

A

B

C

D

E

F

A

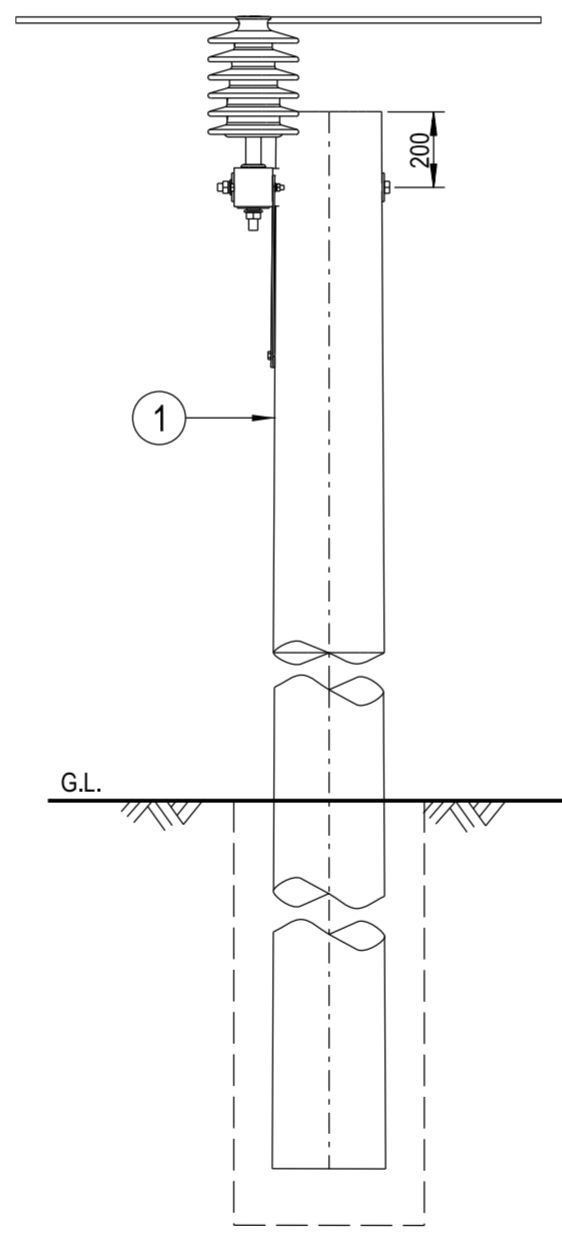
