



GENERAL NOTES:

1. THE CMEN LINK MUST BE A MINIMUM 70mm² COVERED COPPER CONDUCTOR.
2. CONSTRUCTION TEAM/ COMMISSIONING OFFICER MUST ENSURE SUBSTATION IS IN CMEN CONFIGURATION.
3. ALL EARTHING CONDUCTORS SHALL BE THOROUGHLY CLEANED AND DEBURRED AT CONNECTION POINTS BEFORE CONNECTION.
4. TRANSFORMER TANK, LV SWITCHBOARD FRAME, PADMOUNT ENCLOSURE, HV CABLE SCREENS AND HV SWITCHGEAR FRAME MUST BE CONNECTED TO THE HV EARTH BAR.
5. NEUTRALS OF LV CABLES AND TRANSFORMER NEUTRAL TO BE CONNECTED TO NEUTRAL BAR ON THE LV BOARD.
6. EACH EARTHING CONNECTION MADE TO AN EARTHING BAR MUST BE FIXED WITH A SEPARATE M12 BOLT. AS REQUIRED THE EARTH BAR MAYBE EXTENDED WITH ADDITIONAL COPPER BAR OF AT LEAST THE SAME SIZE, FIXED WITH TWO M12 BOLTS.
7. ALL EARTHING FASTENERS ARE STAINLESS STEEL.
8. SEPARATION BETWEEN BURIED EARTHING AND NON-BONDED METALLIC EQUIPMENT IS REQUIRED. SEPARATION DISTANCE IS TO BE SPECIFIED IN THE PARTICULAR DESIGN FOR THE SUBSTATION.
9. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
10. EARTHING CONDUCTORS MUST BE LABELLED IN ACCORDANCE WITH THE EVOENERGY EARTHING DESIGN MANUAL (P007127).
11. PADMOUNT SUBSTATION EARTHING CONFIGURATION / TYPE LABELS MUST BE INSTALLED ON THE INSIDE OF THE LV AND HV ACCESS DOORS.
12. CONFIGURATION / CONSTRUCTION IDENTIFIED IS TWIN PADMOUNT SUBSTATIONS WITH LESS THAN 2.5m SEPARATION DISTANCE IN A CMEN CONFIGURATION UTILISING DEEP EARTH ELECTRODES. SEPARATE EARTHING CONFIGURATIONS, SINGLE PADMOUNT SUBSTATIONS, TWIN PADMOUNT SUBSTATIONS WITH GREATER SEPARATION THAN 2.5m AND THOSE USING EARTH GRIDS ARE SHOWN ON OTHER ASSEMBLIES.
13. EARTHING CONDUCTORS ENTERING THE SUBSTATION MUST BE A MINIMUM 70MM² COVERED COPPER CABLE. COPPER BAR OR STRAP MUST NOT BE USED.
14. TYPICAL CONNECTION SHOWN- REFERENCE INTERFACE TABLE FOR ACTUAL.
15. EARTHING MUST BE ASSESSED, DESIGNED AND VALIDATED IN ACCORDANCE WITH THE EVOENERGY EARTHING DESIGN MANUAL- P007127.
16. EXCESS JOINTING COMPOUND APPLIED TO EARTHING CONNECTIONS MUST BE REMOVED AFTER INSTALLATION.
17. PRE APPLIED JOINTING COMPOUND IN EARTHING CONNECTIONS MUST BE REMOVED PRIOR TO INSTALLATION WHEN INSTALLING INTO AN AQUATIC ENVIRONMENT.
18. 2X MINIMUM 70mm² COPPER CONDUCTORS MUST BE CONNECTED BETWEEN THE INSTALLED EARTH GRID AND EACH PADMOUNT SUBSTATION.
19. ADDITIONAL DEEP EARTH ELECTRODES MAYBE REQUIRED AS PER THE EARTHING DESIGN FOR THE PARTICULAR SUBSTATION.

