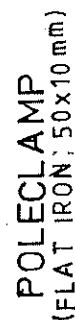
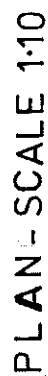
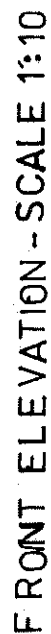


CITY COUNCIL
RUSTENBURG
ELECTRICAL DEPARTMENT



SNDE ELEVATION SCALE 1:10

NOTE!

(180x16)mm Bolts, nuts & washers to be supplied
All material to be hot dip galvanized

DR AWN
A.J. JOUBERT

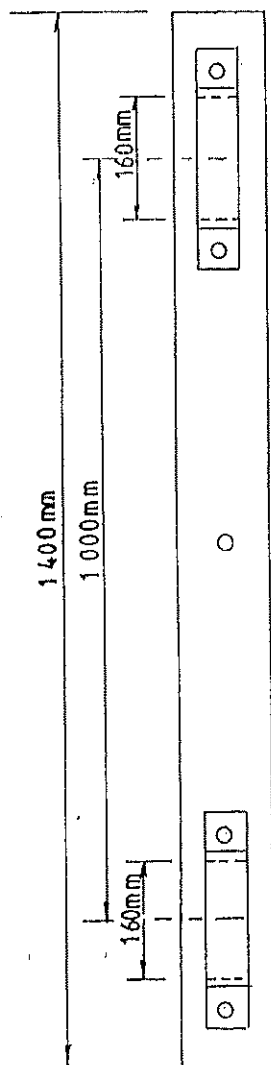
APPROVED

DATE _____

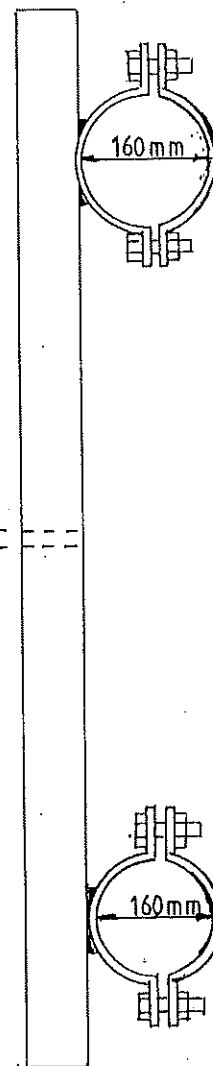
E C E

DRAWING No.

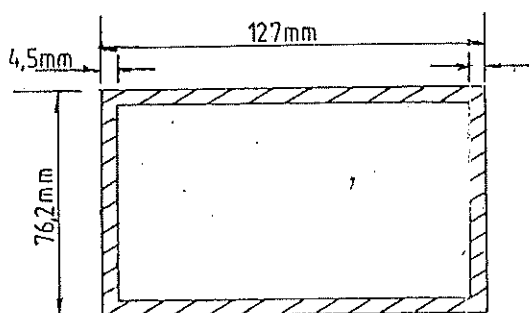
AL3/15-1



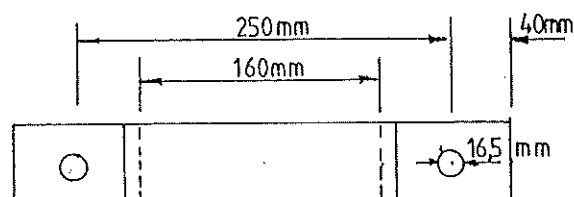
VOORAANSIG SKAAL 1:10



SYAANSIG SKAAL 1:10



BOAANSIG SKAAL 1:2,5
(REGHOEKIGE PYPSTAAL)



PAALKLAMP SKAAL 1:5
(PLATYSTER 50x10mm)

NOTA!

Bulte & moere (75x16mm Gegalvaniseer)
Alle materiaal moet warm gedoopte gegalvaniseer word

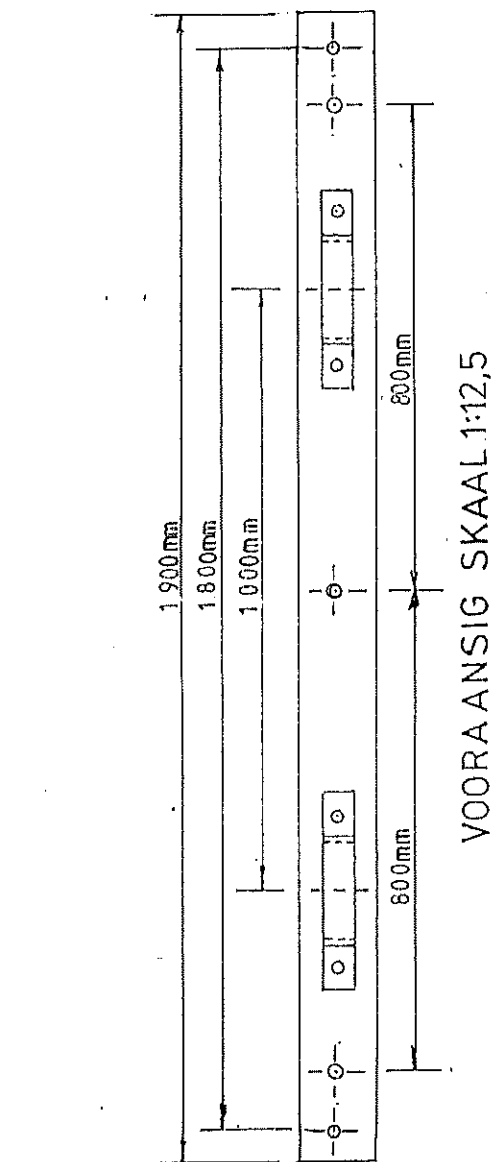
11kV (1,4m) KRUISARM VIR BETONPALE

STADSRAAD
RUSTENBURG
ELEKTROTEGNIËSE/MEGANIESE
DEPARTEMENT

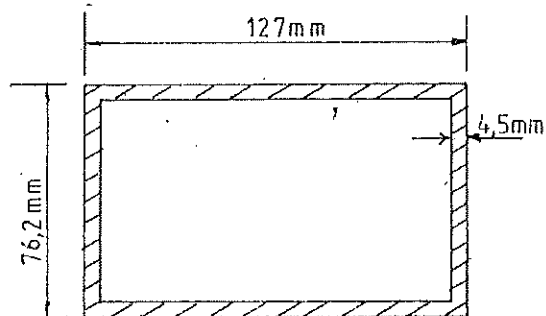
GETEKEN
A.J. JOUBERT
GOEDGEKEUR
A.J. Joubert

DATUM
130812
E.S.I.
E.S.I.

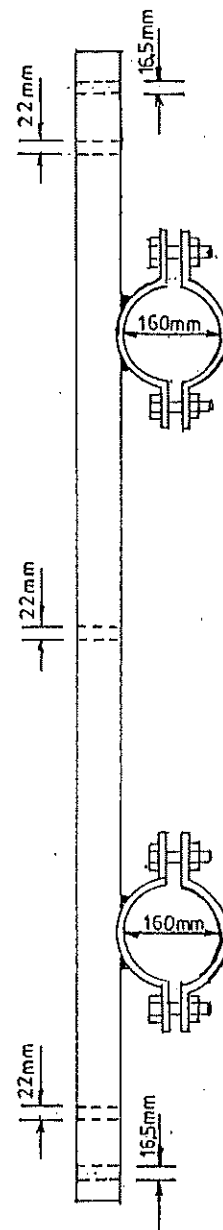
TEKENING Nr.
AL3/15-3



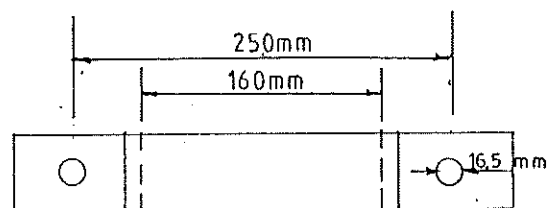
VOORAANSIG SKAAL 1:12,5



BOAANSIG SKAAL 1:2,5
(REGHOEKIGE PYPSTAAL)



SYAANSIG SKAAL 1:12,5



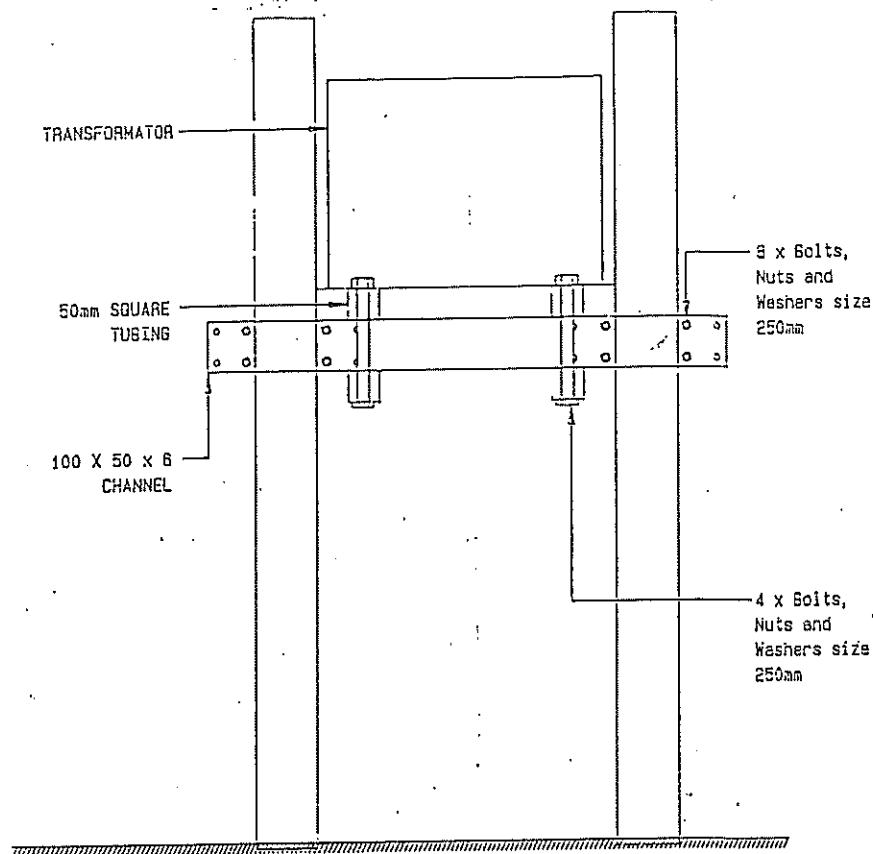
PAALKLAMP SKAAL 1:5
(PLATYSTER 50x10mm)

NOTA!

