

**SUMMARY BOQ- HLULEKA NATURE RESERVE - COST FOR ELECTRICAL & MECHANICAL
INSTALLATION**

	DESCRIPTION	AMOUNT
	Bill N° 1 - CABLES	
	BILL N° 2 - DISTRIBUTION BOARDS AND SWITCHGEARS	
	Bill N° 3 - LUMINAIRES	
	BILL N° 4 - SWITCHES AND SOCKET OUTLETS	
	BILL N° 5 - CONDUCTORS AND WIREWAYS	
	BILL N° 6 - EARTHING AND LIGHTNING PROTECTION	
	BILL N° 7 - MECHANICAL ITEMS	
	SUB - TOTAL	
	PRELIMINARY AND GENERAL	
	SUB - TOTAL	
	ADD 15% VAT	
	TOTAL	

SILAKA NATURE RESERVE - COST FOR ELECTRICAL & MECHANICAL INSTALLATION

Item	Description	Unit	Qty	Rate	Total
	<p>BILL N° 1 - CABLES</p> <p>NOTE: The Tenderer is advised to refer to the document "SPECIFICATION OF MATERIALS AND METHODS TO BE USED"</p> <p>Rates submitted below shall include for supply, delivery fixing materials and fixing unless otherwise specified</p> <p>This schedule of quantities shall be read in conjunction with the rest of the specification.</p>				
1,1	<p>CABLES</p> <p>1000/600 volt PVC/SWA/PVC copper cables. Rates to include for the supply, delivery and installation into cable sleeves, trenches and cable trays excluding excavations and backfilling, cable terminations and joints.</p> <p>CABLE TERMINATIONS</p> <p>For PVC/SWA/PVC shall include supply and fitting of the cable gland, neoprene shroud, making-off the cable, lugs, and fitting the gland to the board gland plate, switchgear and final connection of cable tails into board or terminals.</p> <p>Note : Should cables without ECC be utilized the tenderer will supply the additional external earth wire at no additional cost</p>				
1,1,1	10mm² 3c PVC SWA PVC Cable				
1,1,1,1	Supply	m	300		
1,1,1,2	Installation	m	300		
1,1,1,3	Terminate	ea	8		
1,1,2	4mm² 3c PVC SWA PVC Cable				
1,1,2,1	Supply	m	250		
1,1,2,2	Installation	m	250		
1,1,2,3	Termination	ea	10		
1,1,3	CABLE MARKER TAPE (320mm Wide)				
1,1,3,1	Supply	m	550		
1,1,3,2	Installation	m	550		
1,1,4	EXCAVATION AND BACKFILLING				
	Excavate, backfill and compact in all materials including disposal of unsuitable/surplus material.				
1,1,4,1	Soft and pickable (all materials)	m	540		
1,1,4,2	Hard material (Provisional)	m	5		
1,1,4,3	Rock (Provisional)	m	5		
1,1,5	75 mm Ø Sleeve				
1,1,5,1	Supply	m	150		
1,1,5,2	Install	m	150		
1.1.6	Privision for upgarde, tracing of the existing power cable	Sum	1		
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2,1	BILL N° 2 - DISTRIBUTION BOARDS AND SWITCHGEARS Supply, Install, repair, trace circuits, label to the existing distribution York box to comply with SANS 10142 and 1765				
2,1,1	DB-C(Chalets)				
2,1,1,1	Supply	N°	4		
2,1,1,2	Install	N°	4		
2.1.2	Provision for Alteration to existing kiosk next to chalets and make good	Sum	1		
2,1,3	45A Double Pole Circuit Breaker				
2,1,3,1	Supply	N°	4		
2,1,3,2	Install	N°	4		
2,1,4	30A Double Pole Circuit Breaker				
2,1,4,1	Supply	N°	1		
2,1,4,2	Install	N°	1		
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BILL N° 3 - LUMINAIRES					
3,1,1	Type A- LED TRACK LIGHT FITTING WITH TWO SPOT LIGHTS				
3,1,1,1	Supply	N°	12		
3,1,1,2	Install	N°	12		
3,1,2	Type A2- LED TRACK LIGHT FITTING WITH THREE SPOT LIGHTS				
3,1,2,1	Supply	N°	12		
3,1,2,2	Install	N°	12		
3,1,3	Type U/D-UP AND DOWN FACING OUTDOOR WALL LIGHT STAINLESS STEEL				
3,1,3,1	Supply	N°	20		
3,1,3,2	Install	N°	20		
3,1,4	Type D -1 X 13W CFL, ALLUMINIUM REFLECTOR, FLUSH MOUNTED DOWNLIGHT FITTING				
3,1,4,1	Supply	N°	16		
3,1,4,2	Install	N°	16		
3,1,5	Type BL -29W LED BOLLARD LUMINAIRE				
3,1,5,1	Supply	N°	8		
3,1,5,2	Install	N°	8		
3,1,6	Type P -50W LED POSTOP LIGHT FITTING				
3,1,6,1	Supply	N°	4		
3,1,6,2	Install	N°	4		
3,1,7	Type FL-100W LED SOLAR FLOODLIGHTS FITTINGS				
3,1,7,1	Supply	N°	4		
3,1,7,2	Install	N°	4		
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BILL N° 4 - SWITCHES AND SOCKET OUTLETS					
4,1,1	16 Amp, 1 lever, 1 way, flush mounted switch complete with cover and galvanised box required (Grabtree black/silver in colour)				
4,1,1,1	Supply	N°	16		
4,1,1,2	Installation	N°	16		
4.2.1	16 Amp, 2 lever, 1 way, flush mounted switch complete with cover and galvanised box required (Grabtree black/silver in colour)				
4.2.1.1	Supply	N°	8		
4.2.1.2	Install	N°	8		
4,3,1	10A 250V-grade photocell light-control switch.				