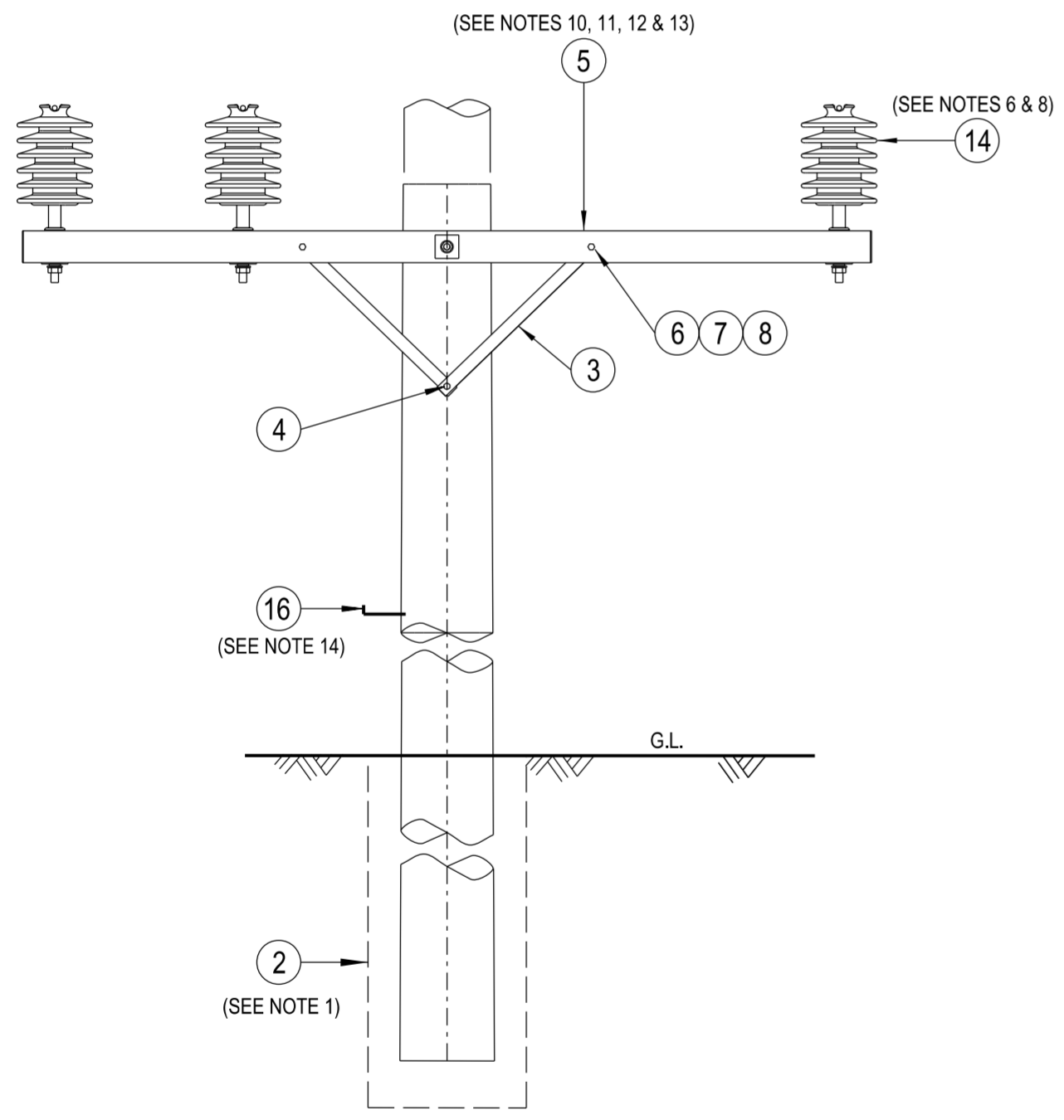
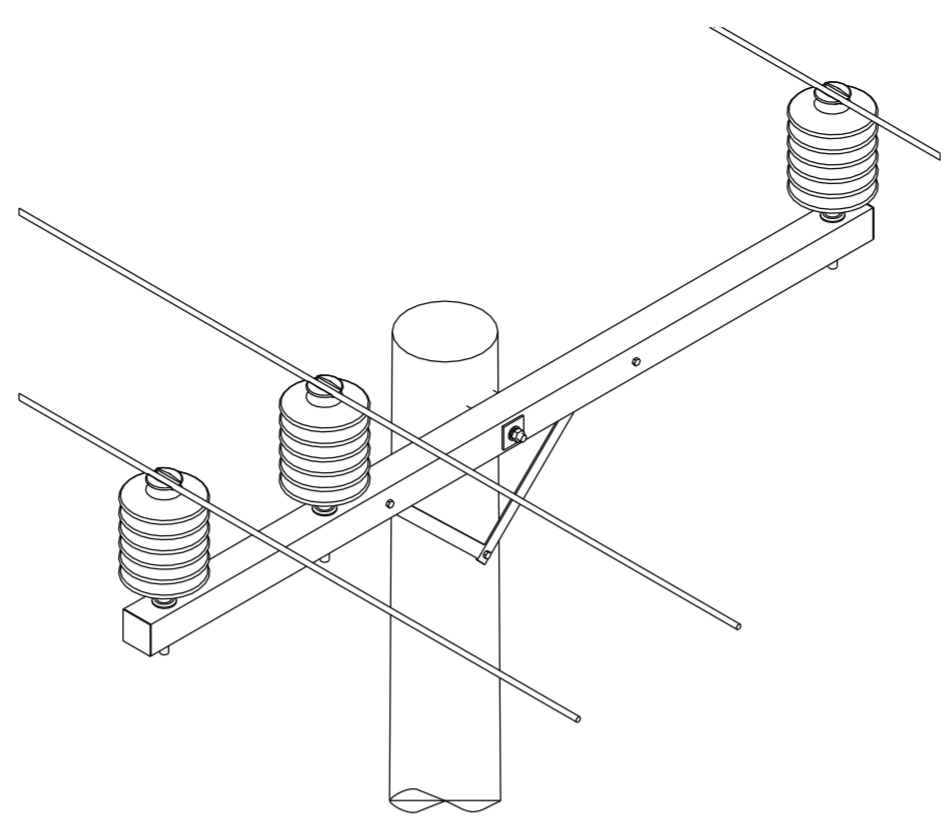
