



- NOTES:**
- THE FOLLOWING INFORMATION IS OBTAINED FROM THE PROJECT DESIGN DRAWINGS:
 - POLE LENGTH AND STRENGTH.
 - SPECIAL FOUNDATION REQUIREMENTS.
 - POLE EMBEDMENT DEPTH.
 - CONDUCTOR SIZE.
 - CROSSARM SIZE AND BRACE REQUIREMENTS.
 - STAY REQUIREMENTS.
 - DEVIATION ANGLE.
 - THE MAXIMUM LINE DEVIATION ANGLE TO BE CONSTRUCTED ON THIS ARRANGEMENT IS TO BE DETERMINED BY THE LINE DESIGNER.
 - POLE STEPS ARE TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NS128.
 - IN AREAS WHERE THE 11kV NETWORK CANNOT BE WORKED ON USING LIVE LINE TECHNIQUES, UNDERBUILT CIRCUITS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 1200mm. IN AREAS WHERE THE 11kV NETWORK CAN BE WORKED ON USING LIVE LINE TECHNIQUES, UNDERBUILT CIRCUITS SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 2500mm.
 - ALL BOLTS AND INSULATOR PINS PASSING THROUGH TIMBER ARE TO BE COATED WITH GRAPHITE GREASE.
 - THE LOAD AND DEVIATION ALLOWABLE ON THE EYEBOLT AND EYENUT ASSEMBLY IS TO BE DETERMINED FROM DRG: 520331.
 - LONGROD INSULATORS ARE TO BE USED UNDER NORMAL CONDITIONS.
 - POLES SHALL BE DRILLED, SCARFED AND DRESSED ON SITE. DRILLING AND SCARFING TO BE TREATED WITH APPROVED PRESERVATIVES.
 - NON-TENSION COMPRESSION SLEEVES ARE TO BE USED WHEN REQUIRED TO JOIN CONDUCTORS.
 - USE THE ANGLE TYPE CONDUCTOR TIE ARRANGEMENT AS SHOWN ON DRG: 514038.
 - COMPOSITE FIBRE CROSSARMS ARE TO BE USED AS THE PREFERRED OPTION UNDER NORMAL CIRCUMSTANCES.
 - A 2706mm COMPOSITE FIBRE CROSSARM IS TO BE USED AS THE DEFAULT CROSSARM. FOR NARROW FEEDER ALIGNMENTS, A SHORTER CROSSARM MAY BE CONSIDERED TO OVERCOME DESIGN AND SITE CONSTRAINTS. A LONGER 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. 13. ONLY THE 2706mm COMPOSITE FIBRE CROSSARM OPTION IS SHOWN ON THIS CONSTRUCTION DRAWING. REFER TO DRGS: 262732, 514373, 15232, 514377 & 237491 FOR DRILLING PATTERN OF ALTERNATE CROSSARMS.
 - THE 690mm CROSSARM BRACES ARE TO BE USED ON A 2706mm, 2700mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARM. THE 740mm CROSSARM BRACE IS TO BE USED ON A 2406mm & 2400mm CROSSARM.
 - REFER TO DESIGNER SAFETY REPORT D23/214519 FOR ATYPICAL HAZARDS ASSOCIATED WITH THIS STANDARD CONSTRUCTION.

