REINFORCED CONCRETE WATER TOWER WITH TWO (2) 10,000 LITRES BLACK MILLA TANKS AT BO SLCS FACILITY
INCLUDING DISTRIBUTION OF WATER NETWORK INTO THE FACILITY & REFURBISHMENT OF ISOLATION UNITS
Bill of Quantities

Item No	Description	Unit	Qty	Unit Cost (Le)	Amount (Le)
1.00	**PRELIMINARIES**				
1.01	**MOBILIZATION** The contractor will mobilise and deliver to the site all relevant equipment, personel and materials necessary for the execution of the works	item	1		
1,02	**SITE OFFICE/STORE** Allow for providing suitable secure store for materials used for the project and also a Temporary secure office on site for the site Foreman-in -charge and other craftsmen	item	1		
1.03	**INSURANCE/LiCENSES** Provide Insurance against injury to personnel Also make all arrangements for the issue of licenses, permit etc required by law for the executiuon of the contract	item	1		
1.04	**PROGRESS PHOTOGRAPHS** Progress photographs should be provided in intervals. Number and sizes of the photographs will be directed by the Supervising Engineer or his representative	item	1		
1.05	**DEMOBILIZATION** Allow for the demobilization of all plants equip,ent and personnel and left over materials on work completion. The surrounding within the temporary fence must be thoroughly cleared and cleaned befoe the final inspection and handling over the facilities to the Client.	item	1		
	PRELIMINARIES carried to Summary				

Item No	Description	Unit	Qty	Unit Cost (Le)	Amount (Le)
	Preliminaries B/F				-
2.00	**EARTHWORKS: EXCAVATION**				
2.01	Excavate and remove topsoil average depth 150mm and dispose the material off site	m^2	20		
2.02	Excavate, starting at strip level and not exceeding 300mm deep	m^3	3.5		
2.03	Excavate pits for column bases (1mx1m) starting from ground level and not exceeding 1.0m deep	m^3	4		
2.04	Excavate strip foundation 600mm deep and 600mm wide for solar control room	m^3	4.5		
	Filling				
2.05	Filling to on the side of foundation blockwork of selected excavated material deposited and compacted in layers	m^3	2		
2.06	Ditto to make up levels below ground floor slab of selected excavated material around the borehole	m^3	3		
2.07	Ditto imported hardcore materials of laterite ballstones , 200mm thick	m^2	11.5		
3.00	**CONCRETE WORKS AND BLOCKWORKS**				
3.01	Plain in-situ concrete mix (1:4:8-19mm aggregate) as blinding to column bases	m^3	0.02		
3.02	Plain in-situ concrete mix (1:3:6 -19mm aggregate) in foundations poured against faces of excavation (strip foundation)	m^3	2.5		
3.03	Ditto: in 150mm thick ground floor slab and steps for Solar control room	m^3	2		
3.04	Reinforced in-situ in column bases and columns in foundations including reinforcement and formwork (1:2:4;mix)	m^3	0.29		
	Formwork				
3.05	To edges of concrete floor slab, 150mm high.	m^2	2		
	Summary of Page B/d				

Item No	Description	Unit	Qty	Unit Cost (Le)	Amount (Le)
	Summary of Page 2 B/F				-
	Reinforced in-situ concrete 1:2:4 -12mm aggregates including reinforcement and formwork				
3.06	**Columns**	m^3	7		
3.07	**Beams (supporting 1st and 2nd suspended slabs)**	m^3	4		
3.08	**Suspended floor slab** on where the first 10,000 litres seats including reinforced concrete conopy	m^3	2.5		
3.09	**Suspended floor slab** where the second 10,000 litres tank seats including reinforced canopy	m^3	2.5		
3.1	Provided 16mm dia. Reinforcing rods cut into u-shape and bedded in one of the columss to be used as ladder to the top of the tower	Lump Sum	1		
3.11	Scaffold: Erect and dismantle timber scaffolding from 8m to 10m high tower construction	Lump sum	1		
	BLOCK WORK				
3.12	Precast sandcrete solid block 150mm thick in cement mortar 1:6 for solar control room for both the foundation and walls	m^2	48		
	FINISHING				
3.14	12mm thick cement and sand mix (1:4) plain face rendered control room block walls internally and externally	m^2	42		
3.15	**VENTS ON CONTROL ROOM** Supply and fabricate vent opening on all thee sides of control room of 500mm high by 1000mm wide and fabricate grilled vents using 3/4" dia rods wedded at 3" (76mm) interval vertically and horizontally directions Fix the grilled-end pipes 200mm long with the 5/8" dia rods inside in 1:2:4 - 12mm aggregate reinforced concrete all round the edges of the vents. Build a reinforced concrete canopy above the door in the lintel stretching 600mm out to prevent rainwater entering the door	No	3		
	Summary of Page 3 B/d				