Boute & moere (75x16mm Gegalvaniseer)
Alle materiaal moet warm gedoopte gegalvaniseer word

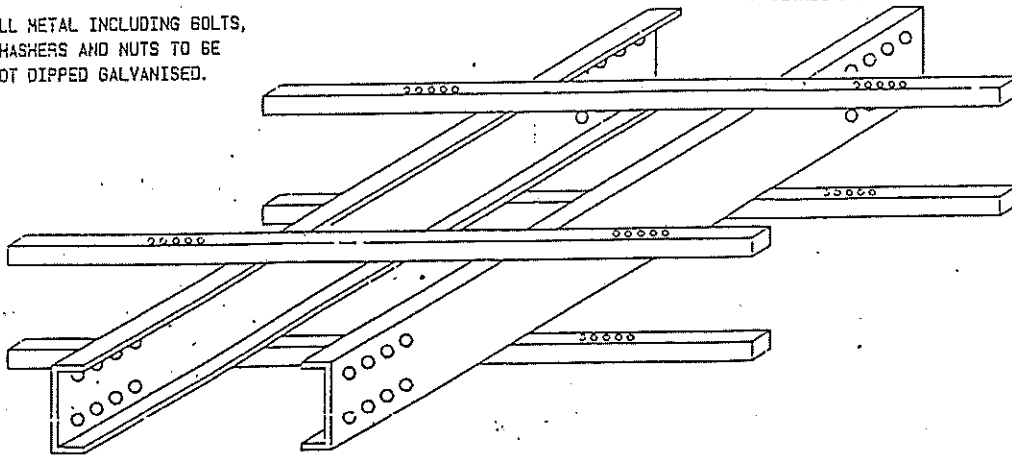
11kV KRUISARM (1,9m) VIR BETONPALE
AFHEG/LUGLEMME/SEKERINGS

STADSRAAD RUSTENBURG ELEKTROTEGNIËSE/MEGANIESE DEPARTEMENT	GETEKEN A.J. JOUBERT	DATUM 93-08-12	TEKENING Nr. AL3/15-4
	GOEDGEKEUR <i>[Signature]</i>	E.S.I. <i>[Signature]</i>	



NOTE :
ALL METAL INCLUDING BOLTS,
WASHERS AND NUTS TO BE
HOT DIPPED GALVANISED.

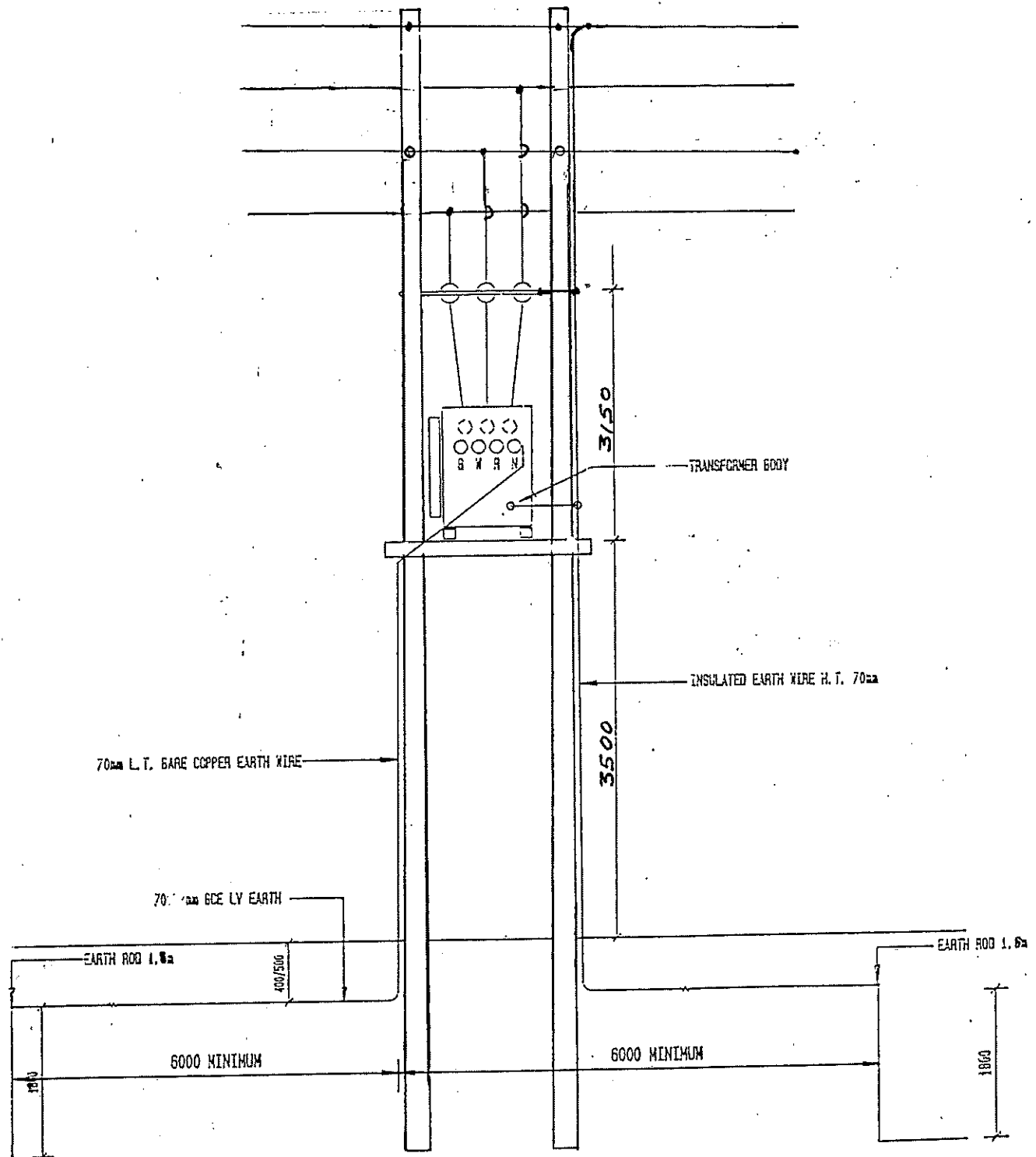
NOTE :
THESE DIMENSIONS ARE
FOR TENDER PURPOSES ONLY.
DIMENSIONS SHALL BE APPROVED
BY THE ENGINEER ON RECEIVAL
OF DETAIL CONSTRUCTION DRAWINGS.



DETAIL OF POLE MOUNTED TRANSFORMER PLATFORM

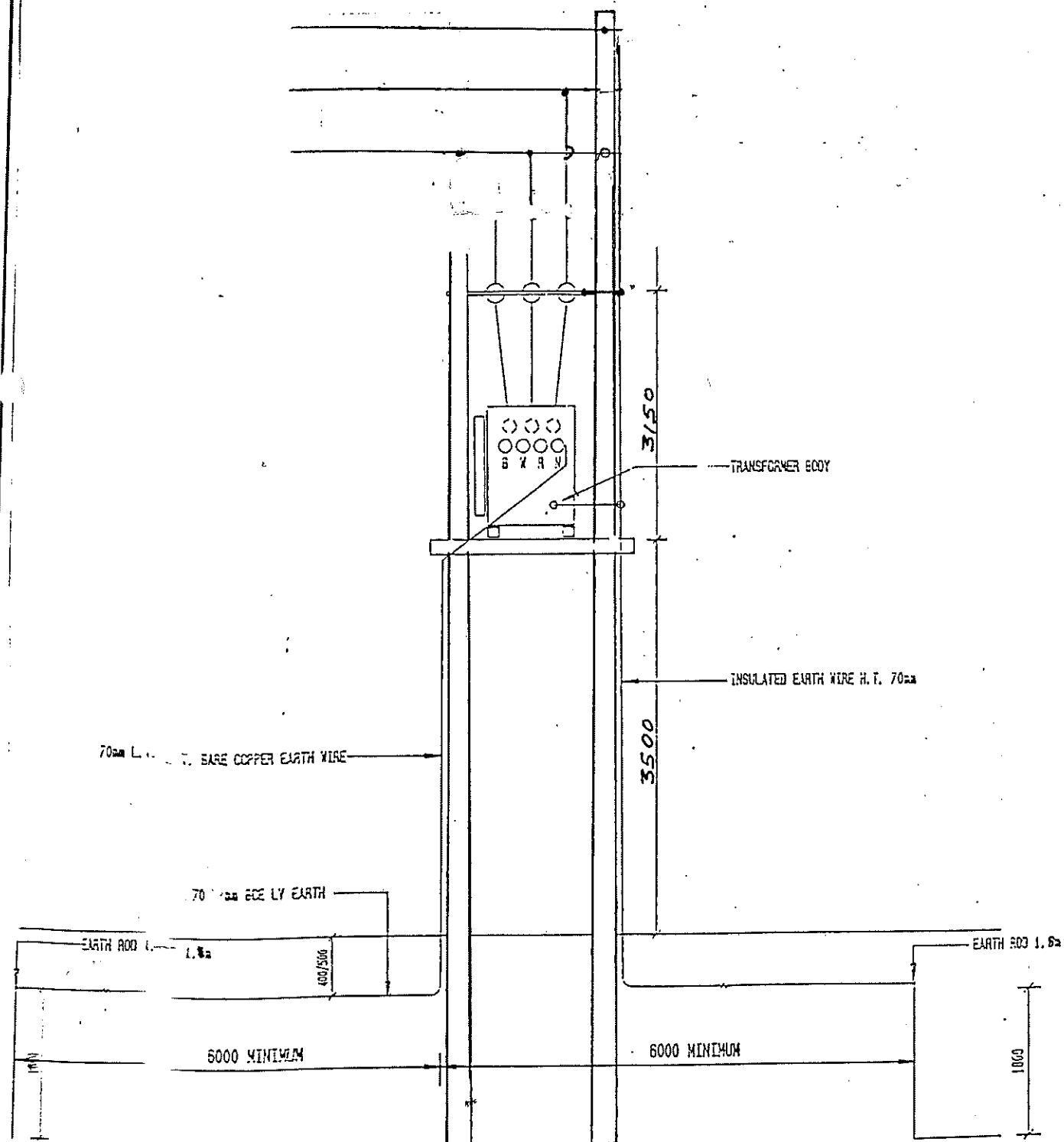
CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-6

POLE MOUNTED TRANSFORMER INSTALLATION



CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-7

POLES MOUNTED TRANSFORMER INSTALLATION



CITY COUNCIL
RUSTENBURG
ELECTRICAL DEPARTMENT

DRAWN

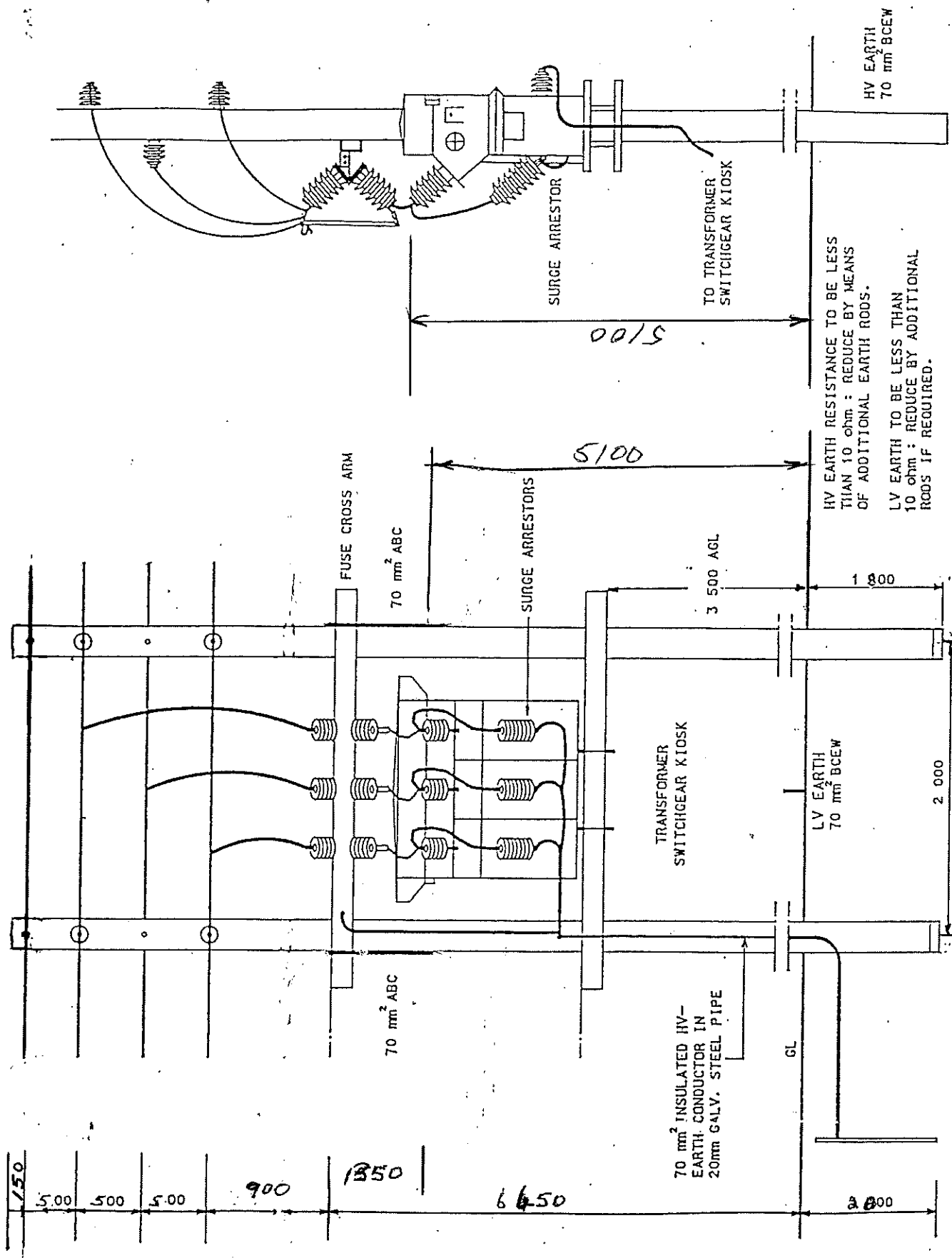
DATE

DRAWING NO.