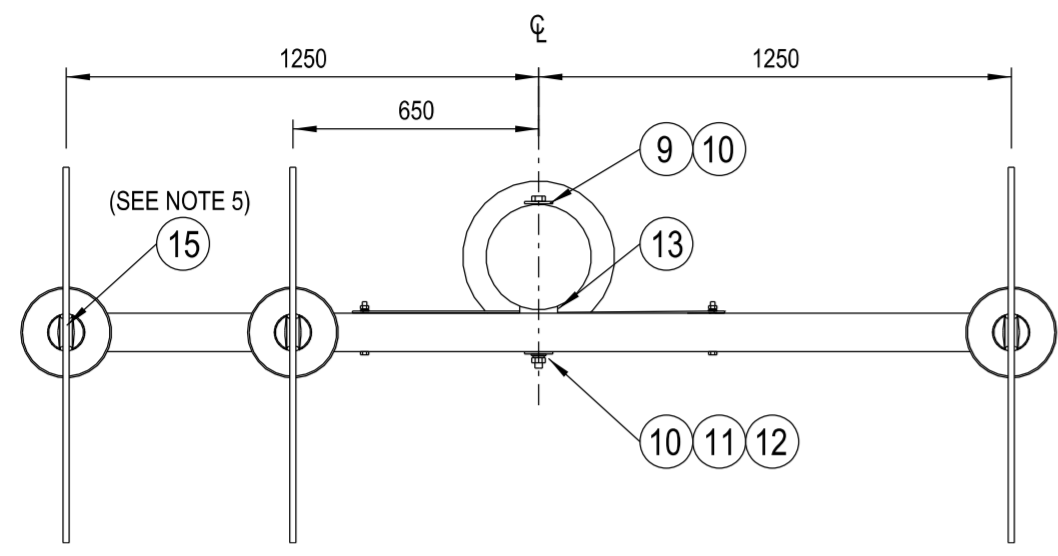
B

