



New solar photovoltaic (PV) system installation complete with 2m tank stand for three tanks, three (3) domestic water tanks, steel cattle trough and trough foundation, two taps and tap stand.

TENDER SPECIFICATIONS/SCHEDULE OF QUANTITIES/PRICE				Water Point Number		Region	
						Oshikoto	
Location Name		Onxaiva		GPS Reading		S: 17.77889° E: 17.08582°	
Distance from nearest Centre		Ondangwa 200km		Condition of Road		Sandy	
Borehole/Well							
WW Number	207080	Borehole Depth	150m	Number of Pipes	40	Casing Diameter	165mm
Installation Depth	120m	Rest Water Level	72.18	Pump Water Level		Pumping Yield	6m ³ /h
New Equipment							
Type Equipment		Solar			Pump		
Manufacturer/Model		Solar Modules/Sunset solar/similar equal an approved			Grundfos SQF3-105		
Item No	Brief Description of Works			Unit of Measure	Quantity	Unit Price NS	Total Price NS
A*	B*			C*	D*	E	F
1	SITE ESTABLISHMENT						
1.1	site establishment: According to SABS 1200 AA 1986			Sum	1		
1.2	Transport of material to site plus additional transport of miscellaneous item (Transport Rate (excluding VAT)) Specify Tonnage of transporter(s):						
1.2.1	Ton @			Km			
1.2.2	Ton @			Km			
1.2.3	Ton @			km			
1.3	Temporary domestic water supply during construction period			m ³	10		
	SUB TOTAL						

