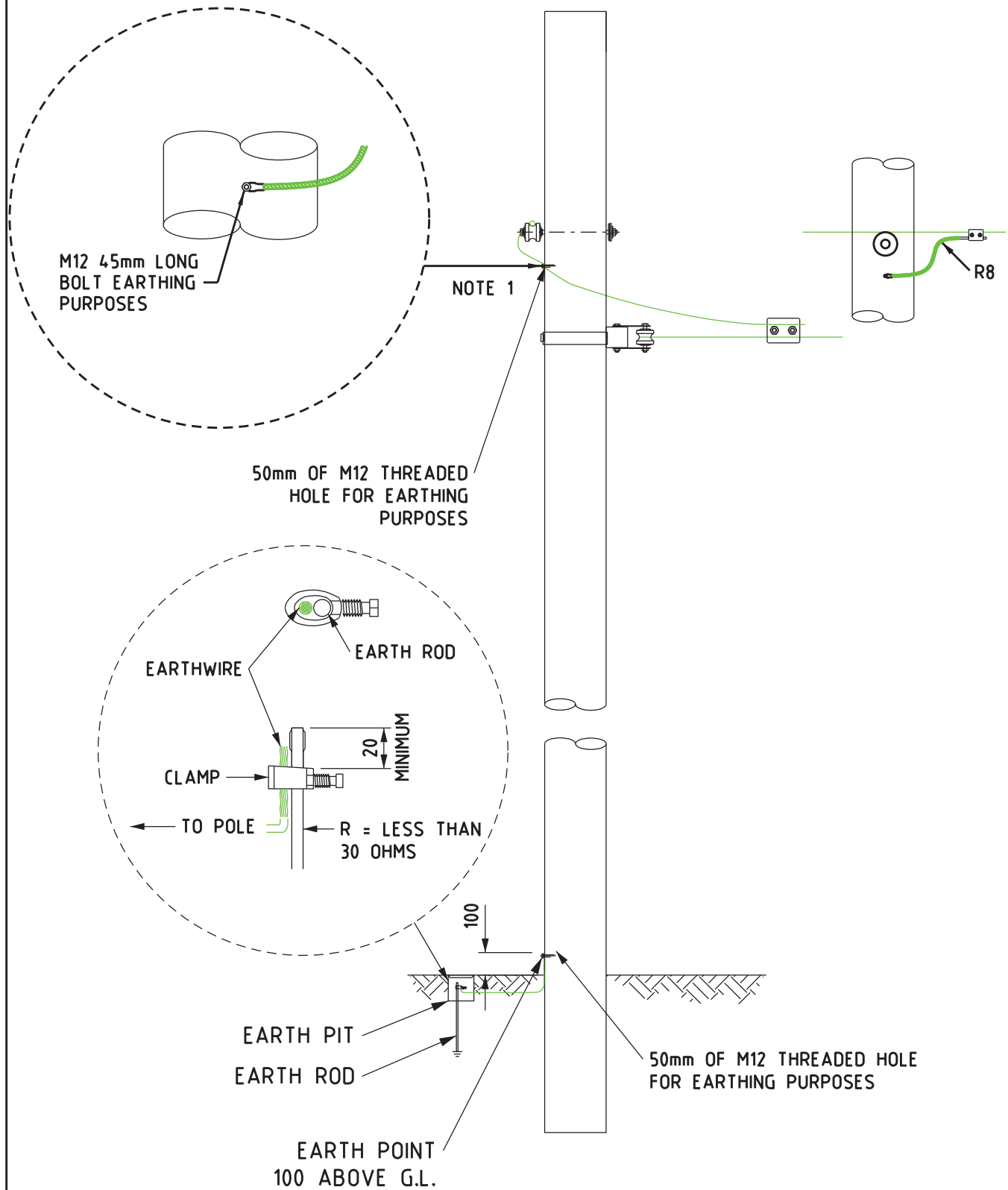
DISTRIBUTION CONSTRUCTION STANDARDS

REVISION	DATE
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DRAWING No.

EARTHING

R6



NOTE:

- 1) RUNNING EARTH NOT TO BE CONNECTED TO POLE ON TRANSFORMER INSTALLATIONS WITH SINGLE PHASE AND RUNNING EARTH.
2. INSTALLED EARTHING RESISTANCE SHALL NOT EXCEED THE MAXIMUM VALUE STATED IN THE DESIGN PACKAGE.



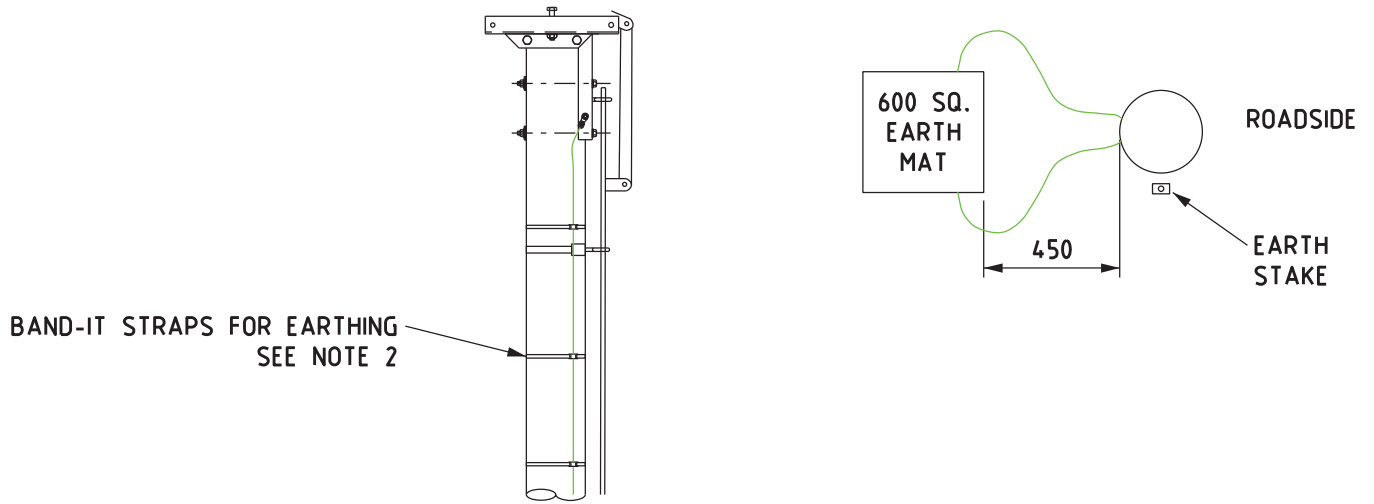
DISTRIBUTION CONSTRUCTION STANDARDS

EARTHING STEEL POLE

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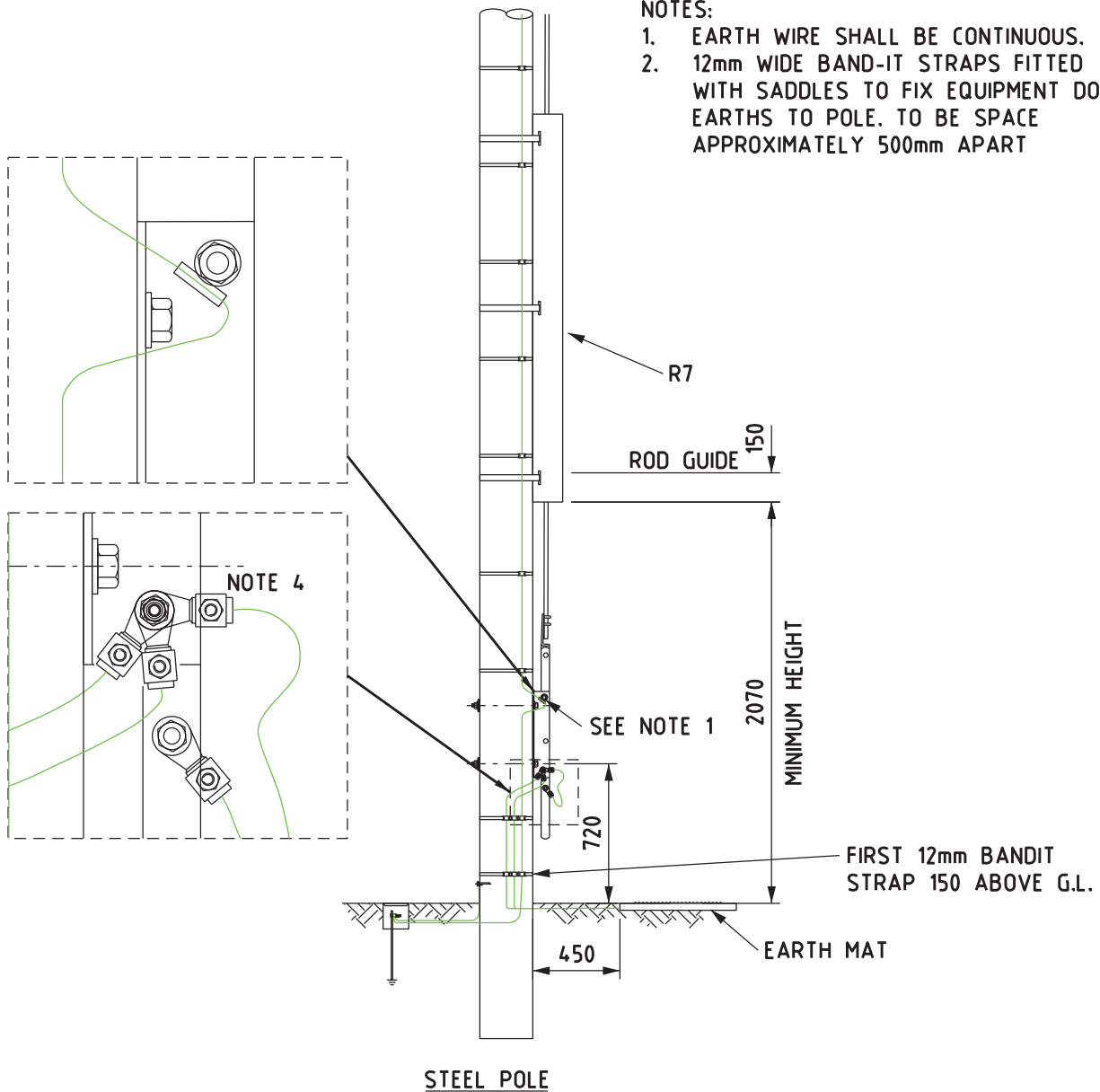
DRAWING No.

R6-1



NOTES:

1. EARTH WIRE SHALL BE CONTINUOUS.
2. 12mm WIDE BAND-IT STRAPS FITTED WITH SADDLES TO FIX EQUIPMENT DOWN EARTHS TO POLE. TO BE SPACE APPROXIMATELY 500mm APART



HORIZON
POWER

DISTRIBUTION CONSTRUCTION
STANDARDS

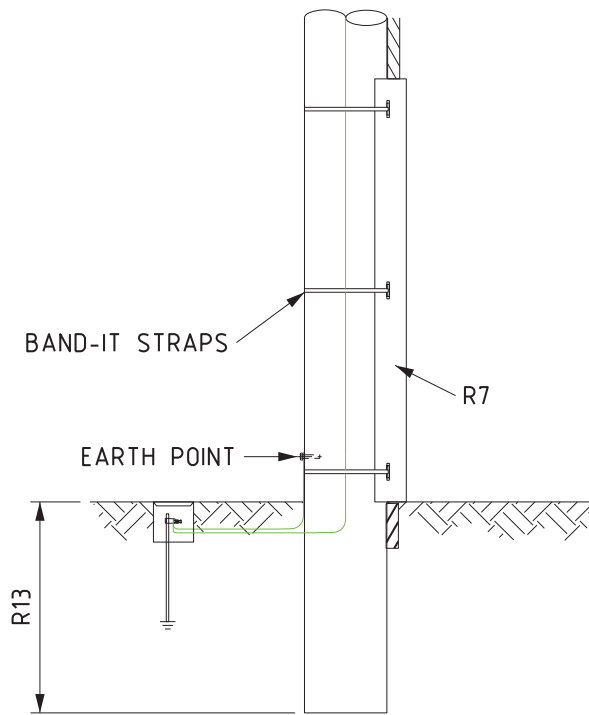
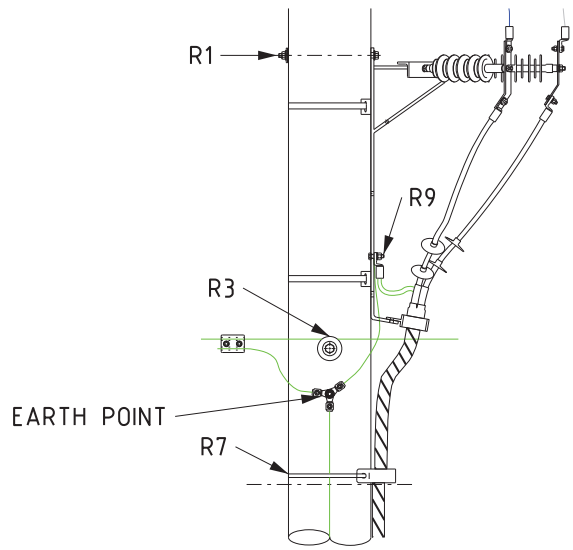
REVISION
A

DATE
OCT 17

EARTHING
POLE TOP SWITCH

DRAWING No.

R6-2



REFER R6 FOR EARTH
RESISTANCE REQUIREMENTS



DISTRIBUTION CONSTRUCTION
STANDARDS

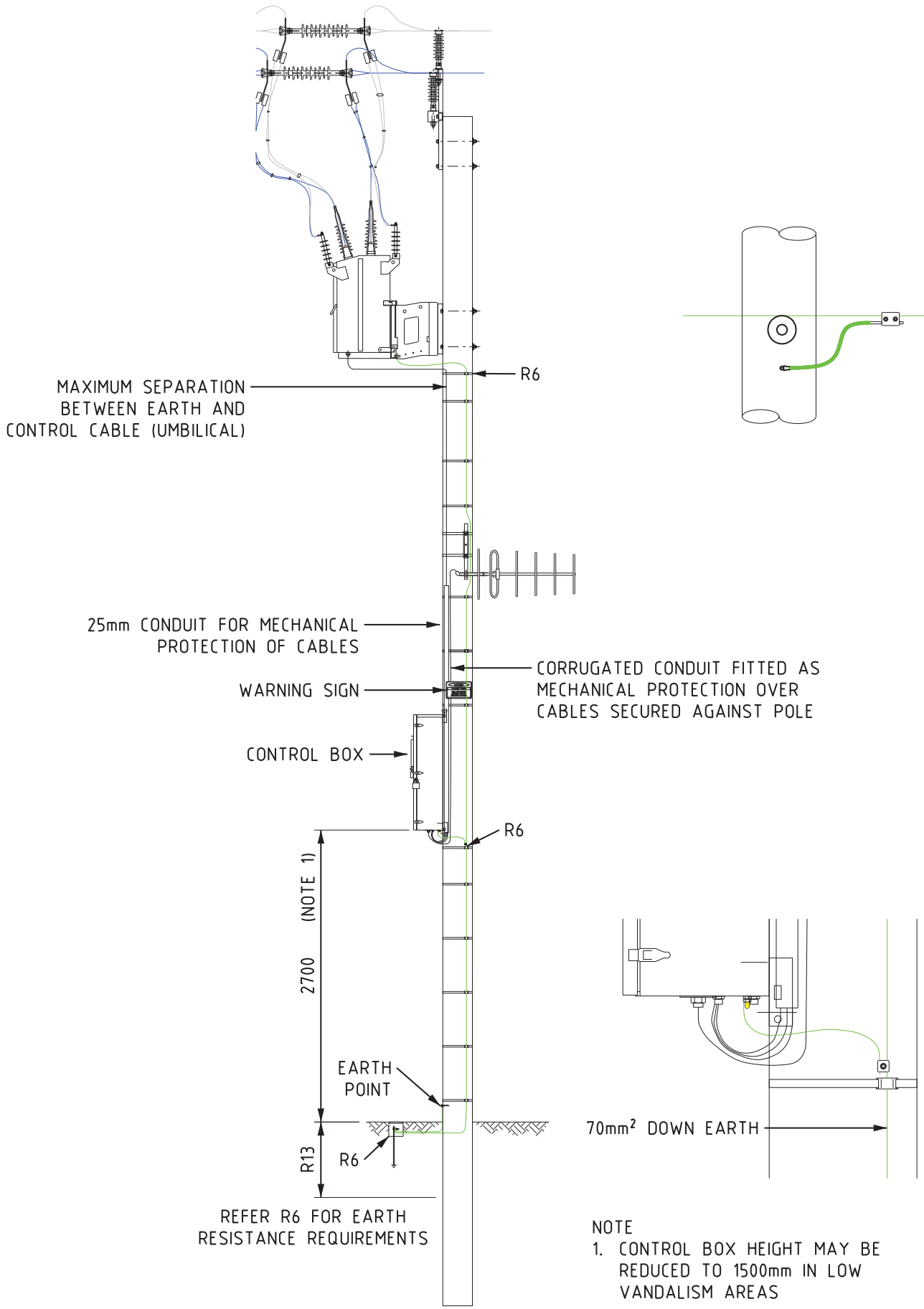
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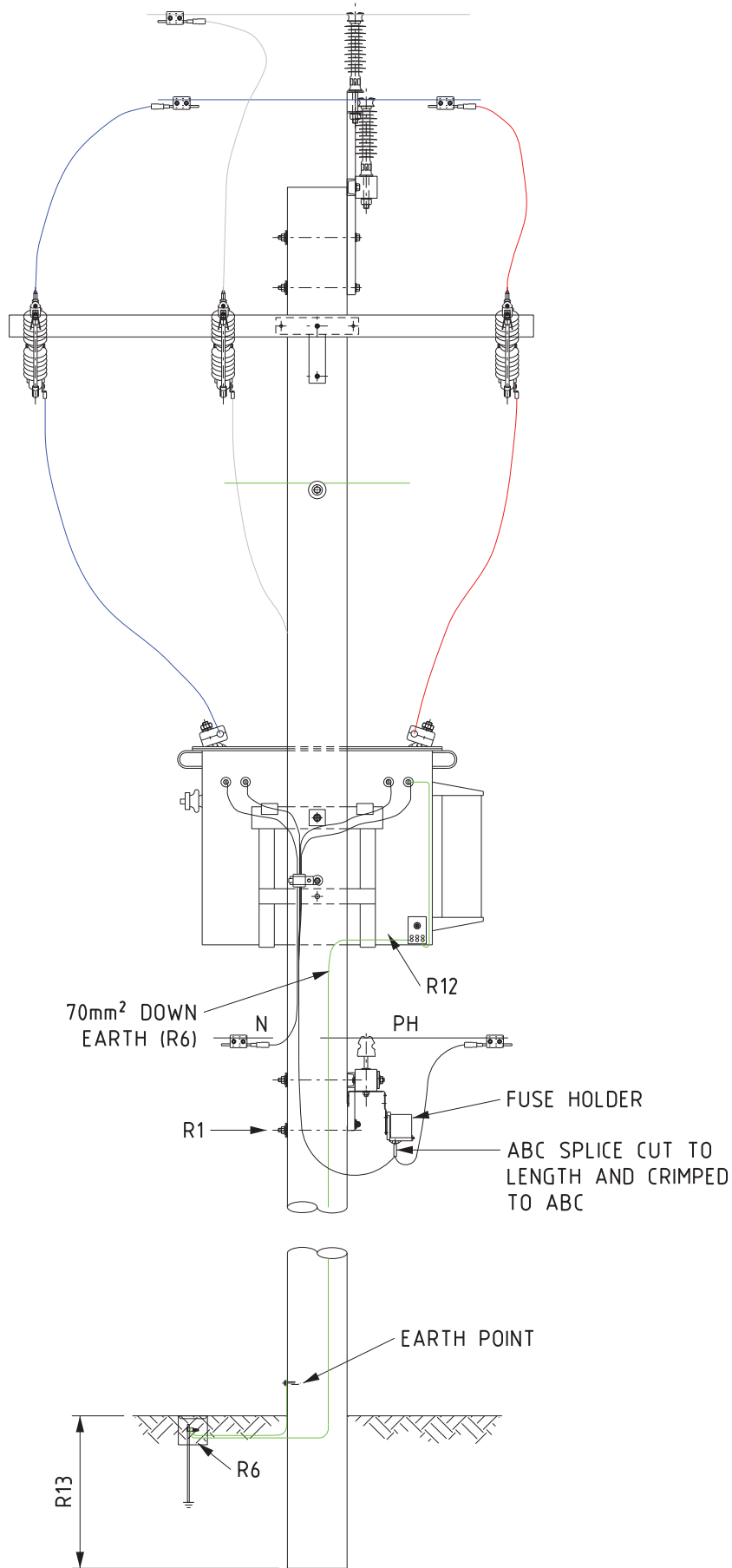
DATE
OCT 17

EARTHING
CABLE

DRAWING No.

R6-3



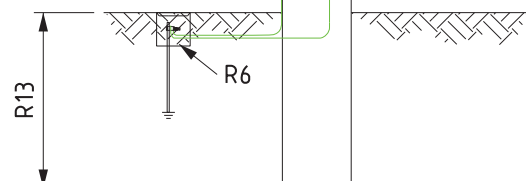


70mm² DOWN
EARTH (R6)

N
R1
PH
R12

FUSE HOLDER
ABC SPLICE CUT TO
LENGTH AND CRIMPED
TO ABC

EARTH POINT



REFER R6 FOR EARTH
RESISTANCE REQUIREMENTS

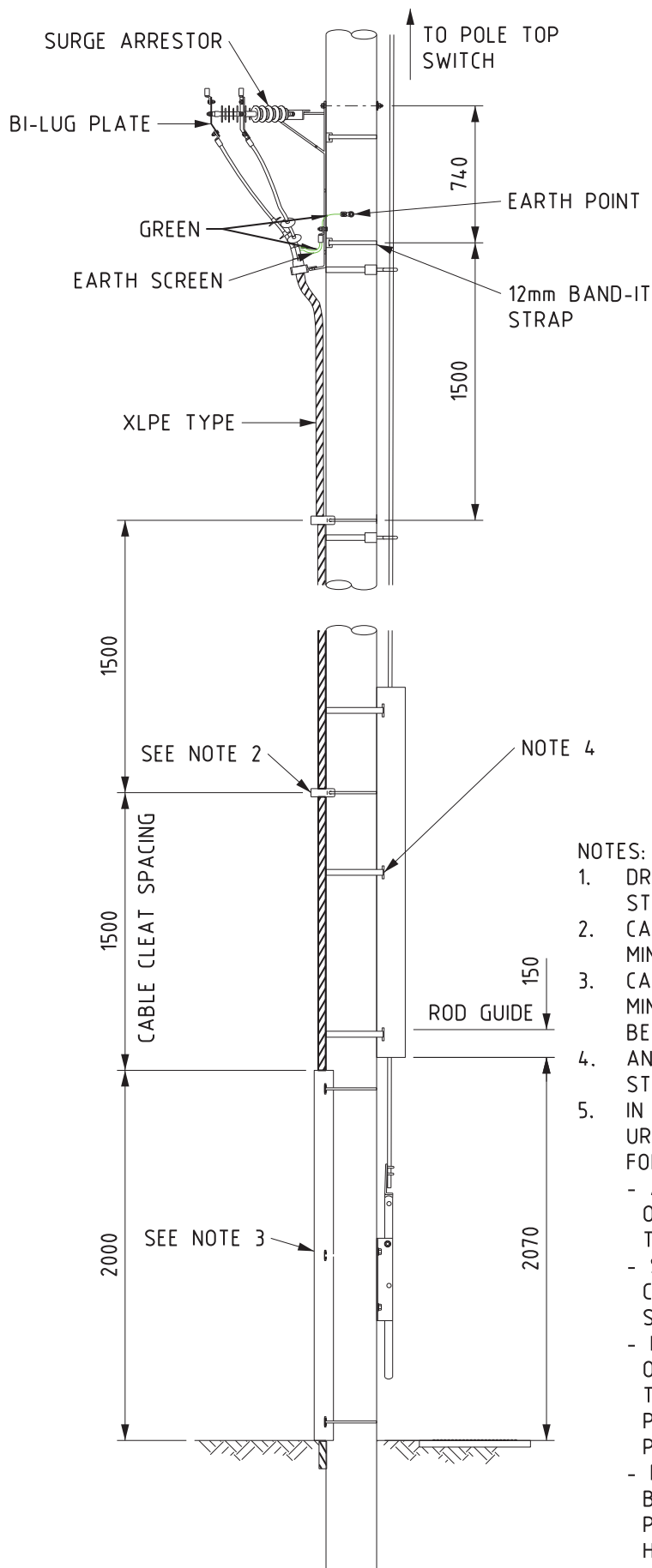


DISTRIBUTION CONSTRUCTION
STANDARDS

EARTHING
TRANSFORMERS

REVISION F	DATE APRIL 18
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DRAWING No.
R6-5



NOTES:

1. DRILL AND TAP METHOD PREFERRED TO BANDIT STRAPS REFERED TO IN NOTES BELOW.
2. CABLE CLEATS SECURED WITH 12mm BANDIT STRAPS MINIMUM OF 2 REQUIRED.
3. CABLE GUARD SECURED WITH 12mm BANDIT STRAPS MINIMUM OF 2 REQUIRED. MINIMUM GAP POSSIBLE BETWEEN F.G.L. AND GUARD SHALL BE MAINTAINED.
4. ANTICLIMBING GUARD SECURED WITH 12mm BANDIT STRAPS MIN 2 REQUIRED.
5. IN ALL SECTIONS WHERE POLES ARE DRAWN WITH URD CABLES ON THEM THE FOLLOWING WILL APPLY FOR THE CABLE INSTALLATION.
 - ALL CABLES SHALL BE INSTALLED ON THE OPPOSITE SIDE OF THE POLE TO ONCOMING TRAFFIC.
 - SHOULD POINT ABOVE BE IMPRACTICAL, THE CABLES MAY BE INSTALLED ON THE FOOTPATH SIDE, (BETWEEN POLE AND PROPERTY BOUNDARY)
 - 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 AND PROPERTY BOUNDARY) UP TO THE CONNECTION.
 - FOR POLE TOP SWITCH POLES THE CABLE MUST BE INSTALLED ON THE FOOTPATH SIDE (BETWEEN POLE AND PROPERTY BOUNDARY) THEN ROLLED AS HIGH UP AS POSSIBLE TO THE SIDE OF THE CONNECTION.