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Item No	Description	Unit	Qty	Unit Cost (Le)	Amount (Le)
	Summary of Page 3 B/F				-
	STEEL DOOR WITH LOCK				
3.16	**Fabricate and fix steel door**: Provide and fix steel door 600mm x 2150 complete with frames, locks. and ironmongery : Grilled 1/3 of the upper part and the bottom 2/3 part should remain as steel plate The upper part 1/3 of the door should be grilled using 5/8" dia. reinforcing rods inside 50mm x 50mm RHS hollow pipe at 3" (76mm) interval both vertical and horizontal directions Build a reinforced concrete canopy above the door in the lintel stretching 600mm out to prevent rainwater entering the door	item	1		
	PAINTING/DECORATION				
3.17	Prepare and apply one coat sealer and two coats enamel paint to rendered surface of the of the Control room internally and externally including columns and ceiling of slabs	m^2	102		
	SUPPLY AND INSTALL TWO (2) 10,000 L TANKS ON WATER TOWER				
3.18	Suply two mills tanks and mount them up on the newly constructed reinforced concrete tower	No	2		
	COST OF WATER TOWER AND TWO 10,000 L MILLA TANKS				
	Contigency 5%				
	TOTAL COST OF WATER TOWER AND TWO 10,000 L MILLA TANKS				

BILL OF QUANTITIES

Item No	Activity Description	Unit	Estimated Quantity	Unit Rate (Le)	Amount (Le)
4.00	**WATER DISTRIBUTION NETWORK FROM BOREHOLE STORAGE TANKS TO OTHER STORAGE TANKS AND THEN DISTRIBUTION TO BATHROOMS, TOILETS , STAND TAPS IN THE KITCHEN, AND LAUNDRY IN THE CORRECTIONAL CENTRE**				
	EXCAVATION AND TRENCHING:				
4.01	General clearance along pipeline	m	400		
4.02	Excavate trenches at least 600mm depth and with an average width of 300mm to pass the pipes	m	400		
4.03	Backfill of trenches after pipes have been laid	m	400		
4.04	**SUPPLY AND INSULLATION OF PIPES AND FITTINGS** **Supply and instal all the require pipes and accessories** **The pipes must be high pressure- pipes and must be approved by the supervising Engineer before installation.** **Pressure test for pipes should be done in conformity to engineering standard and approved by the Engineer**				
4.05	Plumbing works (pipe and fitting assembly)	m	400		
4.06	Supply and Instal 1" x 2" galvanised reducer	Pcs	10		
4.07	Supply and Instal 1" PVC Tee	Pcs	10		
4.08	Supply and Instal 1" galvanised elbow	Pcs	12		
4.09	Supply and Instal 1" PVC elbow	Pcs	15		
4.10	Supply and Instal 1" galvanised nipple	Pcs	10		
4.12	Supply and apply PVC glue	Tin	6		
4.13	Supply and apply tread seal tape	Pkt	4		
4.14	Supply and Instal 3/4" galvanise tap head	Pcs	12		
4.15	Supply and Instal 1"galvanised elbow	Pcs	12		
4.16	Supply and Instal 1" PVC adaptor	Pcs	10		
4.17	Supply and Instal 1" gate valve	Pcs	8		
4.18	Supply and lay 25mm PE pipezsxs	m	300		
4.19	Supply and lay 50mm PE pipe	m	200		
4.2	Supply and install reducers PE 50mm x 25mm	Pcs	8		
4.21	Supply and install 25mm PE union	Pcs	10		
4.22	Supply and install 25mm PE control valve	Pcs	6		
4.23	Supply and install 25mm PE nipple	pcs	8		
4.24	Supply and install 50mm PE nipple	pcs	8		
4.25	Supply and install flex twin cables	roll	5		
	Water Distribution Network B/D				