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D

E

F



**NOTES :**

1. THE FOLLOWING INFORMATION IS OBTAINED FROM THE PROJECT DESIGN DRAWINGS:
  - a. POLE LENGTH AND STRENGTH.
  - b. SPECIAL FOUNDATION REQUIREMENTS.
  - c. POLE EMBEDMENT DEPTH.
  - d. CONDUCTOR SIZE.
  - e. CROSSARM SIZE AND BRACE REQUIREMENTS.
  - f. STAY REQUIREMENTS.
  - g. DEVIATION ANGLE.
2. ALL BOLTS AND INSULATOR PINS PASSING THROUGH TIMBER ARE TO BE COATED WITH GRAPHITE GREASE.
3. THE MAXIMUM LINE DEVIATION ANGLE TO BE CONSTRUCTED ON THIS ARRANGEMENT IS TO BE DETERMINED BY THE LINE DESIGNER.
4. POLES SHALL BE DRILLED, SCARFED AND DRESSED ON SITE. DRILLING AND SCARFING TO BE TREATED WITH APPROVED PRESERVATIVES.
5. IF THE CONDUCTOR DEVIATES AT THE INSULATOR, USE THE ANGLE TYPE CONDUCTOR TIE ARRANGEMENT. OTHERWISE, USE THE INTERMEDIATE TYPE CONDUCTOR TIE ARRANGEMENT AS SHOWN ON DRG: 514038.
6. USE THE 33/920 AERODYNAMIC PIN INSULATOR ARRANGEMENT WHERE THE CONSTRUCTION IS LOCATED WITHIN 1km OF THE COAST OR IN A VERY HIGH POLLUTION AREA.
7. WHEN DESIGNING UNDERBUILT CIRCUITS ON A 33kV STRUCTURE, THE POSSIBLE USE OF LIVE LINE WORKING PROCEDURES MUST BE CONSIDERED WHEN NOMINATING THE CIRCUIT SEPARATION TO ALLOW A MINIMUM CLEARANCE OF 2500mm IF REQUIRED.
8. ALTERNATE THE CENTRE PHASE INSULATOR ON EITHER SIDE OF THE POLE ALONG THE LINE.
9. THIS CONSTRUCTION IS TO BE USED WHEN UNDERBUILDING ANOTHER CIRCUIT OR FOR UNDERCROSSING OTHER CONDUCTORS.
10. COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERRED OPTION UNDER NORMAL CIRCUMSTANCES.
11. A 2706mm COMPOSITE FIBRE CROSSARM IS TO BE USED AS THE DEFAULT CROSSARM. A LONGER CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED OR ADDITIONAL CENTRE PHASE CLEARANCE IS REQUIRED FROM A LARGE DIAMETER POLE.
12. ONLY THE 2706mm COMPOSITE FIBRE CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732 & 514373 FOR DRILLING PATTERN OF ALTERNATE CROSSARMS.
13. FOR DETAILS OF APPROVED ALTERNATE WAGNER COMPOSITE FIBRE CROSSARMS, REFER TO DRG: 265964.
14. POLE STEPS SHOULD ONLY BE INSTALLED ON POLES WHERE ACCESS FOR NORMAL MAINTENANCE VEHICLES CANNOT BE MAINTAINED FOR THE LIFE OF THE POLE. IF POLE STEPS ARE INSTALLED, THEY ARE TO COMPLY WITH THE REQUIREMENTS OF NETWORK STANDARD NS128.
15. REFER TO DESIGNER SAFETY REPORT D23/227474 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	QTY
16	STEP - POLE, SCREW-IN (SEE NOTE 14)	250144	A/R
15	TIE - CONDUCTOR, HIGH VOLTAGE, SUPPORT ARRANGEMENT (SEE NOTE 5)	514038	4m
14	INSULATOR - 33kV, AERODYNAMIC, (33/920) AND PIN ARRANGEMENT (SEE NOTES 6 & 8)	514006	3
	INSULATOR - 33kV, AERODYNAMIC, (33/710) AND PIN ARRANGEMENT (SEE NOTES 6 & 8)	513998	
13	BLOCK - GAIN, ALUMINIUM, 100mm (S/C: 146274)		1
12	WASHER - FLAT, M20, GALVANISED	518081	1
11	WASHER - CONICAL, M20, GALVANISED	518082	1
10	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	2
9	BOLT & NUT - M20, HEX., GALVANISED (LENGTH TO SUIT POLE)	515466	1
8	WASHER - CONICAL, M12, GALVANISED (USE WITH HARDWOOD CROSSARM)	518082	2
	WASHER - SPRING, M12, GALVANISED (USE WITH COMPOSITE FIBRE CROSSARMS)	518082	
7	WASHER - FLAT, M12 GALVANISED	518081	4
6	BOLT & NUT - M12x130mm, HEX., GALVANISED	515466	2
5	CROSSARM - 2700x100x100mm, TYPE B, HARDWOOD (SEE NOTES 10, 11, 12 & 13)	514373	1
	CROSSARM - 3006x102x102mm, TYPE 10, COMPOSITE FIBRE (SEE NOTES 10, 11, 12 & 13)	262732	
	CROSSARM - 2706x102x102mm, TYPE 9, COMPOSITE FIBRE (SEE NOTES 10, 11, 12 & 13)	262732	
4	SCREW - COACH, M12x100mm, GALVANISED (S/C: H40484)		1
3	BRACE - CROSSARM, FLAT, 690mm, GALVANISED	514385	2
2	FOOTING - TIMBER POLE, ARRANGEMENT (SEE NOTE 1)	508726	1
1	POLE - TIMBER (AS REQUIRED)	513988	1

ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. DO NOT SCALE.

