



**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. PHASE CONDUCTOR AND OVERHEAD EARTHWIRE SIZE.
  - e. VARIATIONS TO STANDARD CROSSARM REQUIREMENTS.
  - f. STAY REQUIREMENTS.
  - g. DEVIATION ANGLE.
  - h. ASSESSED EARTHING REQUIREMENTS.
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 AND EYENUT ASSEMBLY IS TO BE DETERMINED FROM DRG: 520331.
5. LONGROD INSULATORS TO BE USED UNDER NORMAL CONDITIONS.
6. NON-TENSION COMPRESSION SLEEVES TO BE USED WHEN REQUIRED TO JOIN CONDUCTORS.
7. CONDUCTOR TO POLE CLEARANCE IS TO BE A MINIMUM OF 380mm.
8. 'A' AND 'C' PHASE CONDUCTORS MAY BE BRIDGED UNDER THE CROSSARM PROVIDED THAT:
  - a. THE LINE IS SINGLE CIRCUIT OR STATUTORY CLEARANCES CAN BE MAINTAINED UNDER ALL OPERATING CONDITIONS.
  - b. MINIMUM CLEARANCES TO EARTH (POLE/HARDWARE) OF 380mm CAN BE MET.
  - c. WHEN THE CONDITIONS IN a AND b ARE NOT MET, A 33kV 33/920 AERODYNAMIC INSULATOR AND PIN ARRANGEMENTS TO BE INSTALLED FOR THE 'A' AND 'C' PHASE CONDUCTORS.
9. STAYS TO BE INSTALLED SO THAT THE STAY WIRE CLEARANCE FROM THE PHASE CONDUCTORS COMPLIES WITH THE STATUTORY REQUIREMENTS.
10. EYEBOLT AND EYENUT ASSEMBLIES ARE TO BE INSTALLED TO BISECT THE ANGLE OF DEVIATION.
11. THE CROSSARM BRACE ATTACHMENT POINT ON A CONCRETE POLE IS TO BE AN M12 STAINLESS STEEL EARTH FERRULE.
12. THE OHEW IS TO BE BONDED TO AN M12 STAINLESS STEEL EARTH FERRULE ON THE CONCRETE POLE.
13. WHEN INSTALLING DUAL PHASE CONDUCTORS, THE CENTRE PHASE TAPPING INSULATOR IS TO BE MOUNTED ABOVE THE CENTRE PHASE CONDUCTOR TERMINATION TO ENSURE THE PHASE TO EARTH CLEARANCES TO THE CROSSARM IS MAINTAINED.
14. COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERRED OPTION UNDER NORMAL CIRCUMSTANCES.
15. A 2706mm COMPOSITE FIBRE 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 OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732 & 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 WITH OPGW THROUGH TERMINATION OVERHEAD EARTHWIRE OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING.
19. USE THE OPGW THROUGH TERMINATION ARRANGEMENT WHEN ERECTING AN UNBROKEN OPGW OVERHEAD EARTHWIRE. USE THE OPGW THROUGH SPLICE BOX TERMINATION ARRANGEMENT WHEN BREAKING AN OPGW OVERHEAD EARTHWIRE. USE THE STANDARD EARTHWIRE TERMINATION ARRANGEMENT WHEN ERECTING A NON OPGW OVERHEAD EARTHWIRE.
20. WHEN USING THE OPGW THROUGH SPLICE BOX TERMINATION ARRANGEMENT, REFER TO DRG: 565743 FOR SPLICE BOX AND COILED CABLE BRACKET MOUNTING DETAILS.
21. 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.
22. REFER TO DESIGNER SAFETY REPORT D22/297159 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	QTY
11	STEP - POLE (SEE NOTE 21)	514084	A/R
10	EARTHWIRE - TERMINATION, OVERHEAD, MOUNTING, ARRANGEMENT -2A (SEE NOTES 18 & 19)	519450	1
	OPGW - TERMINATION, CONDUCTOR, MOUNTING, ARRANGEMENT -2C (SEE NOTES 18, 19 & 20)	565747	
9	OPGW - TERMINATION, CONDUCTOR, MOUNTING, ARRANGEMENT -2A (SEE NOTES 18 & 19)	565747	6
	JOINT - COMPRESSION, NON TENSION (TO SUIT DUAL CONDUCTORS) (SEE NOTES 6 & 18)	514053	
8	JOINT - COMPRESSION, NON TENSION (TO SUIT CONDUCTOR) (SEE NOTES 6 & 18)	514053	3
	INSULATOR - LONGROD, 33kV, DUAL CONDUCTOR, POLYMERIC STRING, ARRANGEMENT -3 (SEE NOTES 5 & 18)	250120	
7	INSULATOR - LONGROD, 33kV, POLYMERIC STRING, ARRANGEMENT -3 (SEE NOTES 5 & 18)	158754	2
	INSULATOR - LONGROD, 33kV, DUAL CONDUCTOR, POLYMERIC STRING, ARRANGEMENT -2 (SEE NOTES 5 & 18)	250120	
6	INSULATOR - LONGROD, 33kV, POLYMERIC STRING, ARRANGEMENT -2 (SEE NOTES 5 & 18)	158754	4
	INSULATOR - HORIZONTAL LINE POST, 66kV, DUAL CONDUCTOR, MOUNTING & BONDING, ARRANGEMENT -2 (SEE NOTES 13 & 18)	244699	
5	INSULATOR - HORIZONTAL LINE POST, 66kV, MOUNTING & BONDING, ARRANGEMENT -2 (SEE NOTES 13 & 18)	514161	1
4	BAND - POLE, MOUNTING & BONDING, ARRANGEMENT -2	514158	1
3	CROSSARM - MOUNTING ARRANGEMENT -3a (COMPOSITE FIBRE OR GALVANISED STEEL CROSSARM) (SEE NOTES 14, 15, 16 & 17)	514176	1
2	FOOTING - CONCRETE POLE, ARRANGEMENT (SEE NOTE 1)	512331	1
1	EARTHING - CONCRETE/STEEL, SINGLE POLE, BUTT, ARRANGEMENT	520209	1
1	POLE - CONCRETE (AS REQUIRED)		1

