COUNTY GOVERNMENT OF KAKAMEGA

"Maji Safi Maisha Bora"
"Quality Water Healthy Livelihood"

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

TENDER DOCUMENTS FOR PROCUREMENT OF CONSTRUCTION WORKS FOR A 5000m^3 REINFORCED CONCRETE WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

***PROJECT NAME*: 5000m^3 REINFORCED CONCRETE WATER STORAGE TANK IN MILIMANI**

COUNTRY: KENYA

COUNTY: KAKAMEGA

TENDER NO: **KACWASCO/CON/5/2019-2020**

Date of Issue: 11th July 2019

VOLUME 2 OF 4: BILL OF QUANTITIES

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

GRAND SUMMARY

TOTAL INCLUDING DUTIES AND TAXES

BILL NO.	DESCRIPTION	AMOUNT Kshs.
1	Preliminaries & General items	
2	Storage Water Tank: Reinforced Concrete (5000m³ Capacity)	
3	Pipework and Ancillary works	
4	Miscellaneous Works	
5	Schedule of Day works	
	SUB TOTAL 1	
	ADD FOR CONTINGENCIES	1,500,000.00
	SUB TOTAL 2	
	ADD VAT @ 16%	
	GRAND TOTAL INCLUDING DUTIES AND TAXES CARRIED TO FORM OF BID	

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

TENDER No. KACWASCO/CON/5/2019-2020

BILL No. 1

PRELIMINARIES AND GENERAL

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE Kshs	AMOUNT Kshs
1	**CONTRACTUAL REQUIREMENTS**				
1.1	Allow for provision of Performance Security in accordance with the Conditions of Contract	Item	L.S		
1.2	Allow for provision of Insurance of Works and Contractor's Equipment in accordance with the Conditions of Contract	Item	L.S		
1.3	Allow for provision of Third Party Insurance (including Employer's Property) all in accordance with the Conditions of Contract	Item	L.S		
1.4	Allow for provision of Insurance against Accident to Workmen (WIBA) in accordance with the Conditions of Contract	Item	L.S		

2	**SPECIAL REQUIREMENTS**				
2.1	Contractor's Camp: Allow for erection of the Contractor's Camp(s), offices and other facilities including mobilization, demobilization and movement of the works site on completion. Include for all equipment, temporary measures, machines, tools, materials, facilities for workers, water and electricity supply etc. for execution of the Works. The Employer has no available land to offer for Contractor's Camp, storage of materials and preparation of concrete etc. Identification and procurement of suitable area of land for Contractor's Camp whether rented or purchased is the responsibility of the Contractor. **The Client will provide land where the Contractor will establish his camp.**	Item	L.S		
2.2	Allow a P.C. Sum of Kshs. 400,000 for training of Employer's Staff during Construction, Testing and Commissioning of the Works as specified.	Item	P.C	**400,000.00**	**400,000.00**
	PAGE TOTAL				
2.3	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 2.2 above	%		400,000	
3	**SPECIFIED REQUIREMENTS**				
	Sign Boards				
3.1	Provide and erect sign boards at the site indicated by the Project Manager's Representative and in accordance with the Conditions of Contract and as shown on Drg. No. PC/Kacwasco/SD/01.	Nr	1		
3.2	Allow for setting out of the works in accordance with Conditions of Contract and Specifications	Item	L.S		

3.3	Provide all materials and construct office for Resident Engineer at Tank Works Site to the approval of the Engineer. Office floor area 60 m^2 , min. 4 rooms and to include waterborne sanitation / internal plumbing and drainage, water supply, electrical supply, installation of telephone and other requisite facilities all as specified. Prefabricated office building to revert to the Employer at the end of the Contract. This office will be used by the Resident Engineer's staff.	Item	L.S		
3.4	Contractor to allow for maintenance and attendance of the Resident Engineer's offices and supply of consumables as per Specifications for the Engineer's staff for the duration of the Contract.	Month	8		
3.5	Allow for provision of furniture and equipment for the Resident Engineer's offices to the RE's approval and as per Spec. After completion of the works all furniture to revert to the Employer	Item	L.S		
3.6	**Attendance Upon Engineer's Staff**				
	Provide the following Staff for the Resident Engineer's Offices. (Note: The Staff to be employed by the Contractor but to be under the exclusive day to day instruction of the Resident Engineer. The bidder should include in his bid payment for overtime, statutory deductions				
3.6.1	Provide Secretary/Administrator to the Resident Engineer's Office	Months	8		-
	PAGE TOTAL				
	Accommodation				
	-				
3.7	Allow for provision of fully furnished Rental Accommodation for the use of the Resident Engineer to the RE's approval (single unit with 3-bedrooms).	Month	8		

	Vehicles				
3.8	Allow a PC sum of Kshs 2,400,000 for provision of transport for the site staff	Item	P.C	**2,400,000.00**	**2,400,000.00**
3.9	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 3.8 above (% to be as per Appendix to Form of Bid)	%		2,400,000	-
3.10	Provide 1 Nr. approved licenced drivers exclusively for use of the Resident Engineer and his staff with at least 10 years experience. Include all overtime, accommodation, costs etc. necessary for the drivers to perform their duties	Months	8	20,000	160,000.00
	Telecommunications				
3.11	Allow a P.C. Sum of KShs. 100,000 for telephone and fax services for the Project/Site Offices	Item	P.C	**100,000.00**	**100,000.00**
3.12	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 3.11 above	%		100,000	-
	Other Supplies				
3.13	Allow a P.C. Sum of KShs. 300,000 to be used as directed by the Engineer.	Item	P.C	**300,000.00**	**300,000.00**

