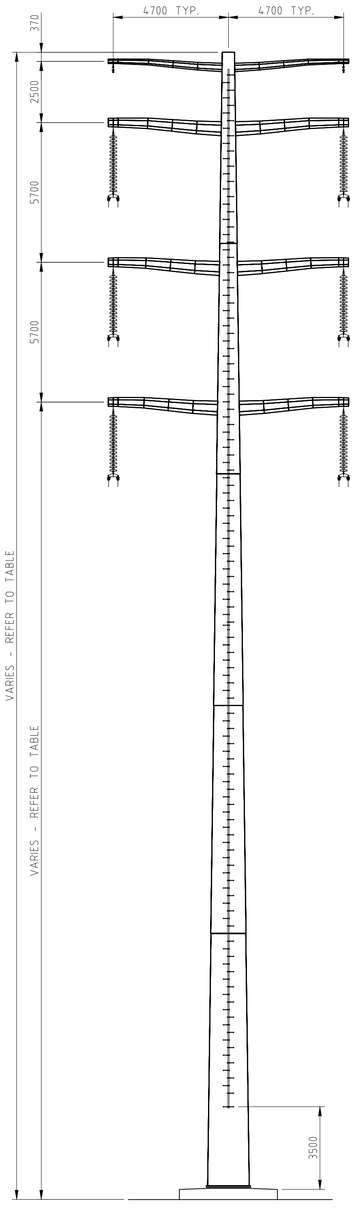
APPENDIX B

PLANS AND ELEVATIONS



TRANSVERSE ELEVATION
(MAXIMUM POLE HEIGHT)

INDICATIVE POLE HEIGHT AND WEIGHT			
STRUCTURE TYPE	BOTTOM CROSS ARM HEIGHT (m)	POLE HEIGHT (m)	POLE WEIGHT (kg)
38m - SUSPENSION	23.9	38.2	16615
39m - SUSPENSION	24.9	39.2	17091
40m - SUSPENSION	25.9	40.2	17595
41m - SUSPENSION	26.9	41.2	18166
42m - SUSPENSION	27.9	42.2	18944
43m - SUSPENSION	28.9	43.2	19895
44m - SUSPENSION	29.9	44.2	20887
45m - SUSPENSION	30.9	45.2	21798
46m - SUSPENSION	31.9	46.2	22428

REFERENCES

60628126-TL-3053 220kV SUSPENSION POLE ELECTRICAL CLEARANCE DIAGRAM
60628126-TL-3054 220kV SUSPENSION POLE LOADING CHART

NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE.
2. POLE HEIGHTS ARE PROVIDED FOR GUIDANCE ONLY AND ARE BASED ON THE FOLLOWING:
   - TWIN PAWPAW ACSR CONDUCTOR WITH MAXIMUM OPERATING TEMPERATURE OF 100°C.
   - FLAT TERRAIN, WITH HEIGHTS GOVERNED BY MID SPAN GROUND CLEARANCE UNDER MAXIMUM OPERATING TEMPERATURE CONDITION.
   - CONDUCTOR STRUNG @ 22.5% UTS UNDER EVERYDAY CONDITIONS (CREPT)
   - OPGW TYPE A TO MATCH 90% CONDUCTOR SAG UNDER EVERYDAY CONDITIONS
   - 7/3.75 SC/GZ EARTHWIRE TO MATCH 90% CONDUCTOR SAG UNDER EVERYDAY CONDITIONS
3. APPROXIMATE POLE WEIGHTS SHOWN INCLUDE THE FOLLOWING:
   - TUBULAR STEEL POLE SECTIONS
   - TUBULAR STEEL CROSSARMS
   - STEEL BASE PLATE
   - LADDER ASSEMBLY
   - ANCHOR BOLTS (INCLUDING SETTING PLATES)

0 3125 6250 mm

FOR TENDER

secureenergy

AMENDMENT:

PROJECT No.60628126

AMDT	AMENDMENT DETAILS	DRN	DESIGN	CHK'D	APP'D	DATE
2	RE-ISSUED FOR TENDER	AJP	RO	KZ	JL	28.08.20
1	ISSUED FOR TENDER	AJP	RO	KZ	JL	16.04.20