GRADING RING NOTES:

1. SITE EXCAVATION DETAILS PROVIDED IN DRAWING D303-0015.
2. TWO CONNECTION POINTS ARE REQUIRED BETWEEN THE EARTH GRADING RING AND THE HV EARTH BAR IN CASE ONE CONNECTION FAILS.
3. THE SECTION OF GRADING RING BETWEEN THE SUBSTATIONS MUST BE INSTALLED AT AN EQUAL DISTANCE FROM EACH SUBSTATION ENCLOSURE, THE REMAINDER OF GRADING RING MUST BE INSTALLED 1m FROM THE SUBSTATION.
4. IF THE SUBSTION IS UPGRADED THE GRADING RING POSITION MUST BE CHECKED AND RELOCATED AS REQUIRED - DISTANCE BETWEEN UPGRADED SUBSTATIONS MUST BE LESS THAN 2.5m.
5. AS REQUIRED ADDITIONAL EARTH STAKES MAYBE INSTALLED AND ATTACHED TO THE GRADING RING ENSURING THE RING IS BURIED TO THE CORRECT DEPTH.

...LEGACY DRAWING...
DO NOT USE FOR NEW CONSTRUCTION

ITEM	UA TYPE	DESCRIPTION	STOCK CODE	QTY	DRAWING NO
1	P	EARTHING ROD, dia 13 x 1440mm, COPPER CLAD STEEL, EXTENDABLE, NO CLIP	1161222	6	D110-0001
2	P	CONDUCTOR, AERIAL, HD8C, 70mm ² , 19/2.14 (19/083)	1068830	34M	D102-0005
3	P	LUG, SHEAR-BOLT, 25-95mm ² , M13 BOLT HOLE, TINNED ALUMINIUM	1193219	8	D103-0022
4	P	CABLE, BUILDING, 70mm ² , 1C, 19/2.14, 0.6/1kV, V-75, BLACK, PVC INSULATED	1069603	30M	D102-0012
5	P	LABEL, EARTHING, GRADING RING FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202086	4	D107-0017
6	P	CABLE TIE FOR EARTHING CONDUCTOR LABELS 4.6 x 200mm S/STEEL GR316	1202042	28	D107-0027
7	P	LABEL, EARTHING, HV DEEP ELECTRODE, FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202064	2	D107-0015
8	P	LABEL, EARTHING, LV DEEP ELECTRODE, FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202075	2	D107-0016
9	P	LABEL, EARTHING, CMEN BOND FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202108	2	D107-0019
10	P	LABEL, EARTHING, HV BOND TO PADMOUNT ADJ, FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202119	2	D107-0020
11	P	LABEL, EARTHING, LV BOND TO PADMOUNT ADJ, FOR EARTHING CONDUCTORS, 90 x 10.5mm, S/STEEL	1202130	2	D107-0021
12	P	LABEL, EARTHING, PADMOUNT, SUBSTATION EARTHING TYPE, CMEN EARTHED	1202207	4	D107-0029
13	S	SA, EARTHING, DEEP EARTH ELECTRODE FOR STATIONS	-	4	D303-0006
14	S	SA, EARTHING, ADDITIONAL DEEP EARTH ELECTRODE FOR STATIONS	-	AR	D303-0013
15	I	INTERFACE, EARTHING PARTS, CONNECTIONS, CONNECTORS AND ACCESSORIES	SELECT	20	D199-0001

A	DEPICT, NOTES AND BOM UPDATE	BAW	WJC	
B	PART, POLICY NUMBERS AMENDED	NAA	WJC	13/07/2021
C	ADD STAMP & CHANGED TO LEGACY	NAA	WJC	12/08/2022
D	EARTH STOCK CODE UPDATE	JJP	WJC	17/11/2023

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DWG Drawing No. and Revision:	

STANDARD CONSTRUCTION, DISTRIBUTION UNDERGROUND, STATIONS, SA, EARTHING, CMEN EARTHING WITH ELECTRODES HV & LV TWIN PADMOUNT SUBSTATION <2.5m SEPARATION		Scale:	Date:	Sheet No.:
		Project No.:	Stock Code:	
		Status:	Legacy	
No.	DESCRIPTION	OKD	AUTH	DATE
A1	D303-0017			