

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p><b>SANITARY FITTINGS</b></p> <p>Fix, Install, test ,price for the necessary fitting accesores and commission the following sanitary appliances complete with all the accessories including all connections to the services, waste, jointing to water supply overflows, supports and all plugging and screwing to walls and floors for the proper functioning of the entire system.</p> <p><b>Note:</b>            (i) All sanitary fittings shall be in approved colour.            (ii) The Model and Ref No. indicated is only a guide to the type and quality of fittings.            (iii) Equivalent and Approved models may be acceptable.</p> <p><b>Close Coupled Water Closet ( on site without final accessory fittings)</b>            Close Coupled Water closet, in approved colour, comprising of W.C. bowl, 'P' or 'S' trap connector, heavy duty matching plastic seat and cover with metal top fixed (chrome plated) hinges. The water closet to be screwed and secured to floor or wall and to be suitable for connecting a 40mm diameter flush valve. All to be as "Roca Victoria" or equal and approved.</p> <p><b>Pedestal Wash Hand Basin ( on site without final accessory fittings)</b>            Fix pedestal wash hand basin size 635 x 500mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, electronic sensor actuated pillar tap with manual flow stop for cleaning suitable for 240v mains connection and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal. All to be as "Roca Georgia" or equal and approved.</p>	8	No		
B		8	No		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Robe Hook</b>				
A	Chrome plated robe hook mounted with concealed screws. To be as Jaguar Kubix CAT No. 35791 or equal and approved.	12	No		
	<b>Shower fittings ( on site without final accessory fittings)</b>				
B	Concealed shower riser pipe consisting of 15mm dia stop cock with handle shower mixer , 15mm dia chrome plated adjustable shower rose and arm with wall plated as 'Cobra' or equal & approved.	8	No		
	<b>Single Bowl single Drainer Kitchen Sink ( on site without final accessory fittings)</b>				
C	Single bowl double drainer stainless steel kitchen sink of size 1500 x 600mm as manufactured by ASL or equal and approved. The bowl size to be 430 x 420 x 250mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, 1No. 15mm diameter chrome plated bib tap as Cobra model, heavy duty plastic bottle trap with 75mm deep seal and chain waste fitting.	1	No		
	<b>Undersink Water Heater</b>				
D	Undersink automatic electric water heater of capacity 7 litres as "HEATRAE SADIA UTC" or approved equivalent	1	No		
	<b>Cleaner Sink</b>				
E	Heavy duty stainless steel sink of size 600 x 420 x 285mm deep in 18 SWG as manufactured by ASL suitable for mounting on counter, complete with 1 No. 15mm diameter chrome plated back inlet bib tap Cobra ref 107EC CP, 40mm diameter heavy duty plastic bottle trap and chain waste fitting and plug.	3	No.		
	<b>Flexible Tubing</b>				
F	15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve as Jaguar Astra with wall flange for connecting the sanitary fitting to water supply.	15	No		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Hand Driers</b>				
A	Automatic hand drier in white colour, operating on an infra-red automatic sensing system with heating element safety cut-out complete with a 30 seconds safety timer, plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 2.1kw and performance flow rate of 135cfm (3.82m <sup>3</sup> /min) and to be of size 270x264x143mm deep It shall have a noise level below 72.5 dBA at 1.5m. It shall be as Heatrae Sadia or approved equivalent.	2	No		
	<b>Urinal Bowls ( on site without final accessory fittings)</b>				
B	Ceramic urinal bowl complete with 40mm heavy duty plastic bottle trap and 40mm diameter chrome plated outlet with grating firmly fixed on the wall with chrome plated screws. The fittings shall be as Roca or equal and approved.	3	No		
	<b>Urinal Bowl Divisions</b>				
