

A

B

C

D

E

F

A

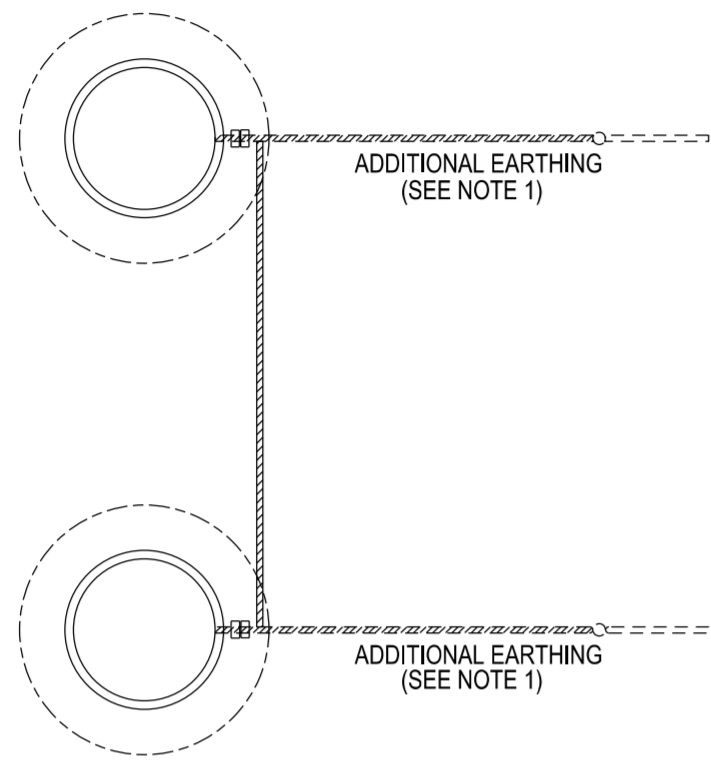
B

C

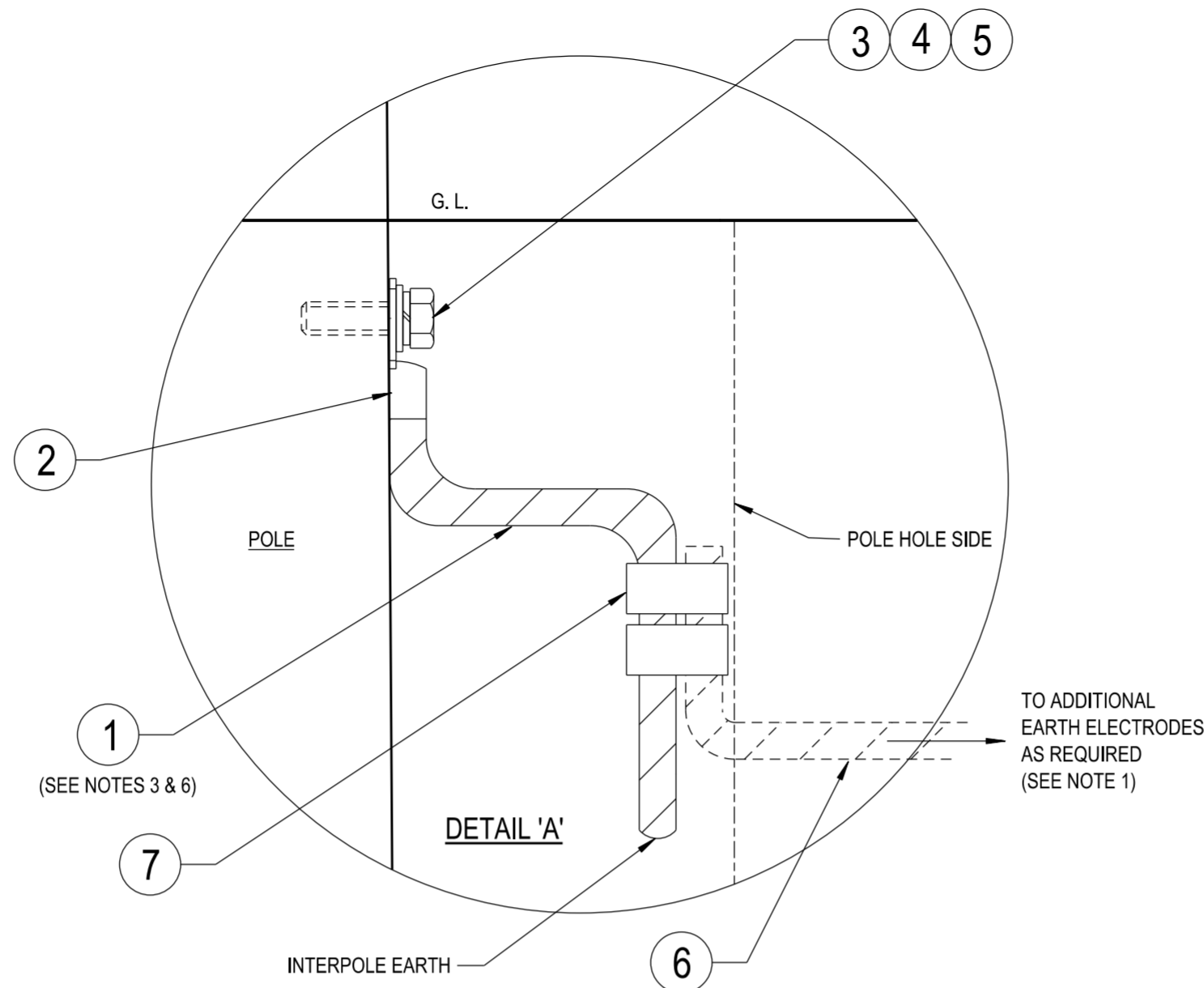
D

E

F

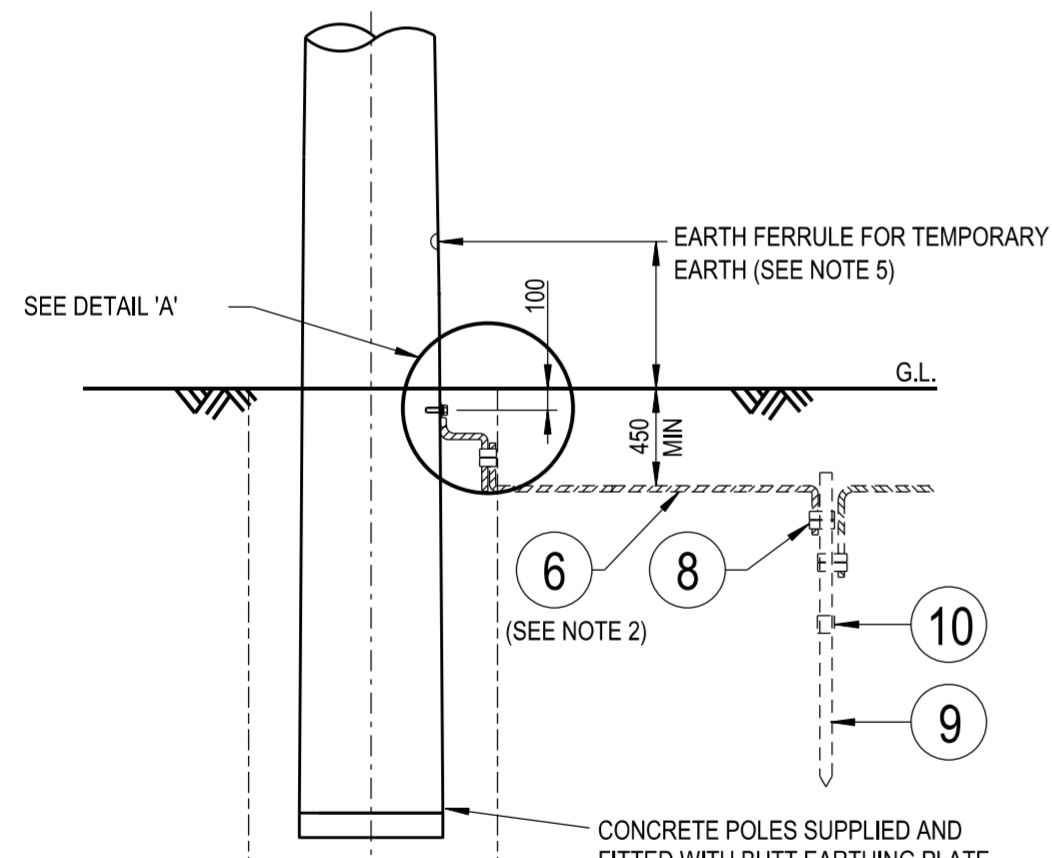


PLAN

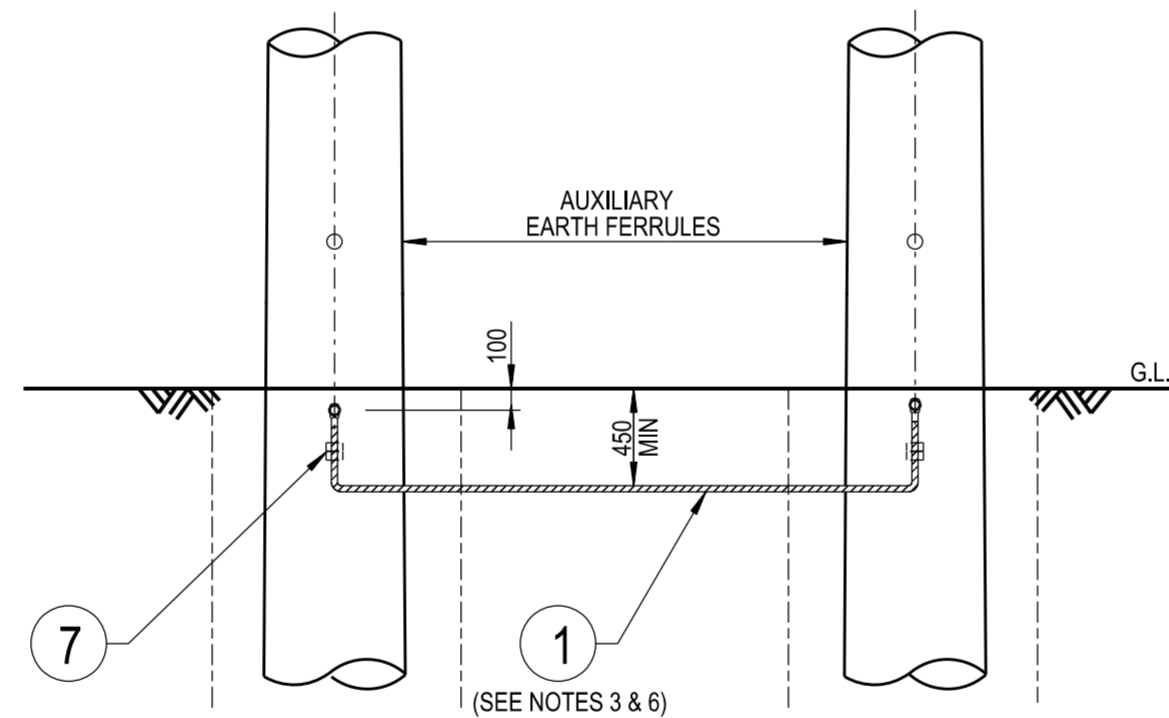


NOTE :

- AFTER ERECTION AND PRIOR TO THE CONNECTION OF ANY OVERHEAD EARTHWIRE, THE RESISTANCE OF THE BUTT EARTH SHALL BE MEASURED BY TESTING BETWEEN THE BUTT EARTH AND A REMOTE EARTH ELECTRODE. IF THE REQUIRED EARTH RESISTANCE, AS SHOWN ON THE PROJECT DESIGN DRAWINGS, IS NOT ACHIEVED, ADDITIONAL EARTHING IS TO BE INSTALLED AS SHOWN UNTIL THE SPECIFIED VALUE OF RESISTANCE IS OBTAINED.
