

CONSTRUCTION OF ELECTRICAL SERVICES IN OMDEL EXTENSION 7, HENTIES BAY

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ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
		SECTION 1: PRELIMINARY AND GENERAL				
1.1	8.3	FIXED-CHARGE AND VALUE RELATED ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1.0		
	8.3.2	Establishment of facilities on the Site:				
1.1.2	8.3.2.2	Facilities for the Contractor	Sum	1.0		
1.1.3	8.3.3	Other Fixed charge obligations	Sum	1.0		
1.1.4	8.3.4	Removal of Site Establishment on Completion	Sum	1.0		
1.1.5	8.3.5	Contract Sign Boards	No.	2.0		
1.2	8.4	SCHEDULED TIME-RELATED CHARGES FOR THE DURATION OF THE PROJECT				
1.2.1	8.4.1	Contractual requirements	Sum	1.0		
	8.4.2	Operation and maintenance of Facilities on Site for the duration of Construction				
1.2.2	8.4.2.2	Facilities for Contractor	Sum	1.0		
1.2.3		Contractor's security on site, monthly reimbursement	Sum	12.0		
1.2.4	8.4.3	Supervision for duration of Construction	Sum	1.0		
1.2.5		Company and Head Office Overhead Cost for the duration of Construction	Sum	1.0		
1.2.6	8.4.5	Other Time-related Obligations	Sum	1.0		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1		Additional tests ordered by the Engineer	PS	1.0		
1.4	8.8	TEMPORARY WORKS				
1.4.1	8.8.1	Main access road to works (construct and maintain)	Sum	1.0		
1.4.2	8.8.2	Dealing and Accommodation of Traffic	Sum	1.0		
1.5		INSPECTION, TESTING AND COMMISSIONING IN COMPLIANCE WITH ALL RELEVANT STANDARDS DETAILED IN THE PROJECT SPECIFICATIONS AND STANDARD SPECIFICATIONS				
1.5.1		Supply all test equipment and labour required for carrying out tests to the satisfaction of the Electrical Engineer	Sum	1.0		
1.5.2		Supply Test Report for all electrical installations	Sum	1.0		
1.6		DRAWINGS				
1.6.1		Allow for making-up a full set of drawings to show the exact positions of cables, cable joints, road crossings, cable sleeves, wiring sleeves, lighting, voice and data, and power installation	Sum	1.0		
1.7		GUARANTEE				
Total Carried Forward						

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1.7.1		Allow for cost of a guarantee valid for a period of 12 months against latent and ordinary defects in equipment, material and workmanship, but wear and tear and normal maintenance excluded	Sum	1.0		
	8.8.4	Existing services				
1.7.2	8.8.4.1	Temporary protection of services	PS	1.0		
1.7.3		Network contribution	PS	1.0		
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ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
2.1		SECTION 2: 11 KV DISTRIBUTION				
		RMU ORMAZABAL 24kV 630 A BUS BAR RATED 20 kA (3 SEC) F&G 1kB-1TS-1KB INDOOR EXTENSIBLE CONSISTING OF 1x630A CB, SELF POWERED O/C & E/C (WIC1-2PE), 2x630A ISOLATOR, 2xBUS BAR SETS 2xEND COVERS VOLTAGE INDICATOR PRESENT		1		
2.2		TRANSFORMERS (Supply, delivery off-loading and Installation, including earthing and cable terminations)				
2.2.1		800kVA, 11/0.42kV 50Hz, 3-phase, 4%, Dyn 11 vector group, ONAN oil emersed ONAN and sealed type, step-down transformer c/w off load tap switching tap range: 95%, 97.5%, 100%, 102.5%, 105%; RYBR anti-clock phase rotation; Oil conservator tank with silica-gel breather and oil level indicator; rating plate; oil temperature indicator; pressure relieve valve; drain valve. Transformer to SANS 780, SABS IEC 60076, SANS 1029, SANS 1030.	No	1		
2.3		CABLES				
2.3.1		11 kV, 3 core, 150mm ² PILC copper cable laid in ducts between switchboard and transformers.	m	40.0		
2.3.2		Heat shrink cable joints type to SANS 10198 - 10 for the 150mm ² cable	No	2.0		
Total Carried to Summary page						