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ADVERTISED PLAN

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VERIFIED		
APPROVED		

TENDER
APPROVAL STATUS

ENERGY CONNECT
BURONGA TO RED CLIFFS
220kV SUSPENSION POLE

STEEL POLE OUTLINE

A1	60628126-TL-3052	02
	PREFIX NUMBER SHEET	AMDT

REFERENCE DRAWINGS

SCALE 1:125

PLOT ISSUE DATE

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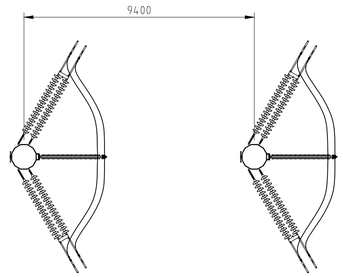
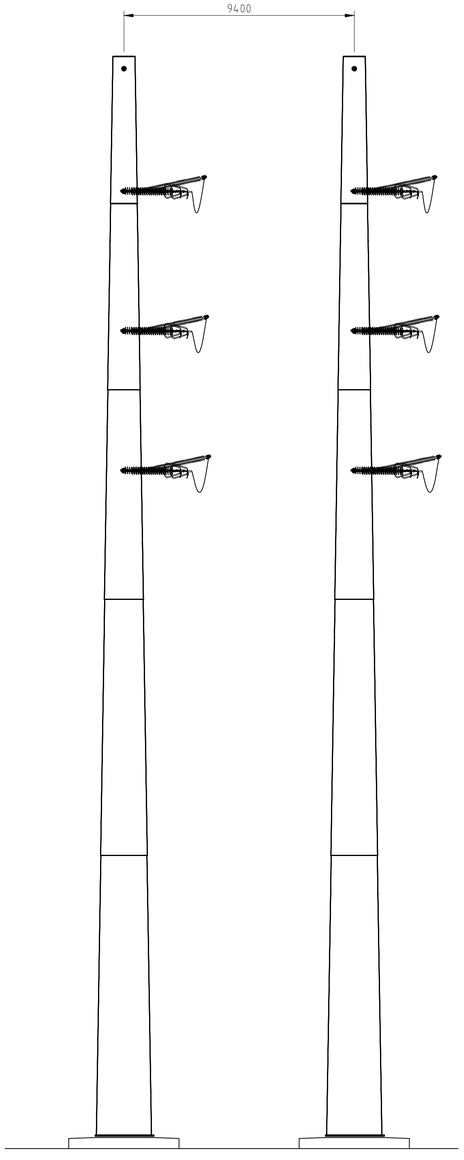
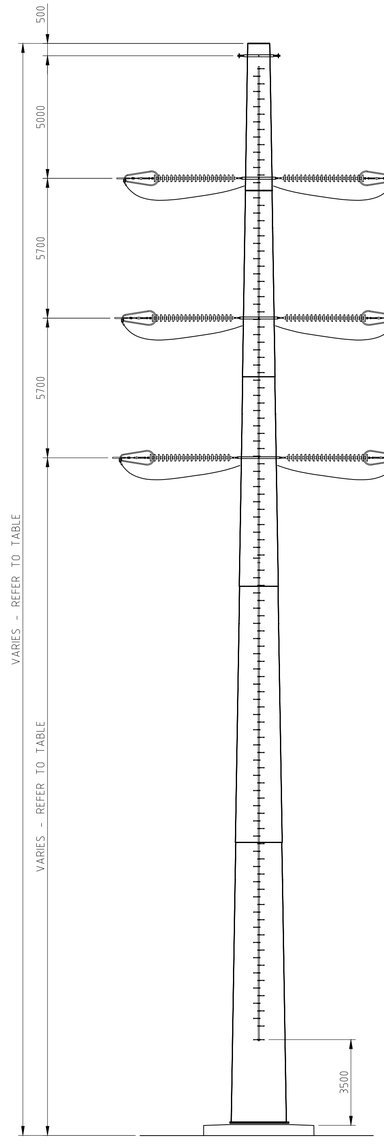


PLAN VIEW





TRANSVERSE ELEVATION
(MAXIMUM POLE HEIGHT)

LONGITUDINAL ELEVATION
(MAXIMUM POLE HEIGHT)

REFERENCES

60628126-TL-3056 220kV STRAIN/TERMINATION POLE ELECTRICAL CLEARANCE DIAGRAM
60628126-TL-3057 220kV STRAIN/TERMINATION POLE LOADING CHART

NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE.
2. POLE HEIGHTS ARE PROVIDED FOR GUIDANCE ONLY AND ARE BASED ON THE FOLLOWING:
   - TWIN PAWPAW ACSR CONDUCTOR WITH MAXIMUM OPERATING TEMPERATURE OF 100°C.
   - FLAT TERRAIN, WITH HEIGHTS GOVERNED BY MID SPAN GROUND CLEARANCE UNDER MAXIMUM OPERATING TEMPERATURE CONDITION.
   - CONDUCTOR STRUNG @ 22.5% UTS UNDER EVERYDAY CONDITIONS (CREPT)
   - OPGW TYPE A TO MATCH 90% CONDUCTOR SAG UNDER EVERYDAY CONDITIONS
   - 7/3.725 SC/GZ EARTHWIRE TO MATCH 90% CONDUCTOR SAG UNDER EVERYDAY CONDITIONS
3. APPROXIMATE POLE WEIGHTS SHOWN INCLUDE THE FOLLOWING:
   - TUBULAR STEEL POLE SECTIONS
   - STEEL BASE PLATE
   - LADDER ASSEMBLY
   - ANCHOR BOLTS (INCLUDING SETTING PLATES)

INDICATIVE POLE HEIGHT AND WEIGHT

STRUCTURE TYPE	BOTTOM CROSS ARM HEIGHT (m)	POLE HEIGHT (m)	POLE WEIGHT (kg)
37m - STRAIN	20.1	37.0	19438
40m - STRAIN	23.1	40.0	47942
41m - STRAIN	24.1	41.0	49716
44m - STRAIN	27.1	44.0	54626

0 3125 6250 mm

FOR TENDER

AMENDMENT:

secureenergy

PROJECT No.60628126

AMDT	AMENDMENT DETAILS	DRN	DESIGN	CHK'D	APP'D	DATE
2	RE-ISSUED FOR TENDER	AJP	RO	KZ	JL	28.08.20
1	ISSUED FOR TENDER	AJP	RO	KZ	JL	17.04.20

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REFERENCE DRAWINGS

SCALE 1:125

ENERGY CONNECT
BURONGA TO RED CLIFFS
220kV STRAIN/TERMINATION POLE

STEEL POLE OUTLINE

A1	60628126-TL-3055	02
	PREFIX NUMBER SHEET	AMDT

PLOT ISSUE DATE

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NOTES

1. ALL DIMENSIONS IN MILLIMETRES UNLESS STATED OTHERWISE.
2. POLE DIMENSIONS SHOWN ARE NOMINAL.
3. EXTENT OF HAND REACH ENVELOPE IS MEASURED FROM POLE CENTRELINE.

REFERENCES

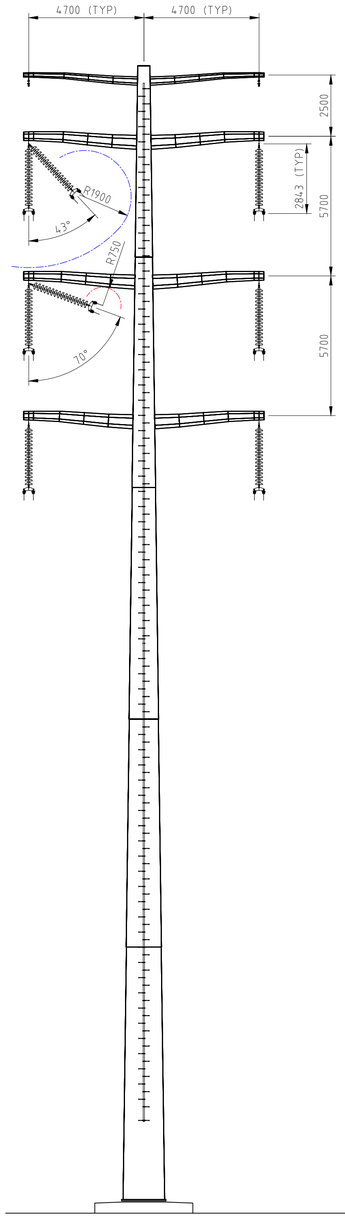
60628126-TL-3052 220kV SUSPENSION POLE STEEL POLE OUTLINE
60628126-TL-3054 220kV SUSPENSION POLE LOADING CHART

