

	<b>SUBSTATION STANDARD DRAWINGS INDEX</b>	Template Identifier	240-129714489	Rev	0
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ASSET DESIGN				
3.5. SUBSTATION STANDARD DRAWINGS & INDEX				
Project Description:	UMKOMAAS SUBSTATION 22/11-kV SUBSTATION UPGRADE TO 88/22/11-kV – UMGENI WATER DIRECT CUSTOMER			
Project No.'s:	ID	148367973B	WBS	C.DE04169
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Operating Unit	Kwa-Zulu Natal Operating Unit			
Section:	Asset Creation – Network Engineering and Design			
Department:	Asset Design (Substations)			
Project Category:	Direct Customer			
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**Disclosure Classification (Internal)**

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<b>3.5. Standard Drawings Index</b> <b>Umkomaas 88/22/11-kV Substation Upgrade</b>	<b>Template Identifier</b>	<b>240-129714489</b>	<b>Rev</b>	<b>0</b>
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<b>1. STEELWORK DRAWINGS</b>				
<b>D-DT</b>	<b>No.</b>	<b>SHT</b>	<b>REV</b>	<b>TITLE</b>
D-DT	5200	2A	13	CIRCUIT BREAKER - 132kV, TUBULAR SUPPORT, Steelwork Manufacturing Details
D-DT	5202	2A	17	ISOLATOR STD - 132kV MANUAL, LATTICE SUPPORT, Steelwork Manufacturing Details and Assembly, 3M Phase Crs
D-DT	5206	2C	9	MEDIUM EQUIPMENT - 2.5m, LATTICE SUPPORT, Steelwork Manufacturing Details and Assembly
D-DT	5206	2H	7	MEDIUM EQUIPMENT - CAP M1, CHANNEL SUPPORT, Steelwork Manufacturing Details and Assembly
D-DT	5206	2I	7	MEDIUM EQUIPMENT - CAP M2, CHANNEL SUPPORT, Steelwork Manufacturing Details and Assembly
D-DT	5213	2C	0	MV CABLE END SUPPORT, 2 x Single Core Cables, LATTICE SUPPORT STEELWORK, Manufacturing Details and Assembly
D-DT	5217	2B	9	LIGHTING / LIGHTNING MAST - 14m, TUBULAR SUPPORT, Steelwork Manufacturing Details and Assembly
D-DT	5252	2A	2	COLUMN - 132/C, LATTICE STEEL, Steelwork Manufacturing Details and Assembly
D-DT	5252	2D	1	BEAM - 132/40/1, LATTICE STEEL, Steelwork Manufacturing Details and Assembly
D-DT	5252	2E	1	EARTHWIRE SUPPORT - 132/EW, LATTICE STEEL, Steelwork Manufacturing Details and Assembly
D-WN	315		7	SURGE ARRESTER SUPPORT, 132/88/44 kV, Brackets for Mounting Surge Arresters on Isolator Support
ER00	324	17/01	1	SUBSTATION STANDARDS, YARD FOUNDATIONS, M30 EARTHING BOLT, Part Number 32401, Manufacturing Details
<b>2. ELECTRICAL EQUIPMENT DRAWINGS</b>				
<b>DRAWING NO.</b>		<b>TITLE</b>		
1HSB425450M902/1		ABB - 132kV SF6 CIRCUIT BREAKER, LTB145D1/B		
1HSB425450M902/2		ABB - 132kV, SF6 CIRCUIT BREAKER, MOUNTING OF FRAME ON FOUNDATION		
5410-35162		POWERTECH 22kV/360A NEC/NER/AUX TRANSFORMER, OUTLINE AND GENERAL ARRANGEMENT		
7007E		ITT, POST TYPE VT, 88kV L-G, Outline		

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89-00036	ALSTOM, CURRENT TRANSFORMER, 132kV up to 2500A, Type 132CO 31mm/kV, Outline
9900E	ITT, 132kV 2500A, 6 CORE POST TYPE CT, Outline
P04A807X120	COOPER POWER SYSTEM, ULTRASIL HOUSED VARISTAR, Type U3 Surge Arrester, 88kV (Outline Drawing)
P11A807X789	COOPER POWER SYSTEM, ULTRASIL HOUSED VARISTAR, Type U2 Surge Arrester, 22kV (Outline Drawing)
PTD H 51/802-62016	SIEMENS SURGE ARRESTER, 22kV
SA83987 R5	ACTOM - GA OF A 132kV. 3 ph 50Hz, 2500A, 40kA, DOUBLE SIDE BREAK MANUAL ISOLATOR
4501.6974 s1	WEG TF A 350 20MVA 88/22-kV TNd1 ONAN
10/5770 B	OUTLINE AND GENERAL ARRANGEMENT OF 20MVA 88/22 –kV YNd1 CONNECTED ONOAN COOLED 50Hz 3 PHASE TRANSFORMER
O-U282-ZA-14-31	SWITCHGEAR: FP FEEDER; 22kV;630A;25kANXPLUS
O-U282-ZA-14-31	SWITCHGEAR: FP TFR; 22kV;1250A;25kANXPLUS

<b>3. MISCELLANEOUS DRAWINGS</b>				
<b>D-DT</b>	<b>No.</b>	<b>SHT</b>	<b>REV</b>	<b>TITLE</b>
D-DT	5240/22	1-21	4	EARTHING STANDARD
ER	00073	17/02	0	SUBSTATION STANDARDS, ELECTRICAL EQUIPMENT, 2 x MCB AUXILIARY YARD BOX LAYOUT
ER	00073	17/03	0	SUBSTATION STANDARDS, ELECTRICAL EQUIPMENT, SOCKET OUTLET YARD BOX LAYOUT
ER	00121	17/15	0	SUBSTATION STANDARDS, BUILDINGS, STANDARD KEY BOX, 350 x 350mm, ARRANGEMENT & DETAILS
ER	00241	16/10&11	0	2.4m STEEL PALISADE FENCE, ASSEMBLY & DETAILS
ER	00241	17/1-4	0	2.4m STEEL PALISADE FENCE, MANUFACTURING DETAILS

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