CAD DRAWING DO NOT MANUALLY AMEND AMENDMENTS	
DWN: GARY HUGHES	CHKD: GARY CRAIG
DATE: 14/10/2013	AUSGRID BORDER APPLIED.
APPD: GLENN FORD	DWN: P.R.
CHKD: P.J.	APPD: G.F.
DATE: 08/11/2022	MULTIPLE CROSSARM OPTION & FOUNDATION DETAILS ADDED. NOTES & MATERIAL LIST AMENDED. DUAL CONDUCTOR & OHEW OPTIONS ADDED.
DWN: P.R.	CHKD: P.J.
APPD: G.F.	DATE: 23/07/2024 BY: 'D'
COMPOSITE CROSSARMS ADDED TO MATERIAL LIST. NOTES & DIMENSIONS AMENDED. SHEET SIZE CHANGED.	

ITEM	DESCRIPTION	DRG. No	QTY
11	STEP - POLE (SEE NOTE 21)	514084	A/R
10	EARTHWIRE - TERMINATION, OVERHEAD, MOUNTING, ARRANGEMENT -2A (SEE NOTES 18 & 19)	519450	1
9	OPGW - TERMINATION, CONDUCTOR, MOUNTING, ARRANGEMENT -2C (SEE NOTES 18, 19 & 20)	565747	6
8	OPGW - TERMINATION, CONDUCTOR, MOUNTING, ARRANGEMENT -2A (SEE NOTES 18 & 19)	565747	3
7	JOINT - COMPRESSION, NON TENSION (TO SUIT DUAL CONDUCTORS) (SEE NOTES 6 & 18)	514053	2
6	JOINT - COMPRESSION, NON TENSION (TO SUIT CONDUCTOR) (SEE NOTES 6 & 18)	514053	4
5	INSULATOR - LONGROD, 33kV, DUAL CONDUCTOR, POLYMERIC STRING, ARRANGEMENT -3 (SEE NOTES 5 & 18)	250120	1
4	INSULATOR - LONGROD, 33kV, POLYMERIC STRING, ARRANGEMENT -3 (SEE NOTES 5 & 18)	158754	2
3	INSULATOR - LONGROD, 33kV, DUAL CONDUCTOR, POLYMERIC STRING, ARRANGEMENT -2 (SEE NOTES 5 & 18)	250120	4
2	INSULATOR - LONGROD, 33kV, POLYMERIC STRING, ARRANGEMENT -2 (SEE NOTES 5 & 18)	158754	1
1	INSULATOR - HORIZONTAL LINE POST, 66kV, DUAL CONDUCTOR, MOUNTING & BONDING, ARRANGEMENT -2 (SEE NOTES 13 & 18)	244699	1
	INSULATOR - HORIZONTAL LINE POST, 66kV, MOUNTING & BONDING, ARRANGEMENT -2 (SEE NOTES 13 & 18)	514161	1
	BAND - POLE, MOUNTING & BONDING, ARRANGEMENT -2	514158	1
	CROSSARM - MOUNTING ARRANGEMENT -3a (COMPOSITE FIBRE OR GALVANISED STEEL CROSSARM) (SEE NOTES 14, 15, 16 & 17)	514176	1
	FOOTING - CONCRETE POLE, ARRANGEMENT (SEE NOTE 1)	512331	1
	EARTHING - CONCRETE/STEEL, SINGLE POLE, BUTT, ARRANGEMENT	520209	1
	POLE - CONCRETE (AS REQUIRED)		1

		NETWORK STANDARD SCALE: 1:25 DESIGNED: P.JONES DRAWN: P.RIOS CHECKED: P.JONES APPROVED: STEPHEN CONNOR DATE: 20/12/2007 PROJECT NUMBER: STD PROJTRAK NUMBER: -		STANDARD CONSTRUCTION 33kV LARGE DELTA THROUGH TERMINATION CONSTRUCTION WITH OVERHEAD EARTHWIRE 4-30C/E SIZE: A2 DRAWING No: 174425	
145 NEWCASTLE RD WALLSEND, NSW 2287		SHEET: 1 AMD: 3			