DISTRIBUTION CONSTRUCTION STANDARDS

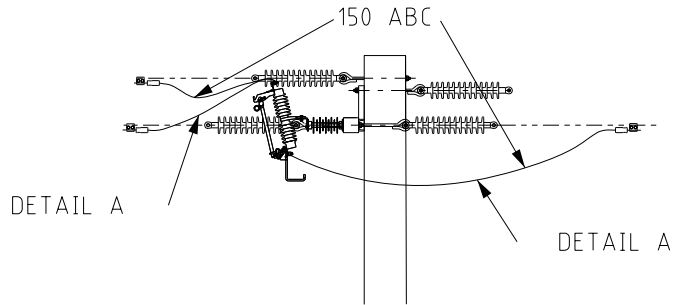
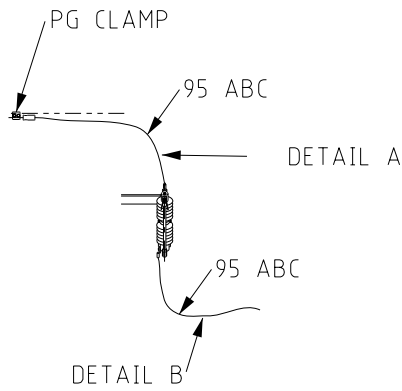
CABLE CLEAT / GUARD AND POLE TOP SWITCH ANTI CLIMBING GUARD DETAIL

REVISION B	DATE APRIL 18
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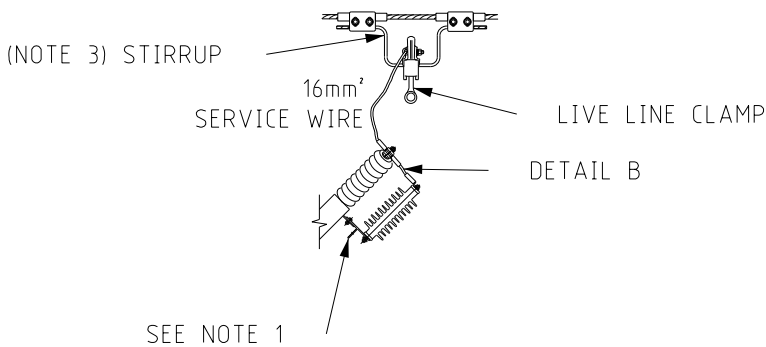
DRAWING No.

R7-1

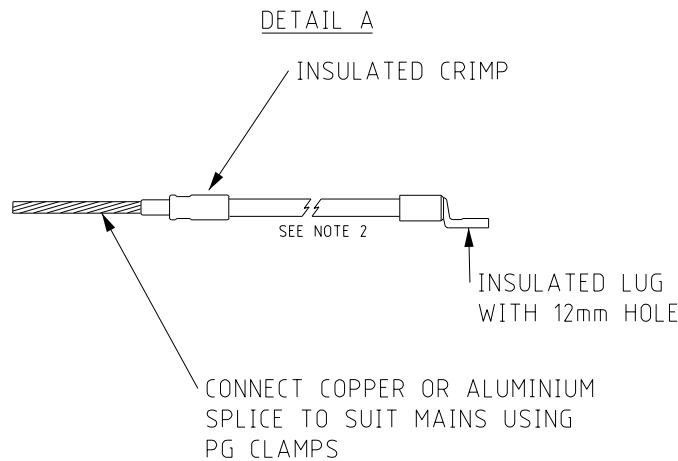
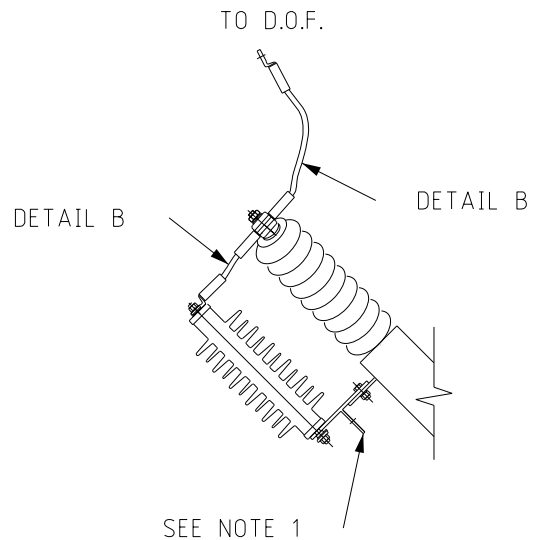
1. LINE TAPS TO DROPOUT FUSE or CABLE SURGE ARRESTOR



2. LIVE STIRRUP TO SINGLE PHASE TRANSFORMER



3. DROPOUT FUSE TO TRANSFORMER WITH SURGE ARRESTER



NOTE:

1. CLEAN OFF PAINT TO ENSURE GOOD ELECTRICAL CONTACT BEFORE APPLYING CONDUCTIVE GREASE.
2. WHERE THE INSULATED SPLICE CRIMP IS NOT USED FOR LINE TAPS, A 20mm LENGTH OF INSULATION MUST BE REMOVED BEHIND THE INSULATED LUG TO ALLOW MOISTURE TO DRAIN. SEE R8/2 FOR PG CLAMP APPLICATION.
3. REFER TO R8-6 IF LIVE LINE CLAMP AND STIRRUP IS USED.



DISTRIBUTION CONSTRUCTION STANDARDS

ABC TAPS FOR TRANSFORMER AND CABLE TERMINATION

REVISION	DATE
D	15/04/2021

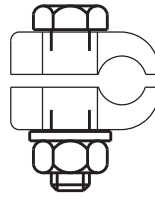
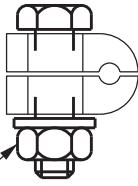
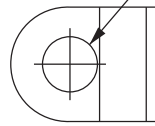
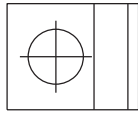
DRAWING No.

R8-1



CABLE CRIMP

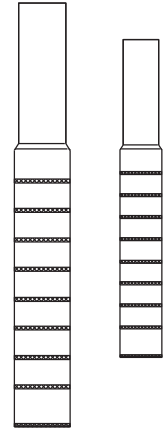
S/S BOLT & NUT



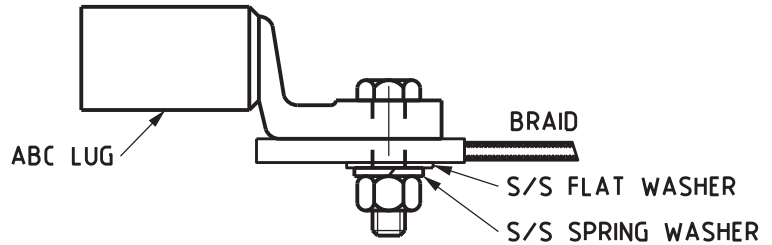
EARTH

PHASE

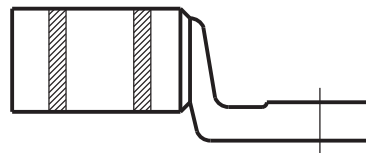
TRANSFORMER & EARTH LUGS



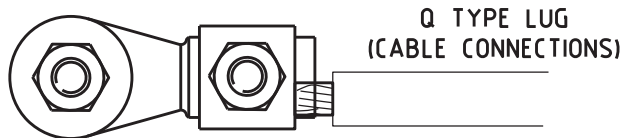
ABC TO AERIAL



CRIMP MARK



LUG BI-METAL



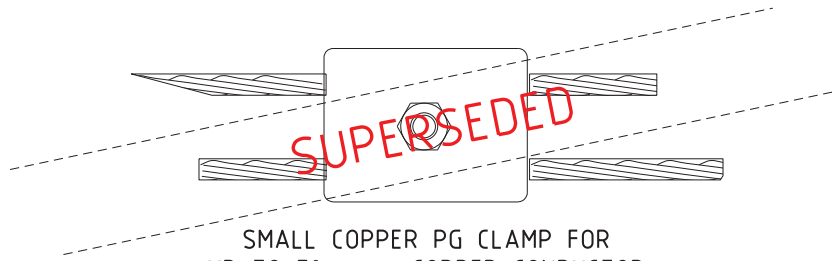
DISTRIBUTION CONSTRUCTION
STANDARDS

LUGS AND CONNECTORS
TRANSFORMER AND CABLE

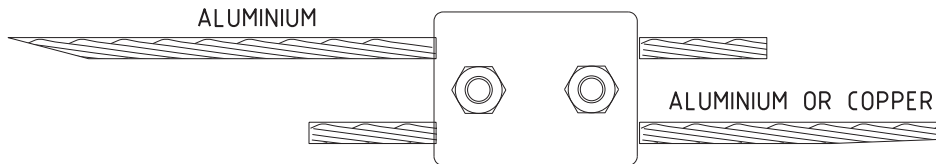
REVISION E	DATE APRIL 18
---------------	------------------

DRAWING No.

R8-2



SMALL COPPER PG CLAMP FOR
UP TO 70mm sq COPPER CONDUCTOR
INCLUDING Cu DOWN EARTH JOINS



(NOTE 1)

PARALLEL GROOVE CLAMPS

STEP 1

WIRE BRUSH SURFACE OF CONDUCTOR AND JAWS OF CLAMP. THEN IMMEDIATELY APPLY ALUMINIUM JOINTING COMPOUND. STOCK No. PG 0002

STEP 2

FIT CLAMP AND TIGHTEN BOLTS SECURELY. IF COPPER TO ALUMINIUM THEN ALUMINIUM CONDUCTOR TO BE ABOVE THE COPPER

STEP 3

IN AREAS OF HIGH POLLUTION (TYPICALLY WITHIN 5 Kms OF COAST) APPLY GREASE TO COVER ALL PARTS OF JOINT. USE SHELL MP2 - STOCK No PG0125.

IN EXTREMELY CORROSIVE ENVIRONMENTS WHERE THIS HAS PROVEN INADEQUATE, THEN APPLY 510 DENSO TAPE OVER GREASE AND JOINT TO EXCLUDE ALL MOISTURE - STOCK No HTH0001

REUSE OF PG CLAMPS

DO NOT REUSE PG CLAMPS WHICH HAVE BEEN SUBJECTED TO HEAVY FAULT CONDITIONS AND EXCESSIVE CORROSION

CONTACT GROOVES OF THE PG CONDUCTOR INTERFACE MUST BE THOROUGHLY CLEANED TO BRING THE SURFACE BACK TO "AS NEW" CONDITION

APPLY CONTACT PROTECTION GREASE TO REINSTATE ENVIRONMENTAL PROTECTION AT THE INTERFACE

NOTES:

1. DOUBLE PG CLAMPS MUST BE USED ON ALL NEUTRAL CONNECTIONS.



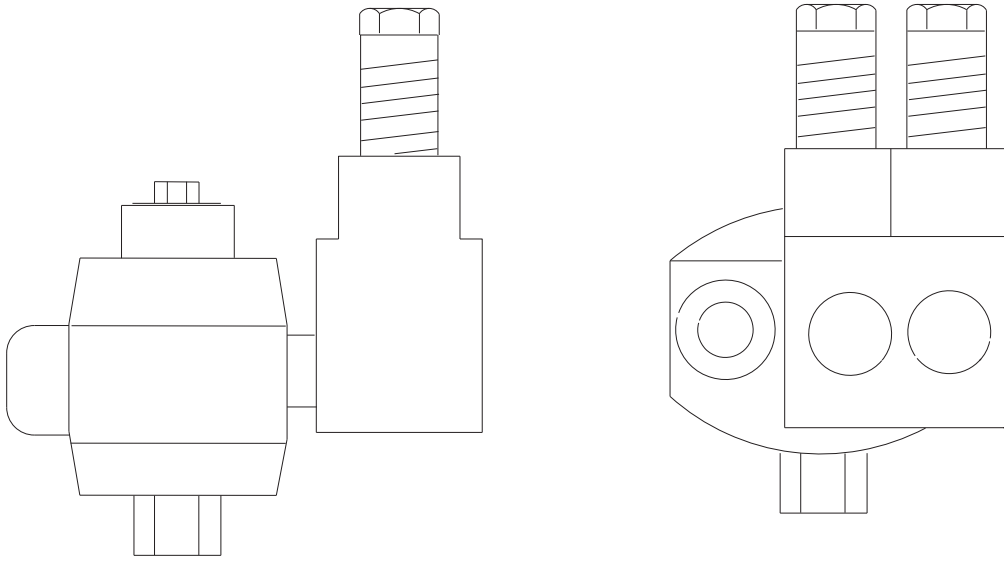
DISTRIBUTION CONSTRUCTION
STANDARDS

PG CLAMPS
INSTALLATION INSTRUCTION

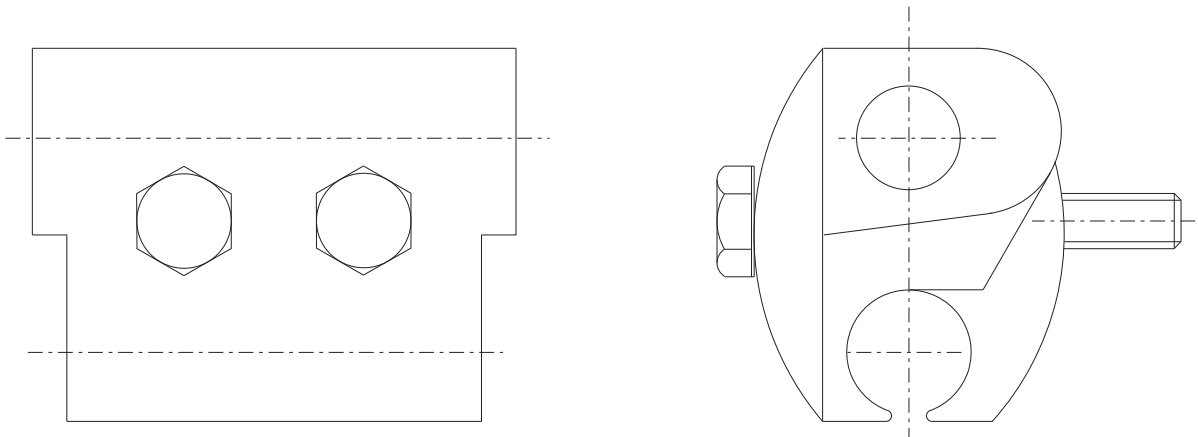
REVISION E	DATE OCT 17
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DRAWING No.

R8-3



ABC TO SERVICE 95/35-6 & 150/35-6



LV MAINS IPC - ABC TO ABC



DISTRIBUTION CONSTRUCTION
STANDARDS

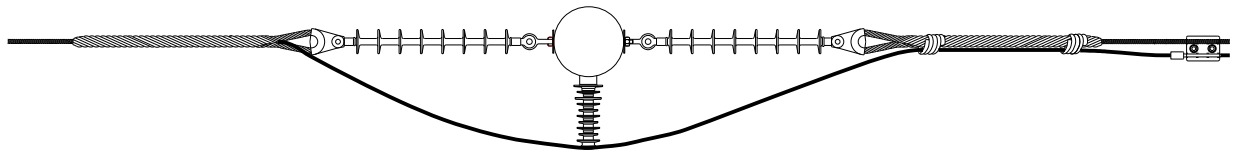
LUGS AND CONNECTORS
INSULATION PIERCING CLAMPS

REVISION C	DATE APRIL 18
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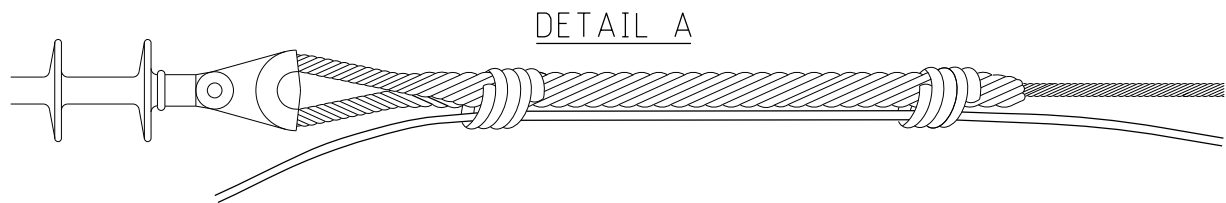
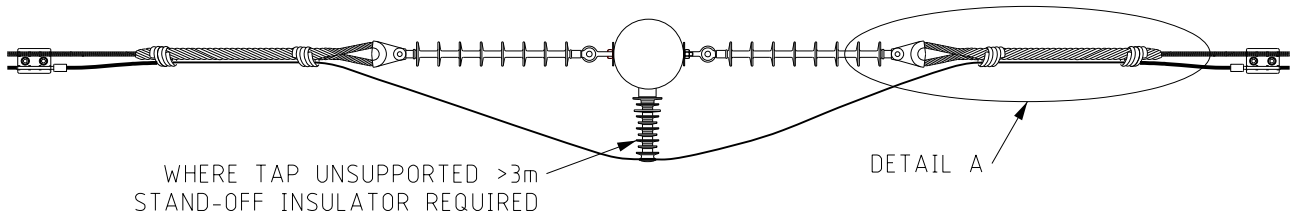
DRAWING No.

R8-4

PREFERRED WHERE POSSIBLE TO USE EXISTING BARE CONDUCTOR WITH ONE CONNECTOR.



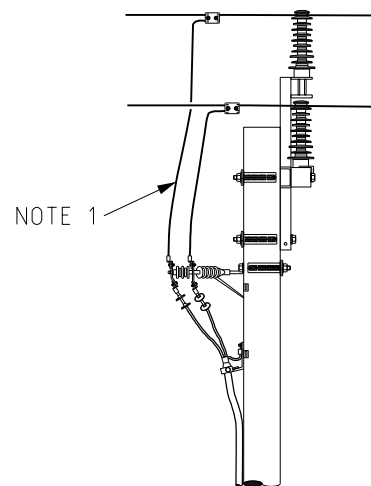
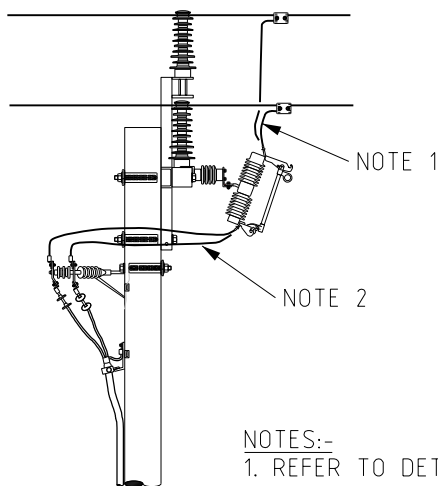
ALTERNATIVELY USE 150mm² LV ABC CONDUCTOR.



SUPPORT TAP USING TIE WIRE - 4 WRAPS, TWITCH ENDS WITH PLIERS AND FOLD BACK. CABLE OR ZIP TIES NOT TO BE USED

CABLE TERMINATION

- USE 95mm² LVABC FOR 35/50/95mm² CABLES.
- USE 150mm² LVABC FOR ALL OTHER CABLES.
i.e. 185/240/400mm² CABLES



NOTES:-
1. REFER TO DETAIL A ON R8-1.
2. REFER TO DETAIL B ON R8-1.



DISTRIBUTION CONSTRUCTION
STANDARDS

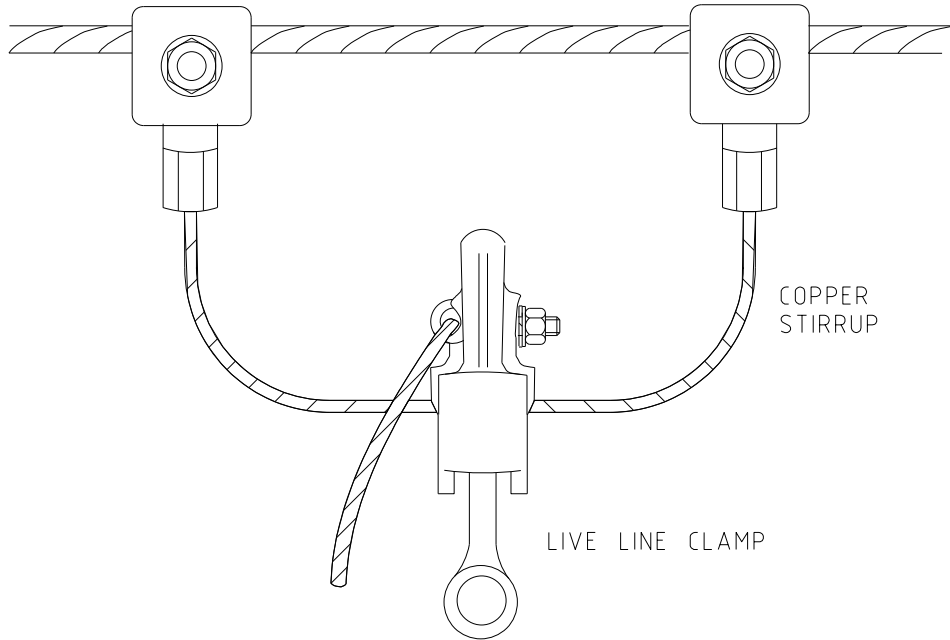
TAPS ON HV
MAIN LINE CONNECTIONS

REVISION	DATE
A	15/04/2021

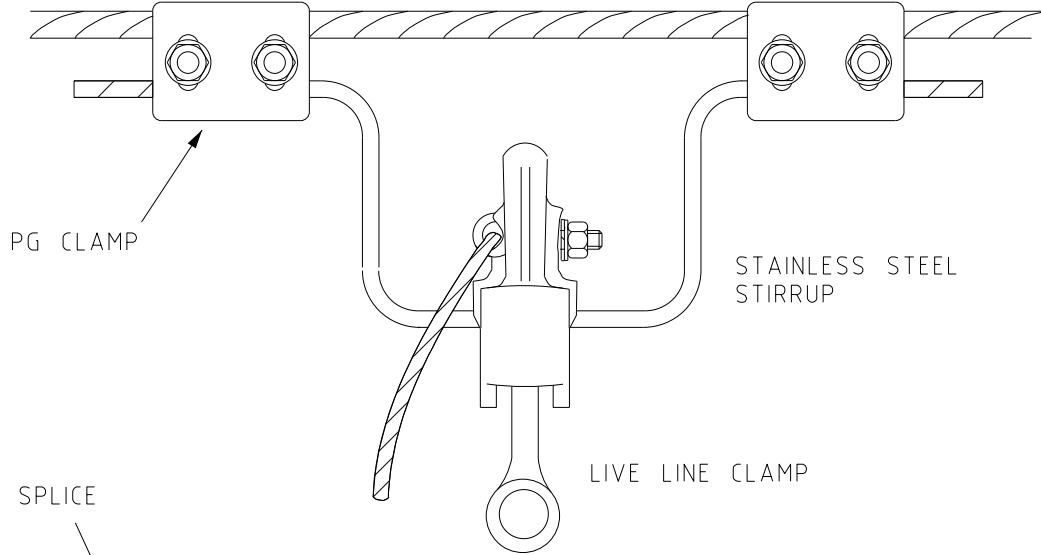
DRAWING No.

R8-5

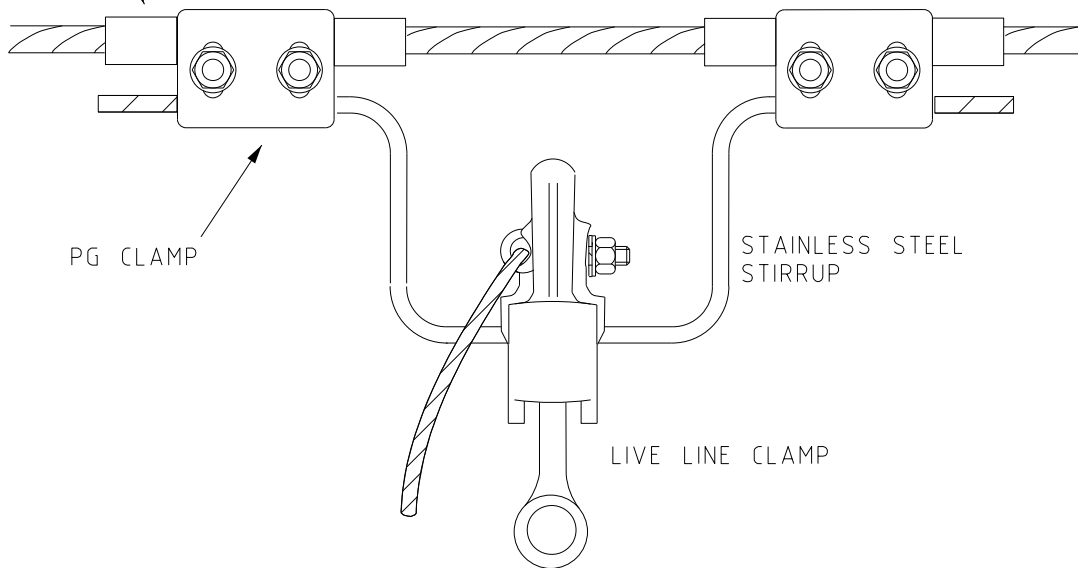
AAC/AAAC, COPPER, SCGZ CONDUCTORS



3/2 75 STEEL CONDUCTOR



7/160 SC/GZ CONDUCTOR



DISTRIBUTION CONSTRUCTION STANDARDS

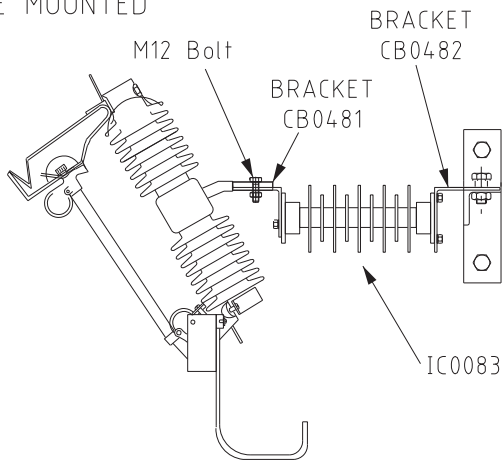
STIRRUP LIVE LINE CLAMP TAP OFF

REVISION	DATE
A	12/03/2021

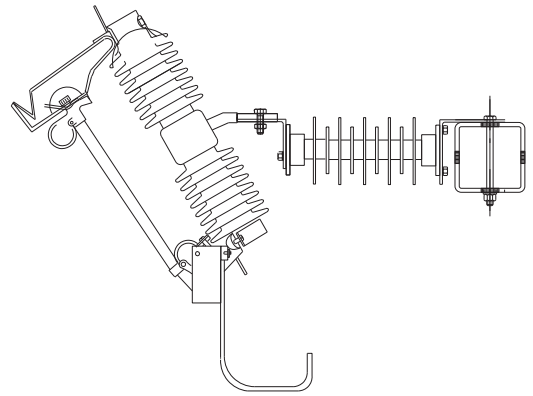
DRAWING No.

