



**DEVELOPMENT BANK OF SOUTHERN AFRICA**

**RENOVATIONS AND REFURBISHMENT AT  
GOA KGANYA PRIMARY SCHOOL IN THE  
NORTH WEST PROVINCE**

**TENDER NO. RFP041/2022**

**ANNEXURE C – MECHANICAL  
INSTALLATIONS**

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT c	R
1	<b>HVAC &amp; REFRIGERATION SYSTEMS</b>  Design, manufacture, works testing, supply and delivery to site, moving into position, erection, connecting up, site testing, witness testing, proving to the inspectors, demonstrating to the Employer and maintenance of the complete installation as outlined in the specification and on the drawings.  <b>Stainless steel island type kitchen extract hoods complete with stainless steel grease filters and grease tray, extract fan and suction and discharge side attenuators, fire rated extract duct and fire dampers</b>					
1.1	2000 x 2000 x 600 island type extract hood for Nutrition Centre with extract fan duty 2000 litres/sec @ 450 Pa. Installation must be complete with weather proof flushing and extract fan controller. Power supply to within 1m of the extract fan shall be by others.	No.	1			
1.2	<b>Freezer</b> 540L horizontal type chest freezer	No.	1			
	<b>Testing &amp; Maintenance</b>					
1.3	Allow for testing and commissioning to the satisfaction of the engineer	Item				
1.4	Allow for maintenance during defects liability period in terms of the contract	Item				
1.5	Provide a Sum of R150 000.00 (One Hundred and Fifty Thousand Rands) for Fumes Cupboards	sum	1			
<b>Total carried to Summary Page</b>						

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT R c
2	<b><u>FIRE PROTECTION INSTALLATION</u></b>  Design, manufacture, works testing, supply and delivery to site, moving into position, erection, connecting up, site testing, witness testing, proving to the inspectors, demonstrating to the Employer and maintenance of the complete installation as per conditions of contract and the specification and on drawings.				
2.1	Fire Pump Set consisting electric duty / standby diesel pumps duty 40 Litres/sec @ 500kPa and Jockey pump duty 1.0 Litres/sec @ 700kPa. Pump set to be complete with triple pump start test arrangement, ASIB certified control panels with status indicators specified, 6 hrs diesel day tank with bund container for spilt fuel, batteries, isolating and non return and strainer valves for pump assembly, pressure switches, pressure gauges, suction header and other accessories to make a complete installation.	Item	1		
2.2	Galvanised mild steel sectional tank subdivided as shown on the drawings dimensions: 8,540 x 4,880 x 3,660 mm high with access panels, ladders, water level indicator, vortex inhibitors and all accessories to make a complete installation as shown on drawings	No.	1		
2.3	250 mm NB gear operated butterfly tank outlet valves	No.	2		
2.4	200 mm NB gear operated butterfly test valve	No.	1		
2.5	25 mm float valve	No.	2		
2.6	50 mm gate tank inlet valve	No.	2		
2.7	Orifice plate assembly OP1 complete with upstream and down stream pressure gauges on stem with isolating valve	Item	1		
2.8	300 litres pressure vessel	Item	1		
2.9	Flashing fire alarm beacon and horn	Item	1		
2.10	Swing Type Fire Hose Reel to comply with SANS 543 Fire hose reels shall be fitted with a 30m long reinforced red rubber hose of internal diameter of 20mm nominal bore, with a 4.8mm internal diameter chromium plated brass nozzle and isolating valve. Fire hose reel pipes above ground shall be colour coded signal red A11.	No.	8		
2.11	Standard Wall Mounted Type Fire Hose Reel to comply with SANS 543 Fire hose reels shall be fitted with a 30m long reinforced red rubber hose of internal diameter of 20mm nominal bore, with a 4.8mm internal diameter chromium plated brass nozzle and isolating valve. Fire hose reel pipes above ground shall be colour coded signal red A11. Hose reel to be in standard labelled steel cabinet.	No.	1		
	<b>Balance carried to forward</b>				

ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT R c
<b>Balance brought forward</b>					
2.12	65 mm outlet fire hydrant with tamper proof opening spindle operated by fire brigade cross spanner on 1000mm high 80mm galvanised pipe stub riser pipe encased in 800 mm high 25 MPa concrete with chamfered corners and painted in reflective yellow.  <b>Galvanised mild steel pipe treated with galvafruid paint and two coats of firemen red signal paint A11. Pipework to be complete with supports,bends,unions to make a complete installation</b>	No.	6		
2.13	25mm	m	50		
2.14	32 mm Class 12 HDPE pipe underground laid in 600mm deep trench backfilled at compacted as specified by civil engineer  <b>Class 16 mPVC pressure pipe complete with fittings laid in 1000mm deep trench backfilled at compacted as specified by civil engineer</b>	m	80		
2.15	100 mm	m	450		
2.16	80 mm	m	40		
2.17	5kg CO2 fire extinguisher complying with the requirements of SANS 1567. Extingishers to hung at position s shown on the drawings complete with meranti backing board.	No.	2		
2.18	4.5 kg Dry Chemical powder fire extinguisher complying with the requirements of SANS 1093 and the extinguishing medium shall comply with the appropriate requirements of SANS 1151. Extingishers to hung at position s shown on the drawings complete with meranti backing board.	No.	20		
2.19	Fire blankets nominal size 1200 x 1200 in cover with quick release mechanism. Minimum weight 430 gr/m <sup>2</sup> , ignition time 13min and Max temp.550°C.  <b>Fire signage in 190mm high frame as indicated on the drawings. Marking and signposting shall be of the photoluminescent type and shall comply with the relevant sections of SANS 1186</b>	No.	1		
2.20	Type E1	No.	6		
2.21	Type E2	No.	6		
2.22	Type E3	No.	5		
2.23	Type F4	No.	8		
2.24	Type F5	No.	8		
2.25	Type F6	No.	8		
2.26	Type F13	No.	3		
2.27	600 x 600mm Type GA 26 assery point complete with 1800 mm high 80mm dia galvanised mild steel support pole	No.	4		
2.28	Type F45-FIRE EXIT/KEEP CLEAR	No.	2		
2.29	Fire brigade booster connection, storz valve hydrant valves assembly as detailed on drawings.	Item	1		
2.30	Testing and commissioning to the satisfaction of the engineer	Item			
2.31	Allow for maintenance during defects liability period in terms of the contract	Item			
<b>Total carried to Summary Page</b>					

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT c	R
<b>3</b>	<b><u>COLD WATER TANK, SOLAR WATER HEATERS &amp; EQUIPMENT</u></b>					
	Design, manufacture, works testing, supply and delivery to site, moving into position, erection, connecting up, site testing, witness testing, proving to the inspectors, demonstrating to the Employer and maintenance of the complete installation as outlined in the specification and on the drawings.					
3.1	Galvanised mild steel sectional tank on 15 m high tank supplier designed raised galvanised mild steel platform as shown on the drawings dimensions: 3,660 x 2,440 x 2,440 mm high with access panels, ladders, water level indicator and all accessories to make a complete installation as shown on drawings	No.	1			
3.2	50 mm galvanised cold water inlet pipe including bends, fittings and supports	m	25			
3.3	50 mm inlet gate valves	No.	2			
3.4	65 mm galvanised cold water outlet pipe including bends, fittings and supports	m	40			
	<b>Blackened Copper Flat plate indirect thermo siphon close-couple type with hail proof glasss as per schedule on the drawings complete with roof supports</b>					
3.5	Administration Block A 100 litre solar water heater complete with fittings 2kW electric back up element	Item	1			
3.6	Grade R Block B 100 litre solar water heater complete with fittings 2kW electric back up element	Item	1			
3.7	Nutrition Centre Block L 200 litre solar water heater complete with fittings 3kW electric back up element	Item	1			
<b>3.8</b>	<b>10 litre Hydroboil water heater for Administration Block A Staff Room as shown on the drawings</b>	<b>No.</b>	<b>1</b>			
3.9	Testing and commissioning to the satisfaction of the engineer	Item				
3.10	Allow for maintenance during defect liability period in terms of the contract	Item				
<b>Total carried to Summary Page</b>						