APPROVED

E.C.E.

AL3/15-7A

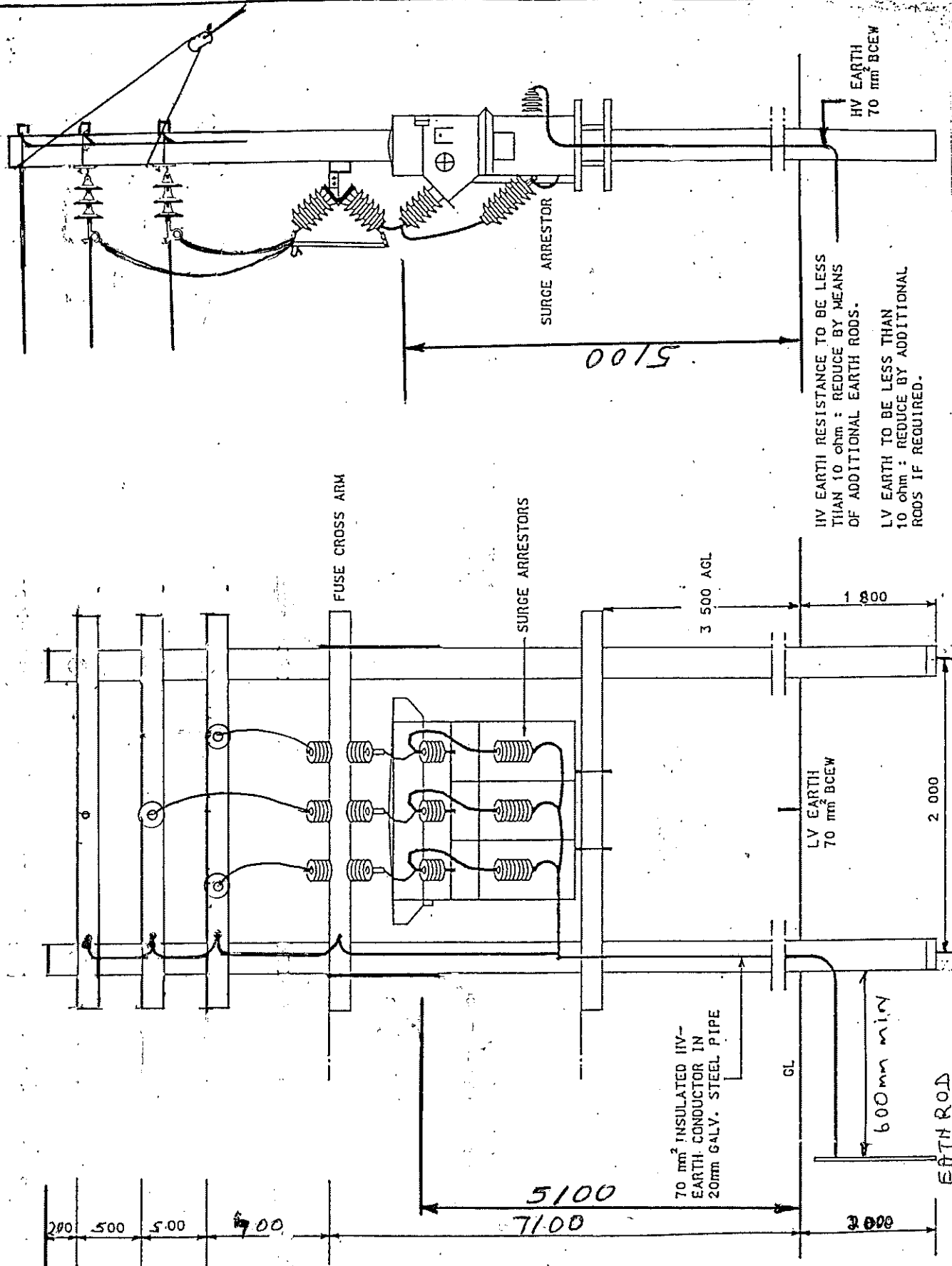


HV EARTH RESISTANCE TO BE LESS THAN 10 ohm : REDUCE BY MEANS OF ADDITIONAL EARTH RODS.
 LV EARTH TO BE LESS THAN 10 ohm : REDUCE BY ADDITIONAL RODS IF REQUIRED.

AGL : ABOVE GROUND LEVEL

TYPICAL TRANSFORMER CONNECTION

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-8

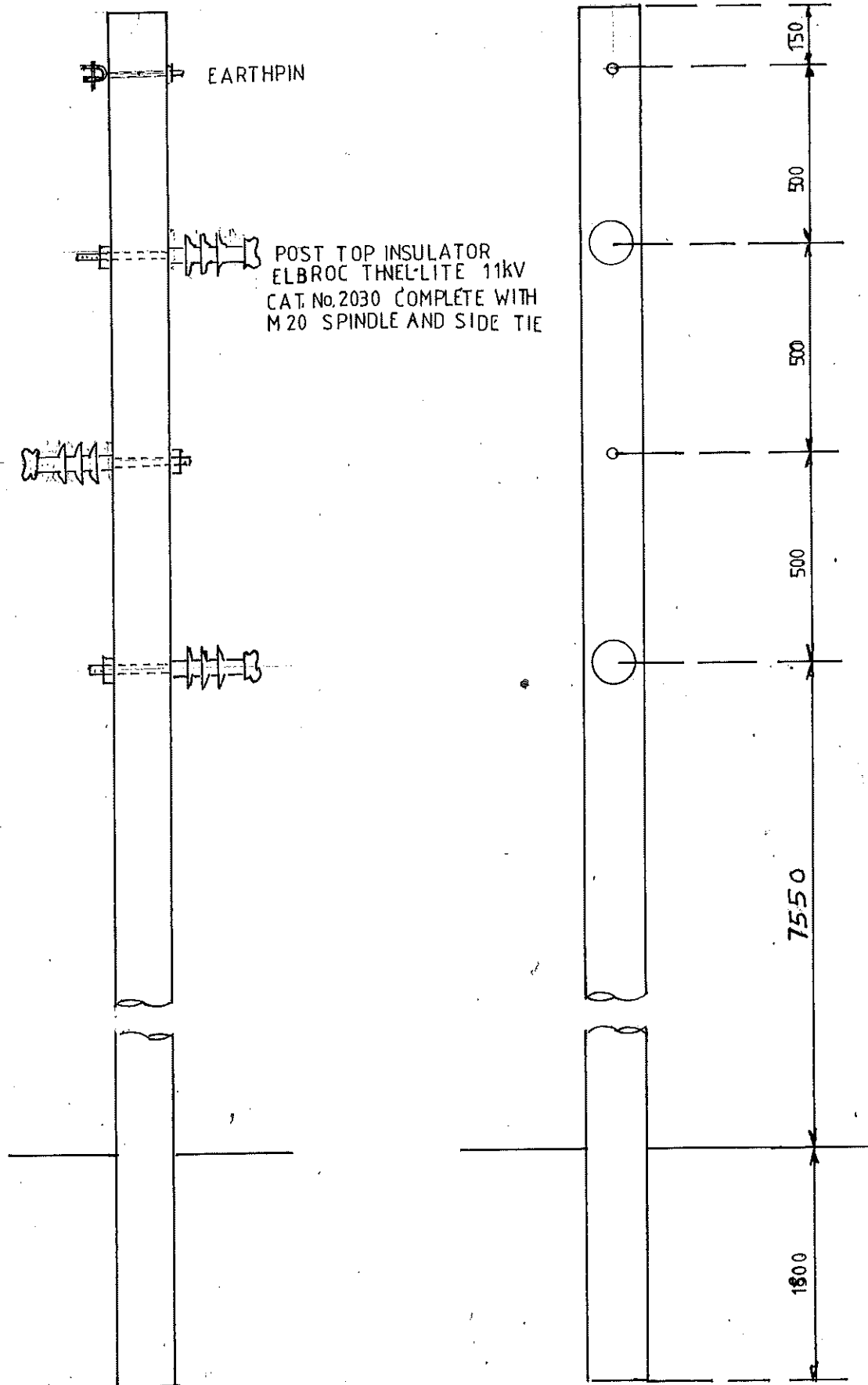


TYPICAL TRANSFORMER CONNECTION

AGL : ABOVE GROUND LEVEL

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	DRAWN	DATE	DRAWING NO.
	APPROVED	E.C.E.	AL3/15-8A