4,3,1,1	Supply	N°	6		
4,3,1,2	Install	N°	6		
4,4,1	5A, 3 Pin Unswitched socket outlet fixed to and connected in round conduit box or on trunking. Box or trunking measured elsewhere				
4,4,1,1	Supply	no	50		
4,4,1,2	Install	no	50		
4,5,1	16A Switched Socket Outlet in wall (Single plug) complete with cover and galvanised box (Grabtree in black/silver in colour)				
4,5,1,1	Supply	no	10		
4,5,1,2	Install	no	10		
4,6,1	16A Switched Socket Outlet in wall (double plug) complete with cover and galvanised box (Grabtree in black/silver in colour)				
4,6,1,1	Supply	no	18		
4,6,1,2	Install	no	18		
4,7,1	Shaving Plug complete with galvanized box and covers (Grabtree in black/silver in colour)				
4,7,1,1	Supply	no	1		
4,7,1,2	Install	no	1		
4,10	Veti Sockect Sat Data 2x16Amps, 2 X Euro(TV SOCKETS)				
4,10,1	Supply	no	4		
4,10,2	Install	no	4		
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BILL Nº 5 - CONDUCTORS AND WIREWAYS					
5,1	CONDUCTORS (COPPER)				
5,1,1	Supply				
5,1,1,1	1,5 mm² PVC insulated	m	1600		
5,1,1,2	1,5 mm² copper earth wire	m	800		
5,1,1,3	2,5 mm² PVC insulated	m	1600		
5,1,1,4	2,5 mm² copper earth wire	m	800		
5,1,1,5	4 mm² PVC insulated	m	800		
5,1,1,6	4 mm² copper earth wire	m	400		
5,1,1,7	2,5 mm² Round/flat Twin and earth conductor	m	400		
5,1,1,8	1,6mm² galvanized draw wire, drawn into wireway.	m	6400		
5,1,2	Installation				
5,1,2,1	1,5 mm² PVC insulated	m	1600		
5,1,2,2	1,5 mm² copper earth wire	m	800		
5,1,2,3	2,5 mm² PVC insulated	m	1600		
5,1,2,4	2,5 mm² copper earth wire	m	800		
5,1,2,5	4 mm² PVC insulated	m	800		
5,1,2,6	4 mm² copper earth wire	m	400		
5,1,2,7	2,5 mm² Round/flat Twin and earth conductor	m	400		
5,1,2,8	1,6mm² galvanized draw wire, drawn into wireway.	m	6400		
5,2	CONDUIT				
	PVC conduit including all accessories such as bends elbows and saddles. Making good of chasing by others				
5,2,1	Supply				
5,2,1,1	20 mm Ø PVC conduit	m	6400		
5,2,1,2	25 mm Ø PVC conduit	m	3200		
5,2,1,3	32 mm Ø Galvanized conduit/bosal	m	200		
5,2,2	Installation				
5,2,2,1	20 mm Ø PVC conduit	m	6400		
5,2,2,2	25 mm Ø PVC conduit	m	3200		
5,2,2,3	32 mm Ø Galvanized conduit/bosal	m	200		
5,2,3	16x16mm PVC Wiring duct (Trunking), complete with covers,end caps and slow bends				
5,2,3,1	Supply	m	200		
5,2,3,2	Install	m	200		
5,2,4	300x300 Weatherproof box/IP65 Plastic Enclosure				
5,2,4,1	Supply	Nº	4		
5,2,4,2	Install	Nº	4		
5,2,5	Postop Poles(7m pole, refer to spec)				
5,2,5,1	Supply	Nº	4		
5,2,5,2	Install	Nº	4		
5,2,6	Floodlights Poles(7m pole, refer to spec)				
5,2,6,1	Supply	Nº	4		
5,2,6,1	Install	Nº	4		
5,2,7	Electrical Manholes				
	Suppy and Build either pre-cast or full wall manhole with heavy duty cover with the following minimum inside dimensions:-1200mm x 1200mm x 600m deep & 74kg heavy				
5,2,7,1	Supply	Nº	2		
5,2,7,2	Install	Nº	2		
5,2,8	Provision for Pole holes for floodlights & Postops	Sum	1		
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	BILL Nº 6 - EARTHING AND LIGHTNING PROTECTION				