C	Ceramic urinal bowl divisions separating the above described urinal bowls fixed firmly on the wall. The fittings shall be as Roca or equal and approved.	1	No		
	<b>Sensor Operated, Urinal Bowl Flush Valve</b>				
D	32mm dia. Concealed, Sensor operated urinal flush valve for above urinal bowl. The flush valve to be silent and of low pressure type, with back entry, with integral vacuum breaker, non-hold-open features and non-return valve, inlet control stop and wall plate comprising sensor with electronic proximity system. The flush valve shall be complete with; -self cleaning piston -mechanical manual override -hermertically sealed sensor and electronic controls -state-of-art electronics to avoid false flush. The Flush valve system to be as 'Grohe' or equal and approved.	3	No		
	<b>Wall mounted Toilet Roll Holders</b>				
E	Wall mounted chrome plated toilet roll holder with flap as Jaguar Continental CAT No. 1153N or equal and approved.	8	No		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p><b>Total carried forward from previous page</b>  <b>Pure Water treatment plants</b></p> <p>Supply, deliver and install a wall hung pure water purifier plant of capacity 200litres per hour. The unit to come complete with 5-stage water purification system; Stage 1: micron sediment filter, stage 2: granual activated carbon filter, stage 3: micron carbon block filter, Stage 4: 2pcs reverse osmosis membrane and finally Stage 5: post carbon filter, flow controls. The system shall be mounted as approved by Engineer and the outlet shall be labeled "DRINKING WATER ONLY". The unit to be complete with 2 Lpm pressure pump. The Water treatment plant to be as assembled by Davis &amp; Shirtliff.</p>	2	No.		
B	<p><b>Wall mounted drinking fountain</b></p> <p>Supply, deliver and install a self-closing, foot-pedal actuated wall mounted drinking fountain with adjustable volume regulator to maintain constant stream height at 20psi line pressure. The fountain to be complete with stainless sink with 32mm drainage point and vandal resistant pin. The drinking fountain to be as "Elkay" or equal and approved.</p>	6	No.		
C	<p><b>3-bay Stainless Steel Wash hand Sink</b></p> <p>Supply, deliver and install a 3-bay stainless wash hand sink of size 1350 x 450mm as manufactured by ASL. The bowl size to be 1390 x 420 x 200mm deep complete with 2No. chrome plated 40mm waste fittings, plugs, chain stays, overflow, 3No. single inlet foot-pedal combo-pack (control valves and a goose neck spouts) as "T&amp;S Brass", 2No. heavy duty plastic bottle trap with 75mm deep seal and chain waste fitting. The sink to be as will be approved by the Engineer.</p>	6	No.		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p><b>Total carried forward from previous page</b></p> <p><b>Water Booster Pumpset</b></p> <p>Set of automatic electrically driven twin booster pump. One duty and the other one standby with automatic changeover, capable of delivering 5m<sup>3</sup> per hour against a head of 20 meters with a single phase power source. The pumpset shall be complete with 300 litres pressure vessel (as described item C below) and all accessories required for proper and satisfactory operation. It includes pressure switches, time delay switch, a switch to protect against dry run, timer, gate valves, non-return valves, water level indicator, float level regulator. The pump to be as Grundfos model CH12-30 or approved equivalent. Pump to be installed on mild steel frame with approved paint.</p>	1	Set		
B	Allow for Pump Cage to secure the pump above	1	Item		
C	<p><b>Ground Tanks for Rain Water Harvesting</b></p> <p>Supply, deliver and install vertical close end plastic moulded tank of capacity 16,000 litres and diameter 3600mm x 2800mm high. The tank to be assembled complete with cover and having screwed connections for inlet, outlet, overflow, 50mm medium pressure ball valve, drain pipes and any other necessary item for its proper functioning. The tank shall as "ROTO" model or approved equivalent. The tank shall be mounted on concrete slab.</p>	2	No.		