- WHERE PRACTICAL, ADDITIONAL EARTHING CONDUCTOR IS TO BE INSTALLED PARALLEL AND UNDER THE OVERHEAD LINES.
- MULTIPLE POLE STRUCTURES ARE TO BE BONDED TOGETHER USING THE SAME CONDUCTOR AS SPECIFIED FOR THE POLE STRUCTURE EARTHING.
- ENSURE THAT A 15kg BAG OF EARTHING COMPOUND HAS BEEN SPREAD EVENLY OVER THE BOTTOM OF THE HOLE BEFORE THE POLE IS ERECTED. THIS WILL ENHANCE THE ELECTRICAL CONNECTION BETWEEN THE POLE BUTT EARTH AND THE NATURAL GROUND.
- A TEMPORARY EARTH IS TO BE USED WHEN TESTING BUTT/ADDITIONAL EARTHING. THE RESISTANCE OF THE TEMPORARY EARTH IS NOT TO EXCEED 30 OHMS. THE ABOVE GROUND EARTH FERRULE MAY BE USED AS A TEST POINT FOR MEASURING OF THE POLE EARTH RESISTANCE. THIS RESISTANCE IS NOT TO EXCEED THAT SPECIFIED IN THE PROJECT DESIGN DRAWINGS.
- SELECTION OF EARTH CONDUCTOR SIZE.  
 132kV AND 66kV CONSTRUCTIONS  
 POLES LOCATED WITHIN A SUBSTATION YARD ARE TO USE A 19/3.00 (134mm<sup>2</sup>) COPPER EARTH CONDUCTOR. ALL OTHER POLES ARE TO USE A 19/2.14 (70mm<sup>2</sup>) COPPER EARTH CONDUCTOR.  
 33kV CONSTRUCTIONS  
 THE SIZE OF THE EARTH CONDUCTOR IS TO BE REFERRED TO NETWORK EARTHING FOR ASSESSMENT.