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ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
3		SECTION 3: LOW VOLTAGE				
3.1		DISTRIBUTION BOARDS				
3.1.1		Main LT Distribution Board MDB complete with all accessories as specified in the drawing fitted with the following equipment, all fitted in the workshop: Sheet metal and all frames, sub-frames, busbars, fixtures and fittings. 1600 A (30 kA) tripple pole MCCB 16 x 150 A tripple MCCB A (10kA) tripple pole mccb's. IDMDT relay A1700 METER 2 x DIGITAL AMMETER/VOLTMETER (1000:5, CI 0.5) SIEMEAS P50 Earth leakage units. (20 mA). Time switch. Install and connect up, including earthing and conduit terminations but excluding cable terminations. Compile a legend card as and place it in the holder on the board.	No	1		
3.2		DISTRIBUTION KIOSK/ PILLAR				
		Distribution kiosks typically fitted with the incoming Busbar assembly, incoming MCCB and or outgoing MCCB in one chamber and the distribution MCBs in the other. The kiosks shall be A.C. 3 phase, 4 wire, 400 V, 50Hz with effectively grounded neutral with rated MCBs as specified in the drawings. Double Door Enclosure, FibreGlass, corrosion protected gland plate, 800A busbars, 15kA fault level, wooden mounting plate, mounting rails, 300-500mm root (bottom of root at min. 150mm below natural ground level with concrete footing/ plinth to detail.				
3.2.1		9 way	No.			
3.2.2		12 way	No.	41.0		
3.2.3		Plinth for mounting of Distribution Kiosks	No.	41.0		
3.2.4		Earthing of Distribution Kiosks as per Local Supply	No.	41.0		
3.2.5		Kiosks Lock-out Padlocks (Weather resistant)	No.	82.0		
		Feeder label in the substation 50 x 100mm aluminium plate with 29 characters	No.	23.0		
3.2.6		Kiosk labelling on 80mmx40mm aluminium plate with 29 characters 8mm in height	No.	82.0		
3.3		DISTRIBUTION KIOSK/ PILLAR SWITCH GEAR "Tenderer to specify specific brand(s) offered (SANS compliant) Minimum rupturing capacity to be 10kA (unless specified otherwise).Tenderer shall be liable to prove coordination / cascading capacity of switch gear provided."				
		Triple pole moulded case circuit breakers				
3.3.1		200A, min. 25kA	No.	2.0		
3.3.2		150A, min. 25kA	No.	3.0		
3.3.3		100, min. 25kA	No.	20.0		
		Triple pole isolators				
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ITEM NO	SECTION REFERS	DESCRIPTION	UNIT	QTY	RATE	AMOUNT \$
3.3.4		100A (min. 10kA)	No.	20.0		
3.3.5		150A (min. 10kA)	No.	20.0		
3.3.6		200A, (min. 10KA)	No.	3.0		
3.3.7		250A (min. 10kA)	No.			
		Costomer meter labels in kiosk on 22mmx10mm aluminium plate with 29 characters	No.	295		
		Breaker Names: in the kiosk will label 10mm x 10mm with 29 characters		295		
		ELECTRICAL METERS				
3.3.8		single phase prepaid meter conlog split - RF	No.	240.0		
3.3.9		Three phase prepaid/conventional meters approved by the	No.	25.0		
3.3.10		60A SP MCB SLOW CURVE	No.	295.0		
3.3.11		60A SP MCB SLOW CURVE	No	25.0		
3.4		400/1000V PVC-PVC-SWA-PVC cables				
3.4.1		35mm ² x 4c Cu	m	23.0		
3.4.2		70mm ² x 4c Cu	m	2,206.0		
3.4.3		95mm ² x 4c Cu	m	4,374.0		
3.4.4		120mm ² x 4c Cu	m	471.0		