D	<p><b>Tank Plinth</b></p> <p>Provide all materials and construct a concrete mass plinth to support the 2No. 16,000 litres water tanks described above to Engineer's approval.</p>	2	Item		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Control and Control Panel</b>				
A	Control panel for above pumps with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, 50 meters long float switch control cable to the roof tanks, start/stop push buttons and indicator lights. All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet that is oven powder coated. There shall also be an adjustable time delay switch to ensure pumping cycles are controlled to not more than 6 per hour. It should include a change-over switch to enable the pumps to work alternately.	1	Item		
	<b>GRP Roof Water Tank</b>				
B	Assemble a roof level water tank made of GRP (glass reinforced plastic) hot pressed moulded panels with panel flanges stiffened externally with pressed galvanised stiffeners, 6mm thick panels, with stainless steel tie rod system and capacity of tank to be approximately 15600 litres and of preferred dimensions 4000mm x 4000mm x 1000mm. The tank to rest on suitable concrete platform erected by others. The tank to be complete with tank cover, mosquito proof inspection vent, internal uPVC stays, convex base panel & concave sump base panel, provide pipe connection to suit BSP brass bosses for screwed pipe work on the outside. <b>NB:</b> (The panels in the sides & base to be externally assembled with bolts) as 'BRAITHWAITE'	No	1	800,000.00	800,000.00
C	Water level indicators (one in litres, other in gallons)	No	1		
D	Durable uPVC plastic Internal access ladder	No	1		
E	Stainless Steel External ladder to BS 4211	No	1		
F	100x100mm galvanised steel I-beam suitable to support panels for above tank on concrete base	item	1		
G	Float switch	No	1		
H	Ball valve boxes	No	1		
I	Anti-vermin screens for overflow and warning pipes	No	1		
<b>Total for Sanitary fittings Carried to Collection Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Internal Plumbing Works</b>				
	Supply, deliver and install chlorinated polyvinyl chloride (CPVC) pipes, tubing and fittings as described and shown on the drawings. The pipes and fittings shall be produced as per SDR 11 and shall meet or exceed the requirements of ASTM D 2846, current European standards for CPVC installations and to the Engineers approval. All joints shall be assembled employing solvent cements that meet or exceed the requirements of ASTM F493. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures. Final lengths subject to final remeasurements on site.				
	<b>CPVC Pipes</b>				
A	20mm diameter pipework	30	Lm		
B	25mm diameter pipework	30	Lm		
C	32mm diameter pipework	54	Lm		
D	40mm diameter pipework	18	Lm		
E	50mm diameter pipework	24	Lm		
F	65mm diameter pipework	18	Lm		
G	75mm diameter pipework	36	Lm		
	<b>Gms pipework</b>				
H	50mm gms pipework	54	Lm		
I	32mm ditto	12	Lm		
	<b>Bends</b>				
J	20mm diameter bend	10	No.		
K	25mm diameter bend	8	No.		
L	32mm diameter bend	8	No.		
M	40mm diameter bend	4	No.		
N	50mm diameter bend	4	No.		
O	75mm diameter bend	6	No.		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Tees</b>				
A	20mm equal tee	6	No.		
B	25mm equal tee	6	No.		
C	32mm equal tee	6	No.		
D	40mm equal tee	10	No.		
E	50mm equal tee	4	No.		
F	65mm equal tee	4	No.		
	<b>Reducing bushes</b>				
G	25 x 20mm diameter reducer	6	No.		
H	32 x 25mm diameter reducer	4	No.		
I	32 x 25mm diameter reducer	4	No.		
J	40 x 25mm diameter reducer	6	No.		
K	40 x 32mm diameter reducer	12	No.		
L	50 x 40mm diameter reducer	30	No.		
M	65 x 50mm diameter reducer	10	No.		
N	75 x 50mm diameter reducer	12	No.		
O	75 x 65mm diameter reducer	10	No.		
	<b>Threaded Brass Tee</b>				
P	20mm male/female threaded brass tee	8	No.		
Q	25mm male/female threaded brass tee	4	No.		
R	32mm male/female threaded brass tee	6	No.		
S	40mm male/female threaded brass tee	10	No.		