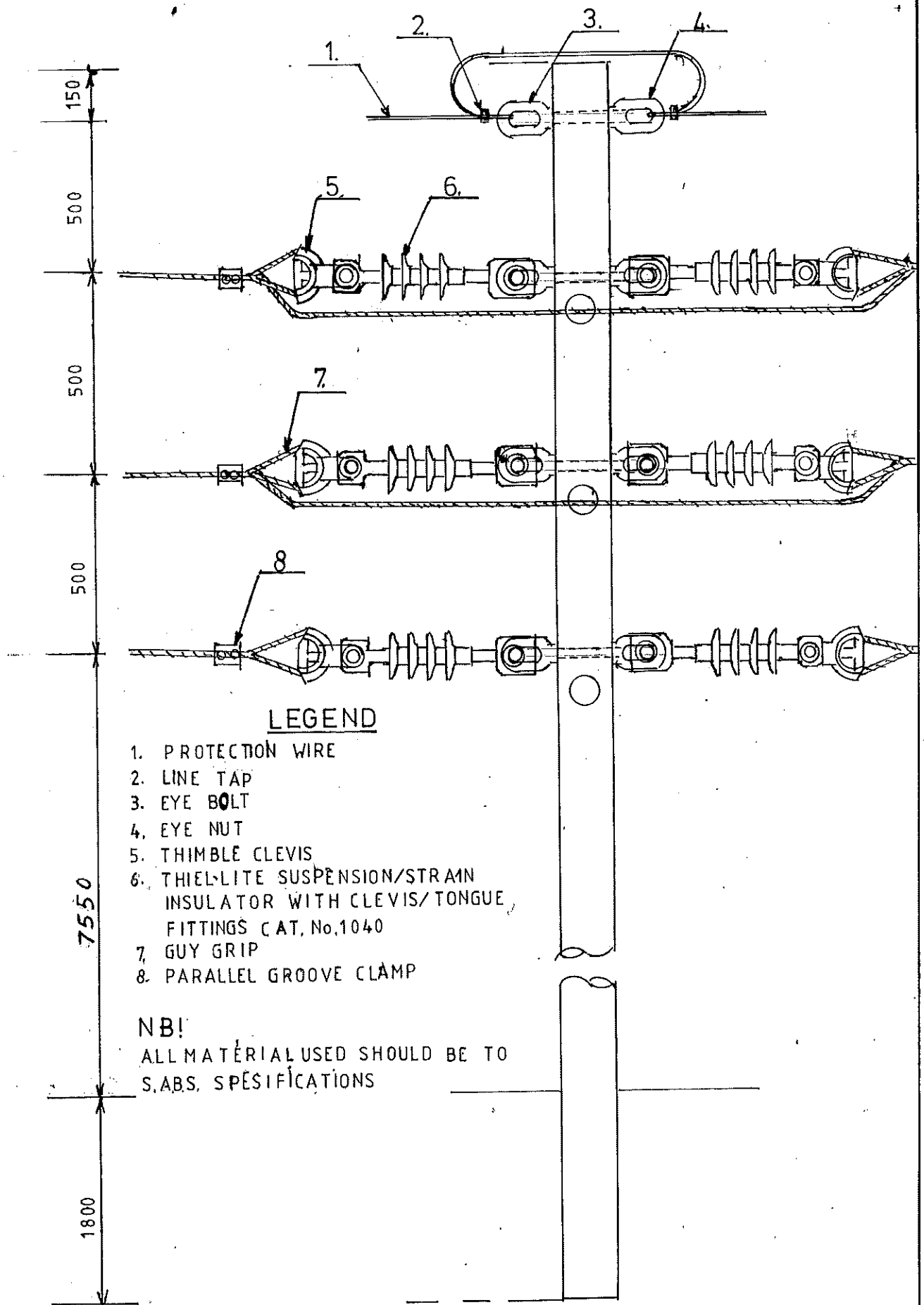
11m-M.V. SUSPENSION POLE



SIDE ELEVATION

FRONT ELEVATION

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	DRAWN	DATE	DRAWING No.
	APPROVED	E.C.E.	AL3/15-9



11m-MV STRAIN POLE

NTY COUNCIL
RUSTENBURG
ELECTRICAL DEPARTMENT

DRAWN

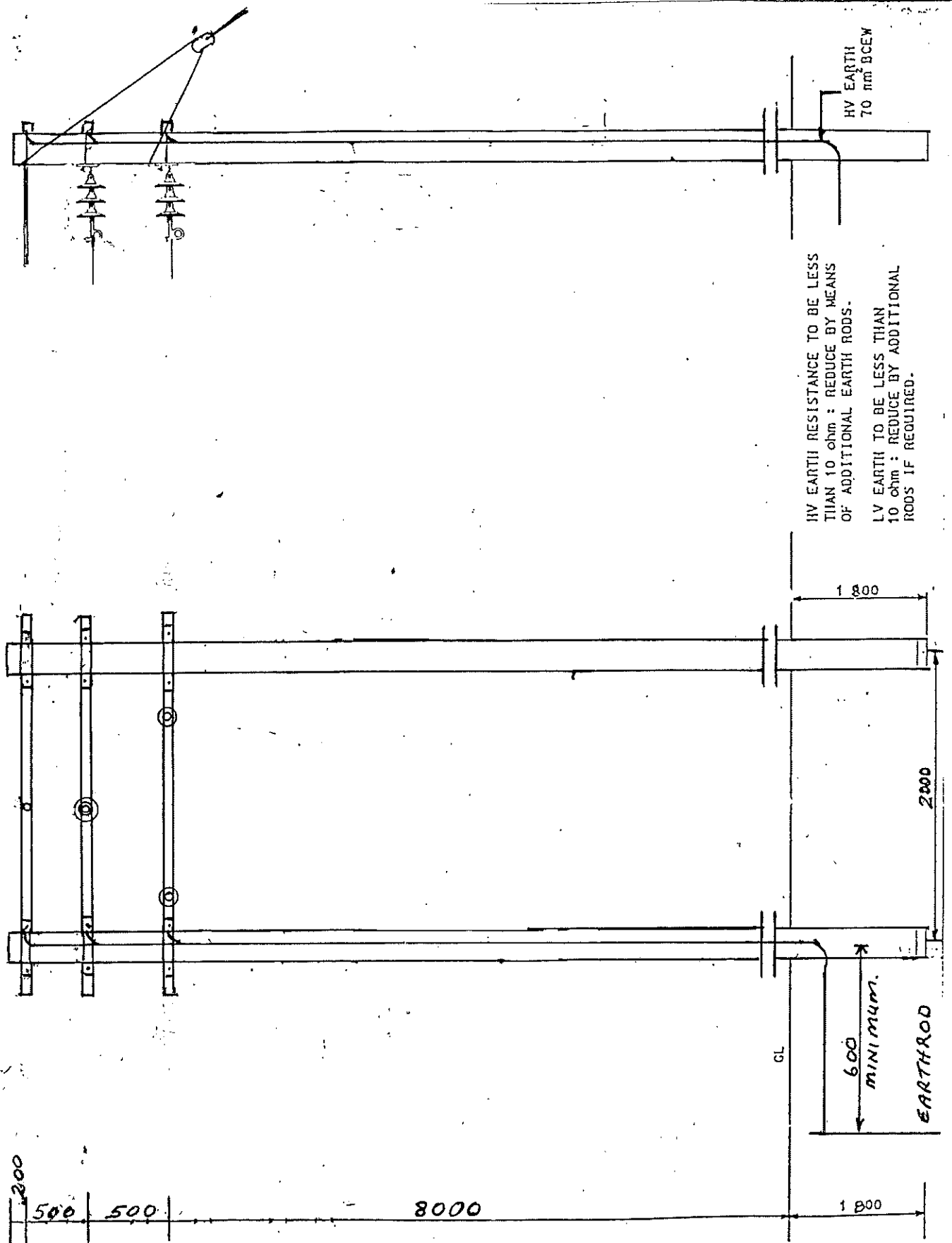
APPROVED

DATE

E.C.E.

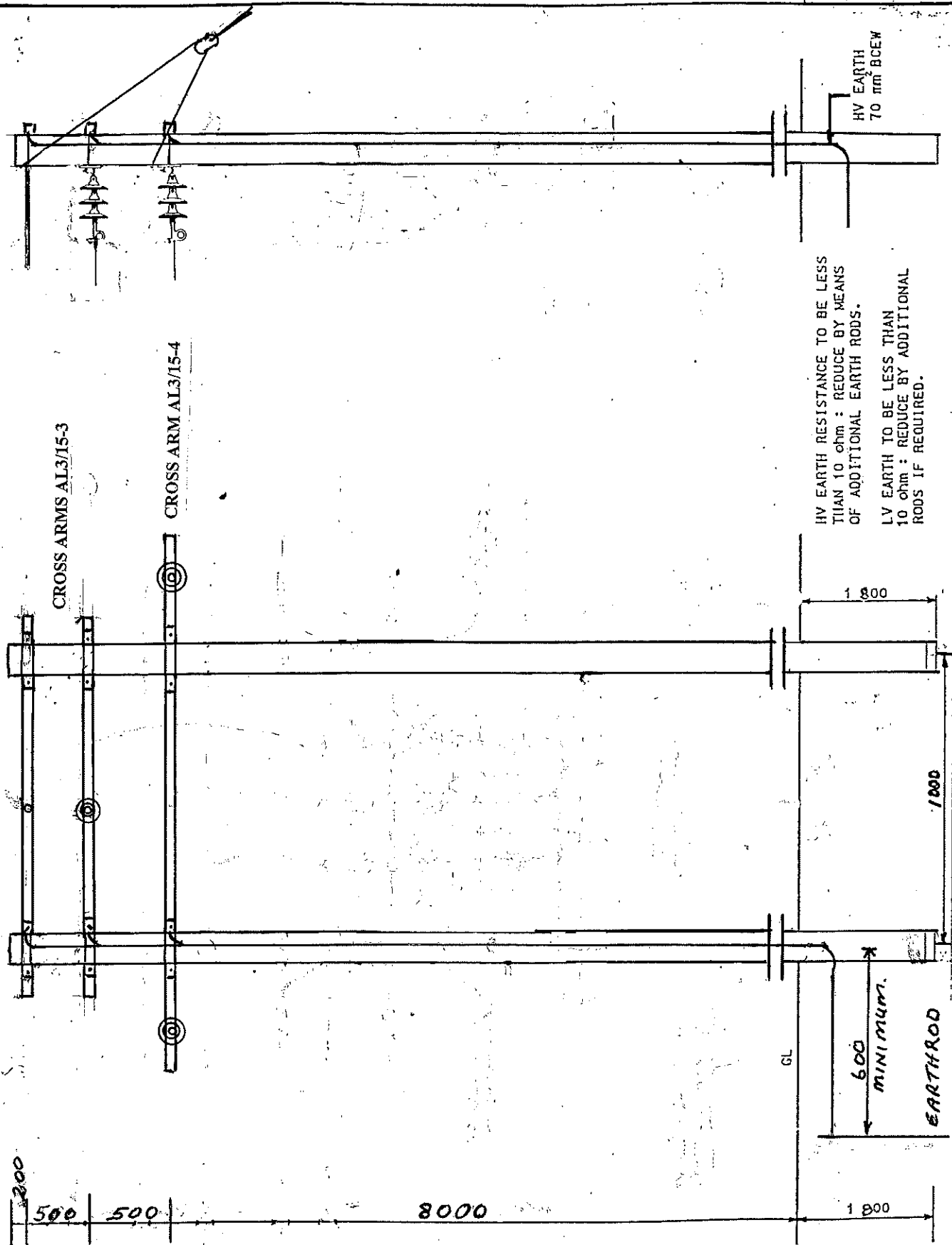
DRAWING No.

AL3/15-10



11kV STRAIN POLES WITH 2m SPACING

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-11A



11kV STRAIN POLES WITH 1m SPACING

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-12

POLE TOP MAKE-OFF
WRAP TYPE

GUY GRIP
DEAD END

STAY INSULATOR

GUY GRIP
DEAD END

STAY WIRE GALVANISED

GUY GRIP
DEAD END

THIMBLE

STAY ROD

STAY PLATE

8,400m
Na ankerslotter

2,200m

1,800m

Dieselfde as paallengte bo grondoppervlakte

1,300m

Kompakteer hierdie gedeelte
met klippe en grond.

1,800m

11kV STAY ASSEMBLY

CITY COUNCIL
RUSTENBURG

ELECTRICAL DEPARTMENT

DRAWN

DATE

DRAWING NO.