ITEM	DESCRIPTION	DRG. No	STOCK CODE	QTY
22	STEP - POLE, SCREW-IN (SEE NOTE 3)	250144	185198	A/R
21	JOINT - NON TENSION, COMPRESSION (TO SUIT CONDUCTOR) (SEE NOTE 9)	514053		3
20	TIE - CONDUCTOR, HIGH VOLTAGE, SUPPORT ARRANGEMENT (SEE NOTE 10)	514038		1m
19	INSULATOR - 11/22kV AERODYNAMIC, (22/450) AND PIN ARRANGEMENT	513997		1
18	INSULATOR - 11/22kV LONGROD, STRING ARRANGEMENT AR-2 (SEE NOTE 7)	565715		6
17	BLOCK - GAIN, ALUMINIUM, 125mm (USE WITH 2750mm & 3070mm CROSSARMS)		146282	1
16	BLOCK - GAIN, ALUMINIUM, 100mm (USE WITH 2706mm, 2406mm, 3006mm, 2700mm, 2400mm & 3000mm CROSSARMS)		146274	1
15	EYENUT - M20, GALVANISED (SEE NOTE 6)	513951	H38853	3
14	WASHER - FLAT, M20, GALVANISED	518081	177986	1
13	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE) (USE WITH 2750mm & 3070mm CROSSARMS)	518081	H39231	5
12	WASHER - LIP, M24, GALVANISED (USE WITH 2706mm, 2406mm, 3006mm, 2700mm, 2400mm & 3000mm CROSSARMS)	518081	176912	2
11	EYEBOLT - M20x200mm, GALVANISED (SEE NOTE 6)	513653	H37881	2
10	WASHER - CONICAL, M20, GALVANISED (USE WITH 2700mm & 2400mm CROSSARMS)	518082	H39655	2
9	WASHER - SPRING, M20, GALVANISED (USE WITH 2706mm, 2406mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARMS)	518082	175669	1
8	WASHER - CONICAL, M20, GALVANISED	518082	H39655	1
7	WASHER - SQUARE, 75x75x6mm, GALVANISED (Ø22mm HOLE)	518081	H39231	1
6	EYEBOLT - M20, GALVANISED (LENGTH TO SUIT POLE) (SEE NOTE 6)	513653		1
5	WASHER - CONICAL, M12, GALVANISED (USE WITH 2400mm CROSSARM)	518082	H39639	1
4	WASHER - CONICAL, M12, GALVANISED (USE WITH 2700mm CROSSARM)	518082	H39639	2
3	WASHER - SPRING, M12, GALVANISED (USE WITH 2406mm CROSSARM)	51082	H12047	1
2	WASHER - SPRING, M12, GALVANISED (USE WITH 2706mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARMS)	518082	H12047	2
1	WASHER - FLAT, M12, GALVANISED (USE WITH 2406mm & 2400mm CROSSARMS)	518081	177982	2
	WASHER - FLAT, M12, GALVANISED (USE WITH 2706mm, 2700mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARMS)	518081	177982	4
	BOLT & NUT - M12x150mm, HEX., GALVANISED (USE WITH 2750mm & 3070mm CROSSARMS)	515466	46847	2
	BOLT & NUT - M12x150mm, HEX., GALVANISED (USE WITH 2400mm CROSSARM)	515466	46847	1
	BOLT & NUT - M12x180mm, HEX., GALVANISED (USE WITH 2700mm & 3000mm CROSSARMS)	515466	46888	2
	BOLT & NUT - M12x130mm, HEX., GALVANISED (USE WITH 2406mm CROSSARM)	515466	46805	1
	BOLT & NUT - M12x130mm, HEX., GALVANISED (USE WITH 2706mm & 3006mm CROSSARMS)	515466	46805	2
	CROSSARM - 3070x125x125mm, ITEM 3, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	237491	183935	1
	CROSSARM - 2750x125x125mm, ITEM 1, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	237491	183933	1
	CROSSARM - 3000x150x100x5mm, RHS, GALVANISED (SEE NOTES 11, 12 & 13)	514377	H23787	1
	CROSSARM - 2400x125x100mm, TYPE H2, HARDWOOD (SEE NOTES 11, 12 & 13)	15232	71910	1
	CROSSARM - 2700x150x100mm, TYPE C, HARDWOOD (SEE NOTES 11, 12 & 13)	514373	H23907	1
	CROSSARM - 3006x102x102mm, TYPE 13, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186783	1
	CROSSARM - 2406x102x102mm, TYPE 11, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186781	1
	CROSSARM - 2706x102x102mm, TYPE 12, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186782	1
	SCREW - COACH, M12 x 100mm, GALVANISED		H40484	1
	BRACE - CROSSARM, ANGLE, TYPE H, 740mm, GALVANISED (SEE NOTE 14)	46	99119	1
	BRACE - CROSSARM, FLAT, 690mm, GALVANISED (SEE NOTE 14)	514385	H17738	2
	POLE - TIMBER (AS REQUIRED)	513988		1