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE	AMOUNT c	R
4	<b>LPG SUPPLY SYSTEMS &amp; FITTINGS</b>					
	Design, manufacture, works testing, supply and delivery to site, moving into position, erection, connecting up, site testing, witness testing, proving to the inspectors, demonstrating to the Employer and maintenance of the complete installation as outlined in the specification and on the drawings.					
	<b>2 x 2 LPG 20 mm dia manifold in schedule 40 steel for Block L Nutrition Centre</b>	No.	1			
4.1	48 kg full LPG cyclinders	No.	4			
4.2	Manual change over valve	No.	1			
4.3	15 mm isolating valve	No	4			
4.4	15 mm Pressure reducing valve SANS approved	No.	1			
4.5	15 mm fire man's gas isolating valve	No.	2			
4.6	15 mm Class 1 copper pipe	m	15			
4.7	4 burner stock pot gas stove	No.	4			
	15-12mm gas hose connectors	No.	4			
	12 mm gas hose for stove connections and fixing accessories	m	2			
	<b>2 x 2 LPG 20 mm dia manifold in schedule 40 steel for Block E Laboratory</b>	No.	1			
4.8	48 kg full LPG cyclinders	No.	4			
4.9	Manual changeover valve	No.	1			
4.10	22 mm isolating valve	No	2			
4.11	22 mm Pressure reducing valve SANS approved	No.	1			
4.12	22 mm fire man's isolating valve	No.	3			
4.13	22 mm copper pipe complete with fittings, bends and supports	m	40			
4.14	12 mm copper pipe complete with fittings, bends and supports	m	18			
4.15	Double outlet bunsen burners bench cocks complete with flexible gas hoses	No.	9			
4.16	SANS compliant laboratory bunsen burners	No.	9			
4.17	Flammable liquids warning signage set F26, F27 & F46	set	2			
4.18	Testing and commissioning to the satisfaction of the engineer	Item				
4.19	Allow for maintenance during defects liability period in terms of the contract	Item				
<b>Total carried to Summary Page</b>						

**Goakganya Primary School Bill of Quantities for the Mechanical Installations**

ITEM NO.	DESCRIPTION	UNIT	AMOUNT	R
			C	
	<b>SUMMARY</b>			
1	HVAC & Refrigeration Systems	Item		
2	Fire Protection Systems	Item		
3	Solar Water Heating	Item		
4	LPG Systems	Item		
5	Operating & Maintenance Manuals and AS BUILT drawings	Item		
6	P & G Items for Mechanical Subcontract	Item		
7	Contigencies	Item		
6	<b>Total for Mechanical Services Sub- Contract</b>	<b>Item</b>		
	<b><u>DAY WORKS AND ADDITIONAL MATERIAL</u></b>			
	Provisional sum above to be expended as and when required upon instructions from the engineer and against which the contractor shall have no claim except where such instructions are passed and deducted in whole or in part if not required. The rates for items below shall be used			
	<b>Labour</b> The rates for labour in dayworks are to be applied to the hours worked and are to include overheads, profits, etc.			
	Normal Time Technician Apprentice Semi-skilled Labourer			
	<b>Sundays and Public Holidays</b> Technician Apprentice Semi-skilled Labourer			
	<b>Transport</b> The following nett rates for transport are to be applied and they are include for the provision of the vehicle fuel, driver waiting and travelling time.			
	<b>Passengers vehicle in dayworks.</b> LDV in dayworks. 5 ton truck in dayworks			
<b>TOTAL MECHANICAL TENDER SUM CARRIED TO MAIN CONTRACT SUMMARY</b>				