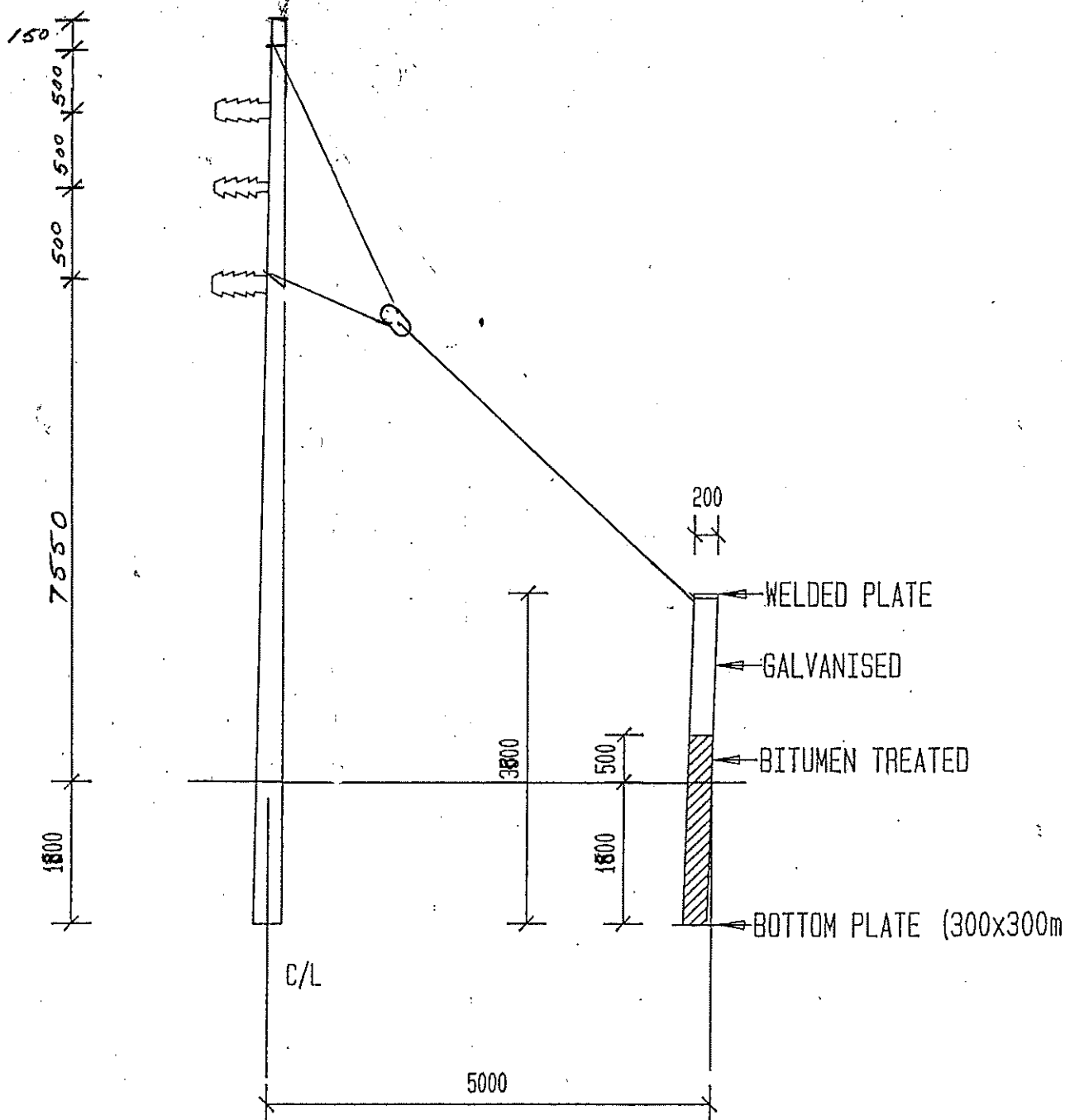
APPROVED

E.C.E.