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

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19	INSULATOR - 11/22kV AERODYNAMIC, (22/450) AND PIN ARRANGEMENT	513997		1
18	INSULATOR - 11/22kV LONGROD, STRING ARRANGEMENT AR-2 (SEE NOTE 7)	565715		6
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5	WASHER - CONICAL, M12, GALVANISED (USE WITH 2400mm CROSSARM)	518082	H39639	1
4	WASHER - CONICAL, M12, GALVANISED (USE WITH 2700mm CROSSARM)	518082	H39639	2
3	WASHER - SPRING, M12, GALVANISED (USE WITH 2406mm CROSSARM)	51082	H12047	1
2	WASHER - SPRING, M12, GALVANISED (USE WITH 2706mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARMS)	518082	H12047	2
1	WASHER - FLAT, M12, GALVANISED (USE WITH 2406mm & 2400mm CROSSARMS)	518081	177982	2
	WASHER - FLAT, M12, GALVANISED (USE WITH 2706mm, 2700mm, 3006mm, 3000mm, 2750mm & 3070mm CROSSARMS)	518081	177982	4
	BOLT & NUT - M12x150mm, HEX., GALVANISED (USE WITH 2750mm & 3070mm CROSSARMS)	515466	46847	2
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	CROSSARM - 3070x125x125mm, ITEM 3, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	237491	183935	1
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	CROSSARM - 3006x102x102mm, TYPE 13, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186783	1
	CROSSARM - 2406x102x102mm, TYPE 11, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186781	1
	CROSSARM - 2706x102x102mm, TYPE 12, COMPOSITE FIBRE (SEE NOTES 11, 12 & 13)	262732	186782	1
	SCREW - COACH, M12 x 100mm, GALVANISED		H40484	1
	BRACE - CROSSARM, ANGLE, TYPE H, 740mm, GALVANISED (SEE NOTE 14)	46	99119	1
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	POLE - TIMBER (AS REQUIRED)	513988		1

CAD DRAWING DO NOT MANUALLY AMEND
 AMENDMENTS
 DWN: P.R.
 CHKD: P.J.
 APPD: G.F.
 DATE: 08/12/2023 09:00
 NOTES & MATERIAL LIST AMENDED, ASSOCIATED DRAWING ADDED.

COMPOSITE FIBRE CROSSARM MECHANICAL LOAD REQUIREMENTS 237491
 2700mm CROSSARMS FOR LV, 11kV, 22kV AND 33kV CONSTRUCTION DETAILS 514373
 COMPOSITE FIBRE CROSSARMS SPECIFICATION 262732
 HV TERMINATION STEEL CROSSARM CONSTRUCTION DETAILS 514377
 WOODEN CROSSARMS FOR 11kV LINES 15232
 HV CONDUCTOR TIE SUPPORT ARRANGEMENTS 514038
 20mm EYEBOLT & EYENUT ASSEMBLY LOADING & DEVIATION GRAPH 520331

ASSOCIATED DRAWINGS

NETWORK STANDARD
Ausgrid
 145 NEWCASTLE RD WALLSEND, NSW 2287

SCALE 1:20
 DESIGNED -
 DRAWN PETER SAUNDERS
 CHECKED P.A.S
 APPROVED I.NICHOLS
 DATE 07/11/94
 PROJECT NUMBER STD
 PROJ/TRAK NUMBER -

STANDARD CONSTRUCTION
 11kV THROUGH TERMINATION
 CONSTRUCTION
 2-11

SIZE A2
 DRAWING No 513915
 SHEET 1
 AMD 20