R8-6

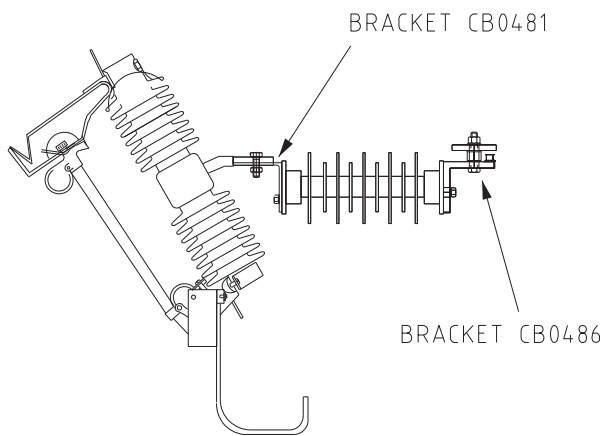
POLE MOUNTED



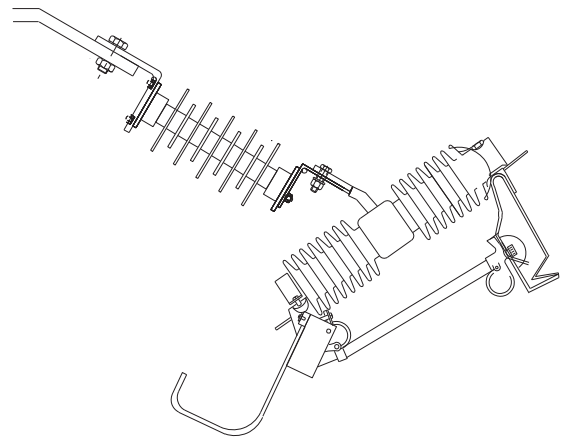
CROSS-ARM MOUNTED



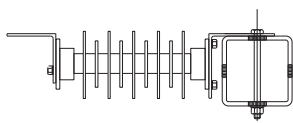
TERMINATION POLE TOP SWITCH



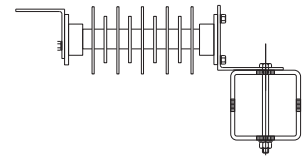
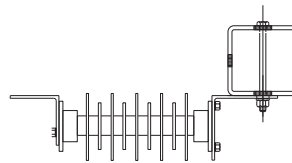
EXTENTION ARM MOUNTED



ALTERNATE CROSS-ARM MOUNTING



STANDARD MOUNTING



MOUNTING VARIATIONS ON EXISTING STRUCTURES FOR FITTING & BARREL SWING CLEARANCE

- NOTES:
 1. STANDARD 170kV BIL EXPULSION DROPOUT FUSE UP TO 33kV WITH STANDOFF INSULATOR FOR ALL INSTALLATIONS.



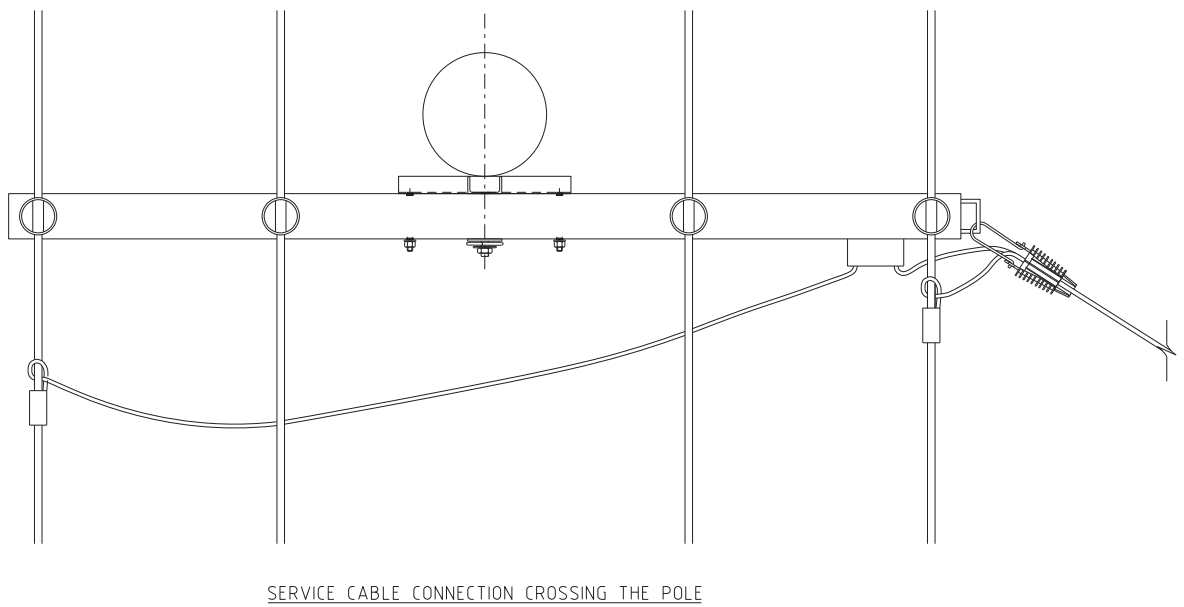
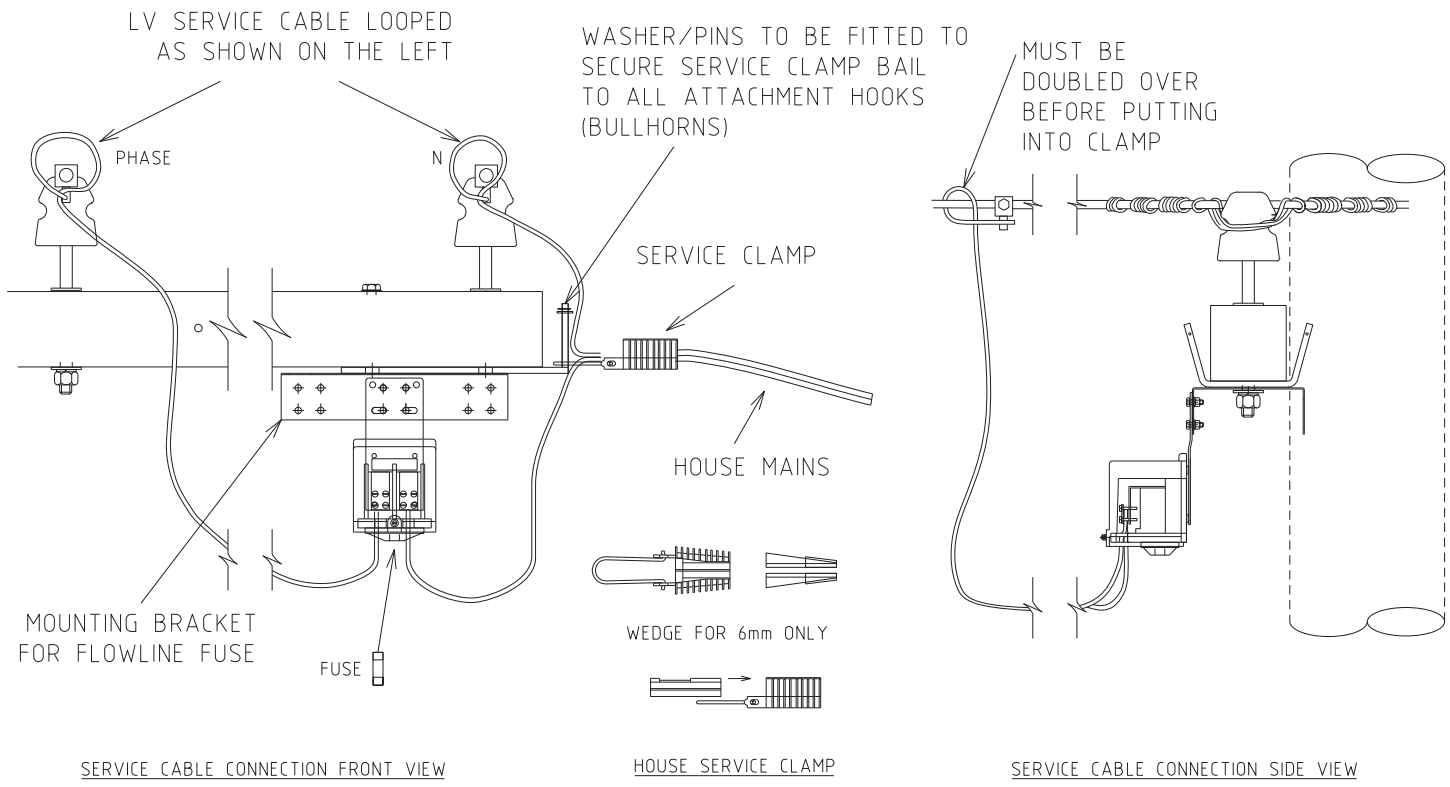
DISTRIBUTION CONSTRUCTION STANDARDS

DROPOUT FUSE MOUNTING DETAILS WITH MOUNTING BRACKET

REVISION	DATE
E	06/11/2020

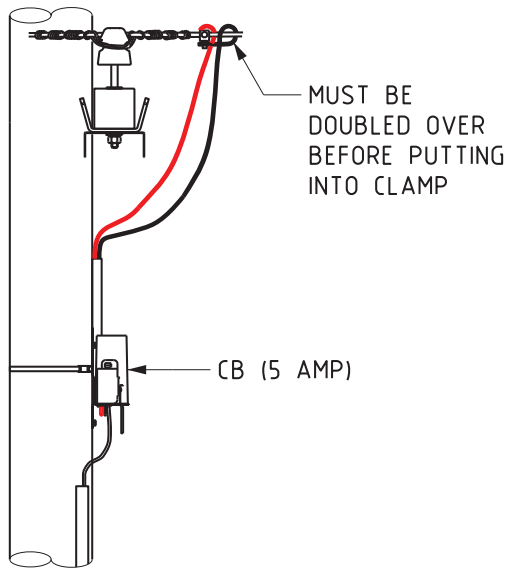
DRAWING No.

R10-1

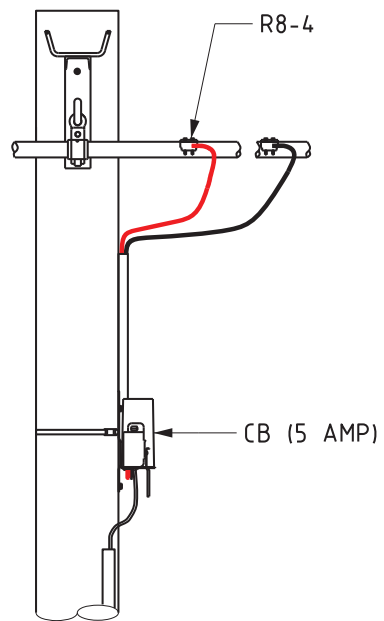


NOTES:

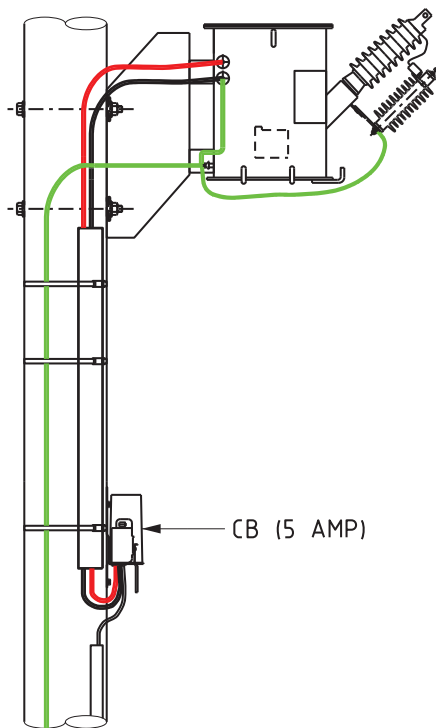
1. SERVICE WIRE TO BE INSTALLED AT A SAFE DISTANCE FROM THE POLE WITH ENOUGH CLEARANCE TO NOT TOUCH THE POLE.
2. FLOWLINE BOX WHEN MOUNTED ON THE SAME SIDE OF THE CROSSARM THAT THE SERVICE IS ATTACHED, WILL PROVIDE BETTER CLEARANCE.
3. WHEN THERE IS INADEQUATE CLEARANCE A RISK ASSESSMENT IS REQUIRED AND ADDITIONAL INSULATION OR SECURING METHOD MUST BE APPLIED.
4. ALL SERVICES MUST BE FUSED



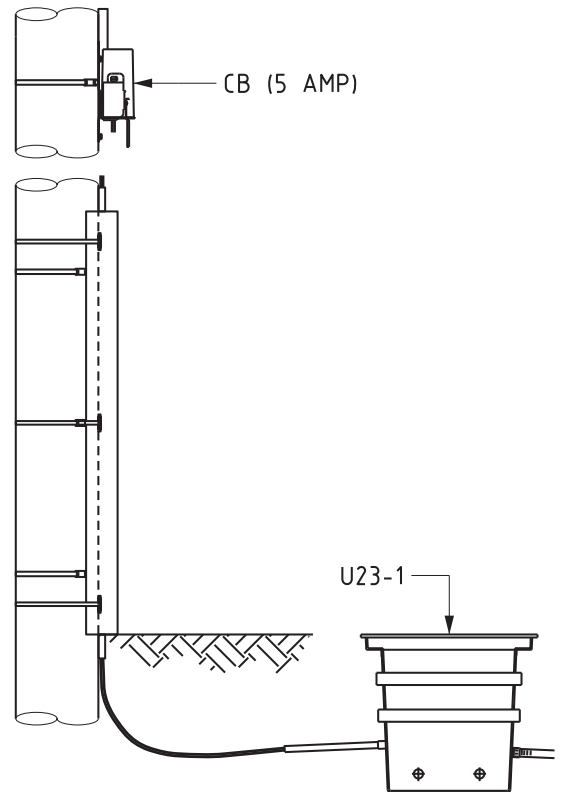
LV AERIAL CONNECTION SIDE VIEW



LV ABC CONNECTION SIDE VIEW



LV TRANSFORMER CONNECTION SIDE VIEW



LV UMS CONNECTION SIDE VIEW

NOTE 1

THIS DRAWING SHOWS LV SUPPLY ARRANGMENT ONLY. REFER TO RELEVANT POLE MOUNTED EQUIPMENT FOR DETAILS OF CONSTRUCTION



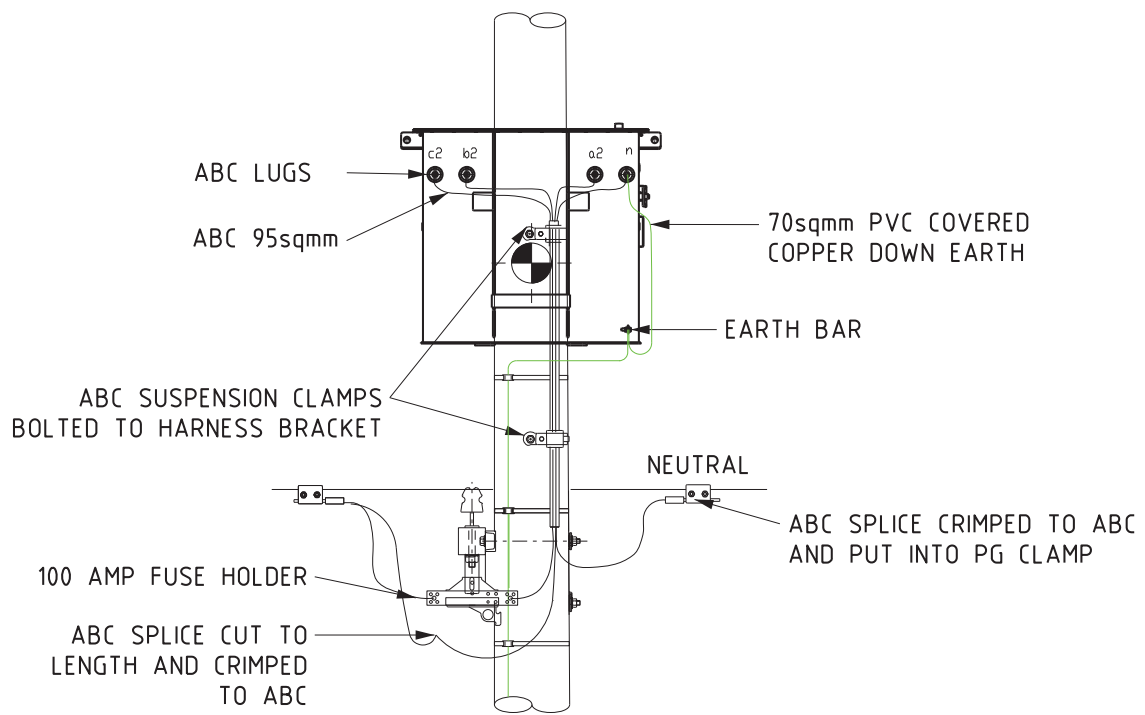
DISTRIBUTION CONSTRUCTION STANDARDS

LV SUPPLY TO POLE MOUNTED EQUIPMENT

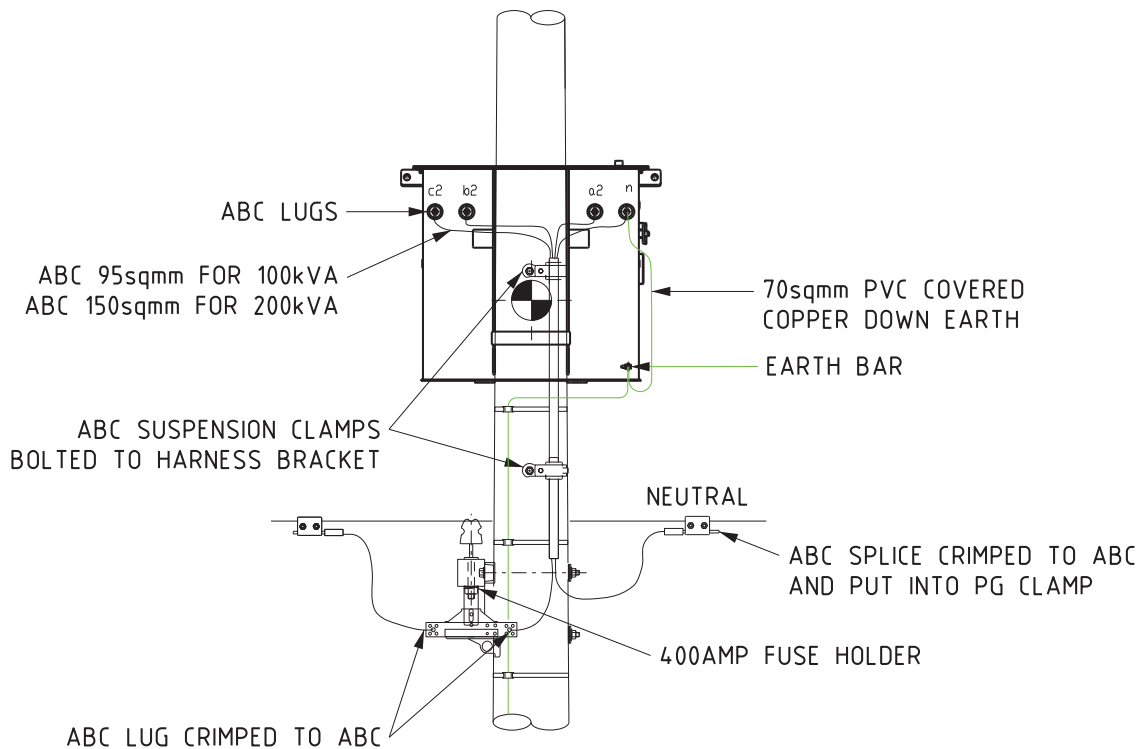
REVISION	DATE
B	APRIL 18

DRAWING No.

R11-1



25 AND 63kVA TO BARE CONDUCTOR



100 AND 200kVA TO BARE CONDUCTOR

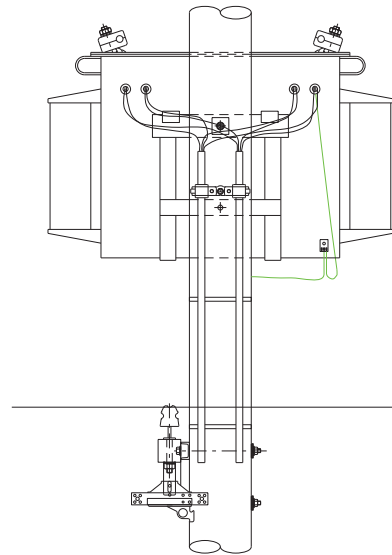
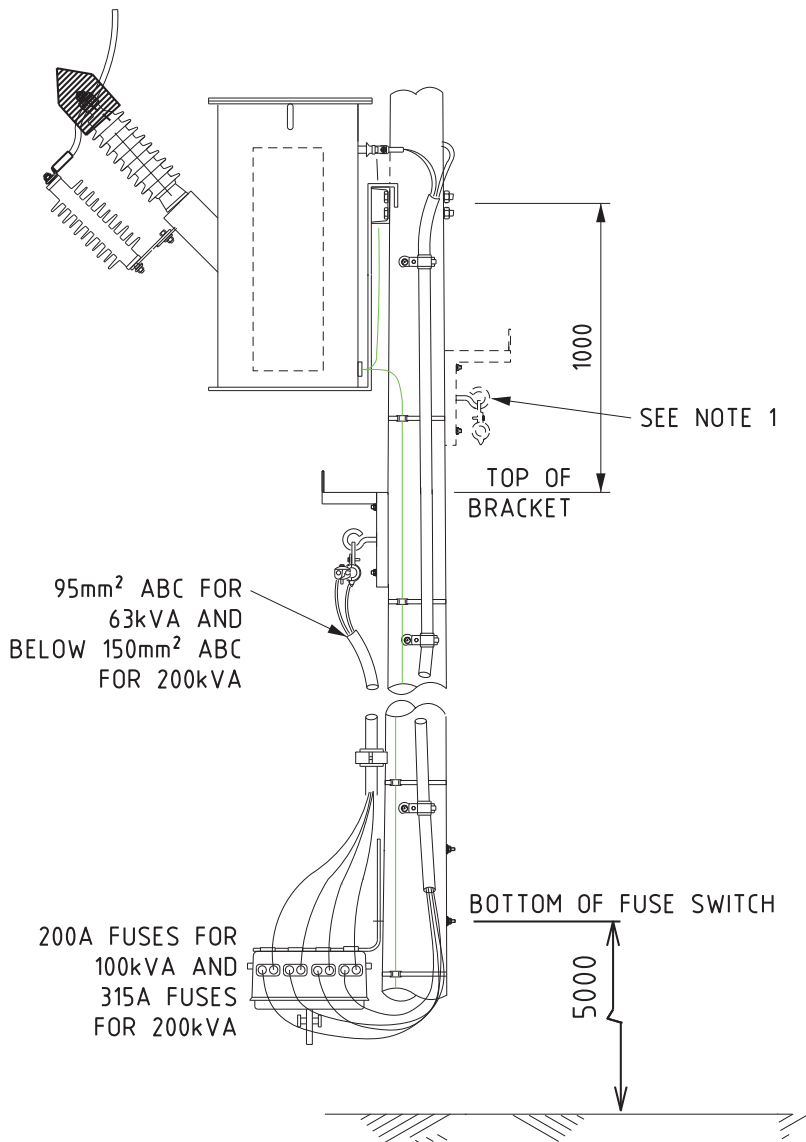