Total Carried to Next Page	
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Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Threaded Brass Elbow/bend</b>				
A	20mm male/female threaded brass elbow/bend	6	No.		
B	25mm male/female threaded brass elbow/bend	8	No.		
C	32mm male/female threaded brass elbow/bend	8	No.		
	<b>Threaded Brass Adapter</b>				
D	25mm male/female threaded brass adapter	9	No.		
E	32mm male/female threaded brass adapter	6	No.		
F	40mm male/female threaded brass adapter	12	No.		
G	50mm male/female threaded brass adapter	6	No.		
	<b>Threaded Brass Coupling</b>				
H	25mm male/female threaded brass coupling	10	No.		
I	40mm male/female threaded brass coupling	12	No.		
J	50mm male/female threaded brass coupling	6	No.		
K	65mm male/female threaded brass coupling	4	No.		
L	75mm male/female threaded brass coupling	6	No.		
	<b>Valves</b>				
M	20mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.	4	No.		
N	25mm ditto	8	No.		
O	32mm ditto	5	No.		
P	40mm ditto	4	No.		
Q	50mm ditto	4	No.		
R	75mm ditto	2	No.		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Unions</b>				
A	25mm diameter pipe union	10	No.		
B	32mm diameter pipe union	4	No.		
C	40mm diameter pipe union	4	No.		
D	50mm diameter pipe union	4	No.		
E	75mm diameter pipe union	2	No.		
	<b>Pipe Sleeves</b>				
F	100mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	10	Lm		
	<b>External Plumbing Works</b>				
	Supply, deliver and install the following plumbing fittings in positions indicated on the contract drawings or as shall be instructed by the Engineer. Tenderers should allow for all fittings, jointings couplings including unions and clamps where necessary for the proper functioning of the installation when pricing. Final lengths subject to final remeasurements on site.				
	<b>Excavations</b>				
H	Excavate trench in soil/murram for water pipes not exceeding 1000mm deep and average 750mm deep, part return in, fill, ram and surplus cart away.	80	Lm		
	<b>Pipework, GMS Class B</b>				
I	50mm diameter GMS pipework, class B	64	Lm		
J	40mm diameter GMS pipework, class B	24	Lm		
	<b>Bends</b>				
K	50mm diameter bends/elbow	10	No		
L	40mm diameter bends/elbow	10	No		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Valves</b>				
A	50mm diameter approved high pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to tubing and complete with round male threaded transition fittings and associated unions.	2	No		
B	Ditto but 40mm diameter	2	No		
	<b>Underground Water Tank Fittings</b>				
	Provide the following connections to concrete water tank done by others. Connections to be in paddle flanges:				
C	50mm diameter inlet pipe (Council mains).	0	Item		
D	65mm diameter inlet pipe (Water supply).	0	Item		
E	65mm diameter outlet pipe for domestic pump	0	Item		
F	65mm diameter outlet pipe for hosereel pump	0	Item		
G	100mm diameter for vent/overflow pipe	0	Item		
H	20mm diameter for level indicator	0	Item		
I	50mm diameter medium pressure ball valve for fitting for the underground tank (Council mains).	0	No		
J	50mm diameter high pressure ball valve for fitting for the roof tank.	0	No		
K	50mm diameter high pressure ball valve for fitting for the underground tank (Borehole).	0	No		
	<b>Stand Pipe</b>				
L	15mm diameter bib tap suitable for connecting hose pipe complete with threaded adaptors. The tap to be complete with 5meter long 20mm diameter pipe, bends etc. The chrome plated bib tap to be as Cobra ref.107EC taps or equal and approved.	5	No		
	<b>ELECTRICAL WORKS</b>				
M	Allow for electrical works wiring and fitting to all pumps, control panel and float switches, from isolator provided by others with 3 metres distance.	1	Item		
	<b>Valve Chamber</b>				
N	Valve chamber size 750x750x600mm deep with 100mm concrete (1: 3: 6) base 100mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	1	No		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Water Line Markers</b>				
A	Standard precast concrete ware line marker, post marked 'WL' set in concrete (1:3:6) base, including formwork, excavations backfilling and disposal. The plate to be painted with blue gloss oil paint.	5	No		
	<b>Bulk Water Meters</b>				
B	50mm bulk water meter as 'Kent' or equal and approved equivalent for the connection to the main supply of water to site and local council charges.	1	No.		
	<b>Pipe Sleeves</b>				
C	75mm diameter heavy duty PVC (class 41, 2.5mm thick) pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm concrete surround.	24	Lm		
	<b>Water Meter Chamber</b>				
D	Meter chamber size 600x450x600mm deep with 100mm concrete (1: 3: 6) base 50mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	1	No		