INTERNAL CLEARANCE REQUIREMENTS

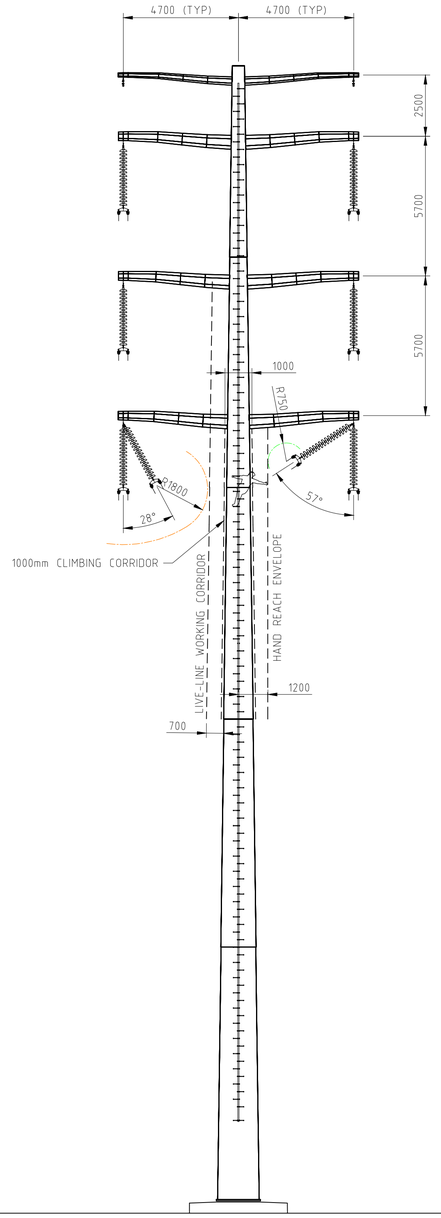
CRITERIA	VALUE (mm)	APPLICABLE WIND PRESSURE (Pa)	REFERENCE	LEGEND
LIGHTNING IMPULSE	1900	300 (MODERATE WIND)	AS/NZS 7000 TABLE 3.4	
POWER FREQUENCY	750	500 (HIGH WIND)	AS/NZS 7000 TABLE 3.4	
PHASE TO PHASE CLEARANCE	2755	ALL	AS/NZS 7000, CLAUSE 3.7.3.2 & CLAUSE 3.7.3.3	NOT SHOWN
MAINTENANCE APPROACH DISTANCE	1800	100 (LOW WIND)	ENA NENS 04-2006, TABLE 2	
HAND REACH (NOTE 3)	1200	100 (LOW WIND)	AS/NZS 7000 TABLE 3.4	

LINE DETAILS

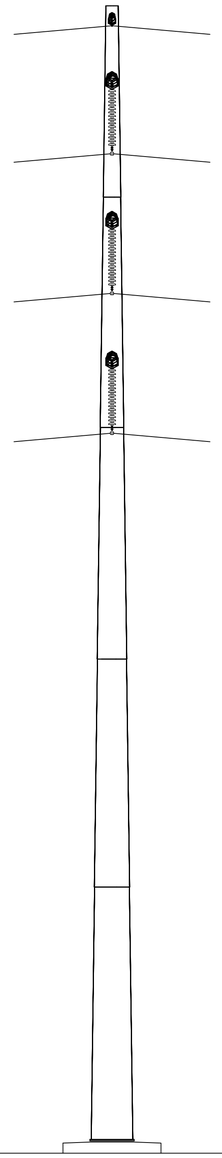
CONDUCTOR	TWIN PAWPAW ACSR
EARTHWIRE	7/3.75 SC/GZ
OPGW	OPGW TYPE A
SHEILDING ANGLE - EARTHWIRE/OPGW	0 DEGREES
SUSPENSION INSULATOR ARRANGEMENT	TL-140058 (HEAVY) CREEPAGE = 28mm/kV
WIND SPAN (m)	420
WEIGHT SPAN (m) - MAX	630
WEIGHT SPAN (m) - MIN	90% OF WIND SPAN
LINE ANGLE (°)	0.5



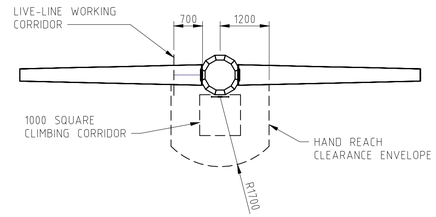
ELECTRICAL CLEARANCES



MAINTENANCE APPROACH AND LIVE LINE CLEARANCES



LONGITUDINAL ELEVATION



CLIMBING CORRIDOR PLAN - TYPICAL

0 3125 6250 mm

DRAWING TO BE PRINTED IN COLOUR

FOR TENDER

AMENDMENT:

PROJECT No.60628126						
2	RE-ISSUED FOR TENDER	AJP	RO	KZ	JL	28.08.20
1	ISSUED FOR TENDER	AJP	RO	KZ	JL	16.04.20
AMDT	AMENDMENT DETAILS	DRN	DESIGN	CHK'D	APP'D	DATE

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ABN 20 093 846 925

ADVERTISED PLAN

TransGrid

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VERIFIED		
APPROVED		

TENDER
APPROVAL STATUS

REFERENCE DRAWINGS

SCALE 1:125

ENERGY CONNECT
BURONGA TO RED CLIFFS
220kV SUSPENSION POLE

ELECTRICAL CLEARANCE DIAGRAM

A1	60628126-TL-3053	02
	PREFIX NUMBER SHEET	AMDT

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Property Owner	STRUCTURE NUMBER	SPAN AHEAD (m)	LINE ANGLE [deg.]	STRUCTURE FUNCTION	STRUCTURE TYPE		POLE LENGTH (m)				Pole Tonnage [kg]	Pile Foundation Details					Pile Cap Details		Total Concrete Volume [m³]	Number of Insulator Set (See Note 2)					Cable Details (See Note 3)						REMARKS
																				Tension			Suspension		Phase Conductor		Earthwire		OPGW		
					SUSPENSION	TENSION	LEFT	MIDDLE	RIGHT			Geological Model	No. of Piles	Diameter [mm]	Depth [m]	Concrete Volume [m³]	Dimensions [m x m x m]	Concrete Volume [m³]		Phase	Jumper	EW	Phase	EW	Type	Total Length [m]	Type	Total Length [m]	Type	Total Length [m]	
	59	367	0	Tension	-	2 x Steel Poles	41	-	41	41m-Tension	49,716	M3 (phig 0.4)	4	1200	8	72.4	5 x 5 x 1	50.0	122.4	12	6	4	-	-	Pawpaw ACSR/GZ	14030	Grape ACSR/GZ	1180	OPGW Type B	1180	
	60	396	0	Susp	1 x Steel Pole	-	-	40	-	40m-Susp	17,595	M3 (phig 0.4)	4	1050	6	20.8	4.5 x 4.5 x 1	20.3	41.0	-	-	-	6	2	Pawpaw ACSR/GZ		Grape ACSR/GZ		OPGW Type B		
	61	410	0	Susp	1 x Steel Pole	-	-	41	-	41m-Susp	18,166	M3 (phig 0.4)	4	1050	6	20.8	4.5 x 4.5 x 1	20.3	41.0	-	-	-	6	2	Pawpaw ACSR/GZ		Grape ACSR/GZ		OPGW Type B		
	62	0	24	Tension	-	2 x Steel Poles	44	-	44	44m-Tension	54,626	M3 (phig 0.4)	4	1200	8	72.4	5 x 5 x 1	50.0	122.4	12	6	4	-	-	Pawpaw ACSR/GZ		Grape ACSR/GZ		OPGW Type B		
						TOTAL					1,463,520								3,923	132	66	44	306	102		284,870		23,830		23,780	

2. SUM TOTAL INDICATED FOR INSULATOR SETS EXCLUDES SPARE.
3. SUM TOTAL INDICATED FOR CABLE LENGTHS EXCLUDES SPARE AND ROUNDED UP TO THE NEAREST TENS.

AMENDMENT:

AMDT	AMENDMENT DETAILS	DRN	DSGN		CHK'D		APP'D	DATE
4	Qty OF INSULATOR ASSEMBLY	RO	RO		KZ		JL	#######
3	Qty OF INSULATOR ASSEMBLY	RO	RO		KZ		JL	#######
2	FOUNDATION UPDATED, ADD 155A & 155B	RO	RO		KZ		JL	#######
1	ISSUED FOR TENDER	RO	RO		LB		JL	Apr-20

PROJECT No.

AECOM AUSTRALIA PTY LTD
ABN 20 093 846 925

REFERENCE DRAWINGS

DRAWN	R. OPERARIO	Apr-20
REVIEWED	L. BARDECKI	Apr-20
VERIFIED	K. ZHANG	Apr-20
APPROVED	J. LAWER	Apr-20

TENDER

APPROVAL STATUS

SCALE: N.T.S.

ENERGY CONNECT
BURONGA TO RED CLIFF
220kV TRANSMISSION LINE - SECTION L5
BILL OF MATERIAL

A1	60628126-TL-3204	04
	PREFIX NUMBER SHEET	AMDT