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
2	BOREHOLE: Supply all material and construct new borehole block complete with base plate. Base plate to be welded on the borehole steel casing. Refer to drawing number 21/1-4/34 R5, 21/1-4/73 R8.				
2.1	Labour charges (exl. VAT)				
2.1.1	Artisan	hrs			
2.1.2	Skilled Labour	hrs			
2.1.3	Unskilled Labour	hrs			
2.1.4	Concrete (concrete class 25MPa), 800mmx800mmx800mm, with 19mm aggregated stones).	m³	0,6		
2.1.5	Borehole base plate assembly as per drawing no. 21/1-4/73R8, mild steel 500mmx500mmx16mm	No	1		
2.1.6	50mm Ø GMS discharge pipe work complete	Sum	1		
2.1.7	GMS union 50mmØ	No	1		
2.1.8	Borehole adaptor plate 300mmx300mmx16mm to suit Solar installation as per drawing no. 21/1-4/73 R8	No	1		
3	SOLAR: Supply all material and install a new pump, complete with submersible cables, stainless rope (for pump safety), control box, solar panels, solar panel stand and solar panels frame; to pump at least 3.5 metre cubic per hour at 100m water head (Note: The power required should be 2.5kW minimum). Submersible pump should be compatible for alternating current (AC).				
3.1	Labour charges (exl.VAT)				
3.1.1	Artisan	hrs			
3.1.2	Skilled Labour	hrs			
3.1.3	Unskilled Labour	hrs			
3.1.4	Manufacture 3m high solar stand complete with base plate (200mmx200mmx8mm thick) with 200mmx16mm anchors) and solar frame (note use 5mmx100mm square tubing or 5mmx100mm round tube Mild steel, pipes for legs). Solar should slide in a welded frame for security reasons. Refer to attached drawings No. 17022-C-100	No	1		
3.1.5	Concrete blocks for stand (2x700mmx700mmx700mm) ,with 19mm aggregated stones, class 25MPa.	m³	0,7		
3.1.6	Anchor concrete blocks 200mmx200mm, with 19mm aggregated stones, class 25MPa	m³	0,35		
3.1.7	PUMP: SQF 3-105	No	1		
3.1.8	Solar panels to suit power required	Sum	1		
3.1.9	Control box to suit pump complete with lock-able "Protection Cover" or similar equal and approved.	No	1		
3.1.10	Aquaverm- Submersible electrical cable 4mm² 4core, suitable for current drawn down and voltage drop. Cable should be protected against with UV resistant sleeve above ground.	M	130		
3.1.11	Ski rope for pump security- 10mm steel.	M	120		
3.1.12	40mm, GMS pipe	No	40		
3.1.13	Stabilizers 40mm x 150mm	No	13		
3.1.14	Splicing kit/electrical termination kit, Scotch cast2.5mm² – 4mm² 4core complete	Sum	1		
3.1.15	Cable ties (50mmx6mm)	sum	1		
3.1.16	All required GMS fittings, Accessories and any other additional required items. (All inclusive)	sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
4	TANK STANDS: Supply all materials and install 2m tank stand for 10m ³ tank complete with concrete foundation as per drawing no. 21/1-4/65 R8.				
4.1	Labour charges (exl. VAT)				
4.1.1	Artisan	hrs			
4.1.2	Skilled Labour	hrs			
4.1.3	Unskilled Labour	hrs			
4.1.4	Concrete Grade 25MPa a strength, with 19mm aggregated stones	m³	5		
4.1.5	2m tank stands for 10m ³ tanks as per drawing no. 21/1-4/65 R8. NB: use equal angle iron 60x60x6mm for the stand legs Mild steel.	No	3		
4.1.6	Fit data and borehole information plate (210mm x 110mm), manufactured from black anodized aluminium. Letter size to be 5mm.	No	1		
4.1.7	Base Plate 200x200mmx10mm complete with u-shaped round bar welded to 16mm bolts/thread bar and nuts	No	12		
4.1.8	Steel painting, antirust 1 st coat, final coat aluminium industrial	Sum	1		
4.1.9	Re-inforcing steel	Sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
5	PLASTIC TANKS: Supply all material and install 3 new 10 cubic metres plastic tanks (300kg) on tank stands complete with all pipe work, fittings, valves, tank strappings. Refer to drawing no. 21/1-4/65 R8. All underground steel pipes, fittings and other steel components shall be Denso wrapped				
5.1	Labour charges (exl. VAT)				
5.1.1	Artisan	hrs			
5.1.2	Skilled Labour	hrs			
5.1.3	Unskilled Labour	hrs			
5.1.4	300kg, 12mm thickness, 10 cubic metres tank (engraved with the emblem of water affairs), Made in Namibia	No	3		
5.1.5	50mm Ø GMS Inlet pipe work complete with all fittings	Sum	1		
5.1.6	50mm Ø GMS outlet pipe work complete with all fittings	Sum	1		
5.1.7	Overflow pipe work complete with all fittings (50mm Ø GMS)	Sum	1		
5.1.8	Security brackets for all pipe work	Sum	1		
5.1.9	50mm Ø Cobra gate valve	No	5		
5.1.10	Hold down strapping for tank	Sum	1		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
6	PIPE LINES: Pipeline from pump to domestic tank on tank stand (5m), from domestic tank to trough (100m), from domestic tank to tap point (50m), from overflow pipe to ground (20m)- Supply all material and install 50mm class 10 HDPE 175m pipeline. Complete with all required compression type fittings and valves.				
6.1	Labour charges (exl. VAT)				
6.1.1	Artisan	hrs			
6.1.2	Skilled Labour	hrs			
6.1.3	Unskilled Labour	hrs			
6.1.4	50mm class 10 HDPE pipe	M	175		
6.1.5	50mm GSM pipe	Sum	1		
6.1.6	All required compression type fittings	Sum	1		
6.1.7	All required GMS fittings	Sum	1		
6.1.8	Pipe work security brackets	Sum	1		
6.1.9	400-500mm deep trenches	m	175		
6.1.10	Back-fill trenches	m	175		
7	STEEL TROUGH: Supply all materials and install steel trough, complete with concrete foundation and slab, all pipe work. Note troughs shall be coated as per drawing no. 21/1-4/42 R2				
7.1	Labour charges (exl. VAT)				
7.1.1	Artisan	hrs			
7.1.2	Skilled Labour	hrs			
7.1.3	Unskilled Labour	hrs			
7.1.4	Concrete Grade 25MPa a strength, with 19mm aggregated	m³	7,8		
7.1.5	Concrete Reinforcing steel 8mm y type	sum	1		
7.1.6	Steel trough 5m x 3mm thickness as per drawing no. 21/1-4/42 R2	No	1		
7.1.7	GMS pipe work and fittings	sum	1		
8	DOMESTIC TAP STAND: Supply all material and install one domestic tap stand complete with GMS pipe work and two taps. Refer to drawing number 21/1-4/43R2				
8.1	Labour charges (exl. VAT)				
8.1.1	Artisan	hrs			
8.1.2	Skilled Labour	hrs			
8.1.3	Unskilled Labour	hrs			
8.1.4	20mm brass bibcock taps	No	2		
8.1.5	Concrete Grade 25MPa a strength, with 19mm aggregated	m³	0,3		
8.1.6	GMS pipe work	sum	1		
8.1.7	160/110mmØ UPVC pipe	m	1		
8.1.8	40/20mm Ø GMS pipe	m	1		
8.1.9	All required GMS fittings	Sum	1		
9	DOMESTIC TAP PROTECTOR: Manufacture and fit tap protector at taps stand as per attached sketch.				
9.1	Labour charges (exl. VAT)				
9.1.1	Artisan	hrs			
9.1.2	Skilled Labour	hrs			
9.1.3	Unskilled Labour	hrs			
9.1.4	Angel iron 50mmx50mmx4mm	M	6		
9.1.5	Steel painting, antirust 1 st coat, final coat aluminium industrial paint	L	2		
	SUB TOTAL				

	SPECIFICATIONS OF WORK TO BE DONE	SCHEDULE OF QUANTITIES			
Item No.	Description	Unit of Measure	Quantity	Unit Price N\$	Total Price N\$
TOTAL BROUGHT FORWARD:					
10	TOOL KIT: Supply tool kit for Solar Water Point Maintenance / Repair. Note, toolkit to be delivered at the Regional Office.				
10.1	Spade, carbon steel	No	1		
10.2	Adjustable Wrench pipe 0mm approx...60mm (Monkey Wrench)	No	1		
10.3	Steel Rake, heavy duty	No	1		
10.4	Squeegee (for cleaning panels)	No	1		
10.5	Wire plier	No	1		
			Subtotal		
			VAT @ 15 %		
			Grand Total		