	<b>Connection to local Authority Supply Line</b>				
E	Allow for connection to the local Authority supply line for portable water.	1	Item		
	<b>Sterilization</b>				
F	Allow for flushing out and sterilizing the whole system with chlorine to the satisfaction of the Project Engineer.	1	Item		
	<b>Testing and Commissioning</b>				
G	Allow for pressure testing and commissioning of the plumbing installation to the satisfaction of the Engineer.	1	Item		
<b>Total carried forward to collection page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>INTERNAL FOUL WATER DRAINAGE</b> Supply, deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. Final lengths subject to final remeasurements on site.				
	<b>MuPVC and uPVC Waste and Soil pipework</b>				
A	150mm dia. heavy gauge golden brown UPVC pipe	96	Lm		
B	100mm dia. heavy gauge golden brown UPVC pipe	56	Lm		
C	100mm diameter heavy gauge grey UPVC pipe	48	Lm		
D	50mm diameter waste pipe	6	Lm		
E	40mm diameter waste pipe	12	Lm		
F	32mm diameter waste pipe	12	Lm		
	<b>Bends</b>				
G	100mm diameter bend with access	10	No.		
H	100mm diameter long radius bend	4	No.		
I	100mm diameter short radius bend	6	No.		
J	100mm diameter sweep bend	4	No.		
K	50mm diameter sweep bend	6	No.		
L	40mm diameter sweep bend	8	No.		
M	32mm diameter sweep bend	12	No.		
	<b>Tees</b>				
N	100mm diameter sweep tee	4	No.		
O	50mm diameter sweep tee	8	No.		
P	40mm diameter sweep tee	4	No.		
Q	32mm diameter sweep tee	4	No.		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Access Caps</b>				
A	100mm diameter access cap	2	No.		
B	50mm diameter access cap	5	No.		
C	40mm diameter access cap	4	No.		
D	32mm diameter access cap	4	No.		
	<b>Boss Connectors</b>				
E	100 x 40mm diameter boss connector	4	No.		
F	100 x 50mm diameter boss connector	4	No.		
	<b>Reducing Sockets</b>				
G	50 x 40 reducing socket	7	No.		
H	40 x 32 reducing socket	5	No.		
	<b>Single Branch</b>				
I	100 x 100mm diameter single branch with 50mm boss adaptor	2	No.		
J	100 x 100mm diameter single branch with 50mm boss adaptor	2	No.		
	<b>WC Connectors</b>				
K	100mm diameter WC connector	10	No.		
	<b>Traps</b>				
L	100 x 50mm diameter floor trap and grating	10	No.		
M	100mm dia. floor drain in 300 x 300mm chamber with steel grating	4	No.		
N	Standard 300 x 300 x 450mm masonry gully trap complete with 125mm thick reinforced concrete cover.	10	No.		
O	Allow for sewer connection to the existing bio-digester.	1	Item		
	<b>Weathering Slates and Vent Cowls</b>				
P	100mm diameter weathering slate and apron.	5	No.		
Q	100mm diameter vent cowl	5	No.		
R	Petrol Interceptor of capacity 1.5m <sup>3</sup> /hr and to engineers approval	1	Item		
S	Drainage sump of capacity 2.5m <sup>3</sup> and approximate size of 1.8 x 1.2 x 1.2m	1	Item		
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Sump Pump</b>				
A	A submersible pump capable of delivering 3.8m <sup>3</sup> /hr against 8M head, power rating 0.37KW, single phase, 50HZ as Pedrollo model Top 2 or equal and approved complete with control panel, associated electrical works, protection against dry run, on/off neon lights, control/pump status display panel, audio alarm with manual silencer to indicate when the pump is faulty, float switch and all necessary controls.	1	No.		
B	Provide, lay and joint in trench 160mm UPVC golden brown class 41 sewer pipe with flexible (rubber rings) joints including concrete bed and haunch.	56	LM		
C	Excavate trench in soil/murram for above pipes not exceeding 2000mm deep, part return in, fill, ram and surplus cart away.	56	LM		
	<b>Manholes and Inspection Chambers</b>				
D	Construct inspection chamber size 600 x 450mm and averaging 750mm deep constructed in 100mm thick concrete base (1:3:6), approved 150mm block sides rendered all around in cement and sand (1:4). It shall have an approved heavy duty cast iron cover and frame as manufactured by E.A Foundry works. Include all necessary excavations, disposal and form work. To be as manhole type 'A'.	12	No.		
	<b>PVC Pressure Pipework</b>				
E	90mm diameter UPVC pressure pipe class D <u>Extra over PVC Pressure Pipework for the following:</u>	24	LM		
	<b>Bends</b>				
F	90mm diameter bends/elbow	4	No		
	<b>Tees</b>				
G	90mm diameter equal tee	2	No		
	<b>Unions</b>				
H	90mm diameter union	4	No		
	<b>Testing and Commissioning</b>				
I	Allow for testing and commissioning of the both external and internal drainage system installations to the satisfaction of the Engineer.	1	Item		
<b>Total carried to collection page</b>					



Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<p><b>Portable Fire Extinguishers</b> Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.</p> <p><b>Water/Carbon Dioxide Gas Fire Extinguisher</b> 9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.</p> <p><b>Carbon Dioxide Gas Fire Extinguisher</b> 5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.</p> <p><b>Dry Chemical Powder Fire Extinguisher</b> 6kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.</p> <p><b>Fire Ball</b> Ball-shaped extinguisher weighing 1.3 kg complete with fixing wall bracket. Shall have capacity to cover and contain fires within a space of 9.12m<sup>3</sup> – the operational effective radius is 1.296 meters. Able to have useful lifespan of 5 (five) years</p> <p><b>Standard Printed Lable</b> Standard printed lables for the fire cupboards.</p> <p><b>Fire Notices</b> Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.</p>				
A		5	No		
B		5	No		
C		5	No		
D		5	No		
E		2	No.		
F		5	No		
<b>Total Carried to Collection Page</b>					

COLLECTION PAGE FOR PLUMBING AND DRAINAGE WORKS

1	Total for installation of sanitary Fittings	.....	
2	Total for internal plumbing works	.....	
3	Total for internal drainage works	.....	
4	Total for portable fire extinguishers	.....	
<b>Total Sanitary Fittings, Plumbing &amp; Drainage Works and Portable Fire Extinguishers Carried to Summary Page</b>			

Item	Description	Qty	Unit	Rate Kshs	Cost Kshs
A	<p><b><u>HOSE REEL SYSTEM</u></b> Supply delivery and installation of hosereels system</p> <p><b>Hose Reel</b> 25mm diameter 30m long swinging type fire hose reel complete with delivery valve, mild steel feed pipe, isolation valve guide, electro-galvanized surface mounted hose reel cabinet in approved colour. and all other accessories as "GERMANIA" or equal and approved.</p>	No.	2		
B	<p><b>Fire Hose Cabinet</b> Surface mounted fire hose cabinet manufactured from electro galvanised steel sheet with folded edges and curled hose plate edges and painted with electro static powder coating, 180°C baked. The cabinet to have adequate space to house 30m long hosereel and 3No. portable fire extinguishers and should conform to BS EN 671-1. To be as Germania or equal and approved.</p>	No.	2		
C	<p><b>Pumps for boosted hose reel system</b> <i>(Brochure/catalogue must be attached)</i> Fully automatic packaged unit water pressure booster pump set, capable of delivering 2.3 litres/sec against a static head of 25metres. The pump set shall comprise of 2No. pumps (one duty, the other on stand-by), mountings, control gear, pressure switch and pneumatic vessel, all on a common frame.</p>				
<b>Total Carried to Next Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
D	<p><b>Total carried forward from previous page</b></p> <p>Control shall be effected via a pressure switch through a pre-wired control panel, and which shall give full automatic changeover from duty to stand-by after every cycle of operation. The controls shall also include motor under-voltage / over-voltage protection devices and incorporate a float switch for protection against dry running.</p> <p>The pump set shall be pre-assembled complete with pipework, and fittings (unions, strainers, isolation valves, non-return valves etc) ready for connection to water tank outlet and to the hose reel supply to pipework.</p> <p>The pump set shall be as "Pullen Fire Pak" as manufactured by Pullen pumps Ltd or approved equivalent.</p> <p><b>Control Panel</b></p> <p>The control panel shall have removable front access cover and shall be made of anodized mild steel. To be complete with motor controls gear, internal buttons with automatic change over, overload protection, power surge protection, cables, low level cut out switch at the intake, buttons for change from automatic to manual operation, contactors, timers and all other accessories necessary for the automatic operation of the pump.</p>	Set	1		0.00
	<b>Total carried forward to next page</b>				