DISTRIBUTION CONSTRUCTION STANDARDS

REVISION	DATE
D	01/10/17

TRANSFORMER BARE LV FUSING DETAILS

DRAWING No.
R12-1

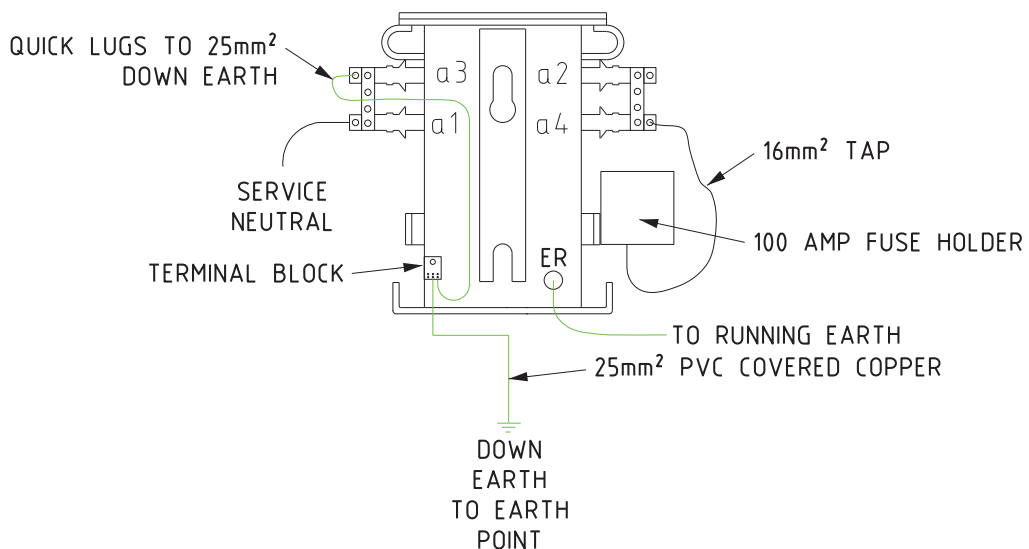


315kVA TO ABC OR LV BARE
REFER TO R12-3
FOR OPTIONS

NOTES:

1. ALTERNATIVE POSITION FOR BRACKET IF CABLE CLEARANCE CANNOT BE OBTAINED
2. FUSES PREFERABLY ON ROADSIDE

100 and 200kVA TO ABC



SINGLE PHASE 10 AND 25kVA



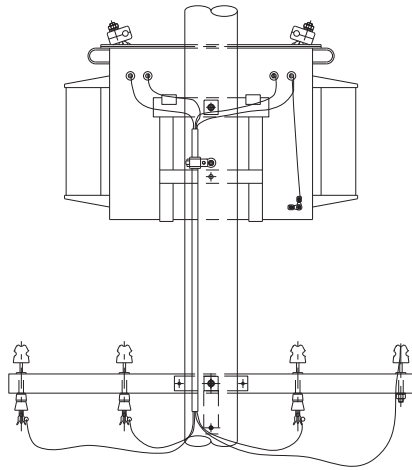
DISTRIBUTION CONSTRUCTION
STANDARDS

REVISION	DATE
D	OCT 17

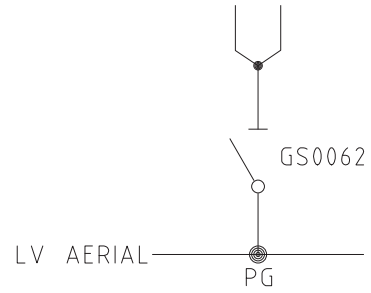
TRANSFORMER LV
FUSING DETAILS

DRAWING No.
R12-2

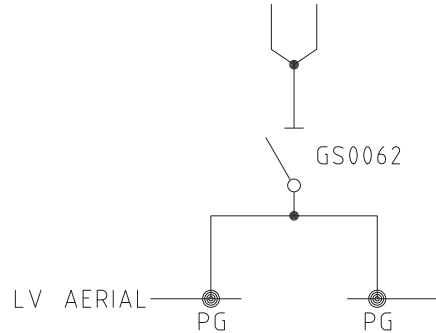
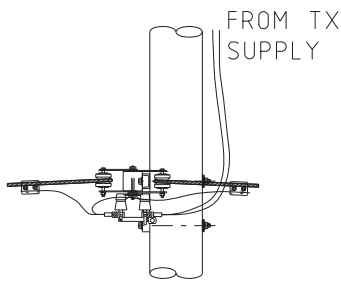
OPTION 1



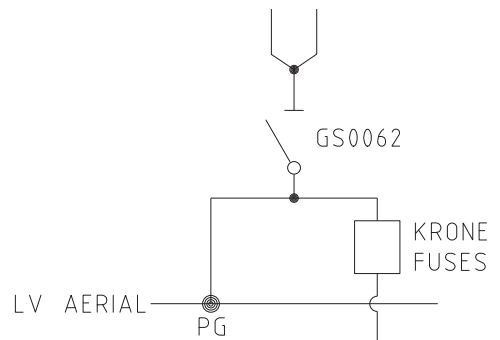
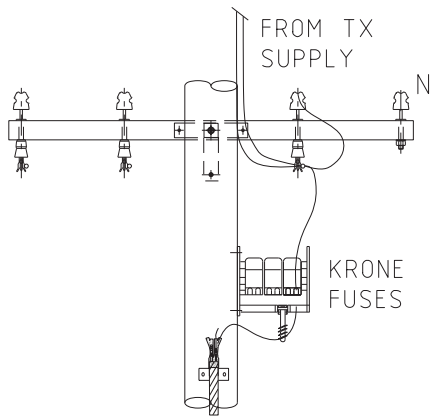
1 PHASE ONLY
SHOWN FOR CLARITY
SINGLE LINE REPRESENTATION



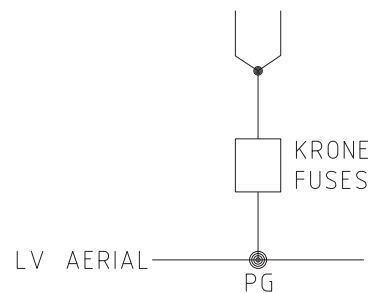
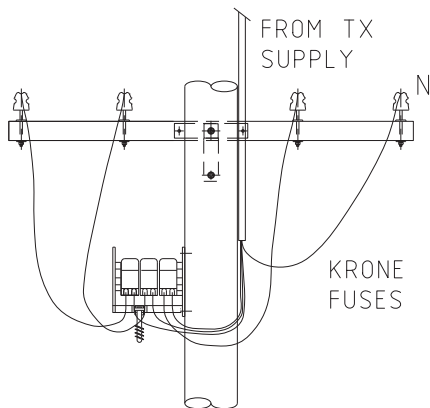
OPTION 2



OPTION 3



OPTION 4



DISTRIBUTION CONSTRUCTION
STANDARDS

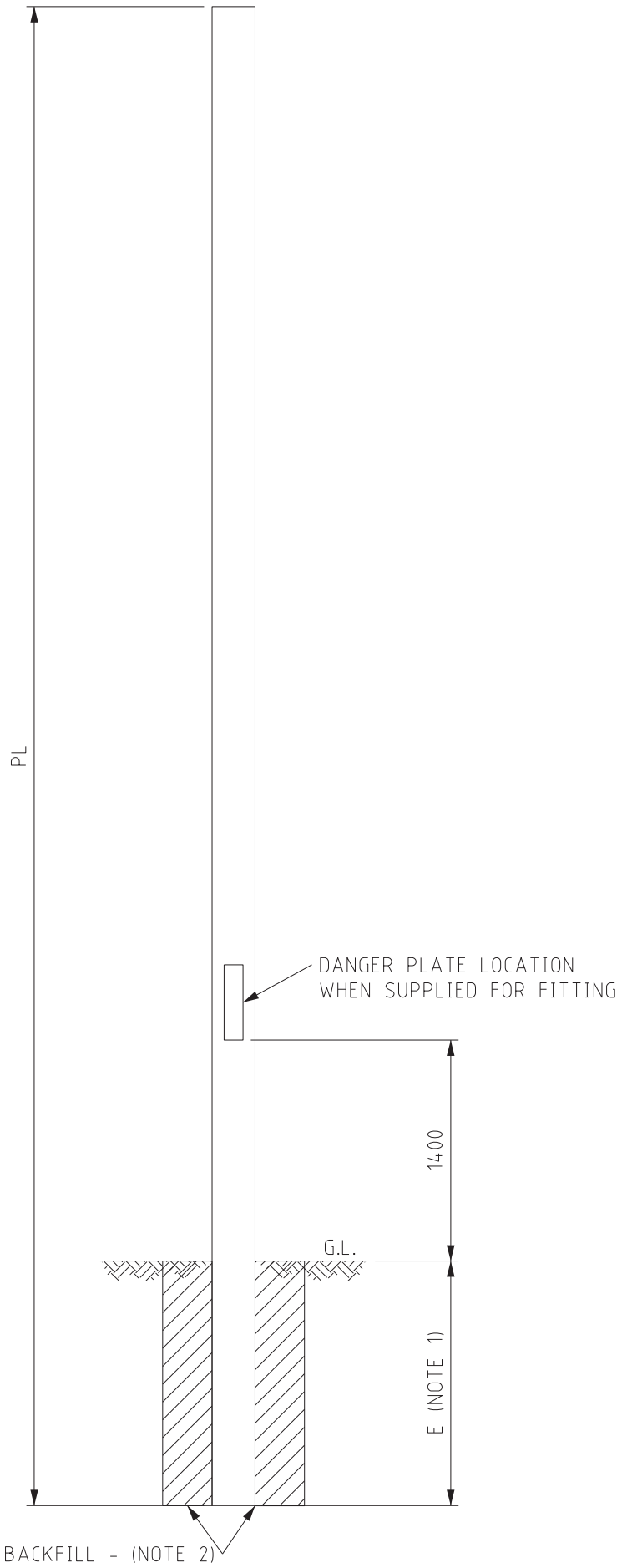
OPERATIONS

REFERENCE DRAWING

TRANSFORMER LV
ISOLATION DETAILS

REVISION B	DATE JUNE 2011
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DRAWING No.
R12-3



BACKFILL - (NOTE 2)

NOTE:

1. STANDARD POLE EMBEDMENT DEPTH

POLE LENGTH	EMBEDMENT DEPTH
9.5m	1.55m
11.0m	1.70m
12.5m	1.85m
14.0m	2.00m

EXAMPLE 9.5m POLE

$$\begin{aligned}
 E &= (PL + 6.0) / 10 \\
 &= (9.5 + 6.0) / 10 \\
 &= (15.5) / 10 \\
 &= 1.55\text{m}
 \end{aligned}$$

2. BACKFILL SHOULD BE MECHANICALLY COMPACTED IN 300mm LAYERS AND IN STEPS OF 150mm LAYERS IF HAND COMPACTED.
3. REFER TO R13-2 WHERE CONCRETE BACKFILL IS REQUIRED TO ENHANCE POLE FOUNDATION STRENGTH. SCENARIOS INCLUDE:
 - A. INSTALLATION IN CYCLONIC REGION C & D (MANDATORY)
 - B. INSTALLATION IN AREAS WITH POOR SOIL EVALUATION BY ENGINEERED ASSESSMENT.
 - C. SELF SUPPORTIVE POLE DETERMINED BY ENGINEERED ASSESSMENT.



DISTRIBUTION CONSTRUCTION STANDARDS

POLE EMBEDMENT DEPTH AND DANGER PLATE

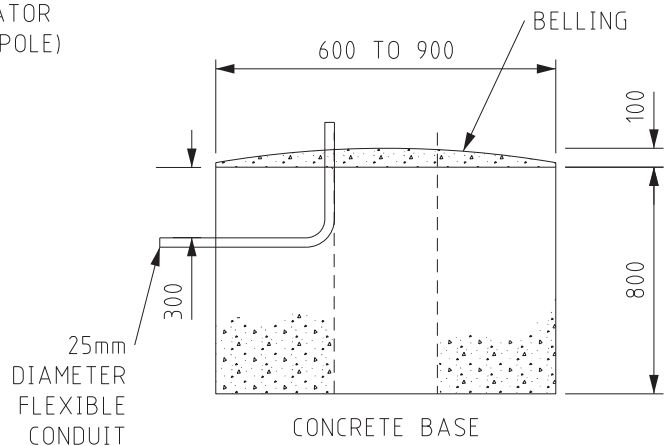
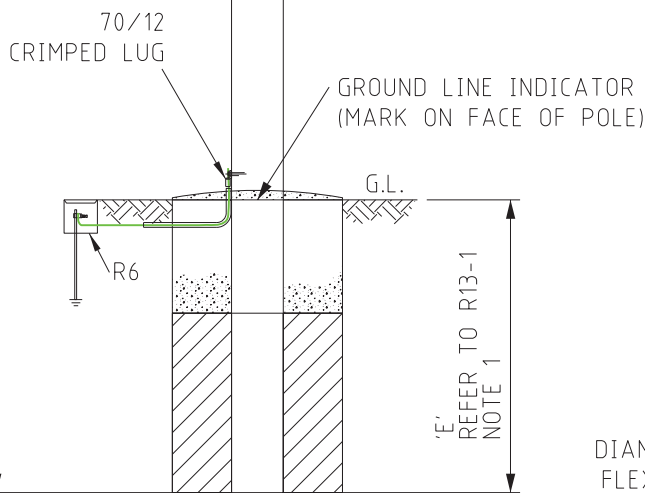
REVISION	DATE
C	22/02/2021

DRAWING No.
R13-1

UP TO 14000

CONCRETE BASE AND BELLING DETAILS:

1. CONCRETE BASE AND BELLING MUST BE USED FOR CYCLONIC AREAS (AS/NZS 1170.2 REGIONS C AND D).
2. A FLEXI CONDUIT SHALL BE FITTED TO PROVIDE ACCESS FOR CABLE INSTALLATION TO THE POLE & CABLE REMOVAL FROM THE POLE.
3. CONCRETE MIX SHALL:
 - A. HAVE A MINIMUM STRENGTH OF 25MPA (N25 CONCRETE).
 - B. HAVE A 20mm NOMINAL AGGREGATE.
 - C. HAVE A SLUMP OF 80mm.
 - D. WHEN MIXED ON SITE BASED ON THE FOLLOWING RATIO BETWEEN CEMENT, CLEAN SAND, AGGREGATE AND WATER: 1:2:3:1.
 - E. BE MECHANICALLY VIBRATED TO REMOVE TRAPPED AIR POCKETS.
4. UNLESS OTHERWISE SPECIFIED IN THE DESIGN TO CATER FOR SPECIAL CIRCUMSTANCES, IT SHALL HAVE:
 - A. DEPTH OF 800mm.
 - B. DIAMETERS OF 600mm AND 900mm RESPECTIVELY FOR SANDY SOIL AND CLAY.



BACKFILL
REFER TO R13-1 NOTE 2

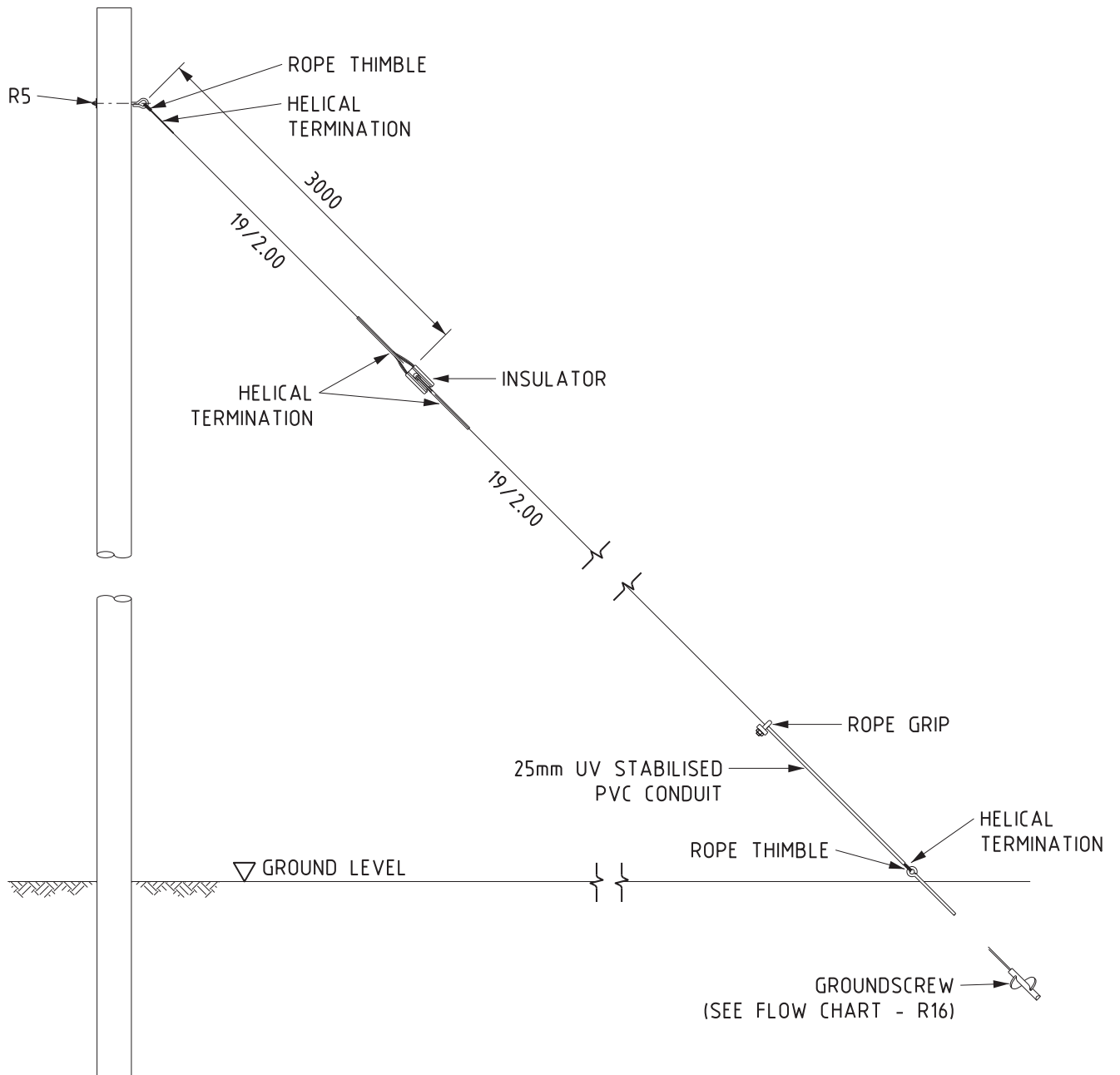


DISTRIBUTION CONSTRUCTION
STANDARDS

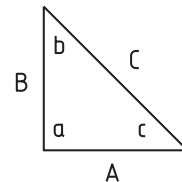
STEEL DISTRIBUTION POLE
CONCRETE BASE AND BELLING DETAILS

REVISION	DATE
D	22/02/2021

DRAWING No.
R13-2



INSTALLATION ANGLES AND TENSIONS OF STAYS					
ANGLE a (DEGREES)	ANGLE b (DEGREES)	ANGLE c (DEGREES)	A= (LENGTH)	C= (LENGTH)	C (TENSION)
90	60	30	Bx1.73	Bx2	SUM OF LINE LOAD x 1.15
90	45	45	B	Bx1.41	SUM OF LINE LOAD x 1.41
90	30	60	Bx0.57	Bx1.15	SUM OF LINE LOAD x 2



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

NOTE:

1. IF THE STAY WIRE PASSES THROUGH L.V. MAINS THEN THE L.V. MAINS MUST BE CONSTRUCTED ON A 2100mm CROSSARM AND COVERED IN INSULATING MATERIAL
2. STAY INSULATOR CAN BE ELIMINATED ONLY IF RISK OF EPR ZONE EXTENSION HAS BEEN ASSESSED.



DISTRIBUTION CONSTRUCTION STANDARDS

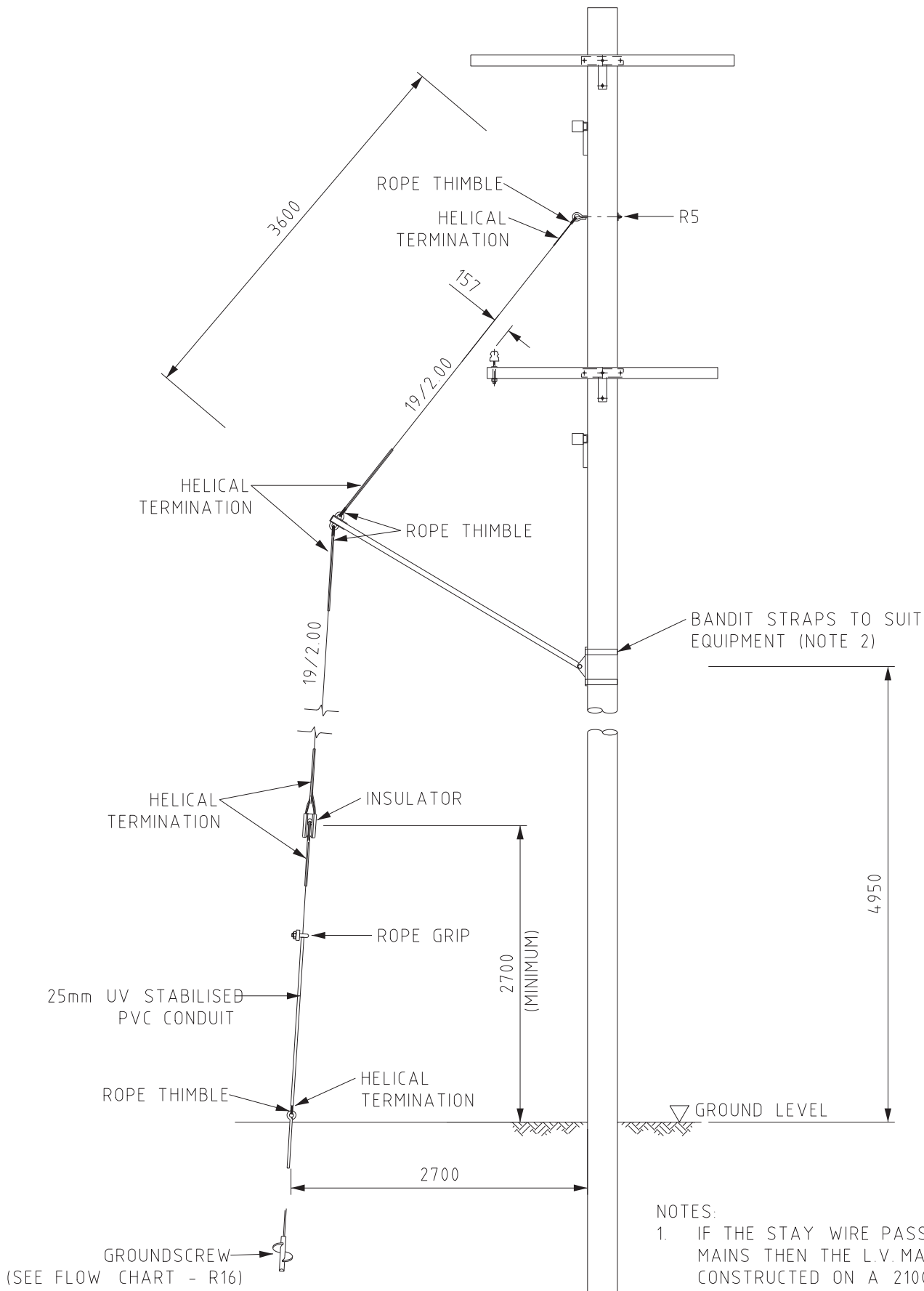
REFERENCE DRAWING

GROUND STAY

REVISION B	DATE NOV 18
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DRAWING No.

R14-1



NOTES:

1. IF THE STAY WIRE PASSES THROUGH L.V. MAINS THEN THE L.V. MAINS MUST BE CONSTRUCTED ON A 2100mm CROSSARM AND COVERED IN INSULATING MATERIAL
2. 32mm WIDE BANDIT STRAP ON OUTRIGGER.



DISTRIBUTION CONSTRUCTION STANDARDS

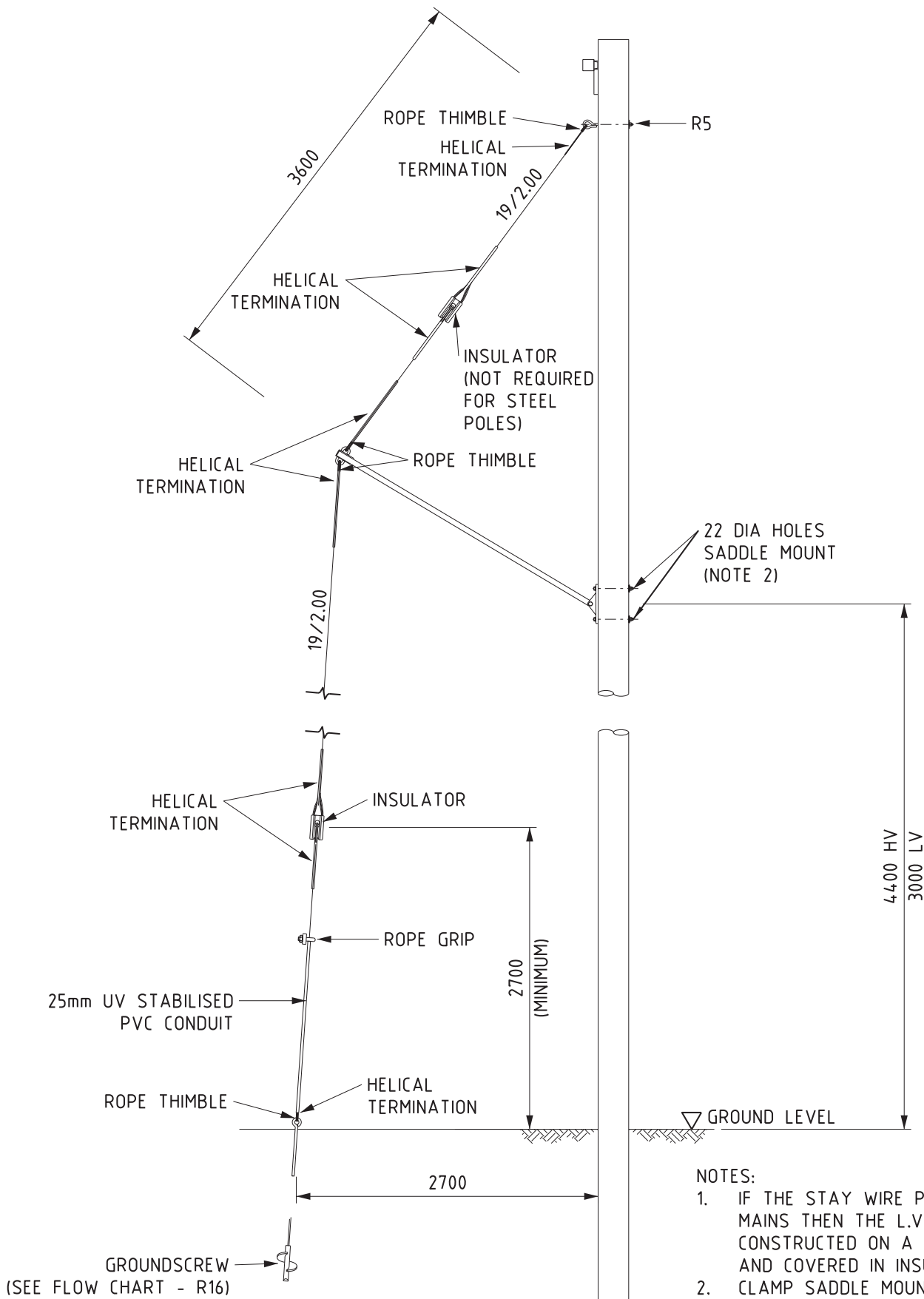
OPERATIONS

REFERENCE DRAWING

OUTRIGGER STAY
HV AND LV TEE-OFF

REVISION	DATE
B	MARCH 14

DRAWING No.
R14-2



NOTES:

1. IF THE STAY WIRE PASSES THROUGH L.V. MAINS THEN THE L.V. MAINS MUST BE CONSTRUCTED ON A 2100mm CROSSARM AND COVERED IN INSULATING MATERIAL
2. CLAMP SADDLE MOUNT (SI # FM0900).
3. TO BE USED ONLY WHERE GROUND STAY CANNOT BE USED.
4. STAY ANGLE IF VARIED MUST BE AS PER DESIGN.