AL3/15-12A

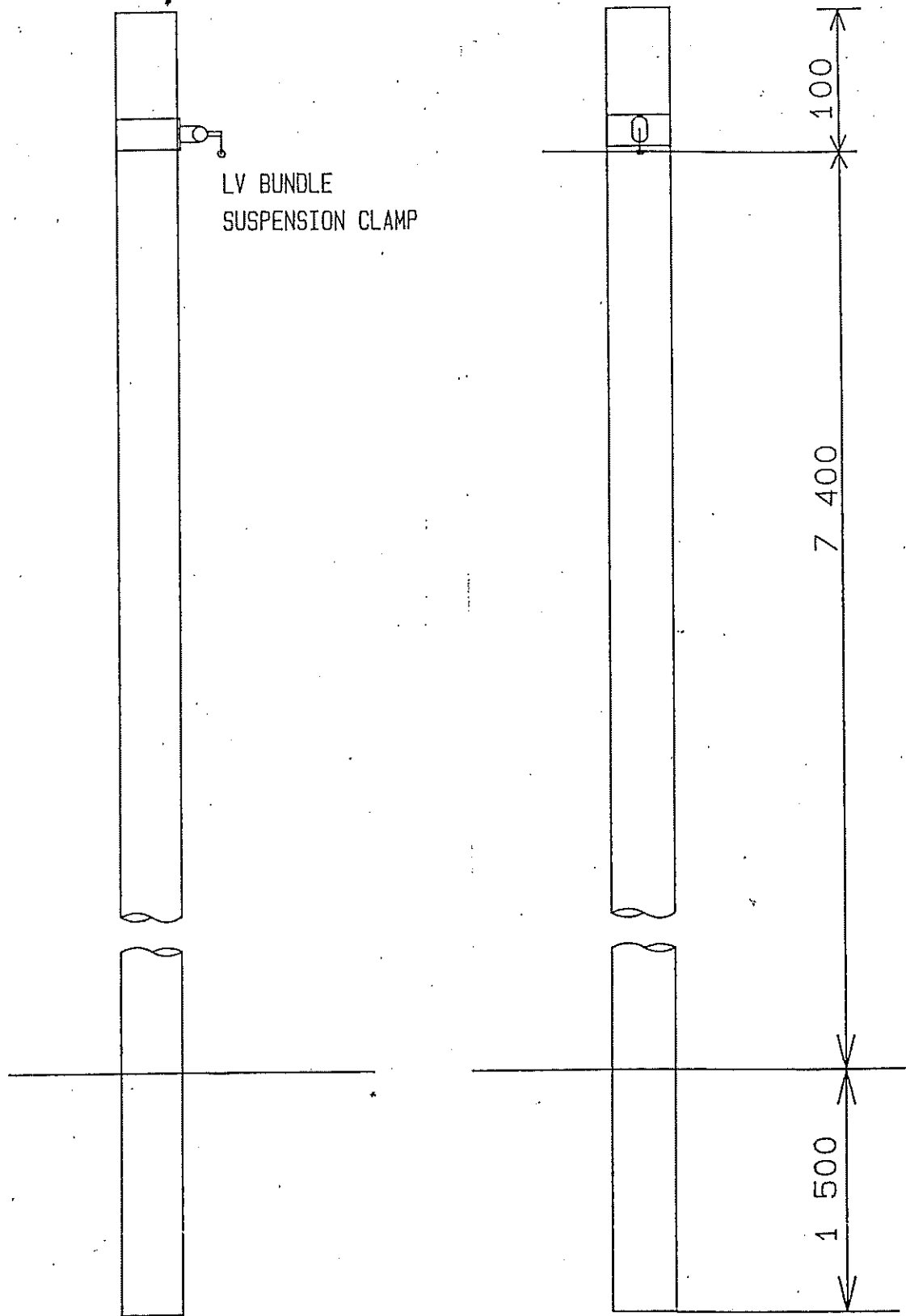


CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-13



11 m - H.V. WOODEN POLE WITH STUBSTAY

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-14

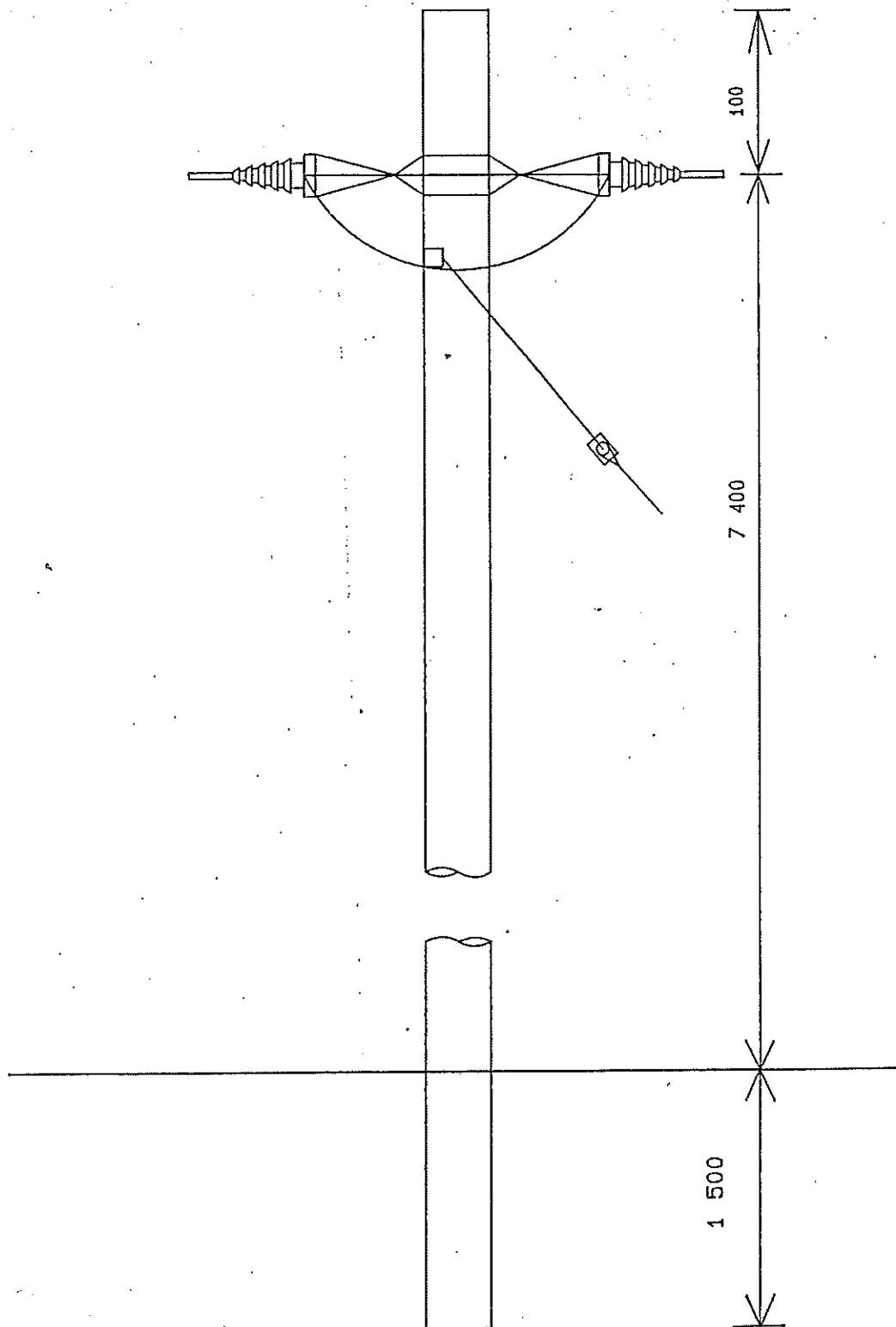


SIDE ELEVATION

FRONT ELEVATION

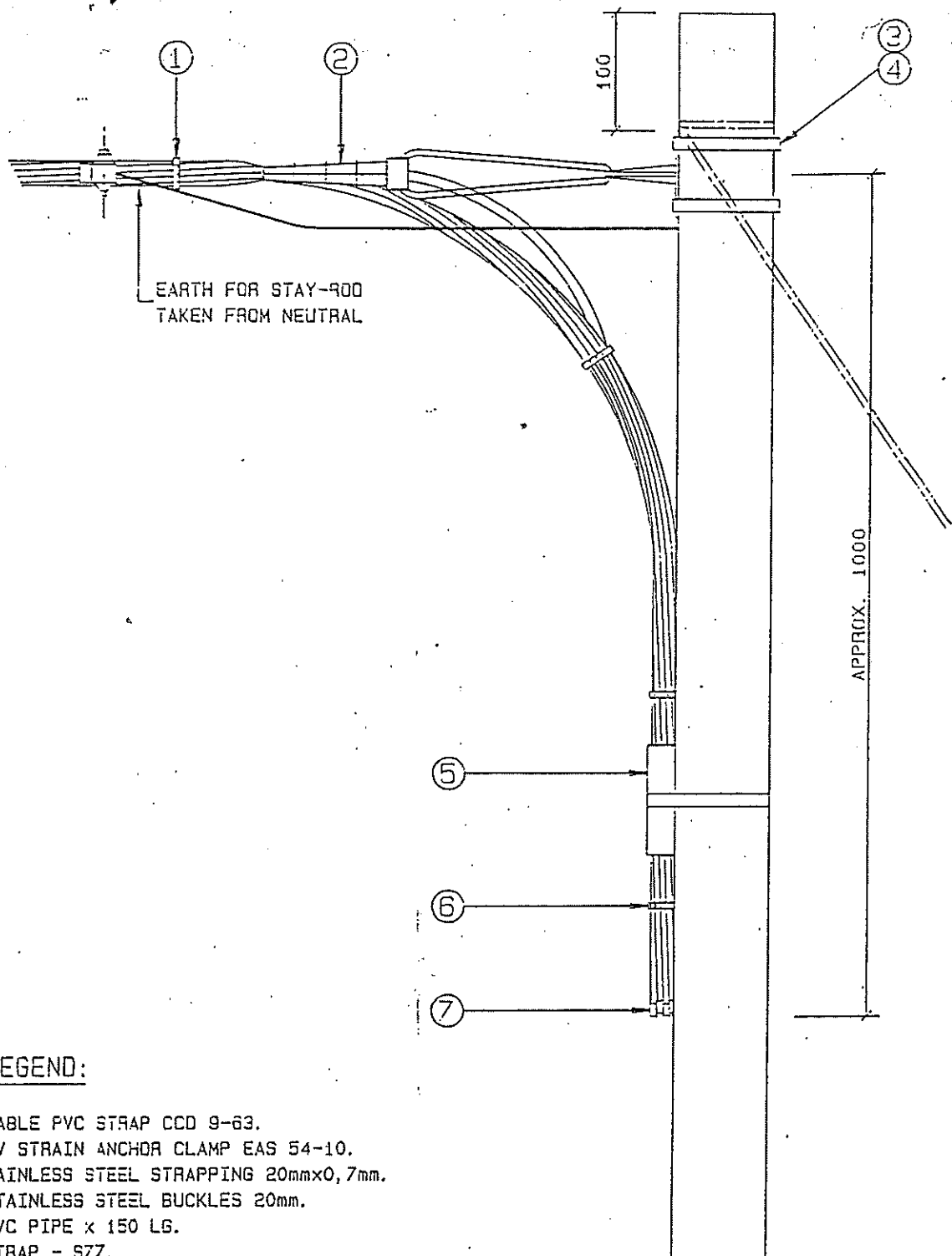
9 m - L.V. SUSPENSION POLE

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-15



9 m — L.V. STRAIN POLE

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-16

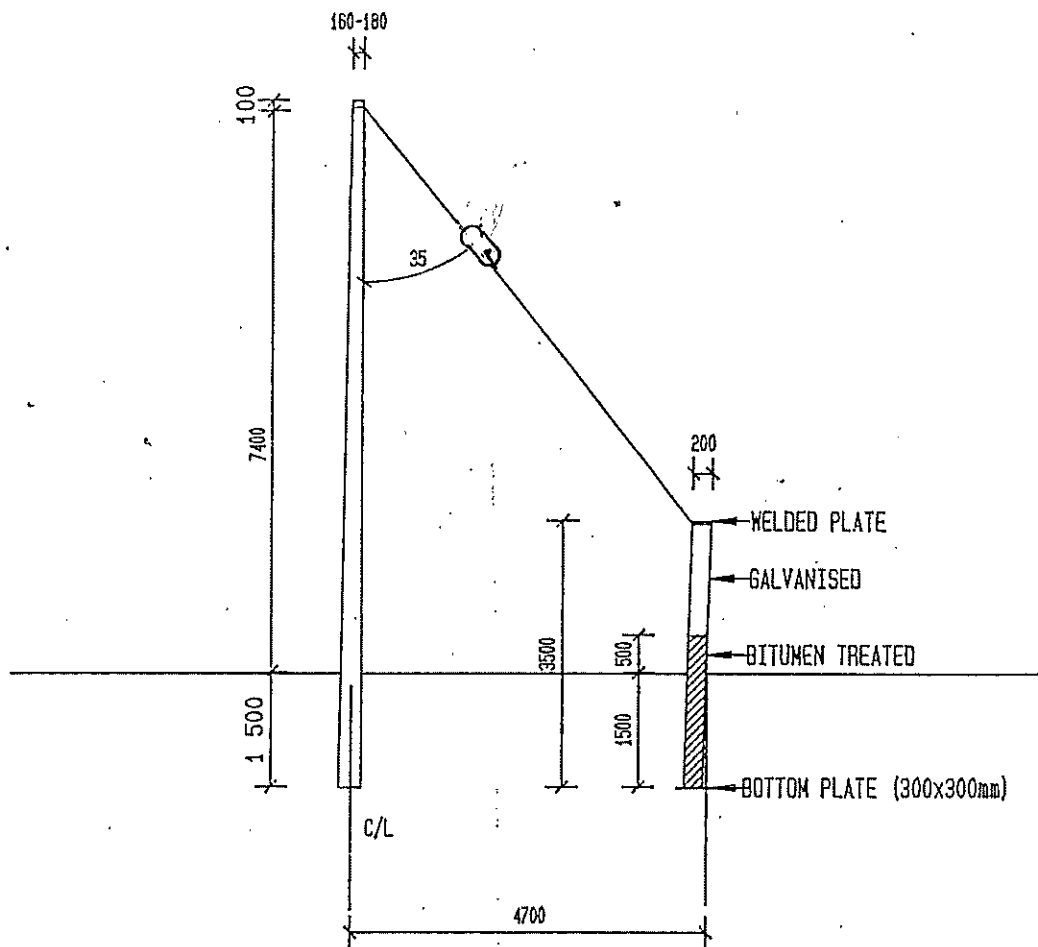


LEGEND:

1. CABLE PVC STRAP CCD 9-63.
2. LV STRAIN ANCHOR CLAMP EAS 54-10.
3. STAINLESS STEEL STRAPPING 20mmx0,7mm.
4. STAINLESS STEEL BUCKLES 20mm.
5. PVC PIPE x 150 LG.
6. STRAP - S77.
7. E.P.D.M. END CAPS (1 SET).

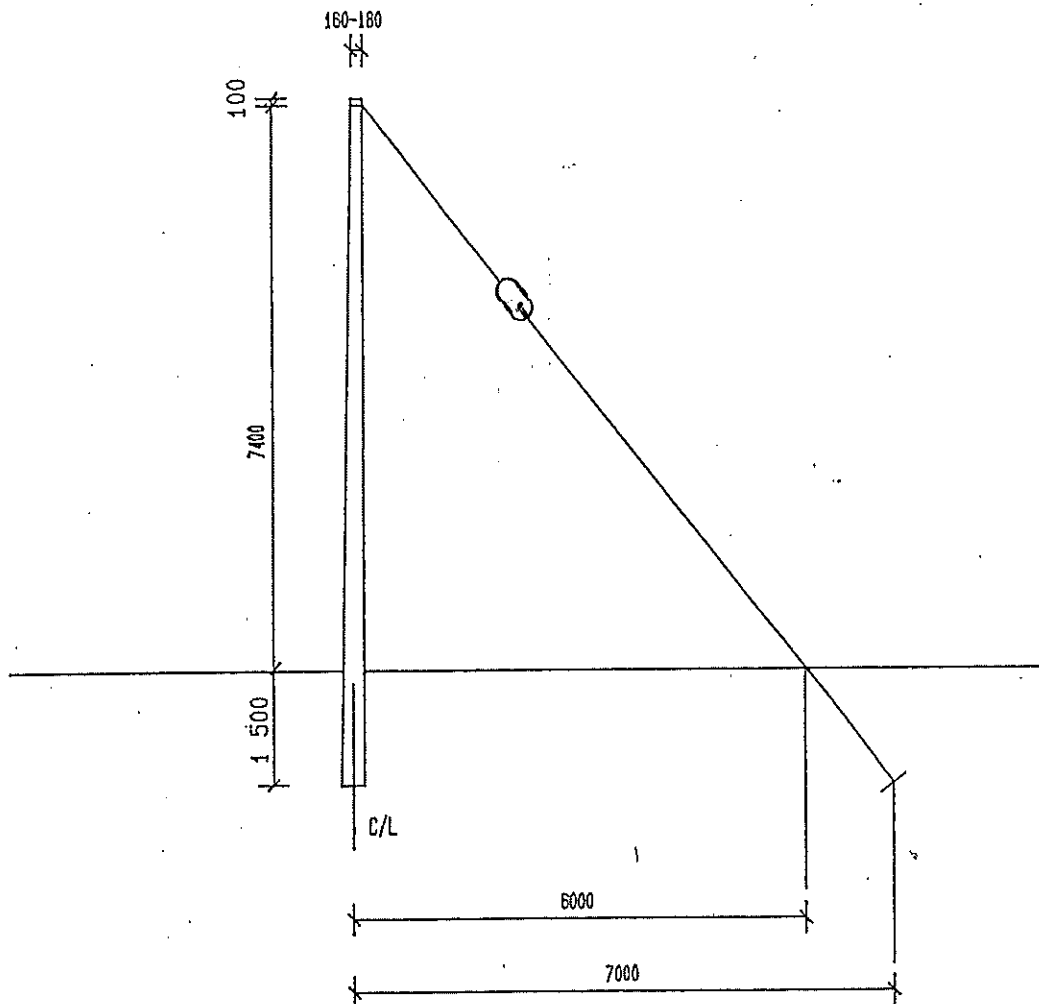
TYPICAL LOW VOLTAGE TERMINATION

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-17



9m - L.V. WOODEN POLE WITH STUB STAY

CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-18



9m - LV. WOODEN POLE WITH STAY

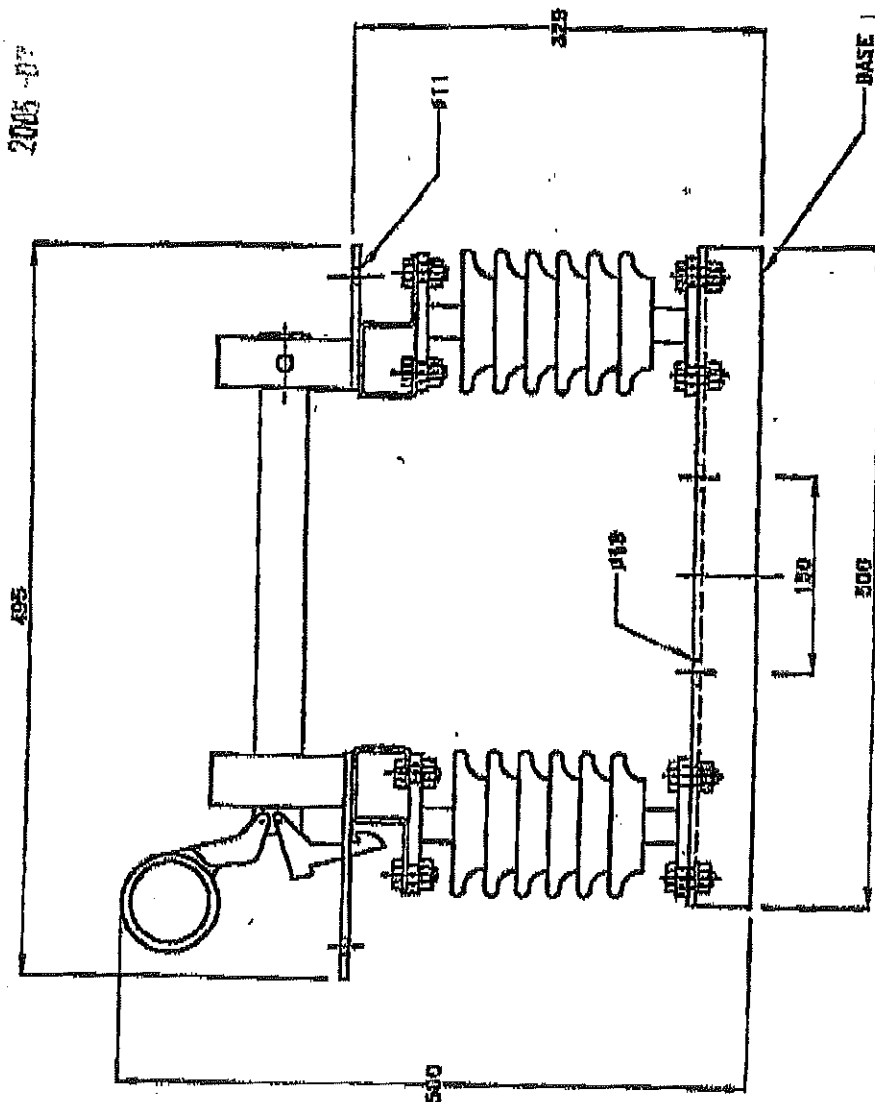
CITY COUNCIL RUSTENBURG ELECTRICAL DEPARTMENT	<u>DRAWN</u>	<u>DATE</u>	<u>DRAWING NO.</u>
	<u>APPROVED</u>	<u>E.C.E.</u>	AL3/15-19