Item	Description	Unit	Qty	Rate	AMOUNT
	<b>Total C/F from the previous page</b>				
	<b>Associated Pipework</b> Supply and installation of Galvanised mild steel piping and fittings with screwed & socketed joint to medium grade class "B" to BS. 1387.				
	<b>GMS Pipework</b>				
A	50mm dia. GMS pipes	LM	72		
B	32mm dia. ditto	LM	12		
C	25mm dia. ditto	LM	6		
	<b>Extra over Pipework</b>				
D	50mm diameter bends/elbows	No.	2		
E	25mm diameter ditto	No.	4		
	<b>Tees</b>				
F	50 x 50 x 50 mm GMS tee	No.	2		
G	50 x 50 x 25 mm tee	No.	2		
G	50 mm diameter flange	No.	1		
	<b>Reducers</b>				
I	50 x 25mm GMS reducer	No.	2		
J	50mm dia plug	No.	6		
	<b>Valves</b>				
K	50mm dia. approved medium pressure screw down full way non- rising stem wedge gate valve	No	2		
L	25mm ditto	No.	2		
	<b>Reducers</b>				
M	50 x 25 mm diameter reducer	No.	2		
	<b>Unions</b>				
N	25mm diameter pipe union	No.	2		
O	50mm diameter pipe union	No.	2		
P	Allow for painting of the hosereel installation with 2 coats of super gloss paint on a primer coat to the approval of the Project Engineer.	Item	1		
	<b>Total for Fire protection C/F to summary page</b>				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<p><b>Packaged Air Compressor (Brochure/catalogue must be attached)</b></p> <p>10 bar packaged silenced air compressor unit mounted on a horizontal doomed cylindrical air receiver of 500 litres capacity. The compressor unit shall be mounted on a steel base plate complete with 5.5Kw 3-phase TEFC electric motors coupled to compressor and with star-delta starter and air cooled. It will be single stage heavy duty cast iron construction rotary screw compressor of capacity 527L/min F.A.D, 5.5Kw. It will be complete with mounted air inlets filters, automatic start/stop control, mounted check valve, pressure release valve, pressure gauge, manual and automatic tank drain, discharge air valve and isolators. As "GARDDER ESP15" approved equivalent.</p> <p><b>Pressure Reducing Assembly</b></p>	1	No.		
B	<p>Compressed air pressure reducing assembly comprising of strainers, pressure gauge-100mm dial with syphon and cock to suit upstream pressure, line separator, stop valve to suit pressure control pipe, safety valves, 50mm compressed filter/regulator with autodrain and by-pass pipe and its connection.</p> <p><b>Line Separator</b></p>	1	Set		
C	<p>25mm diameter line air/water separator complete with filter and autodrain suitable for 10bar mains supply line. As "Spirax Monnier" or approved equipment.</p> <p><b>Air Filter/Regulator</b></p>	5	No.		
D	<p>15mm compressed air filter/regulator with automatic drain and 20mm pressure gauge suitable for operating pressure gauge 0.5 - 10 bar. As "Spirax Monnier" model IP2A or approved equivalent.</p> <p><b>Compressed Air Lubricator</b></p>	5	No.		
E	<p>15mm compressed air lubricator a SPIRAX MONNIER model IL1 or approved equivalent</p> <p><b>Quick Air Coupling</b></p>	10	No.		
F	<p>Quick air coupling rated 0.8m<sup>3</sup>/min F.A.D with 15mm diameter hose nipple.</p>	6	No.		
<b>Total Carried Forward to Collection Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Automatic Drain Trap</b>				
A	15mm heavy duty automatic drain trap, suitable for operating pressure gauge 0.5 - 13 bar. The trap should have a bypass arrangement to permit manual draining. As "Atlas Copco" model WD80 or approved equivalent.	3	No.		
	<b>Pedestal Meter</b>				
B	Pedestal meter with 7.6m hose fitted with twin hold-on connectors (closed end). As "Presetair Deluxe" meters calibrated 0-1240KPa & 0-180psi or approved equivalent.	2	No.		
	<b>Retractable Air Hose</b>				
C	Supply, deliver and install PVC hose rated 300psi with nominal diameter of 10mm and 20 meter length. The hose to be complete with recoil unit, 1/4" BSP fitting, powder coated industrial return spring and a 4-way roller guide. The whole system to be as assembled by "HAFCO" or equal and approved.	2	No.		
	<b>Electrical Works</b>				
D	Electrical works which will involve wiring from local isolators (Provided by others) to the equipment and any other wiring involving the equipment and its controls.	1	Item		
	<b>Check Valves</b>				
E	32mm diameter check valve of the lift check type	3	No.		
F	25mm diameter diaphragm type isolating valve	6	No.		
G	32mm diameter diaphragm type isolating valve	2	No.		
	<b>Gate Valves</b>				
H	32mm dia. gate valve suitable for compressed air	2	No.		
I	25mm -ditto-	6	No.		
J	15mm -ditto-	2	No.		
<b>Total Carried Forward to Collection Page</b>					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Compressed Air Pipework</b>				
	Supply, deliver and install extruded aluminium pipework complying to EN755.2 in approved colour. The pipework have working temperatures of upto 70°C, operating pressures of up to 13 bar and must be compatible with all compressor oils. Tenderers must allow in their pipework prices for all couplings, unions, clinch rings, reducers, pipe supports, intergrated O-rings for airtight fit etc required for the satisfactory functioning of the compressed air system. the pipework shall be as "AIRnet compressed air piping system" or approved equal.				
	<b>Extruded Aluminium Compressed Air Pipework</b>				
A	32mm dia. Extruded aluminium tubes	72	LM		
B	25mm -ditto-	54	LM		
C	15mm -ditto-	72	LM		
	<b>Extra-over Compressed Air Aluminium fittings</b>				
	<b>90° Elbow as "AIRnet"</b>				
D	32mm diameter wide pattern return bend	10	No.		
E	25mm -ditto-	8	No.		
F	15mm -ditto-	12	No.		
	<b>Tees as "AIRnet"</b>				
G	32 x 32 x 32mm diameter equal tee	7	No.		
H	32 x 32 x 25mm -ditto-	6	No.		
I	15mm -ditto-	4	No.		
	<b>Reducers as "AIRnet"</b>				
J	25 x 15mm diameter reducer	15	No.		
K	32 x 25mm diameter reducer	12	No.		
	<b>Double S-bend as "AIRnet"</b>				
L	25mm diameter wide pattern return bend	10	No.		
	<b>Threaded Quick drop bend</b>				
M	25mm diameter Quick drop bend	10	No.		
N	15mm -ditto-	10	No.		
<b>Total Carried to Next Page</b>					



Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<b>Total carried forward from previous page</b>				
	<b>Nipple Socket as "AIRnet"</b>				
A	25mm dia. Threaded wall mounted nipple	6	No.		
B	15mm -ditto-	10	No.		
	<b>End Cap as "AIRnet"</b>				
C	25mm dia. Threaded end cap	6	No.		
D	15mm -ditto-	4	No.		
	<b>Working Drawings</b>				
E	Allow for working drawings, calculations and printed catalogues, well bound in hard cover (3No. copies of each in A1 or A0 paper size in scale: 25, 1:50 1:100 as a appropriate for all compressed air installations. The soft copies in AutoCAD latest release format to above scales – drawings to incorporate all aspects of mechanical perspectives and be stored in a 4GB USB flash disk and a compact dick (CD).	1	Item		
	<b>As-installed Drawings</b>				
F	Allow for as-installed drawings, operation and maintenance manuals, well bound in hard cover (3No. copies of each in A1 or A0 paper size in scale: 25, 1:50 1:100 as a appropriate for all compressed air installations. The soft copies in AutoCAD latest release format to above scales – drawings to incorporate all aspects of mechanical perspectives and be stored in a 4GB USB flash disk and a compact dick (CD).	1	Item		
	<b>Painting</b>				
G	Allow for painting of the compressed air installation with 2 coats of super gloss paint on a primer coat to the approval of the Project Engineer.	1	Item		
	<b>Testing and Commissioning</b>				
H	Allow for setting to work, testing and commissioning of all the compressed air installations to the satisfaction of the Project Engineer.	1	Item		
	<b>Total for Compressed Air System C/F to summary page</b>				

**SUMMARY PAGE**

Item	Description		Total Cost
1	Total for Preliminaries and General Items	.....	
2	Total for Sanitary Fittings, Plumbing, Drainage & Portable Fire Extinguishers	.....	
3	Total for installation of Fire Hose Reel System	.....	
4	Total for installation of Compressed Air System	.....	
5	Allow Kshs.500,000.00 to be expended to carry out builders works associated with installation of the entire system.	.....	<b>500,000.00</b>
6	Allow Kshs. 1,000,000.00 contingency sum for all services above	.....	<b>1,000,000.00</b>
<b>Total Cost for Mechanical Works C/F to Form of Tender</b>			

Amount in words

.....

Tenderers Name and Stamp.....

PIN NO.....VAT.CERTIFICATE NO.....

Witness.....Adress.....

Signature Date.....