6,1	CABLE BONDING				
	BONDING OF WATER MAINS				
6,1,1	Bond the proposed water main to the adjacent down conductor. All water pipes, hand basins, sinks, baths, gutters and rain water pipes shall be bonded.	Sum		1	
6,2	CABLE BONDING				
6,2,2	All external earth wires and cable armouring from the incoming and outgoing cables will be properly crimped into cable lugs and bolted to their respective earth bars.	Sum		1	
6,3	TESTING AND COMMISSIONING				
6,3,1	Test and commission the complete electrical installation including the handing in of the test results (COC) to the Engineer.	Sum		1	
6,7	LIGHTNING PROTECTION				
	<u>Earthrods</u>				
	Earthrods should ideally be spaced approximately 15m intervals and 1500mm Copper Earthrods/spikes for Equipotential Bonding Links				
6,7,1					
6,7,1,1	Supply	Nº		16	
6,7,1,2	Install	Nº		16	
	Supply and Install Down Aluminium rod strictly in accordance with the relevant SANS & IEC Specifications				
6,7,2	16mm² Aluminium Rods				
6,7,2,1	Supply	m		80	
6,7,2,2	Install	m		80	
6,7,2,3	Terminate	Nº		40	
6,7,3	<u>Bare Stranded Copper Earth Wire</u>				
	Supply and install Bare Stranded Copper wires in trenches including termination for Equipotential Bonding strictly in accordance with the relevant SANS & IEC Specifications				
	25mm² copper cable				
6,7,3,1	Supply	m		160	
6,7,3,2	Install	m		160	
6,7,3,3	Terminate	Nº		40	
6,7,4	<u>Ring Earth Trenching</u>				
	layers (300mm), including bedding and installation of warning tape above soft hand pickable soil				
6,7,4,1		m		300	
6,7,4,2	soil requiring pneumatics tools and aids	m		40	
6,7,4	TESTING				
	Test the complete installation including the handing in of the test results (Certificate of Lightning Protection) to the Engineer.	Sum		1	
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BILL N° 7 - MECHANICAL ITEMS					
7,1	HOT WATER				
7,1,1	150/200 Litres Vaccum Tube Solar Geyser				
7,1,2	Supply	N°	4		
7,1,3	Install	N°	4		
7,2	FIRE FIGHTING				
7,2,1	4,5kg Carbon Dioxide Fire Extinguishers				
7,2,2	Supply	N°	8		
7,2,3	Install	N°	8		
7, 3	Fire Escape Signage comply with SANS	Sum	4		
7.4	KITCHEN GAS				
7.4.1	Elba Class or Similar Bult-in 4 Burner Gas Stove Complete with Cookerhood				
7.4.1.1	Supply	N°	4		
7.4.1.2	Install	N°	4		
7.4.2	19KG Gas Cyliders with a change-over regulator and refill				
7.4.2.1	Supply	N°	8		
7.4.2.2	Install	N°	8		
7,4.3	22mm class 2 copper, 15mm Class 2 Copper pipe				
7.4.3.1	Supply	m	40		
7.4.3.2	Install	m	40		
7.4.4	1 Manual ball Isolation LPG gas valve complete with sleeve pipes				
7.4.4.1	Supply	N°	4		
7.4.4.2	Install	N°	4		
7.4.5	Galvanized Lockable Gas Cage to fit 2x19kg LP Gas Cylinders				
7.4.5.1	Supply	N°	4		
7.4.5.2	Install	N°	4		
7, 5	TESTING AND COMMISSIONING				
7,5,1	Test and commission the complete Mechanical installation including the handing in of manuals.	Sum	1		
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