13 Jul. 2005 13:13

ALSTOM

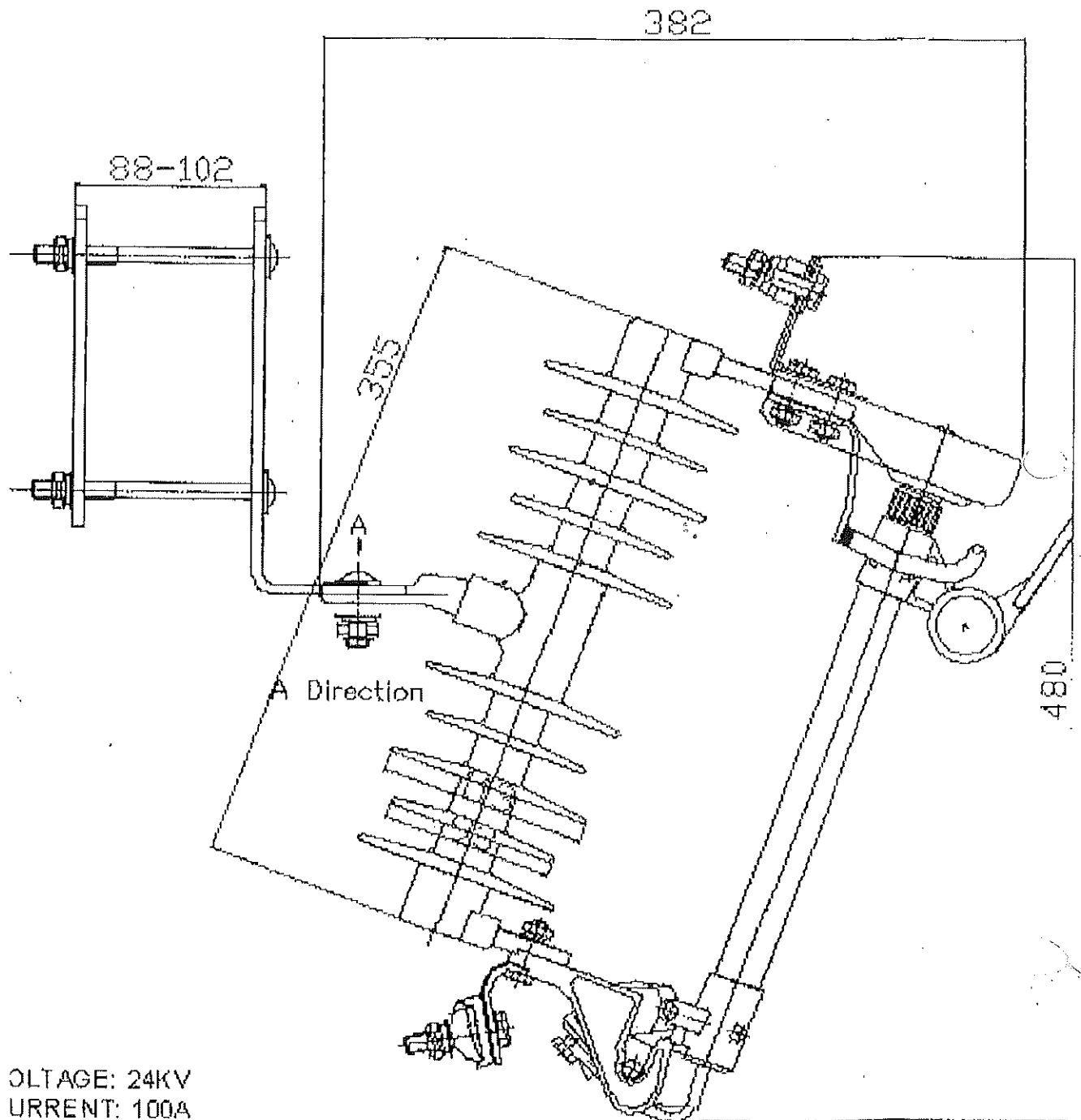
No. 0360 P. 3/3

2005-07-09



ISOLATOR	INSULATOR
11KV, 400A 3-SEG FAULT RATING-13.1KA	INSULATORS EPT12
	CREEPAGE 330MM
	IMPULSE WITHSTAND 105KV
	TITLE ISOLATOR-TYPE 2149E 11KV, 400A SINGLE PHASE WITH LATCH
	BRG. NO. BMLS820131 REV. 2

DATE	APPROVED	DATE	SCALE	PROJECT
08/12/07	H.O.	08/12/07	H.T.S.	100%
08/05	.	03/03	.	.
2	BRADING MOVED TO A NEW TITLE BLOCK	1	BRADING MOVED TO OLD TITLE BLOCK	.
REV.	DATE	APPR.	ECR	DETAILS



VOLTAGE: 24KV

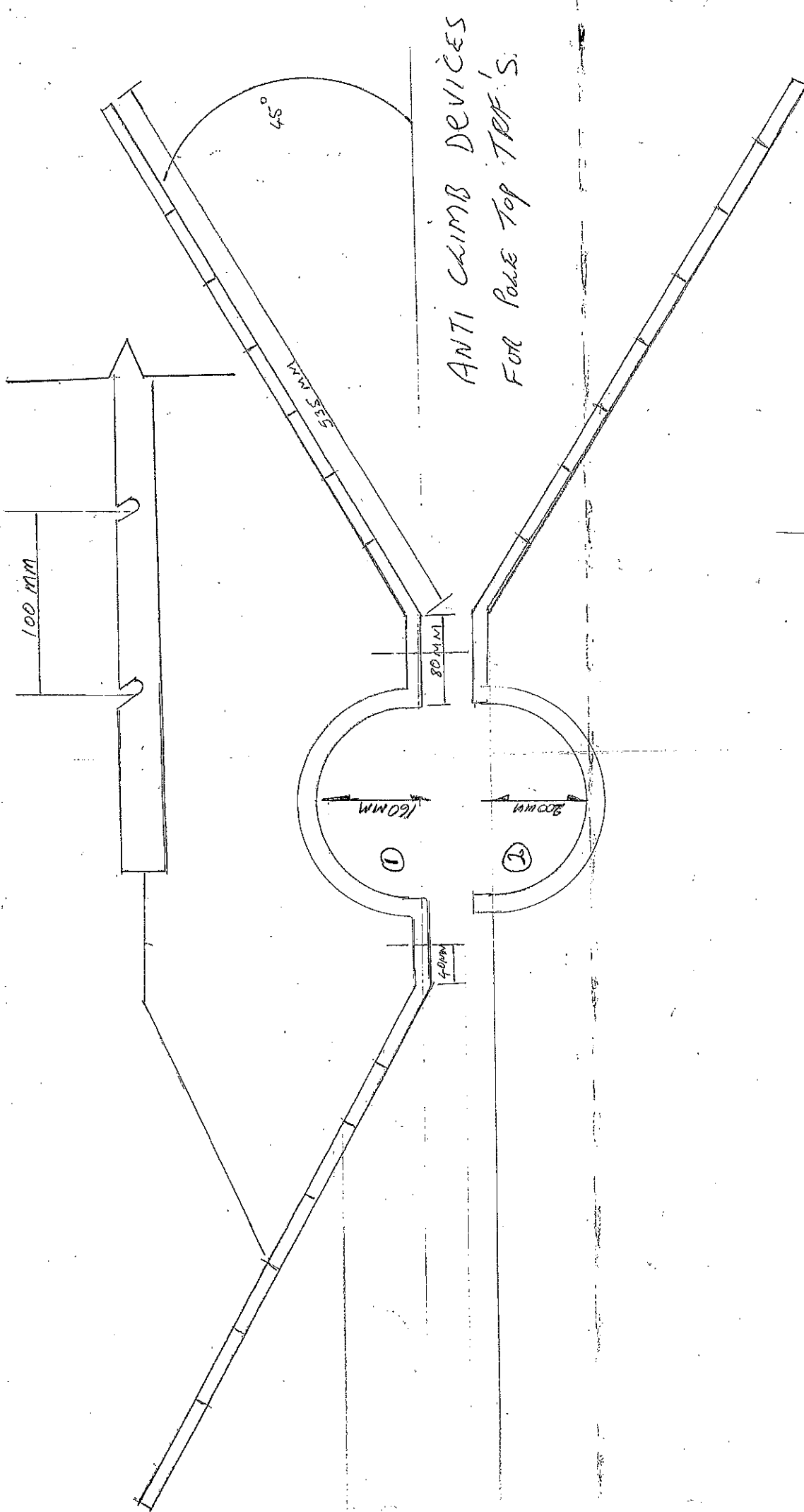
CURRENT: 100A

WITHSTAND VOLTAGE(PHASE TO EARTH) 95KV

WITHSTAND VOLTAGE(ACROSS INSULATING
E): 125KV

SPACING: 540MM

STD: IEC282



ANTI CLIMB DEVICES
FOR POLE TOP TRF'S.