3.4.5		150mm ² x 4c Cu	m	782.0		
		Terminations including mechanical clamps, lugs and corrosion proof bolts, washers, spring washers and nuts, glands etc. to terminate the following cable & their Earthing:				
3.4.6		35mm ² x 4c Cu	m			
3.4.7		70mm ² x 4c Cu	m	40.0		
3.4.8		95mm ² x 4c Cu	m	40.0		
3.4.9		120mm ² x 4c Cu	m	14.0		
3.4.10		150mm ² x 4c Cu	m	4.0		
		400/1000V PVC cables				
3.4.11		120mm ² x 1c CU	m	471.0		
3.4.12		95mm ² x 1c CU	m	4,374.0		
3.4.13		70mm ² x 1c CU	m	2,206.0		
3.4.14		35mm ² x 1c CU	m	23.0		
		400/1000V PVC-PVC-SWA-PVC Service Cables				
3.4.16		2C 16mm ² Cu/PVC.SWA.PVC	m	8,132.0		
3.4.17		1C 10mm ² Cu/PVC	m	8,132.0		
3.4.18		4C 25mm ² Cu/PVC.SWA.PVC	m	650.0		
3.4.19		1C 16mm ² Cu/PVC	m	650.0		
		POLES				
3.5.1		Street lighting pole, made of fiberglass reinforced polyster 9.2m (8m mounting height), with street junction box fixed to the pole on the inside of the access opening and shall be mounted 1000mm above ground level against the pole suitable to take 4cx16mm ² cable to be looped into at each pole and luminaire supply cable. 60A terminal blocks for terminatinating the street lighting cables and a 5A circuit breaker for individual control of the light shall be provided on the mounting plate on the inside of the access compartment.	No.	125.0		
3.5.2		Excavate hole for street lighting pole, 300mm diameter and 1200mm deep or as appropriate	m ³	45.0		
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3.5.3		Concrete base size 1 000mm x 1 000mm x 500mm deep to support pole not exceeding 9 metres high including Trenching pickable complete with backfill, compaction in 200mm layers to 98% ModAASHTO	m ³	75.0		
3.5.4		Earthing of street lighting poles	No.	125.0		
3.5.5		STREET LIGHTING LUMINAIRE complete with lamp or similar approved by client and or Engineer complete with switchgear, housing, termination cables and UV resistant polycarbonate diffusor 400/1000V PVC-PVC-SWA-PVC Street Lighting Cable	No.	125.0		
3.5.6		16mm ² x 4c CU	m	4,850.0		
3.5.7		4mm ² Surfex Cable 2 Core + Earth (From the junction box to each individual light fitting)	m	1,177.0		
3.6		CABLE TRENCHING FOR 400/1000V PVC-PVC-SWA-PVC CABLES				
3.6.1		Cable Trenches (Excavation, Bedding, Laying, and Backfilling). Excavation in soft soil (Pickable Soil), 0.45 m wide x 0.6 m deep cable trench; backfilling (after bedding) of trench with a proper grading of the material to ensure settling without voids; compaction to 98% Mod AASHTO density in layers not exceeding 150mm thick.	m ³	1,309.5		
3.6.2		Black cable Sleeves for road crossing: 110mm2 DIA, PVC class 6 in 6m lengths	No.	800.0		
3.6.3		Bright yellow warning tape with red or black markings clearly indicating danger, 300mm above electrical cables / sleeves	m	5,330.0		
Total Carried Forward To Summary						0.00

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SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT \$
1	PRELIMINARY AND GENERAL	
2	11kV DISTRIBUTION	
3	LOW VOLTAGE PHASE 2	
	SUBTOTAL	
	Add 10% Contingency	
	SUBTOTAL	
	Add 15% VAT	
	Total Carried Forward To Summary Of Schedules	