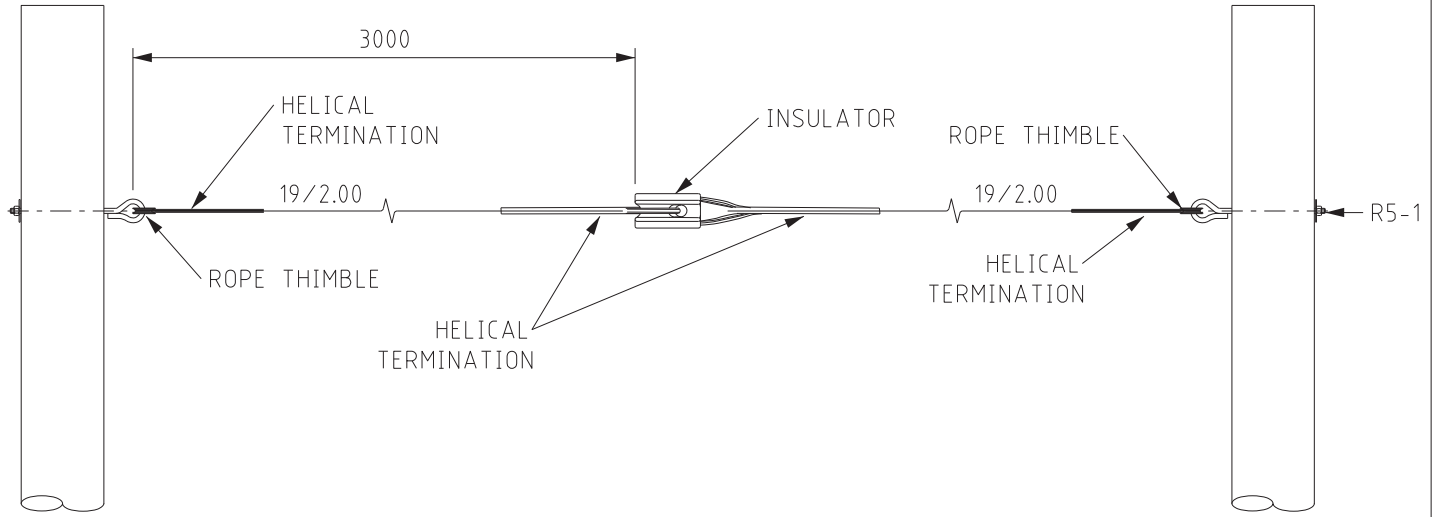


DISTRIBUTION CONSTRUCTION STANDARDS

OUTRIGGER STAY
 HV OR LV TERMINATION ONLY
 HV AND LV INTERMEDIATE ONLY

REVISION	DATE
C	NOV 18

DRAWING No.
 R14-3



NOTES:

1. STAY INSULATOR/S MUST BE FITTED 3.0m FROM POLE. STAY MAY REQUIRE TWO INSULATORS IF OVER CONDUCTOR AT BOTH ENDS.



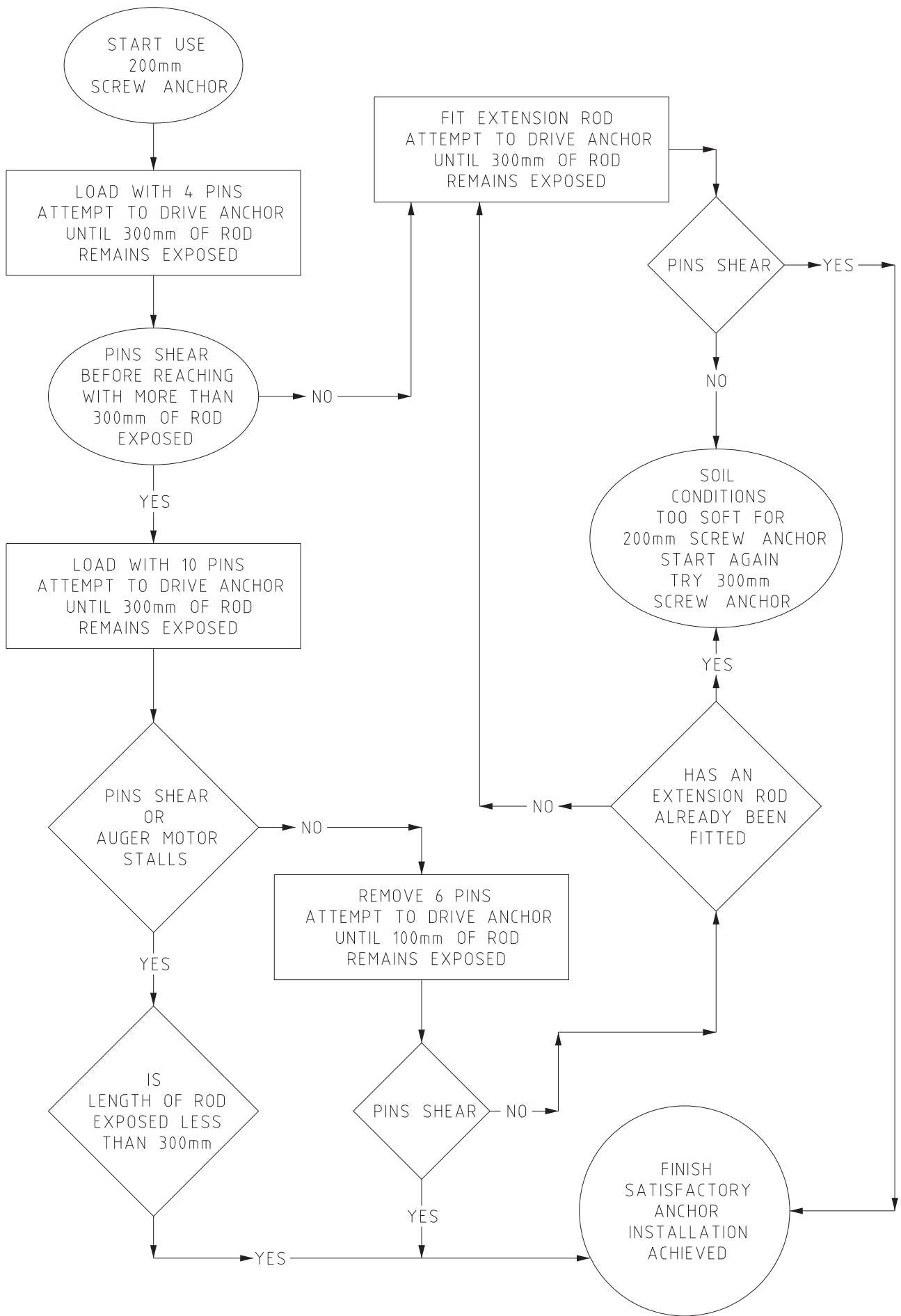
DISTRIBUTION CONSTRUCTION STANDARDS

REVISION	DATE
C	20/01/2021

DRAWING No.

AERIAL STAY

R14-5



DISTRIBUTION CONSTRUCTION
STANDARDS

OPERATIONS

REFERENCE DRAWING

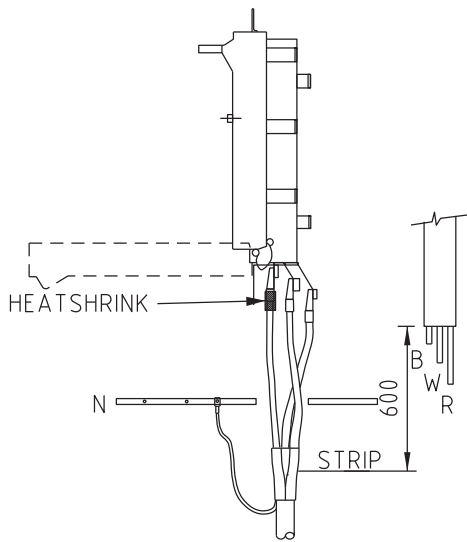
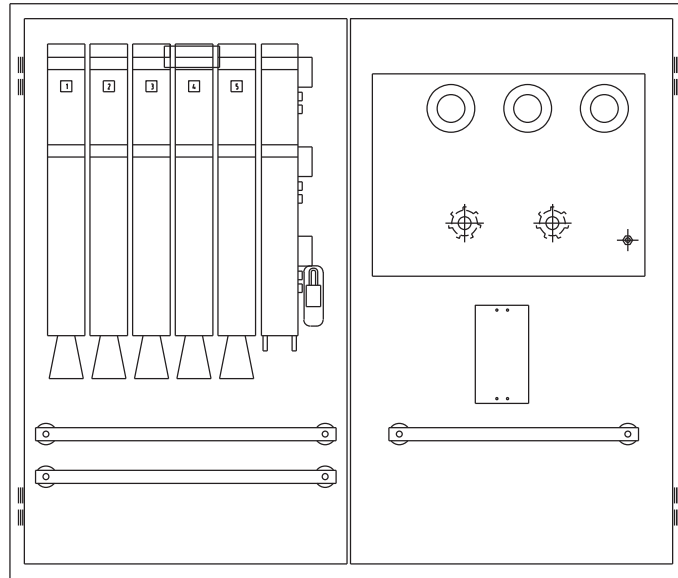
SCREW IN ANCHOR
FLOW CHART

REVISION
B

DATE
JUNE 2011

DRAWING No.

R16



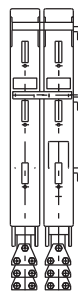
CABLE TO FUSE SWITCH
(REF R25)



5 x 400 AMP COVERS SUPPLIED WITH MPS



630 AMP COVER WITH 600 AMP LINKS - OPTIONAL



2 X 630 COVERS FIXED TOGETHER WITH
600 AMP LINKS
1200 AMP ARRANGEMENT - OPTIONAL

NOTES:

1. MPS COMES COMPLETE WITH TRANSFORMER AND 5 x LV SWITCHES INCLUDING 630 AMP BASES.
2. CABLE SUPPLIED WITH MPS TRANSFORMER RANGE - 160, 315 AND 630 kVA



DISTRIBUTION CONSTRUCTION
STANDARDS

MPS SUBSTATION
UP TO 630 kVA

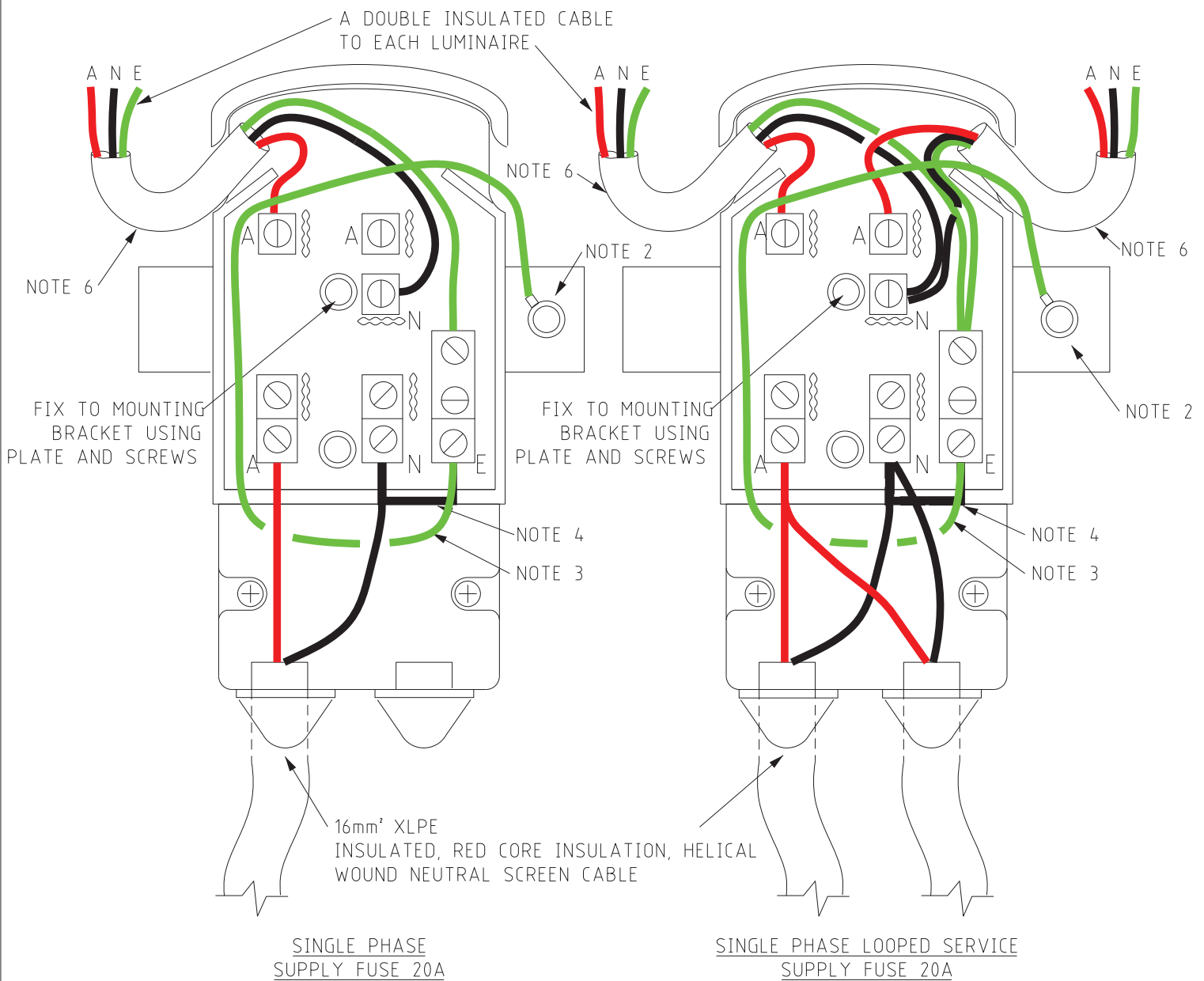
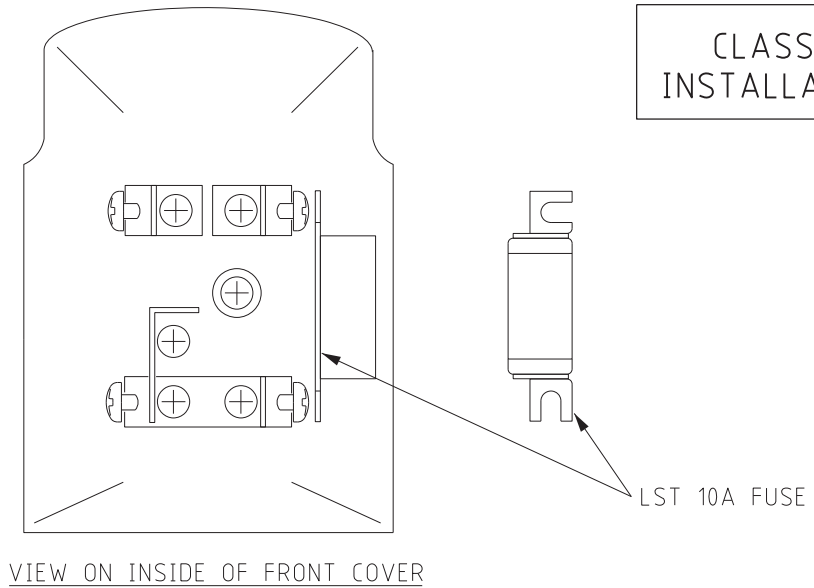
REVISION A	DATE JUNE 18
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DRAWING No.
R22

NOTE:

1. LST 10A FUSE (STOCK CODE: GF1300) MUST BE INSTALLED FOR ALL INSTALLATIONS.
2. CONNECT EARTH WIRE TO MOUNTING BRACKET USING TERMINAL LUG (FL0163) AND M6 SCREW (AB2820).
3. CONNECT 6mm EARTH WIRE (EE1364) TO POLE MOUNTING BRACKET FROM EARTH TERMINAL.
4. MEN BRIDGE OR 6mm EARTH WIRE (EE1364) LOOP.
5. IF EXISTING LUMINAIRE CABLE IS TPS TYPE OR OLDER, THEN INSTALLATION REMAINS AS CLASS I. OTHERWISE REFER TO R26-4 FOR CLASS II INSTALLATION.
6. LUMINAIRE CABLE SHEATH MUST ENTER CUT-OUT HOUSING AS SHOWN.

CLASS I
INSTALLATION



DISTRIBUTION CONSTRUCTION
STANDARDS

CLASS I STREETLIGHT CUTOUT
SINGLE PHASE SUPPLY
FOR CLASS I LUMINAIRES

REVISION	DATE
D	23/07/2020

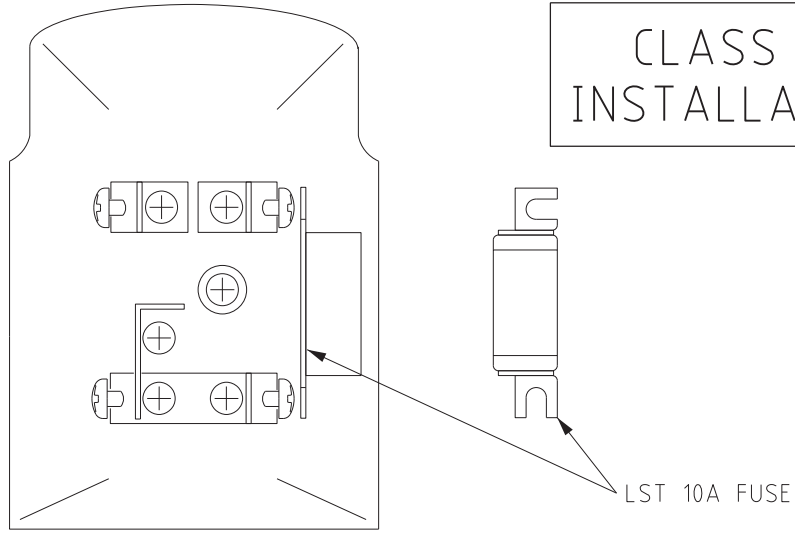
DRAWING No.

R26-3

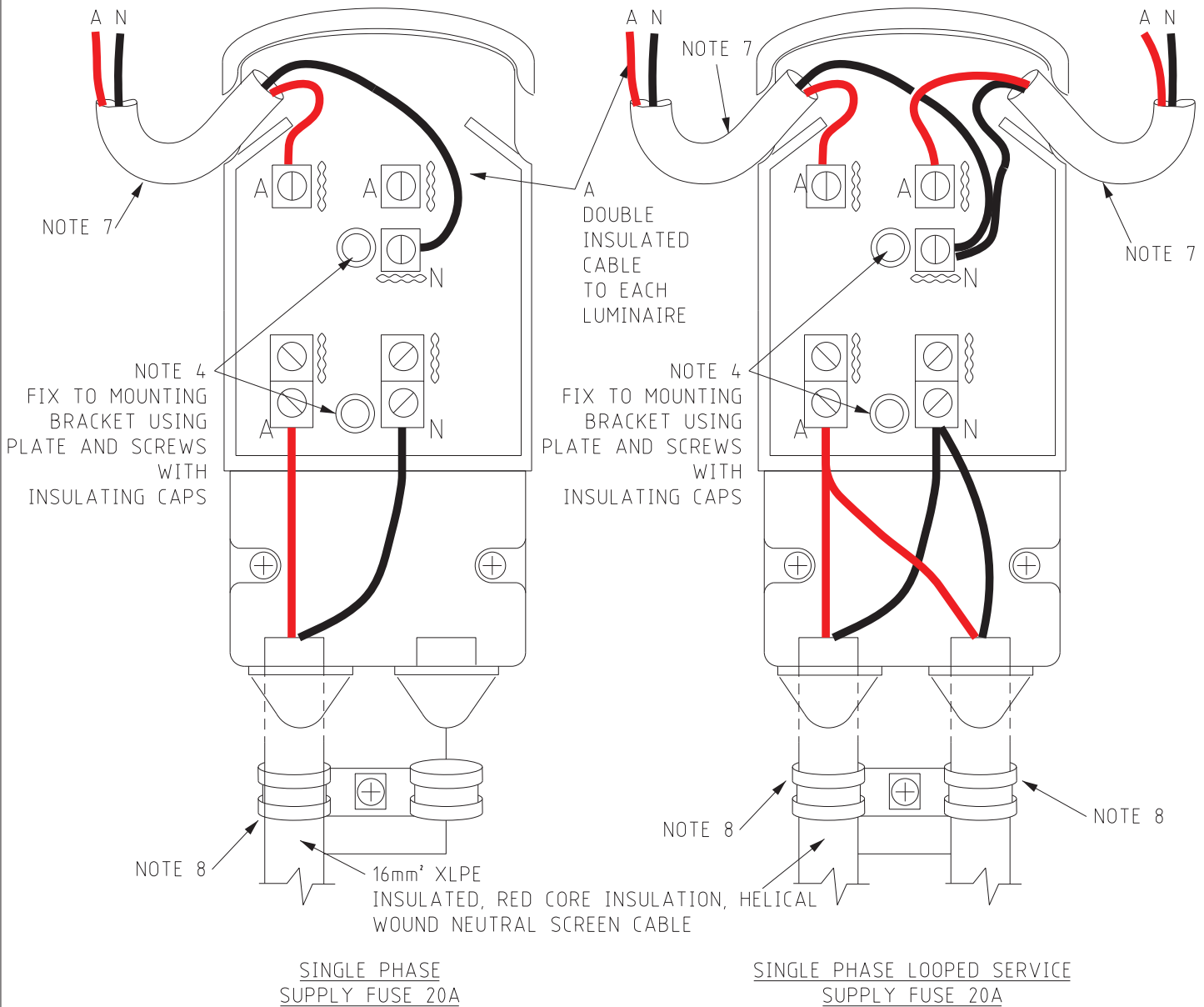
NOTE:

1. LST 10A FUSE (STOCK CODE: GF1300) MUST BE INSTALLED FOR ALL INSTALLATIONS.
2. ONLY SUITABLE FOR CLASS II LED LUMINAIRES WITH A, N PREWIRED CABLE (NO EARTH)
3. DO NOT INSTALL MEN, EARTH TERMINALS OR EARTH CONNECTIONS FOR CLASS II.
4. FIT INSULATING CAPS OVER CUT-OUT MOUNTING SCREW HEADS.
5. FIT "CLASS II" IDENTIFICATION LABEL ON CUT-OUT COVER.
6. IF LUMINAIRE CABLE HAS EARTH WIRE R26-3 CLASS I MUST BE APPLIED.
7. LUMINAIRE CABLE SHEATH MUST ENTER CUT-OUT HOUSING AS SHOWN.
8. SUPPLY CABLES TO BE SECURED USING PROVIDED CABLE CLAMPS.

