



**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. VARIATIONS TO STANDARRD CROSSARM REQUIREMENTS.
  - f. STAY REQUIREMENTS.
  - g. DEVIATION ANGLE.
2. THE MAXIMUM LINE DEVIATION ANGLE TO BE CONSTRUCTED ON THIS ARRANGEMENT IS TO BE DETERMINED BY THE LINE DESIGNER.
3. 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.
4. THE LOAD AND DEVIATION ALLOWABLE ON THE EYEBOLT IS TO BE DETERMINED FROM DRG: 520324.
5. LONGROD INSULATORS TO BE USED UNDER NORMAL CONDITIONS.
6. POLES SHALL BE DRILLED, SCARFED AND DRESSED ON SITE. DRILLING AND SCARFING TO BE TREATED WITH APPROVED PRESERVATIVES.
7. ALL BOLTS AND EYEBOLTS PASSING THROUGH TIMBER ARE TO BE COATED WITH GRAPHITE GREASE.
8. 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.
9. CONDUCTOR TO POLE CLEARANCE IS TO BE A MINIMUM OF 380mm.
10. INSTALL A 33/920 PIN INSULATOR ARRANGEMENT TO HOLD THE CONDUCTOR TAPPING TO INCREASE THE CONDUCTOR CLEARANCE TO THE CROSSARM AND REDUCE THE RISK OF A FLASHOVER DUE TO PERCHED BIRDS.
11. USE THE 33/920 AERODYNAMIC PIN INSULATOR ARRANGEMENT ON THE INTERMEDIATE CROSSARM WHERE THE CONSTRUCTION IS LOCATED WITHIN 1km OF THE COAST OR IN A VERY HIGH POLLUTION AREA.
12. STAYS TO BE INSTALLED SO THAT THE STAY WIRE CLEARANCE FROM THE PHASE CONDUCTORS COMPLIES WITH THE STATUTORY REQUIREMENTS.
13. COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERED OPTION UNDER NORMAL CIRCUMSTANCES.
14. A 2706mm COMPOSITE FIBRE INTERMEDIATE CROSSARM IS TO BE USED AS THE DEFAULT CROSSARM. A LONGER CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED.
15. A 2706mm COMPOSITE FIBRE TERMINATION CROSSARM IS TO BE USED AS THE DEFAULT CROSSARM. A LONGER COMPOSITE FIBRE CROSSARM IS TO BE USED WHERE ADDITIONAL MID SPAN SEPARATION IS REQUIRED. A STEEL CROSSARM IS TO BE USED WHEN THE MAXIMUM LOAD OF THE ALTERNATE CROSSARMS IS EXCEEDED.
16. ONLY THE 2706mm COMPOSITE FIBRE CROSSARM OPTIONS ARE SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732, 514373 & 514377 FOR DRILLING PATTERN OF ALTERNATE CROSSARMS.
17. FOR DETAILS OF APPROVED ALTERNATE WAGNER COMPOSITE FIBRE CROSSARMS, REFER TO DRG: 265964.
18. ONLY THE SINGLE PHASE CONDUCTOR TERMINATION OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING.
19. 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.
20. REFER TO DESIGNER SAFETY REPORT D22/270379 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	QTY
21	STEP - POLE, SCREW-IN (SEE NOTE 19)	250144	A/R
20	CLAMP - PARALLEL GROOVE, 3 BOLT (TO SUIT DUAL CONDUCTORS)	514099	6
	CLAMP - PARALLEL GROOVE, 3 BOLT (TO SUIT SINGLE CONDUCTOR)	514099	3
19	INSULATOR - LONGROD, 33kV, DUAL CONDUCTOR, POLYMERIC STRING, ARRANGEMENT -2 (SEE NOTES 5 & 18)	250120	3
	INSULATOR - LONGROD, 33kV, POLYMERIC STRING, ARRANGMENT -2 (SEE NOTES 5 & 18)	158754	
18	CROSSARM - MOUNTING ARRANGEMENT 2 (COMPOSITE FIBRE OR GALVANISED STEEL CROSSARM) (SEE NOTES 13, 15, 16 & 17)	514176	1
17	TIE - CONDUCTOR, HIGH VOLTAGE, SUPPORT ARRANGEMENT (SEE NOTE 8)	514038	5m
16	INSULATOR - 33kV, AERODYNAMIC, (33/920) AND PIN ARRANGEMENT (SEE NOTES 10 & 11)	514006	4
	INSULATOR - 33kV, AERODYNAMIC, (33/710) AND PIN ARRANGEMENT (SEE NOTES 10 & 11)	513998	
15	BRACKET - POLE TOP, GALVANISED	514380	1
14	BLOCK - GAIN, ALUMINIUM, 100mm (S/C: 146274)		1
13	WASHER - FLAT, M20, GALVANISED	518081	1
12	WASHER - CONICAL, M20, GALVANISED	518082	1
11	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	1
10	BOLT & NUT - M20, HEX., GALVANISED (LENGTH TO SUIT POLE)	515466	1
9	WASHER - CONICAL, M12, GALVANISED	518082	1
8	WASHER - CONICAL, M12, GALVANISED (USE WITH HARDWOOD INTERMEDIATE CROSSARM)	518082	3
	WASHER - SPRING, M12, GALVANISED (USE WITH COMPOSITE FIBRE INTERMEDIATE CROSSARMS)	518082	
7	WASHER - FLAT, M12 GALVANISED	518081	3
6	BOLT & NUT - M12x130mm, HEX., GALVANISED	515466	2
5	CROSSARM - 2700x100x100mm, TYPE B, HARDWOOD (SEE NOTES 13, 14, 16 & 17)	514373	1
	CROSSARM - 3006x102x102mm, TYPE 10, COMPOSITE FIBRE (SEE NOTES 13, 14, 16 & 17)	262732	
	CROSSARM - 2706x102x102mm, TYPE 9, COMPOSITE FIBRE (SEE NOTES 13, 14, 16 & 17)	262732	
4	BOLT & NUT - M12, HEX., GALVANISED (LENGTH TO SUIT POLE)	515466	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.

CAD DRAWING DO NOT MANUALLY AMEND AMENDMENTS	DATE: 23/07/2024
DWN: P.R.	COMPOSITE CROSSARMS ADDED TO MATERIAL LIST.
CHKD: P.J.	NOTES & DIMENSIONS AMENDED. SHEET SIZE CHANGED.
APPD: G.F.	
1	8

ASSOCIATED DRAWINGS	
COMPOSITE FIBRE CROSSARMS WAGNER SPECIFICATION	265964
2700mm CROSSARMS FOR LV, 11kV, 22kV & 33kV CONSTRUCTION DETAILS	514373
COMPOSITE FIBRE CROSSARMS SPECIFICATION	262732
HV TERMINATION STEEL CROSSARM CONSTRUCTION DETAILS	514377
HV CONDUCTOR TIE SUPPORT ARRANGEMENTS	514038
20mm EYEBOLT LOADING AND DEVIATION GRAPH	520324

NETWORK STANDARD

145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE	1:20
DESIGNED	-
DRAWN	PETER SAUNDERS
CHECKED	P.A.S
APPROVED	R.BREMELL
DATE	28/03/1996
PROJECT NUMBER	STD
PROJTRAK NUMBER	-

STANDARD CONSTRUCTION	
33kV TEE OFF CONSTRUCTION	
4-14	
SIZE	A2
DRAWING No	513932
SHEET	1
AMD	8