20110901	1	2	3	4	5	6	7	8		
CAD DRAWING DO NOT MANUALLY AMEND AMENDMENTS	DWN: PATRICIA RIOS CHKD: PHILLIP JONES	APPD by: GLENN FORD DWN: GARY HUGHES CHKD: GARRY CRAIG	APPD by: GLENN FORD DWN: P.R. CHKD: P.J.	APPD: G.F.	DATE: 23/07/2024 COMPOSITE CROSSARMS ADDED TO MATERIAL LIST. NOTES & DIMENSIONS AMENDED. SHEET SIZE CHANGED.	COMPOSITE FIBRE CROSSARMS WAGNER SPECIFICATION 265964	COMPOSITE FIBRE CROSSARM MECHANICAL LOAD REQUIREMENTS 237491	2700mm CROSSARMS FOR LV, 11kV, 22kV AND 33kV CONSTRUCTION DETAILS 514373	COMPOSITE FIBRE CROSSARMS SPECIFICATION 262732	HV CONDUCTOR TIE SUPPORT ARRANGEMENTS 514038

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	INSULATOR - 33kV, AERODYNAMIC, (33/710) AND PIN ARRANGEMENT (SEE NOTES 6 & 8)	513998	
13	BLOCK - GAIN, ALUMINIUM, 100mm (S/C: 146274)		1
12	WASHER - FLAT, M20, GALVANISED	518081	1
11	WASHER - CONICAL, M20, GALVANISED	518082	1
10	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	2
9	BOLT & NUT - M20, HEX., GALVANISED (LENGTH TO SUIT POLE)	515466	1
8	WASHER - CONICAL, M12, GALVANISED (USE WITH HARDWOOD CROSSARM)	518082	2
	WASHER - SPRING, M12, GALVANISED (USE WITH COMPOSITE FIBRE CROSSARMS)	518082	
7	WASHER - FLAT, M12 GALVANISED	518081	4
6	BOLT & NUT - M12x130mm, HEX., GALVANISED	515466	2
5	CROSSARM - 2700x100x100mm, TYPE B, HARDWOOD (SEE NOTES 10, 11, 12 & 13)	514373	1
	CROSSARM - 3006x102x102mm, TYPE 10, COMPOSITE FIBRE (SEE NOTES 10, 11, 12 & 13)	262732	
	CROSSARM - 2706x102x102mm, TYPE 9, COMPOSITE FIBRE (SEE NOTES 10, 11, 12 & 13)	262732	
4	SCREW - COACH, M12x100mm, GALVANISED (S/C: H40484)		1
3	BRACE - CROSSARM, FLAT, 690mm, GALVANISED	514385	2
2	FOOTING - TIMBER POLE, ARRANGEMENT (SEE NOTE 1)	508726	1
1	POLE - TIMBER (AS REQUIRED)	513988	1

NETWORK STANDARD  
**Ausgrid**  
145 NEWCASTLE RD WALLSEND,  
NSW 2287

SCALE	1:20	STANDARD CONSTRUCTION		
DESIGNED	-	33kV HORIZONTAL PIN CONSTRUCTION		
DRAWN	PETER SAUNDERS	4-1		
CHECKED	-			
APPROVED	I.NICHOLS			
DATE	21/06/1993			
PROJECT NUMBER	STD			
PROJTRAK NUMBER	-	SIZE	DRAWING No	SHEET
		A2	513923	1
				AMD
				11