PLEASE NOTE:
THESE ARE TWO SIZES
NO 1 160 mm
NO 2 200 mm

FROM

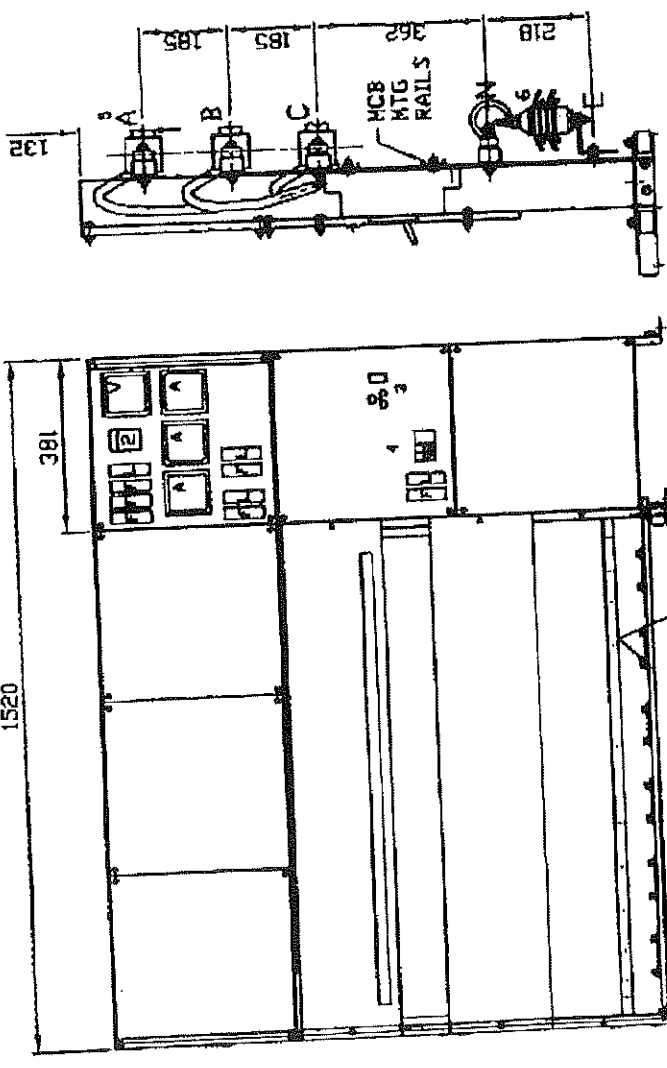
REV	DATE	BY	CHKD	APPD
0				
1	05/09			
2	05/09			
3	05/09			

INSCRIPTION	NO	SIZE
500KVA BUSBARS	1	35 x 150
40x12.5x1530LG A B C N	1	35 x 150
EARTH 25x6x1530LG	1	35 x 150

500KVA BUSBARS
40x12.5x1530LG A B C N
EARTH 25x6x1530LG

PHASE CODE	PHASE BARS	PHASE
'A'	PHASE BARS	'RED' PHASE
'B'	PHASE BARS	'BLUE' PHASE
'C'	PHASE BARS	'WHITE' PHASE
'N'	PHASE BARS	'BLACK' PHASE

ALL COPPER BUSBARS HOLES TO BE FITTED WITH CADMIUM PLATED SCREWS,NUTS,WASHERS AND SPRING WASHERS.



NOTE:
REF.1 TO BE MOUNTED IN LV END COMPT.
REF.4 TO BE FLUSH MOUNTED.
MOUNT 70MM JUMPER BETWEEN NEUTRAL-EARTH & MINISUB-EARTH BAR (ALSO SEE WIRING DIAGRAM FOR DETAIL).
MOUNT 70MM INSULATED JUMPERS BETWEEN GLAND-PLATE SUPPORT & NEUTRAL-EARTH BAR.

CR	DESCRIPTION	ID DATA	SUPPLIER
1	500KVA BUSBARS		
2	40x12.5x1530LG A B C N		
3	EARTH 25x6x1530LG		

REV	DATE	BY	CHKD	APPD
0				
1	05/09			
2	05/09			
3	05/09			

GW85621L11
SCALE 1:10
DATE 10/4/2008
CAD No. GW85621L11

FROM

REV 0

23

22

21

20

19

18

17

16

15

14

13

12

11

10

9

8

7

6

5

4

3

2

1

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

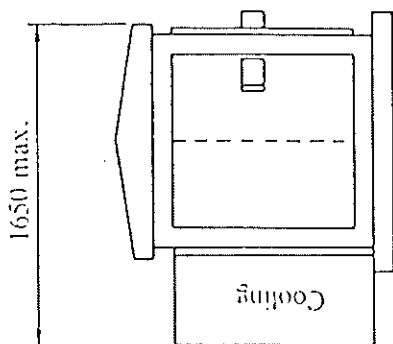
0

0

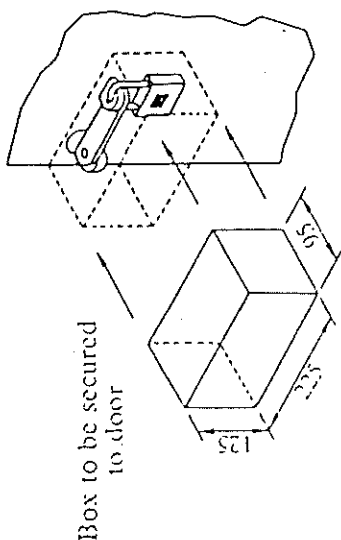
0

0

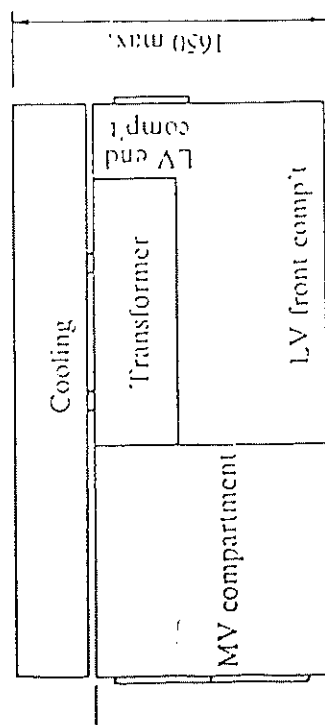
Dimensions in millimetres



Front elevation

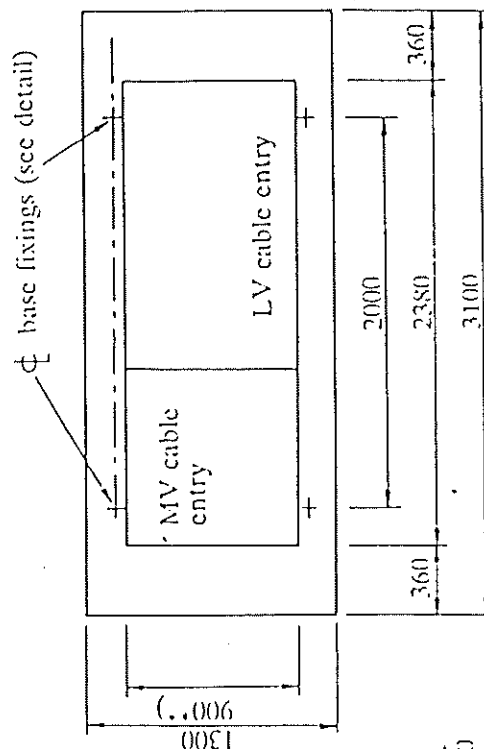


Box to be secured to door

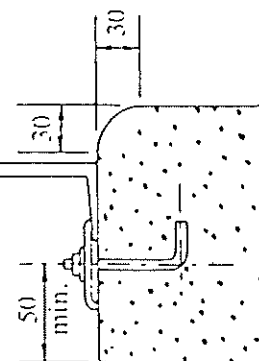


Plan view with canopy removed

End elevation



Plinth details

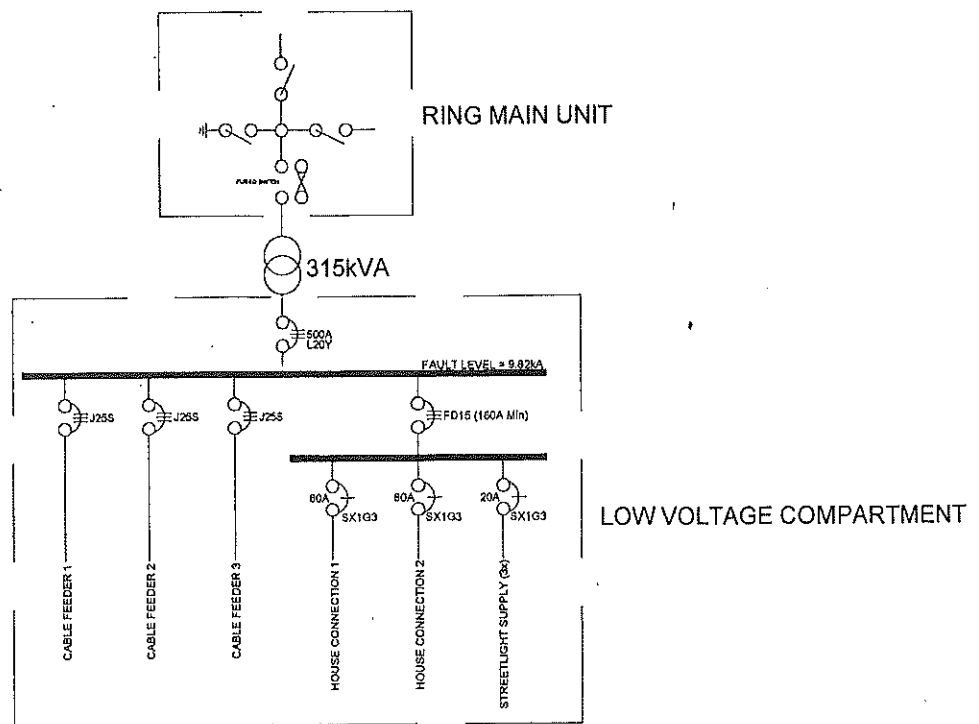


Detail of base fixings

*) These dimensions are typical.
 **) For some manufacturers this dimension may need to be reduced to 830.

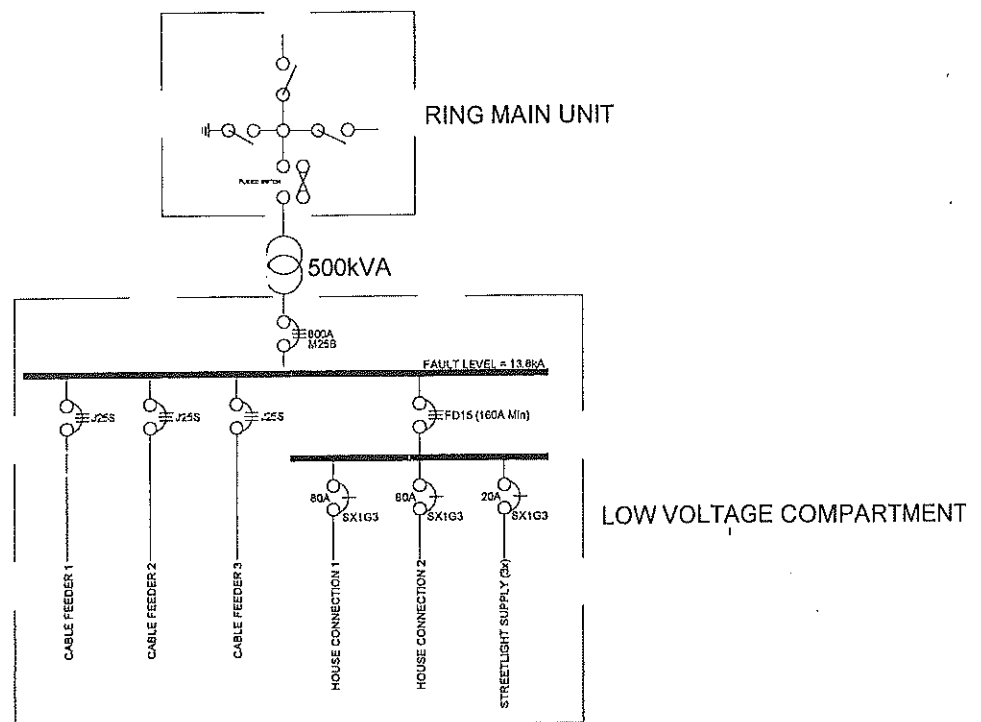
NB) YOU ARE INSTRUCTED TO ALWAYS MEASURE THE DIMENSIONS OF THE MINIATURE SUBSTATION TO BE INSTALLED BEFORE CONSTRUCTING THE PLINTH.

Figure 2 - Typical type B (lateral) mini-substation



315kVA MINIATURE SUBSTATION

200



500kVA MINIATURE SUBSTATION