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BILL OF QUANTITIES

No	Description		Quantity	(Le)	(Le)
	Water Distribution Network B/F				-
4.25	Supply & Install 1"galvanised pipe 6m long for tap stands	length	6		
4.26	Supply and install 3/4" galvanised nipple	Pcs	8		
4.27	Supply and stall 3/4" galvanised socket	Pcs	10		
4.28	Supply and install 3/4" x1" reducer galvanized socket	Pcs	10		
4.29	Supply & Install 1"galvanised union	Pcs	8		
4.30	Supply & Install 2"galvanised pipe 6m long for inlet and outlet pipes	length	6		
4.31	Supply & Install 2"galvanised pipe 6m long for outlet pipes	length	6		
4.32	Supply & Install 1"galvanised pipe 6m long for inlet baths	length	8		
4.33	Supply and install 2" coupling (galvanised socket)	Pcs	10		
4.34	Supply and install 2" PVC adaptor	pcs	8		
4.35	Supply and Install 2" galvanized elbow	Pcs	8		
4.36	Supply and Install 2" galvanized nipple	Pcs	8		
4.37	Supply and Install 2" galvanized gate valve	Pcs	8		
4.38	Supply and Install 1" gate for each tap stand	Pcs	6		
4.39	Construct valve chamber in block dept not exceeding 60 cm	No	5		
4.4	Supply and Fix locable valve cover (Mild steel) 400 x 500	No	5		
4.41	Supply and install conduit pipe	roll	1		
4.42	Excavate and an average depth of 600mm to remove soil and with 300mm as trench to take pipes tp kitchen bathrooms and toilets	m	200		
4.43	Inport and backfill trenches afterv pipes have been laid and compact well				
4.44	Using Concrete, formwork and block construct a plateform for the external stand pipe and in the kitchen	Item	2		
	COST FOR WATER DISTRIBUTION carried to summary				
	Contingency 5%				
	TOTAL COST FOR WATER DISTRIBUTION				

BILL OF QUANTITIES

No	Description		Quantity	(Le)	(Le)
5	**REFURBISHMENT OF TWO ISOLATION UNIT CELLS**				
5.01	Provide and install two squats to the new isolation cells with all the accessories complete to both cells	No	2		
5.02	WIDENINING OF CELL VENTS AND GRILLED TO IMPROVE ON VENTILATION Widen the vents in the cell to 2 No 500mm x 1000mm Fabricate new grilled vents using 3/4" diameter of High tensile steel rods welded at 3" (76mm) interval vertical and horizontal direction with mosquitoe wire mesh fixed over the grilled vents as directed by the Engineer. The grilled vents must be well enbedded into side using 1:2:4 mix -12mm aggregates reinforced concrete all round the edge of the vents	No	2		
5.03	ALTER AND FIX ALL CELL DOORS TO GRILLED DOORS TO IMPROVE ON VENTILATION Remove all the metal doors leading to the cell. Alter the door as follows: 2/3 of the bottom part of each door should remain as steel plate The upper part 1/3 of the door should be grilled using 5/8" dia. reinforcing rods inside 50mm x 50mm RHS hollow pipe at 3" (76mm) interval both vertical and horizontal directions with mosquito wire mesh fixed over the grilled areas ae directed by the Engineer or his rep . Fix the grilled-end pipes 200mm long with the 5/8" dia rods inside in 1:2:4 - 12mm aggregate reinforced concrete all round the edges of the vent. Repair the door Locks	No	2		
5.04	PAINTING Prepared one undercoat and one full coat oil pain in the two islolation cells	m2	80		
	COST ESTIMATES TO REFURBISH TWO ISOLATION UNITS				
	Contingency 5% **TOTAL COST ESTIMATES TO REFURBISH TWO ISOLATION UNITS**				

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INCLUDING DISTRIBUTION OF WATER NETWORK INTO THE FACILITY & REFURBISHMENT OF ISOLATION UNITS

BILL OF QUANTITIES

No	Description		Quantity	(Le)	(Le)
	SUMMARY				
A	**WATER TOWER AND TWO 10,000 L MILLA TANKS**				
B	**WATER DISTRIBUTION INTO THE FACILITY**				
C	**REFURBISHMENT OF ISOLATION UNIT CELLS**				
	GRAND TOTAL WATER TOWER, WATER DISTRIBUTION INTO FACILITY AND REFURBISHMENT OF ISOLATION UNITS				

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