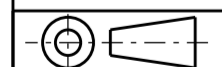
ELEVATION



END ELEVATION

(ADDITIONAL EARTHS OMITTED)

10	COUPLER - EARTH ELECTRODE, TO SUIT Ø15mm ROD		H31649	1
9	ELECTRODE - DRIVEN EARTH, Ø15x1800mm		H31631	2
8	CONNECTOR - COMPRESSION, PROFILE '6', COPPER (70mm <sup>2</sup> CONDUCTOR TO Ø15mm ROD)		H31699	4
	CONNECTOR - COMPRESSION, PROFILE '6', COPPER (134mm <sup>2</sup> CONDUCTOR TO Ø15mm ROD)			
7	CONNECTOR - COMPRESSION, PROFILE 'C', COPPER (70mm <sup>2</sup> TO 70mm <sup>2</sup> CONDUCTOR)		177942	4
	CONNECTOR - COMPRESSION, PROFILE 'C', COPPER (134mm <sup>2</sup> TO 134mm <sup>2</sup> CONDUCTOR)			
6	CONDUCTOR - 19/2.14(70mm <sup>2</sup> ) COPPER, EARTHING, HARD DRAWN (SEE NOTE 2)		176140	A/R
	CONDUCTOR - 19/3.00(134mm <sup>2</sup> ) COPPER, EARTHING, HARD DRAWN (SEE NOTE 2)			
<b>ADDITIONAL EARTHING MATERIAL</b>				
5	WASHER - FLAT, M12, STAINLESS STEEL	518081	49429	2
4	WASHER - SPRING, M12, STAINLESS STEEL	518082	143859	2
3	SCREW - SET, M12x25mm, HEX., STAINLESS STEEL	515467	44693	2
2	LUG - COMPRESSION, 70mm <sup>2</sup> , TINNED COPPER (M12 HOLE)		74831	2
	LUG - COMPRESSION, 134mm <sup>2</sup> , TINNED COPPER (M12 HOLE)			
1	CONDUCTOR - 19/2.14(70mm <sup>2</sup> ) COPPER, EARTHING, HARD DRAWN (SEE NOTES 3 & 6)		176140	A/R
	CONDUCTOR - 19/3.00(134mm <sup>2</sup> ) COPPER, EARTHING, HARD DRAWN (SEE NOTES 3 & 6)			
ITEM	DESCRIPTION	DRG. No	STOCK CODE	QTY



ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE DO NOT SCALE

CAD DRAWING DO NOT MANUALLY AMEND	A M E N D M E N T S	DWN: P.S. CHKD: P.A.S. DATE: 6-9-94 NOTE 1 AND ITEM 6 AMENDED.	AUTH'D BY: P. SUMNER	DWN: PMC CHKD: G.S. DATE: 19-01-01 PART LIST UPDATED	AUTH'D BY: G. SKINNER	DWN: PATRICIA RIOS CHKD: PHIL JONES	DATE: 05/10/2006 AMENDED TO INCLUDE STEEL POLES. DRAWING REFERENCES UPDATED.	AUTH'D BY: STEPHEN CONNOR	DWN: P.R.	CHKD: P.J.	APP'D: G.F.	DATE: 12/01/2023 MINIMUM EARTH WIRE SIZE CHANGED. MATERIAL LIST & NOTES AMENDED.
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NO.	DESCRIPTION	QTY
1	HV CONCRETE/STEEL SINGLE POLE STRUCTURE BUTT EARTHING ARRANGEMENT	520209
ASSOCIATED DRAWINGS		

NETWORK STANDARD

145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE	N.T.S
DESIGNED	-
DRAWN	PETER SAUNDERS
CHECKED	-
APPROVED	I.NICHOLS
DATE	23/08/1993
PROJECT NUMBER	STD
PROJTRAK NUMBER	-

STANDARD CONSTRUCTION				
HIGH VOLTAGE CONCRETE/STEEL				
MULTIPLE POLE				
STRUCTURE BUTT EARTHING				
ARRANGEMENT				
SIZE	DRAWING No	SHEET	AMD	
A2	520210	1	5	

C