CLASS II INSTALLATION



VIEW ON INSIDE OF FRONT COVER



SINGLE PHASE SUPPLY FUSE 20A

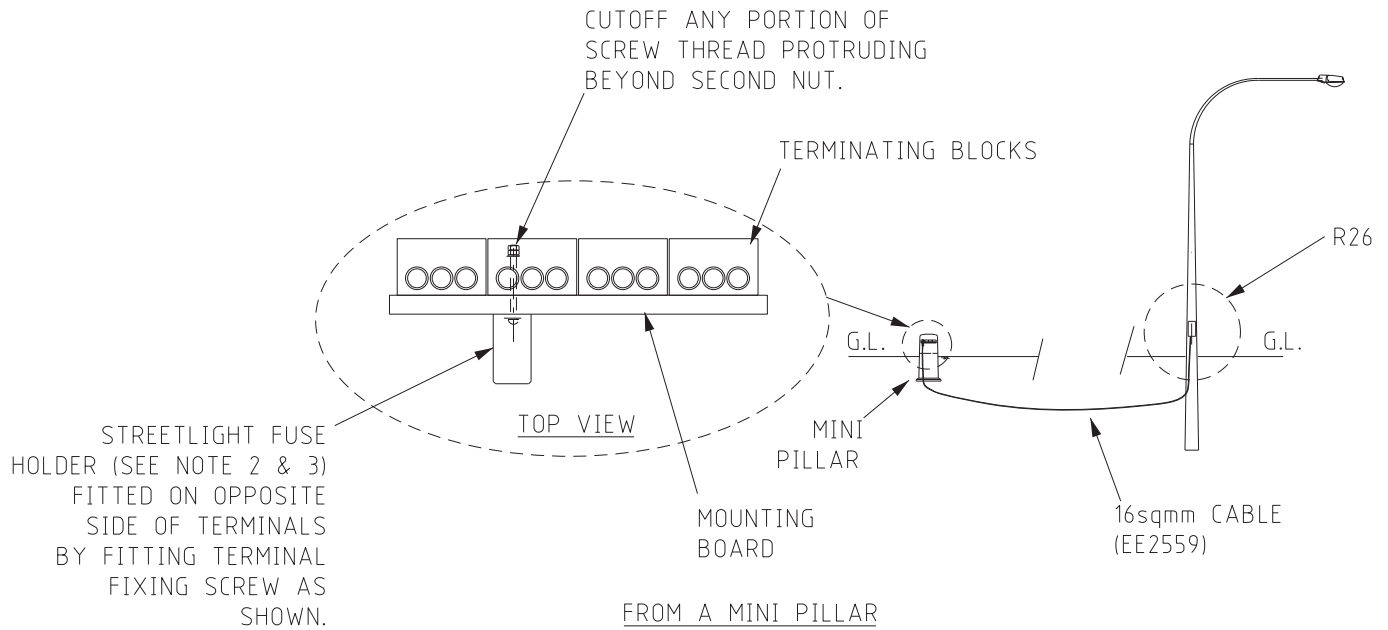
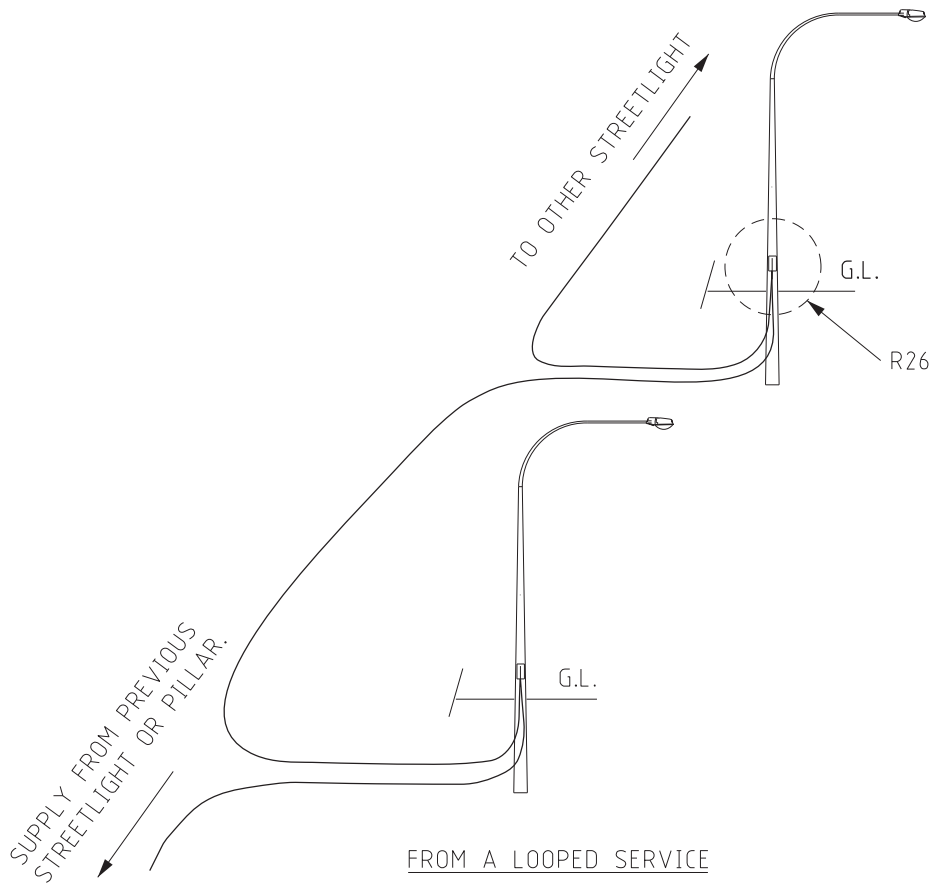
SINGLE PHASE LOOPED SERVICE SUPPLY FUSE 20A



DISTRIBUTION CONSTRUCTION STANDARDS

CLASS II STREETLIGHT CUTOUT SINGLE PHASE SUPPLY FOR CLASS II LUMINAIRES

REVISION	DATE
A	23/07/2020
DRAWING No.	
R26-4	



NOTES FOR PILLAR CONNECTIONS.

1. DISTRIBUTE LIGHTING LOAD ACROSS THE PHASES WITHIN THE DEVELOPMENT.
2. DESIGNER TO USE EARTH FAULT LOOP CALCULATOR DM# 11672288 TO DETERMINE REDSPOT FUSE SIZE.
3. REFER TO U9-1 FOR UNI PILLAR INSTALLATION AND U8-2 FOR MINI PILLAR INSTALLATION.
4. REFER TO DETAILS IN DRAWING R26 SERIES.



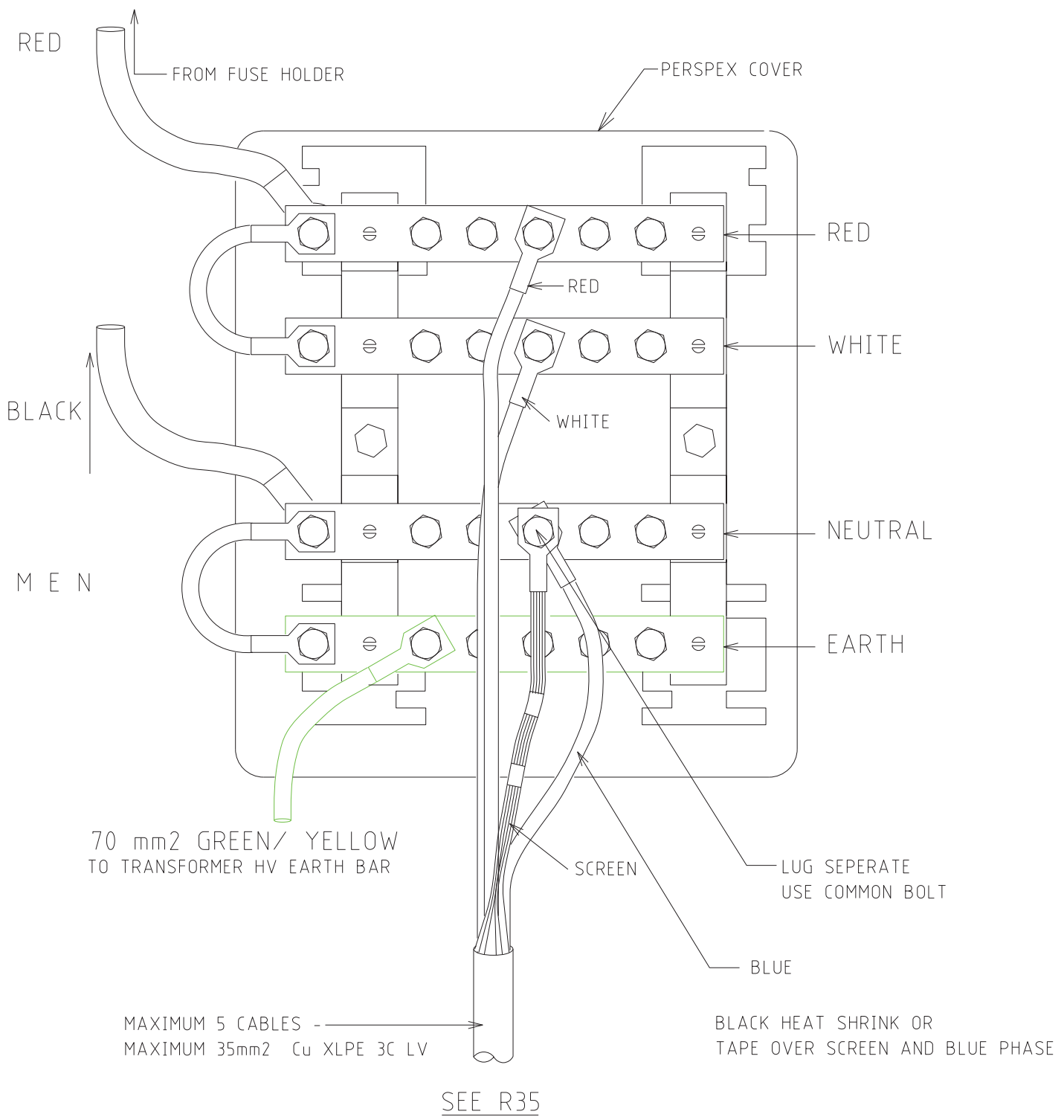
DISTRIBUTION CONSTRUCTION STANDARDS

FUSING ARRANGEMENTS FOR STREETLIGHT COLUMNS

REVISION	DATE
E	04/09/2020


DRAWING No.

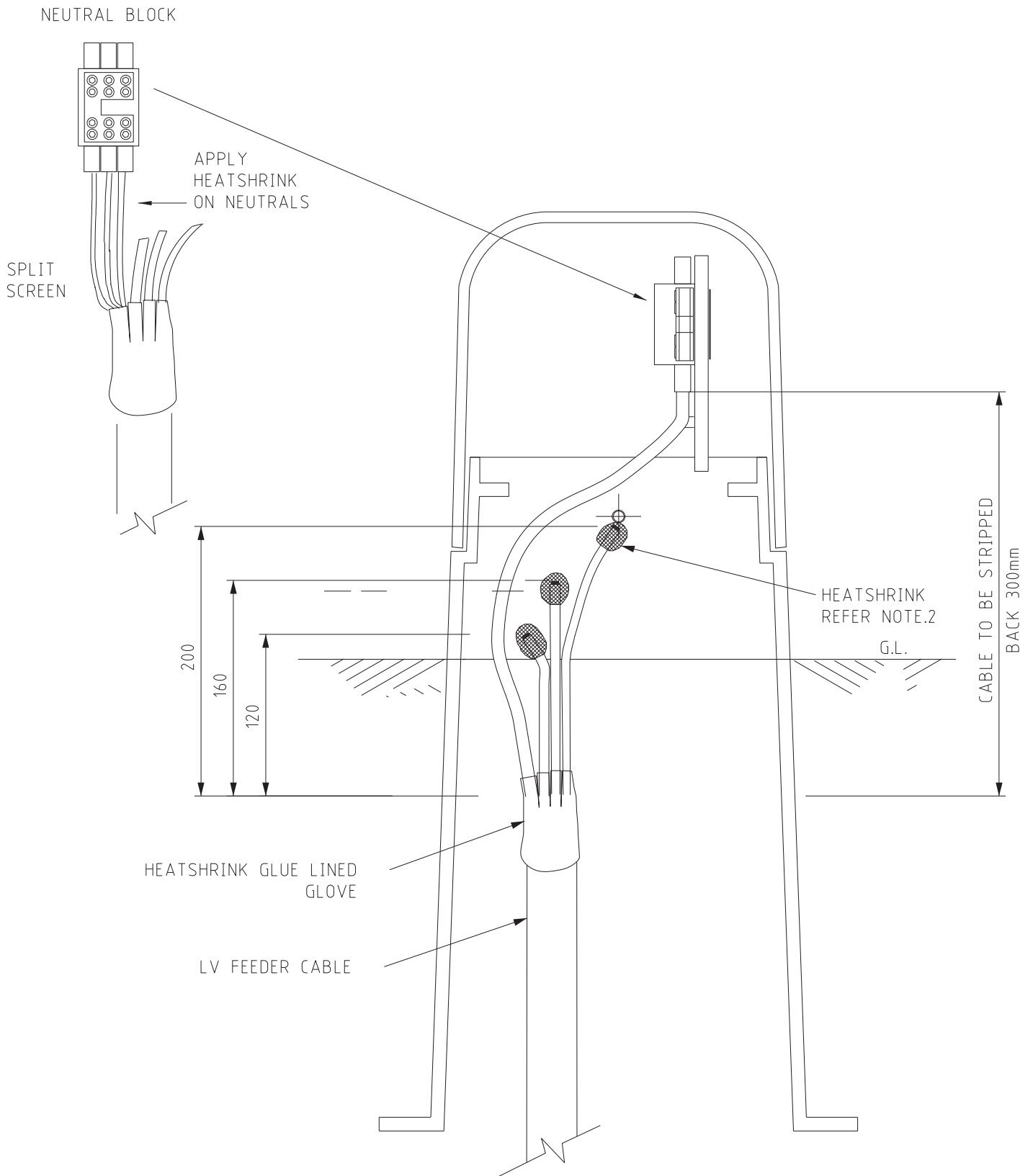
R27



240V CONFIGURATION

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

 DISTRIBUTION CONSTRUCTION STANDARDS OPERATIONS	REFERENCE DRAWING	REVISION A	DATE 15/09/2020
	25kVA PADMOUNT TX LV DISTR BOARD 240V STREET FEEDER/CONSUMER MAINS 240V TERMINAL BLOCK	DRAWING No. R29	



NOTES:

1. MINI PILLAR ENCLOSED WORKING END, LID OF PILLAR TO BE PAINTED WHITE.
2. TWO LAYERS OF HEATSHRINK REQUIRED AT WORKING END.



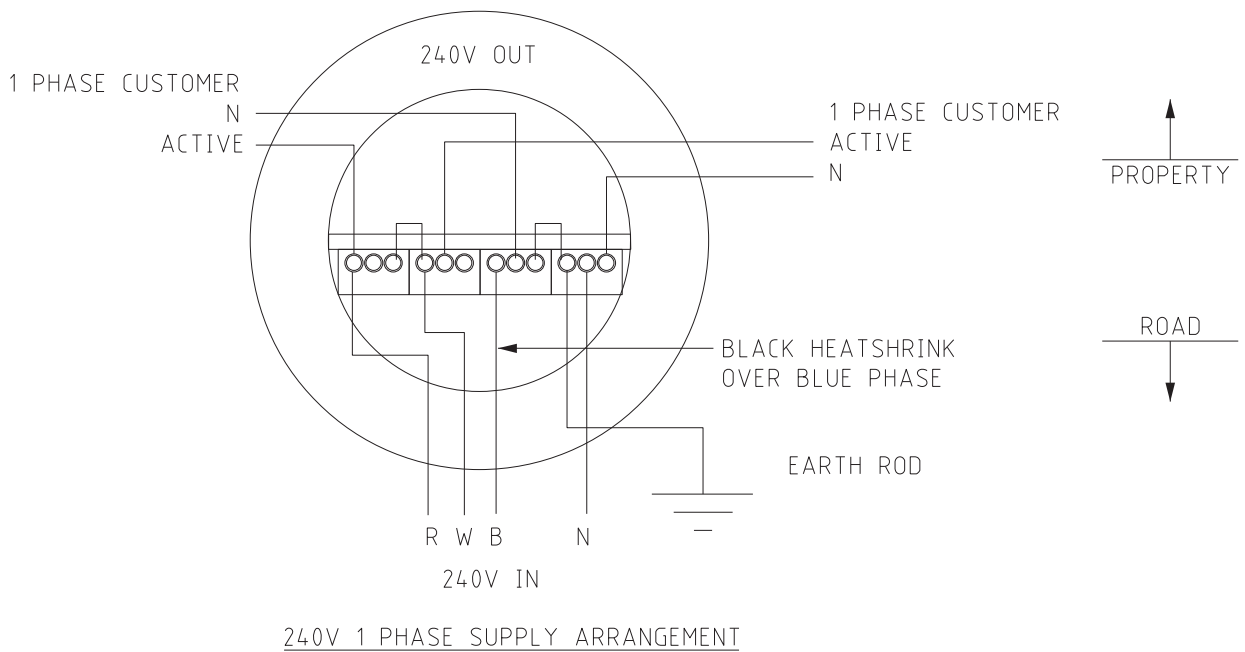
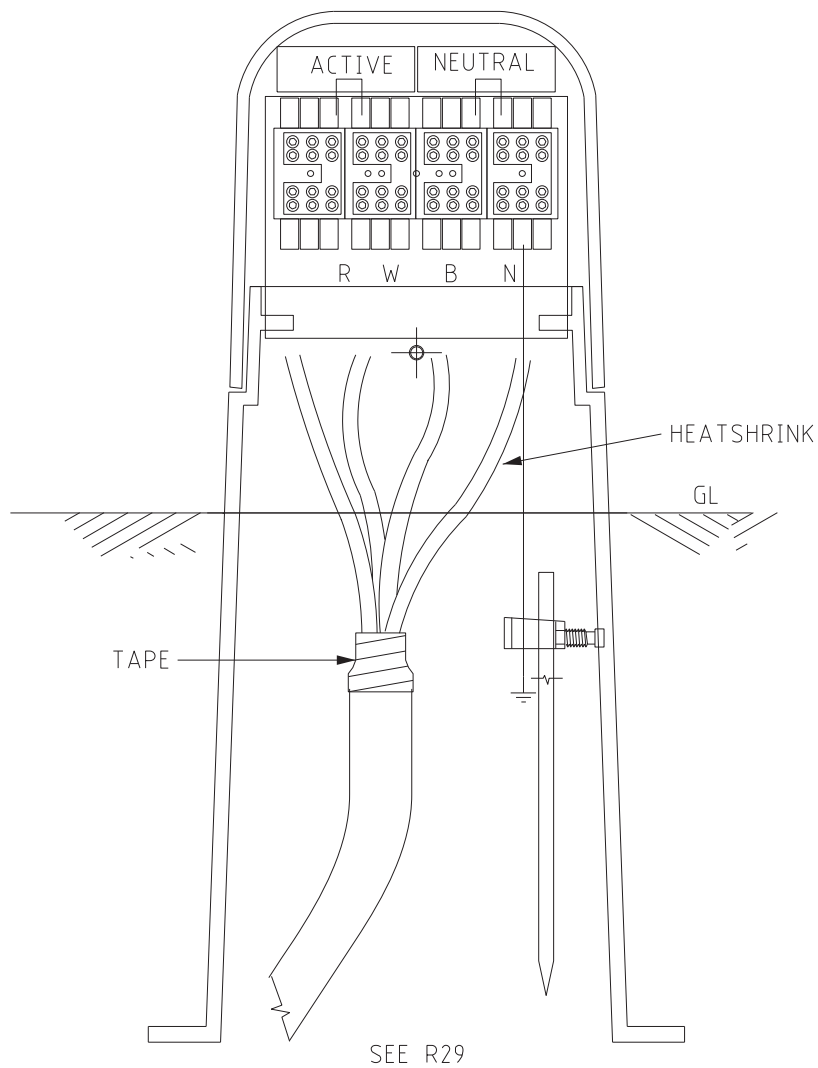
DISTRIBUTION CONSTRUCTION STANDARDS

MINI PILLAR
LV FEEDER CABLE WORKING END

REVISION	DATE
D	04/09/2020

DRAWING No.

R33



NOTES:
1. MAXIMUM CABLE SIZE 35mm²



DISTRIBUTION CONSTRUCTION
STANDARDS

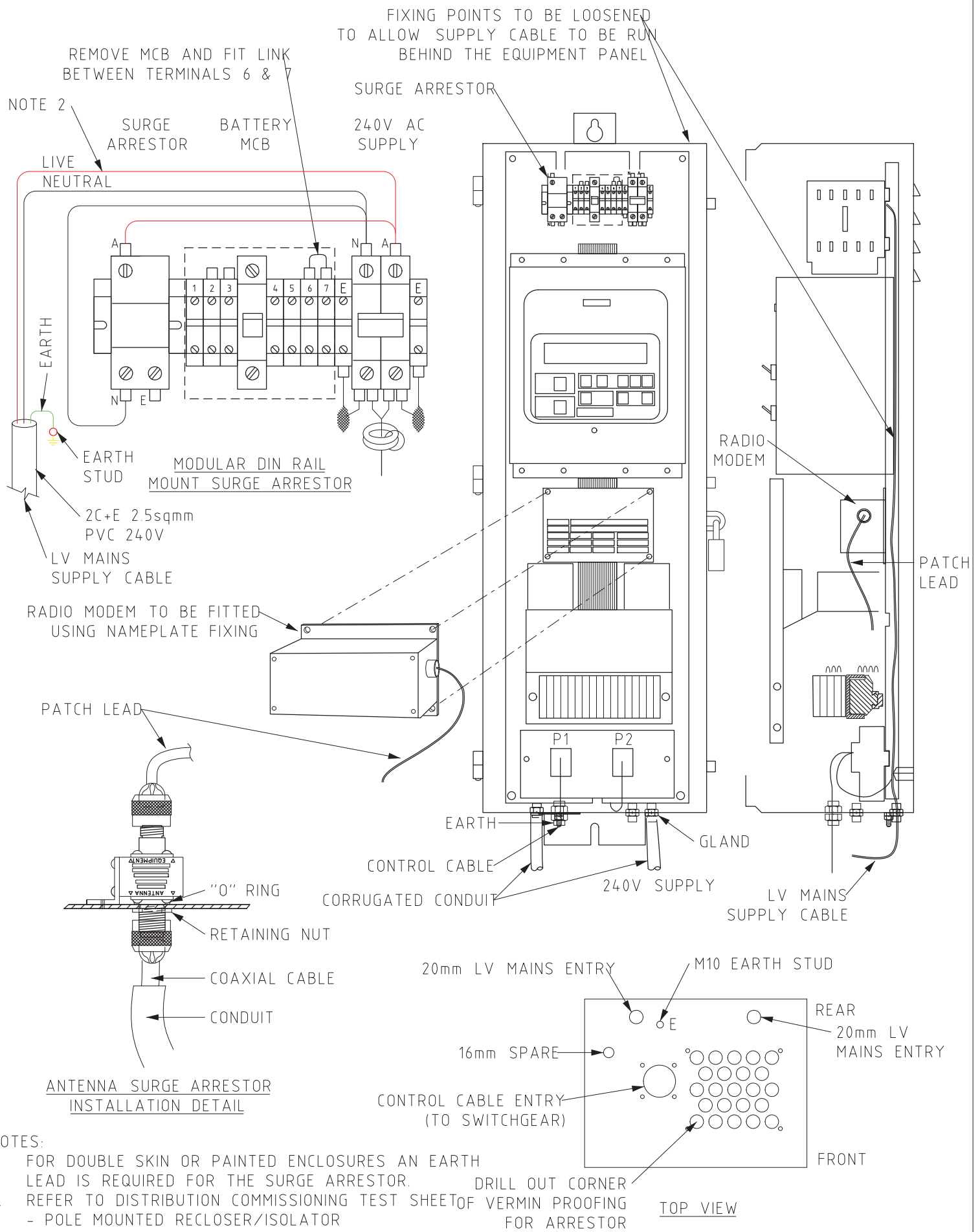
OPERATIONS

REFERENCE DRAWING

SPUDS MINI PILLAR
240V SUPPLY FROM R29
ARRANGEMENT

REVISION	DATE
D	15/09/2020

DRAWING No.
R35



NOTES:

1. FOR DOUBLE SKIN OR PAINTED ENCLOSURES AN EARTH LEAD IS REQUIRED FOR THE SURGE ARRESTOR.
2. REFER TO DISTRIBUTION COMMISSIONING TEST SHEET OF VERMIN PROOFING - POLE MOUNTED RECLOSER/ISOLATOR



DISTRIBUTION CONSTRUCTION STANDARDS

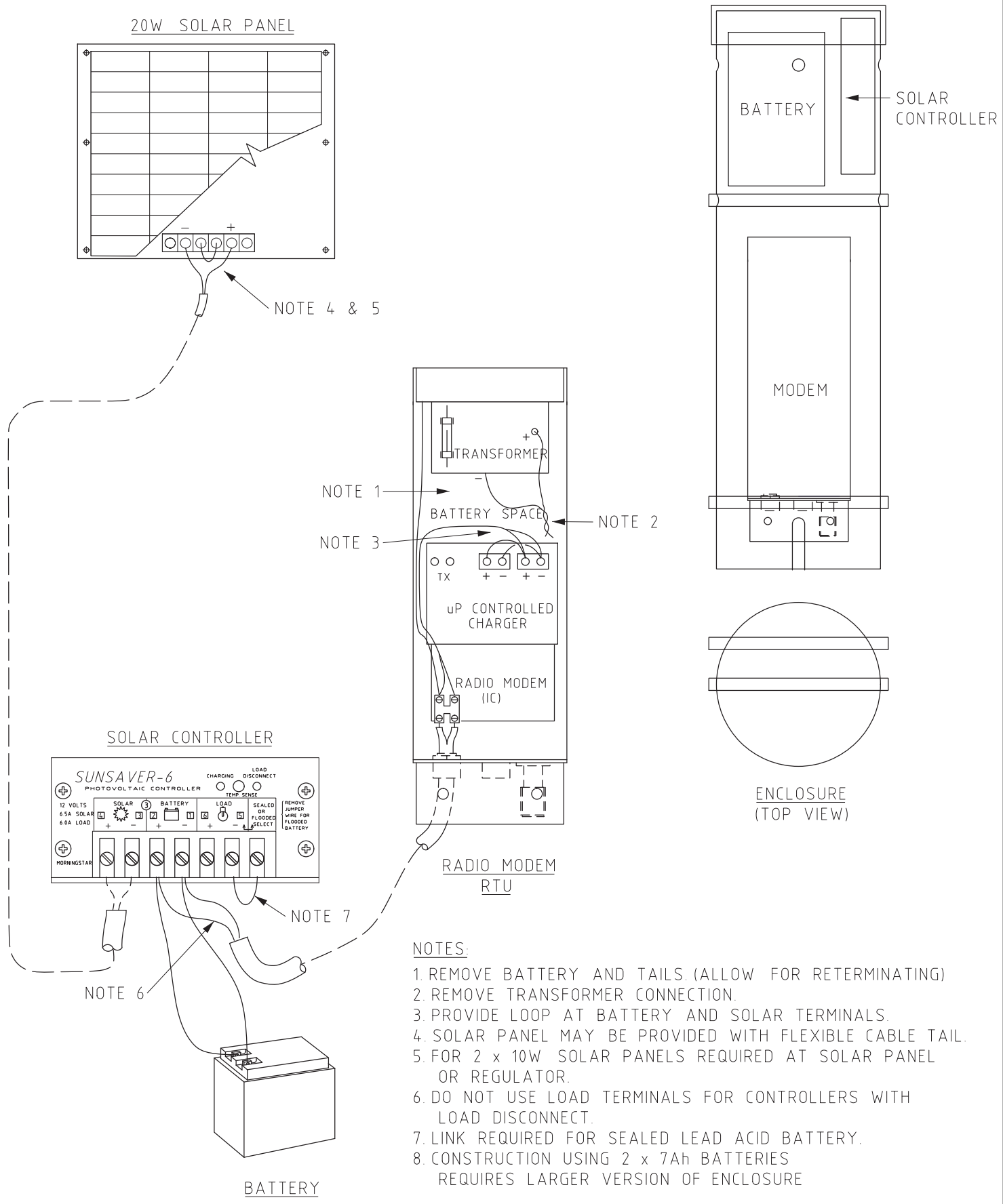
OPERATIONS

REFERENCE DRAWING

NULEC N-SERIES RECLOSER CONTROL BOX CONNECTION DETAIL

REVISION D DATE MARCH 14

DRAWING No. R36

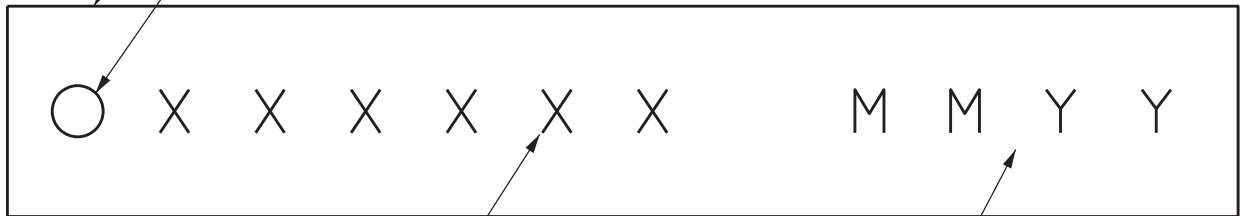


NOTES:

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 2 x 10W SOLAR PANELS 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 2 x 7Ah BATTERIES REQUIRES LARGER VERSION OF ENCLOSURE

STAINLESS STEEL TAG 80 x 20 x 0.5

USE SCREEN WIRE TO FIX TAG TO CABLE
ADJACENT THE JOINT/TERMINATION



PAY OR CONTRACTOR NUMBER

DATE OF INSTALLATION
(MONTH, YEAR)
eg 03.08

NOTES:

- 1. INSTALLER TO MARK TAG AS DETAILED WITH SUITABLE PUNCH SET
- 2. ONE TAG IS REQUIRED WHERE A 3 PHASE SET IS INSTALLED



DISTRIBUTION CONSTRUCTION
STANDARDS

REFERENCE DRAWING

INSTALLER IDENTIFICATION TAG

REVISION
C

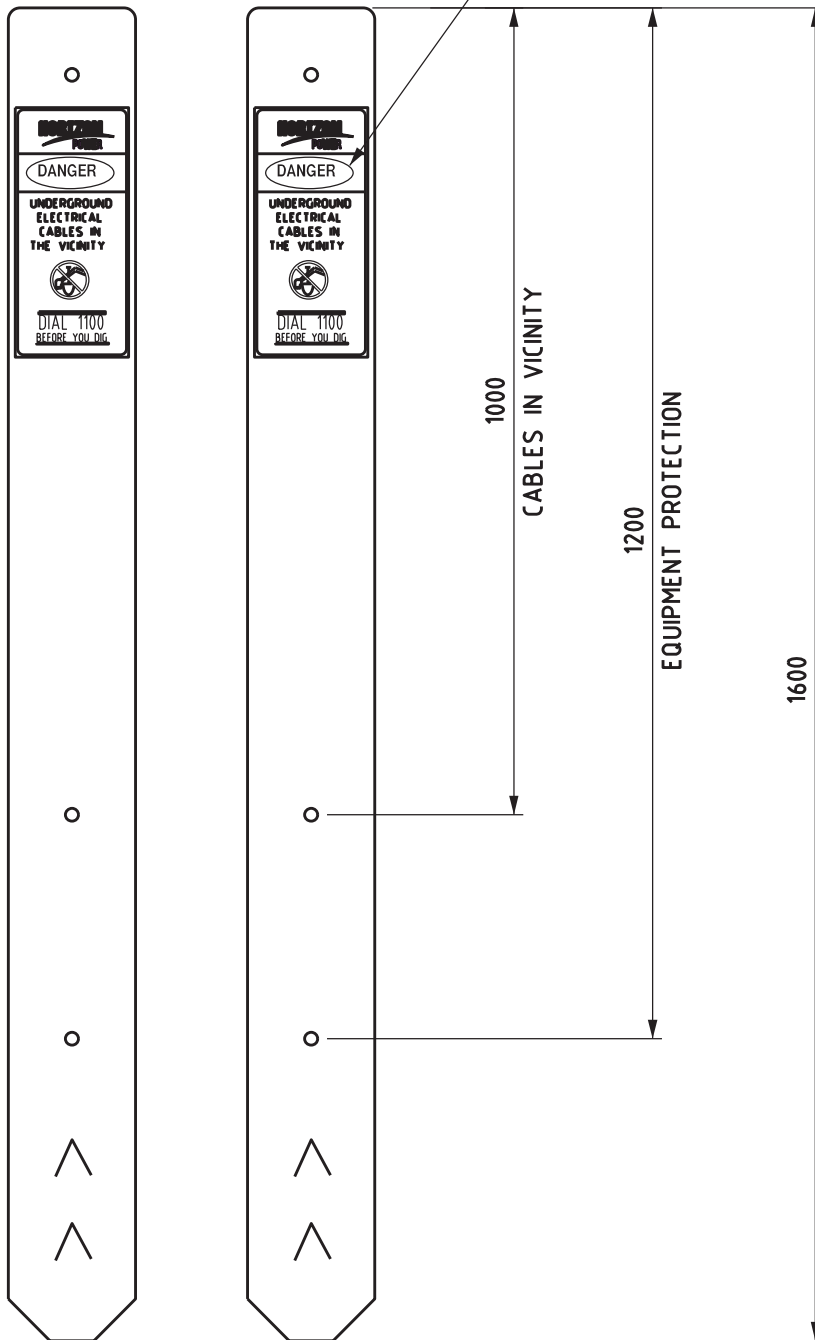
DATE
MAY 18

DRAWING No.

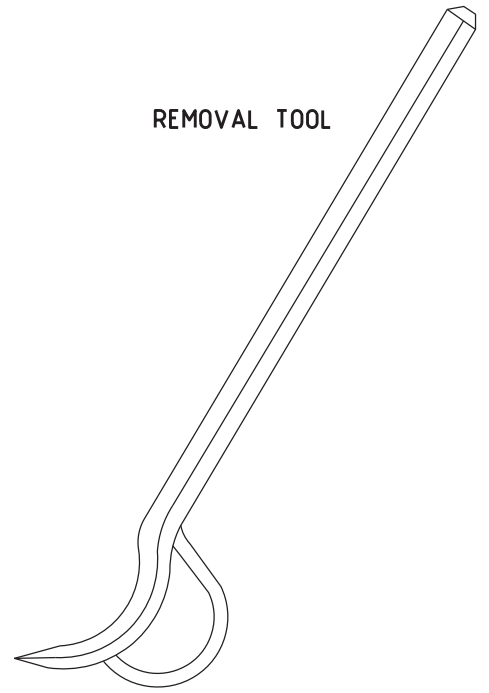
R39

FRONT VIEW
STOCK CODE CR0332

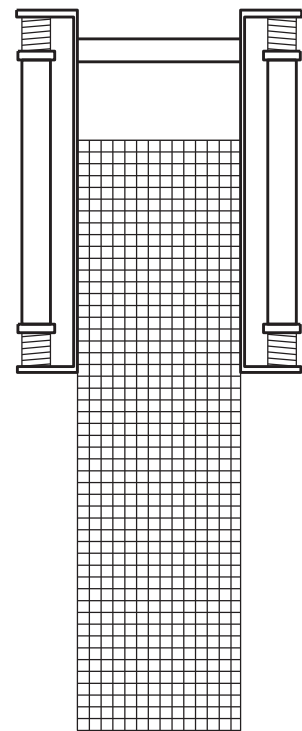
BACK VIEW
DANGER LABEL



REMOVAL TOOL



INSTALLATION TOOL
STOCK CODE CR 0330



NOTES:

1. REMOVAL TOOL TO BE ORDERED FROM SUPPLIER AS NEEDED



DISTRIBUTION CONSTRUCTION
STANDARDS

REFERENCE DRAWING

INSTALLATION OF
ABOVE GROUND CABLE MARKER

REVISION
C

DATE
MAY 18

DRAWING No.

R40

DANGER!!

EQUIPMENT IS OPERATIONAL

TREAT AS ENERGISED

LABEL SPECIFICATIONS

- ALUMINIUM, SELF ADHESIVE, WEATHERPROOF.
- DIMENSIONS : 100mm (WIDTH) x 80mm (DEPTH).
- "DANGER" TO APPEAR IN RED, OTHER TEXT IN BLACK.
- MOUNTED IN PROMINENT POSITION ON EQUIPMENT E.G. SIDE OF MINI AND UNIVERSAL PILLAR OR FRONT DOOR OF SUBSTATION.
- OTHER TAGS AVAILABLE:
 - DANGER : OTHER END NOT TERMINATED
 - DO NOT ENERGISE



**DISTRIBUTION CONSTRUCTION
STANDARDS**

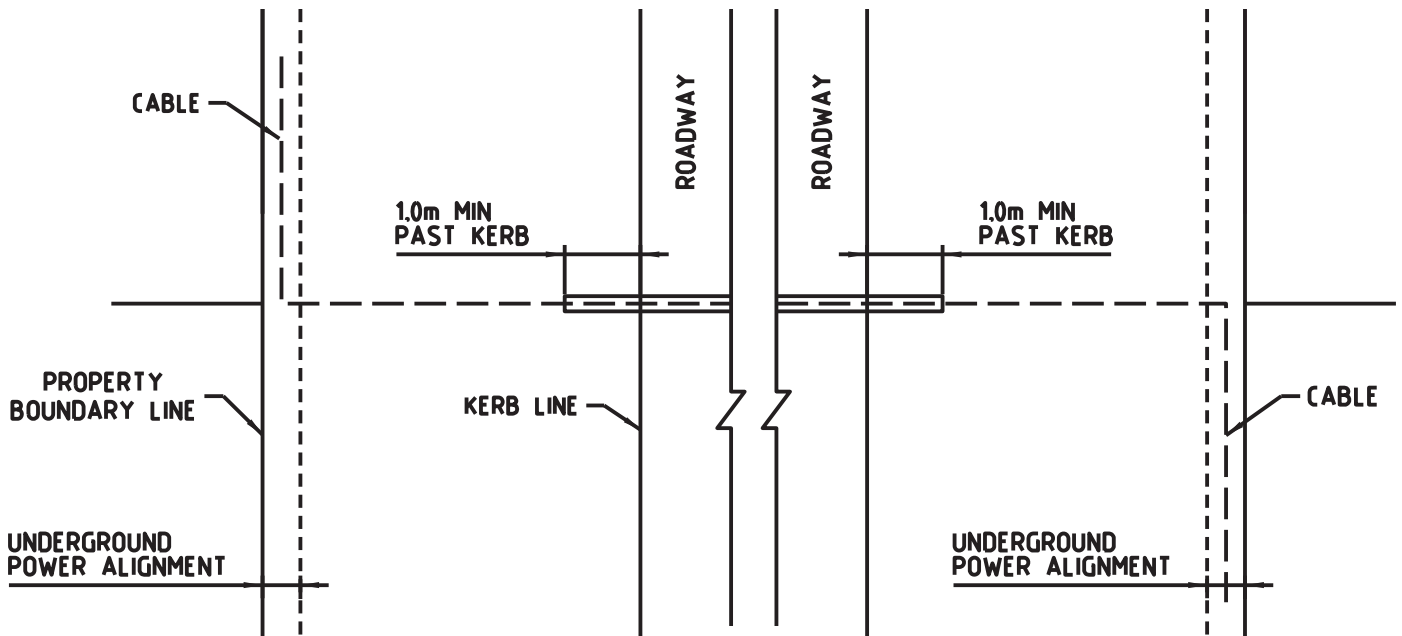
**REVISION
B**

**DATE
MAY 18**

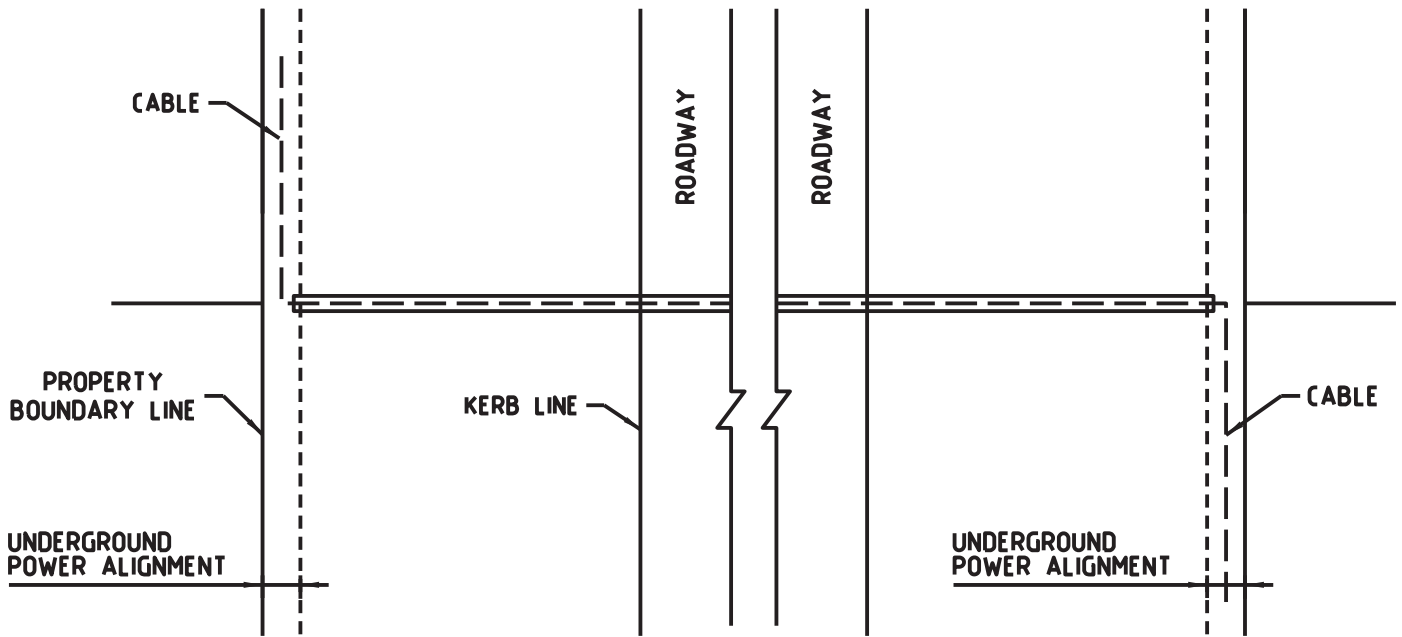
SAMPLE OPERATIONAL LABEL

DRAWING No.

R50



CONDUIT INSTALLATION REQUIREMENTS FOR HV & LV CABLES
 PROTECT CABLES BETWEEN EDGE OF ALIGNMENT AND END OF CONDUIT WITH PROTECTION SLABS



CONDUIT INSTALLATION REQUIREMENTS FOR SERVICE & STREET LIGHT CABLES
 CONDUIT SHALL BE INSTALLED TO EDGE OF CABLE ALIGNMENT

NOTES:

1. REFER TO HORIZON POWER UNDERGROUND CABLE INSTALLATION MANUAL FOR SPECIFIC REQUIREMENTS.

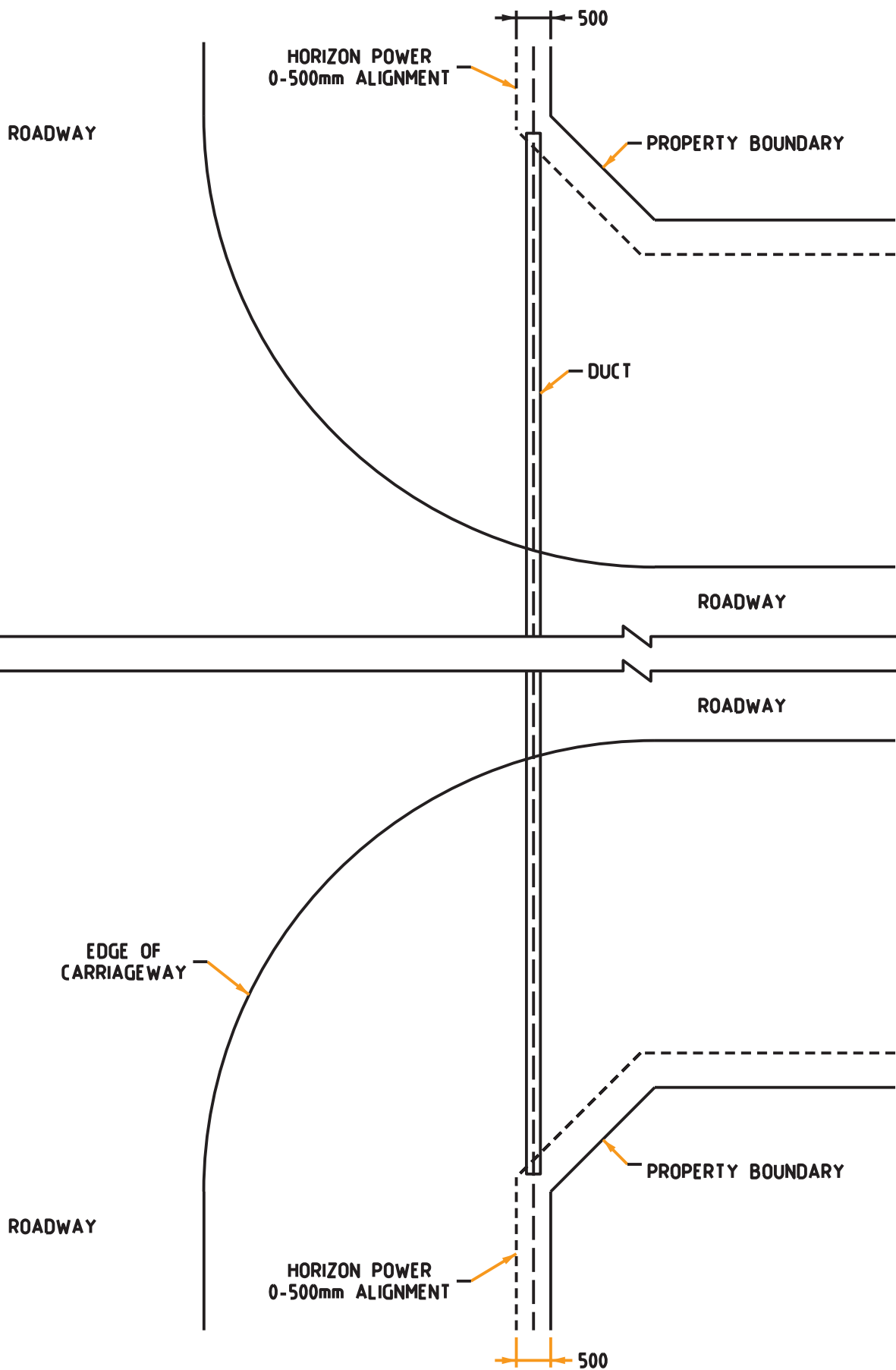


DISTRIBUTION CONSTRUCTION STANDARDS

**PLACEMENT OF DUCT
 BENEATH ROAD CROSSINGS**

REVISION B	DATE MAY 18
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DRAWING No.
R51



NOTE:

THE DUCT SHALL BE INSTALLED FROM EDGE TO EDGE OF THE CABLE ALIGNMENT.

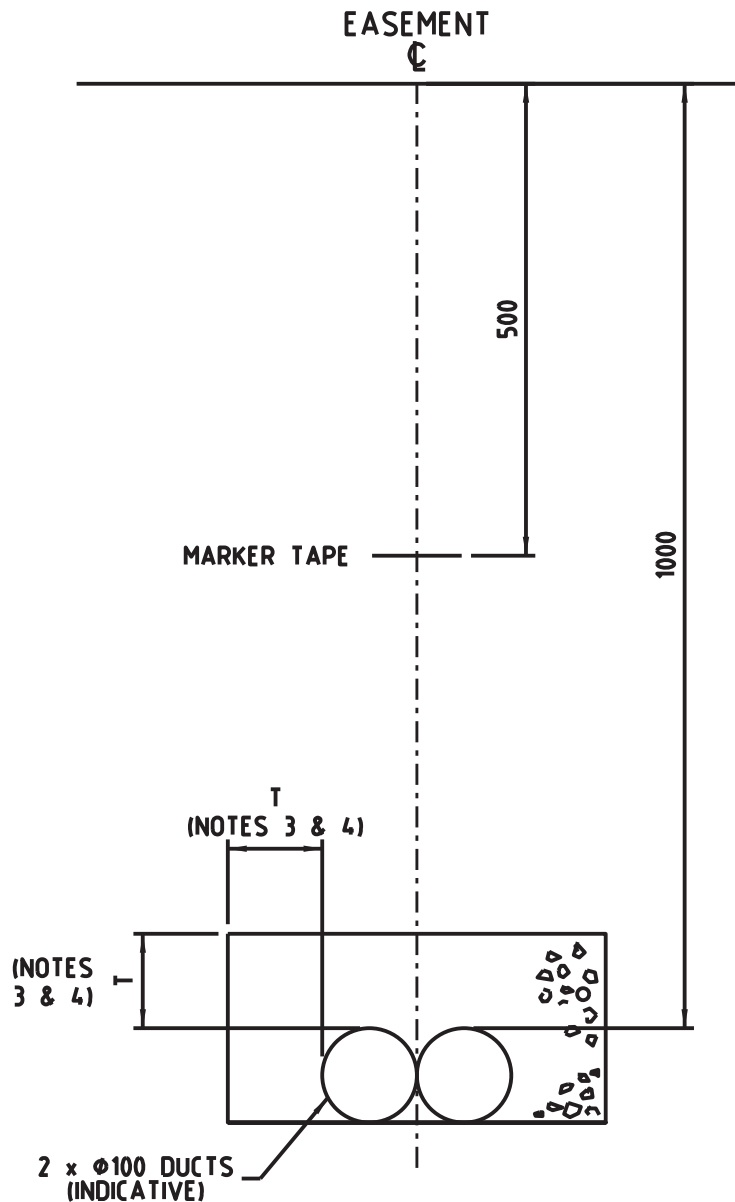


DISTRIBUTION CONSTRUCTION STANDARDS

CABLE AND DUCT PLACEMENTS ON TRUNCATIONS

REVISION B	DATE MAY 18
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DRAWING No.
R52



NOTES:

1. WHERE DUCT IS HEAVY DUTY AND MEETS THE REQUIREMENT OF CATEGORY A (AS DEFINED BY AS/NZS 3000 WIRING RULES), CONCRETE ENCASUREMENT IS NOT REQUIRED.
2. CONDUITS SHALL BE CENTRED IN EASEMENT.
3. ENCASUREMENT THICKNESS "T" SHALL BE AT LEAST 75mm OR 75% OF THE LARGEST CONDUIT NOMINAL DIAMETER, WHICHEVER IS GREATER.
4. ENCASUREMENT THICKNESS "T" SHALL BE AT MOST 150mm OR 200% OF THE LARGEST CONDUIT NOMINAL DIAMETER, WHICHEVER IS SMALLER.



DISTRIBUTION CONSTRUCTION STANDARDS

CROSS SECTION DETAILS OF CABLE EASEMENT

REVISION B	DATE MAY 18
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DRAWING No.
R53

ROADWAY

LOT

CABLE

PUBLIC OPEN SPACE

DUCT WHERE CABLE
CROSSES OPEN DRAINS

OPEN DRAIN

PUBLIC OPEN SPACE

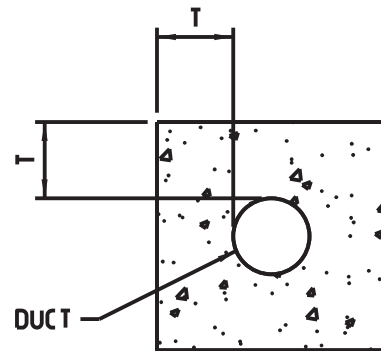
ROADWAY

LOT

UNDERGROUND
POWER ALIGNMENT

(NOTES 4 & 5)

(NOTES
4 & 5)



CONCRETE ENCASEMENT DETAIL

NOTES:

1. DUCTS SHALL BE CONCRETE ENCASED AND HAVE A MINIMUM COVER OF 850mm BELOW THE BOTTOM OF WATER COURSE OR OPEN DRAIN.
2. DUCTS SHALL EXTEND TO THE PROPERTY BOUNDARY EITHER SIDE OF THE WATER COURSE OR OPEN DRAIN.
3. WHERE DIRECTIONAL DRILLING IS USED, CONCRETE ENCASEMENT IS NOT REQUIRED, DEPTH SHALL BE BETWEEN 900mm AND 1500mm AND DUCTS SHALL EXTEND 1500mm BEYOND EXTENT OF WATER COURSE EACH SIDE.
4. ENCASEMENT THICKNESS "T" SHALL BE AT LEAST 75mm OR 75% OF THE LARGEST CONDUIT NOMINAL DIAMETER, WHICHEVER IS GREATER.
5. ENCASEMENT THICKNESS "T" SHALL BE AT MOST 150mm OR 200% OF THE LARGEST CONDUIT NOMINAL DIAMETER, WHICHEVER IS SMALLER.

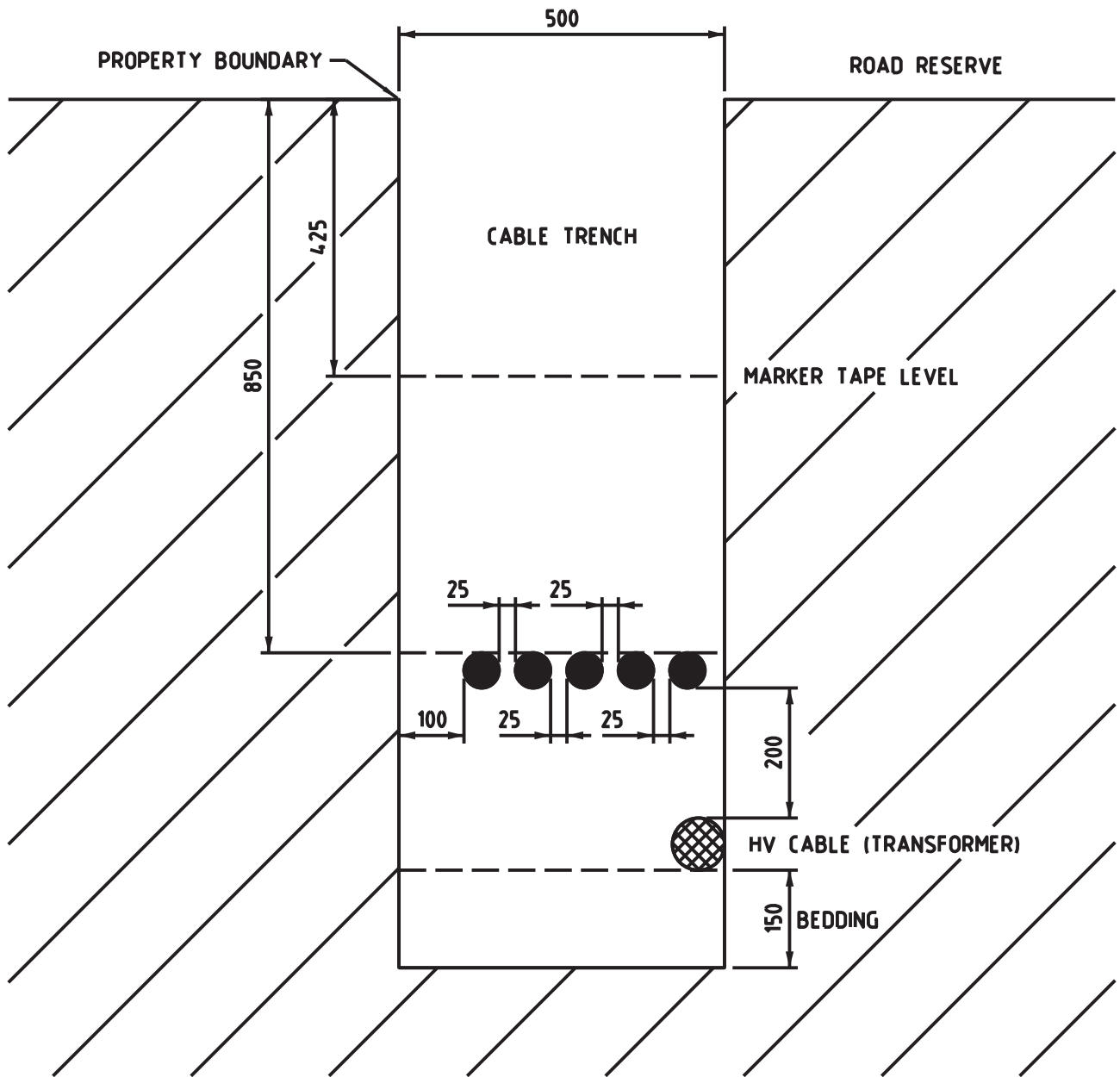


DISTRIBUTION CONSTRUCTION
STANDARDS

PLACEMENT OF DUCT BENEATH
OPEN DRAIN

REVISION A	DATE 21/08/15
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DRAWING No. R54



LV CABLE



35mm² OR 50mm² HV CABLE (TRANSFORMER)

NOTES:

1. LV CABLES SHALL BE ON THE TOP LAYER WITH THIS LAYER CONSISTING OF A MAXIMUM OF 5 LV CABLES.
2. LV CABLE JOINTS ARE APPROXIMATELY $\phi 170$ mm.
3. LV CABLE JOINTS SHALL BE INSTALLED ABOVE OTHER LV CABLES.
4. LV CABLE JOINTS SHALL BE INSTALLED AT STAGGERED LOCATIONS.
5. LAYOUT OF HV CABLES SHALL START FROM THE ROAD SIDE OF THE TRENCH.
6. THE MINIMUM DEPTH OF COVER OF CABLES SHALL BE 850mm. THE DEPTH OF COVER OF CABLES IN A NOMINAL CABLE ALIGNMENT SHALL BE INCREASED AS REQUIRED SO THAT THE CABLE JOINTS ALSO HAVE THE NECESSARY DEPTH OF COVER.



DISTRIBUTION CONSTRUCTION STANDARDS

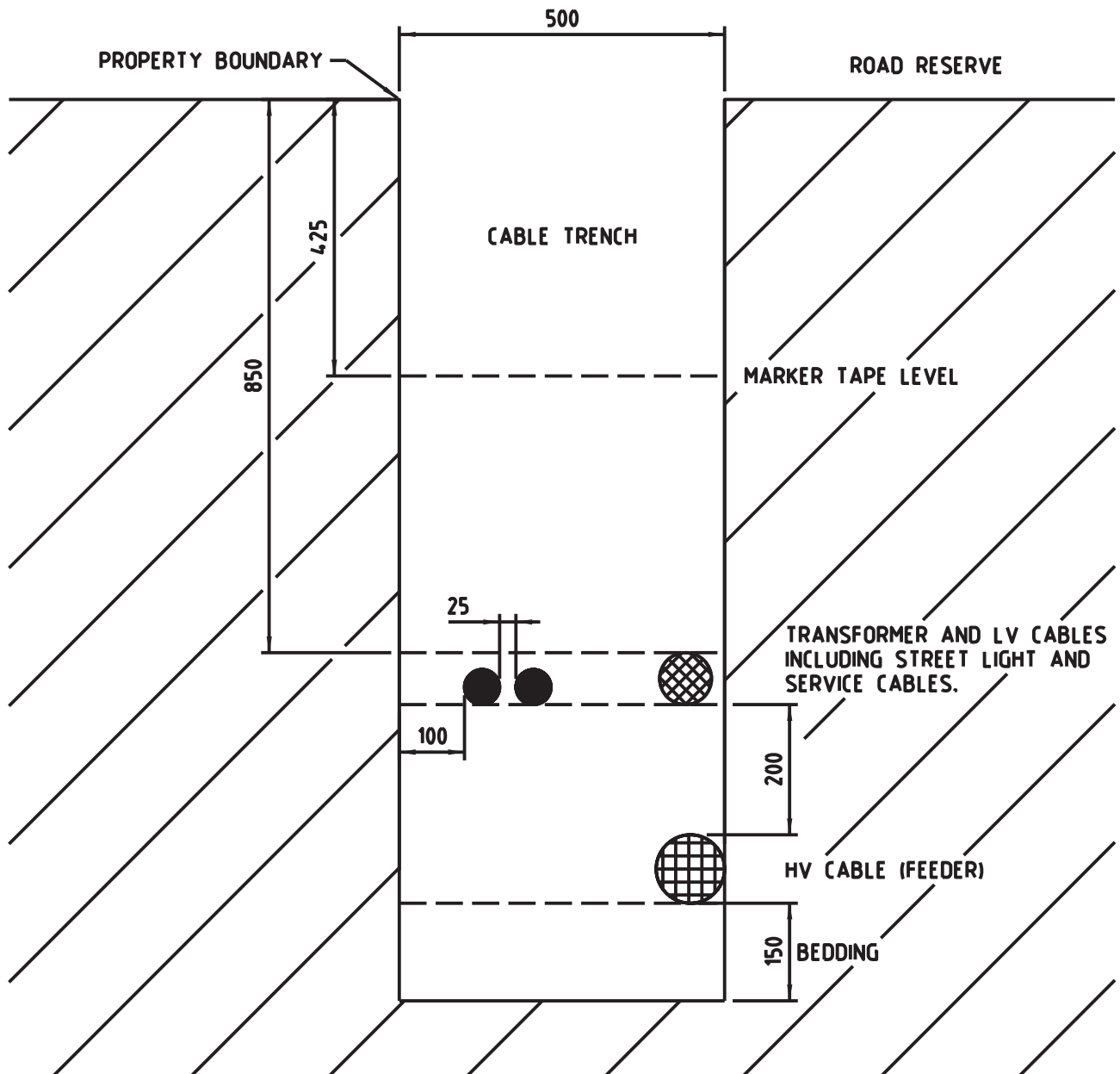
**CABLE TRENCH LAYOUT
GREEN FIELD SITE
TWO LAYERS (1 Tx AND 5 LV CABLES)**

REVISION
B

DATE
MAY 18

DRAWING No.

R55



- LV CABLE
- ⊗ 35mm² OR 50mm² HV CABLE (TRANSFORMER)
- ⊠ HV CABLE (FEEDER)

NOTES:

1. LV CABLES SHALL BE ON THE TOP LAYER WITH THIS LAYER CONSISTING OF NO MORE THAN 2 LV CABLES AND 1 X 35mm² HV CABLE.
2. LV CABLE JOINTS ARE APPROXIMATELY ϕ 170mm.
3. LV CABLE JOINTS SHALL BE INSTALLED ABOVE OTHER LV CABLES.
4. LV CABLE JOINTS SHALL BE INSTALLED AT STAGGERED LOCATIONS.
5. LAYOUT OF HV CABLES SHALL START FROM THE ROAD SIDE OF THE TRENCH.
6. THE MINIMUM DEPTH OF COVER OF CABLES SHALL BE 850mm. THE DEPTH OF COVER OF CABLES IN A NOMINAL CABLE ALIGNMENT SHALL BE INCREASED AS REQUIRED SO THAT THE CABLE JOINTS ALSO HAVE THE NECESSARY DEPTH OF COVER.

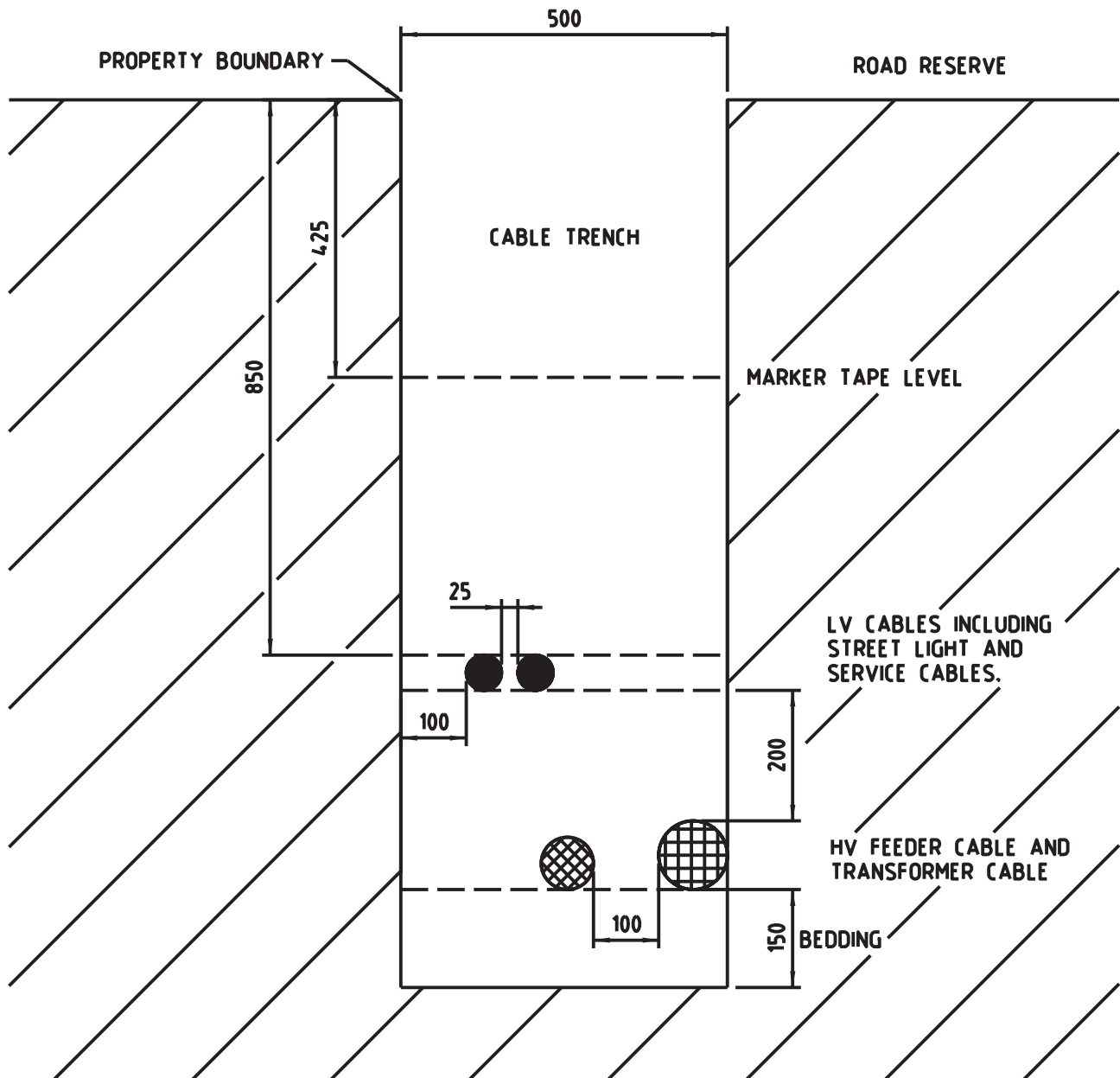





DISTRIBUTION CONSTRUCTION STANDARDS

REVISION B	DATE MAY 18
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**CABLE TRENCH LAYOUT
GREEN FIELD SITE
TWO LAYERS (1 HV FEEDER, 1 Tx & LV CABLES)**

DRAWING No.
R56



-  LV CABLE
-  35mm² OR 50mm² HV CABLE (TRANSFORMER)
-  HV CABLE (FEEDER)

NOTES:

1. LV CABLES SHALL BE ON THE TOP LAYER WITH THIS LAYER CONSISTING OF NO MORE THAN 2 LV CABLES.
2. LV CABLE JOINTS ARE APPROXIMATELY $\phi 170\text{mm}$.
3. LAYOUT OF THE HV CABLES SHALL START FROM THE ROAD SIDE OF THE TRENCH.
4. IF THE 35mm² HV CABLE IS NOT ON THE BOTTOM LAYER IT SHALL BE NEAREST TO THE ROADSIDE.
5. THE MINIMUM DEPTH OF COVER OF CABLES SHALL BE 850mm. THE DEPTH OF COVER OF CABLES IN A NOMINAL CABLE ALIGNMENT SHALL BE INCREASED AS REQUIRED SO THAT THE CABLE JOINTS ALSO HAVE THE NECESSARY DEPTH OF COVER.

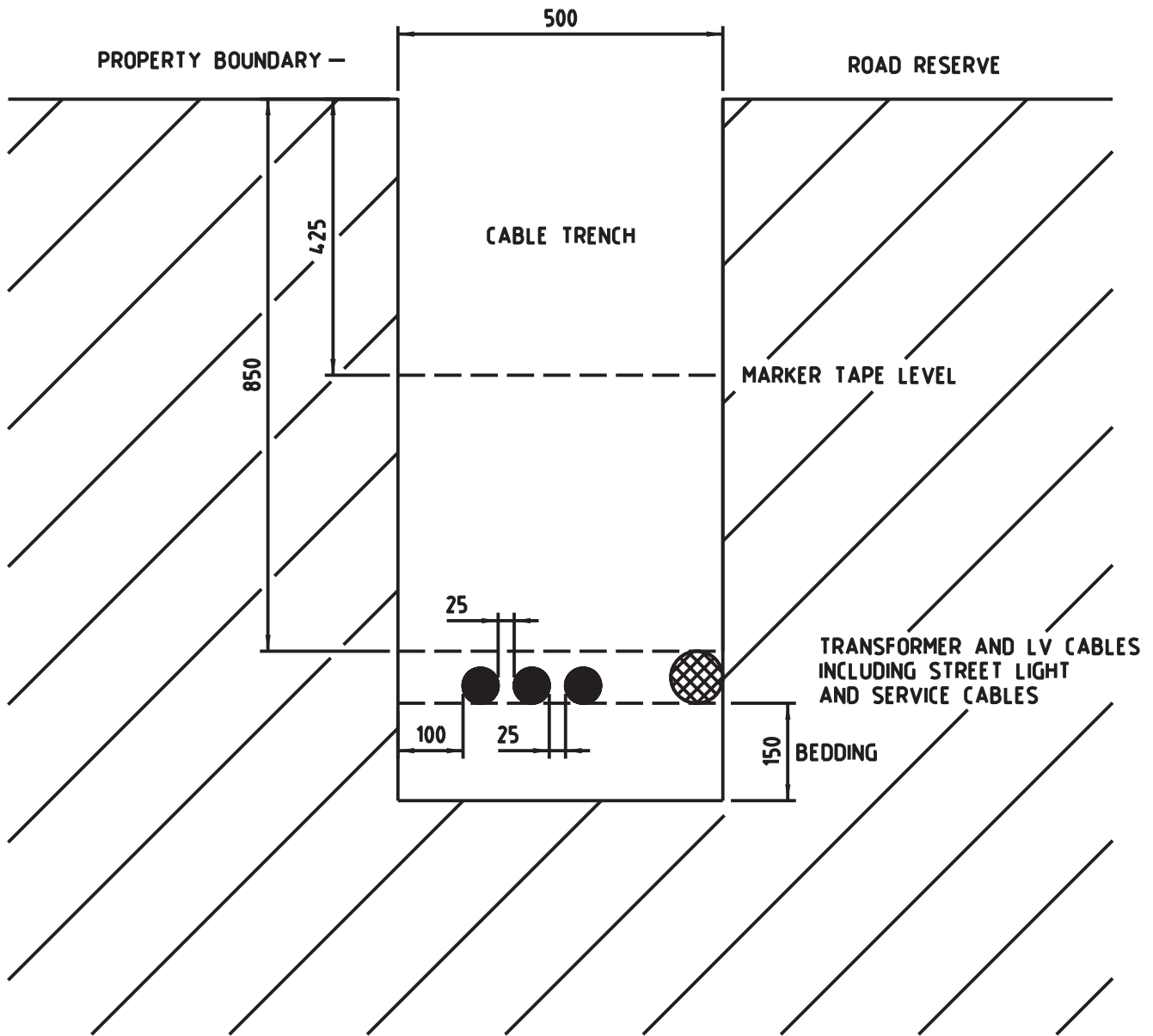


DISTRIBUTION CONSTRUCTION STANDARDS

REVISION	DATE
B	MAY 18

**CABLE TRENCH LAYOUT
GREEN FIELD SITE
TWO LAYERS (1 HV FEEDER, 1 Tx & 2 LV CABLES)**

**DRAWING No.
R57**



LV CABLE



35mm² OR 50mm² HV CABLE (TRANSFORMER)

NOTES:

1. FOR A ONE LAYER CABLE TRENCH NO MORE THAN 4 X 185mm² OR 3 X 240mm² LV CABLES AND 1 X 35mm² HV CABLE CAN BE INSTALLED.
2. LV CABLE JOINTS ARE APPROXIMATELY ϕ 170mm.
3. LV CABLE JOINTS SHALL BE INSTALLED ABOVE OTHER LV CABLES.
4. LV CABLE JOINTS SHALL BE INSTALLED AT STAGGERED LOCATIONS.
5. LAYOUT OF HV CABLES SHALL START FROM THE ROAD SIDE OF THE TRENCH.
6. THE MINIMUM DEPTH OF COVER OF CABLES SHALL BE 850mm. THE DEPTH OF COVER OF CABLES IN A NOMINAL CABLE ALIGNMENT SHALL BE INCREASED AS REQUIRED SO THAT THE CABLE JOINTS ALSO HAVE THE NECESSARY DEPTH OF COVER.



DISTRIBUTION CONSTRUCTION
STANDARDS

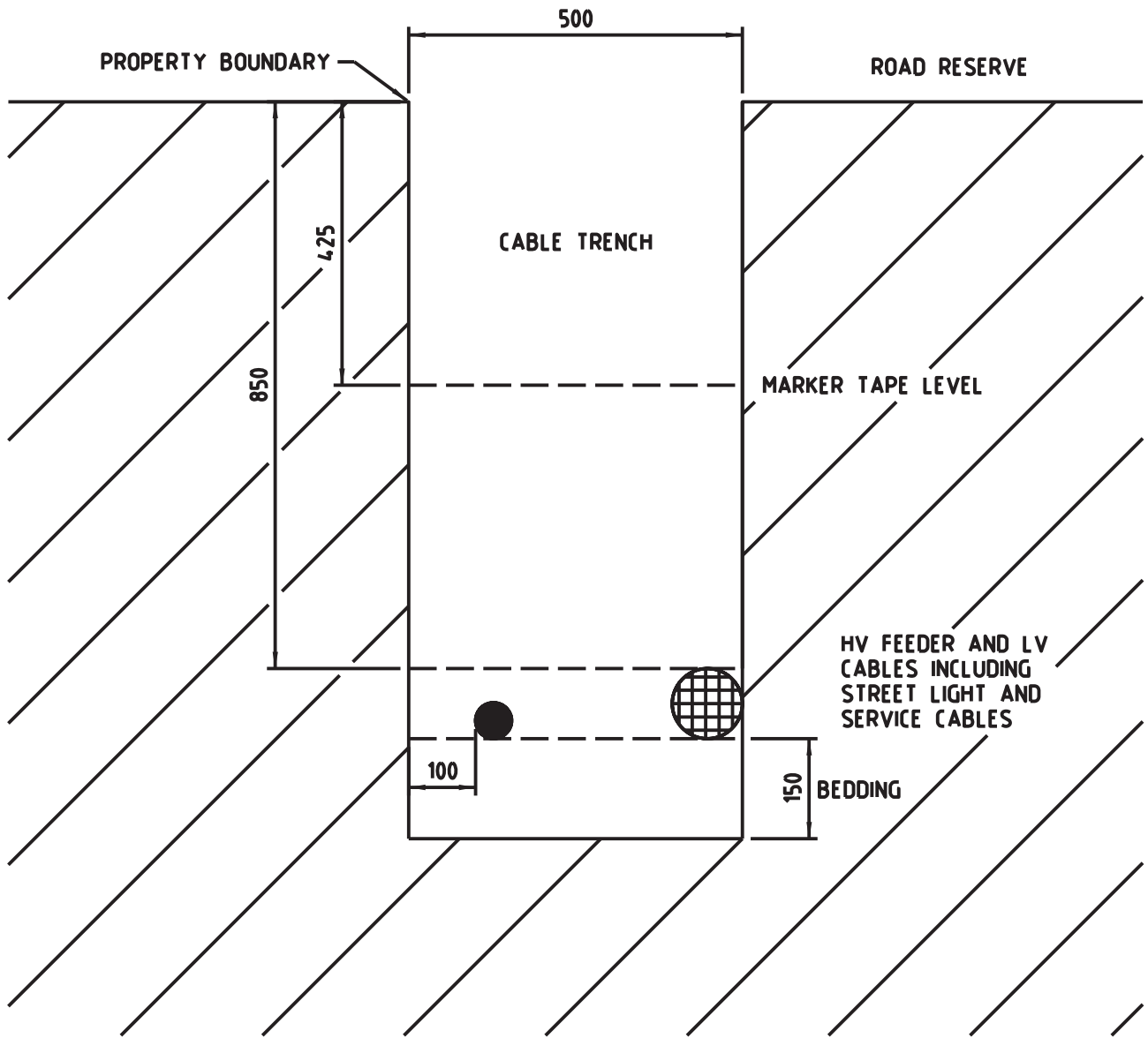
REVISION
B



DATE
MAY 18

CABLE TRENCH LAYOUT
GREEN FIELD SITE
ONE LAYER (1 Tx AND 3 LV CABLES)

DRAWING No.

R58



-  LV CABLE
-  HV CABLE (FEEDER)

NOTES:

1. LV CABLE JOINTS ARE APPROXIMATELY $\phi 170\text{mm}$.
2. LV CABLE JOINTS SHALL BE INSTALLED ABOVE OTHER LV CABLES.
3. LV CABLE JOINTS SHALL BE INSTALLED AT STAGGERED LOCATIONS.
4. LAYOUT OF HV CABLES SHALL START FROM THE ROAD SIDE OF THE TRENCH.
5. THE MINIMUM DEPTH OF COVER OF CABLES SHALL BE 850mm. THE DEPTH OF COVER OF CABLES IN A NOMINAL CABLE ALIGNMENT SHALL BE INCREASED AS REQUIRED SO THAT THE CABLE JOINTS ALSO HAVE THE NECESSARY DEPTH OF COVER.



DISTRIBUTION CONSTRUCTION STANDARDS

**CABLE TRENCH LAYOUT
GREEN FIELD SITE
ONE LAYER (1 HV FEEDER AND LV CABLES)**

REVISION B	DATE MAY 18
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DRAWING No.
R59