3.14	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 3.13 above	%		300,000	
3.15	Allow a Sum for the provision of a digital camera for use by the site staff , including printing, provision of colour ink cartridges and taking photographs for record purposes, progress reports etc. as specified or as instructed by the Engineer.	Item	P.C	**100,000.00**	**100,000.00**
3.16	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 3.15 above.	%		100,000	
3.17	Allow for provision and maintenance of survey equipment as specified for the sole use of the Engineer during the duration of the contract. Equipment to be of acceptable working condition and to be returned to the contractor on completion.	Item	L.S		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					
3.18	Allow a sum for Test Running all the Works completed under the Contract for a period of 2 weeks after the offical commissioning of the Works	Item	L.S		
3.19	Allow a sum for factory inspection of pipes, fittings, mechanical & electrical plant manufacturing by the Engineer and Employer as per Specification	Item	L.S		
3.20	Allow for the provision of record drawings.	Item	L.S		

3.21	Allow a P.C. Sum of KShs. 500,000 for monthly site meetings as specified or directed by the Engineer	Item	P.C	**500,000.00**	**500,000.00**
3.22	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 3.21 above	%		500,000	
	Other Works, Obligations				
3.23	The Contractor shall describe in detail hereunder other works, obligations and things which may be referred to in the Specifications or which he may consider have been omitted from the Bills of Quantities and for which he desires to enter a separate charge (the charge to be carried direct to the amount column). **FULL DESCRIPTION OF ITEM(S) OF WORK OR ANY OTHER ISSUE SHOULD BE MADE.** If no separate charge is made hereunder, the rates in the Bills of Quantities will be held as covering all expenses for all such works				
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					

COLLECTION PAGE BILL NO 1

	DESCRIPTION	AMOUNT
		Kshs.
	PRELIMINARIES & GENERAL ITEM	
1	From Pg B1/1	0
2	From Pg B1/2	0
3	From Pg B1/3	0
4	From Pg B1/4	0
	TOTAL CARRIED TO GRAND SUMMARY	**-**

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

TENDER No. KACWASCO/CON/5/2019-2020

BILL NO. 2: STORAGE WATER TANK: Reinforced Concrete (5000m³ CAPACITY)

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				Kshs	Kshs
1	**GENERAL ITEMS**				
1.1	Testing of the Works				
1.2	Field Pressure Testing in Accordance with the Specifications				
1.3	Testing of the 5000m^3 tank for water tightness	LS	1		
1.4	Sterilization and Flushing of Tank in Accordance with the Specifications				
	Sterilization and Flushing of the 5000m^3 water storage tank	LS	1		
D2	**Tree Cutting (Provisional)**				
	Cut down trees, grub up roots and cart away to tips				
D21	Girth: 0.5 m - 1.0 m	Nr	2		

D22	Girth: 1.0 m - 2 m	Nr	2		
	Note:- Girth shall be measured 1.0 m above the ground level				
2	**EARTHWORKS**				
	The rates shall include for all strutting, shuttering, stabilising the excavation faces, and keeping the excavation free of water by pumping, bailing or other means				
2.1	Excavate for vegetable Top soil stripping average 200mm deep and store on site for reuse in landscaping	m^2	1,600		
	Excavate below stripped level to formation level in common material, part backfill after construction and remainder, cart away to tips or use as fill on site, all as directed by the Engineer.				
2.2	Excavate to reduced levels not exceeding 1.5m deep commencing from stripped level	m^3	2,200		
2.3	-Ditto- over 1.5m but maximum depth 3.0 m	m^3	1,100		
2.3b	-Ditto- over 3.0m but maximum depth 4.5 m	m^3	300		
2.4	Excavate foundation for wall edges not exceeding 1.5m deep starting from reduced level	m^3	150		
2.4.1	Excavate foundation for column bases not exceeding 1.5m deep starting from reduced level	m^3	150		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					
2.5	Provide approved hardcore material and compact in layers of 150 mm, blinded with final material 300 mm thick	m^3	405		

2.6	Extra over Items 2.1 to 2.4 for excavation in rock Class 'A', blasting not permitted (Provisional)	m^3	1,180		
2.7	-Ditto- for excavation in rock Class 'B', blasting not permitted (Provisional)	m^3	80		
2.8	-Ditto- for excavation in rock Class 'C', blasting not permitted (Provisional)	m^3	60		
3	**CLASS F: IN SITU CONCRETE**				
	Provision of Concrete				
	Provide materials and mix concrete to the specified class; cement to BS 12, grade 42.5n/mm^2 and Place, vibrate and cure concrete in the following elements of the structure as per details on drawings				
	Mass Concrete; Class 15/20				
3.1	Blinding under wall foundations, column bases and base slab; thickness 75mm	m^2	1,024		
	Provide materials and mix concrete to the specified class; cement to BS 12, grade 52.5n/mm^2 strength and with concrete water proof admixture as Sika WT-200P by Sika ltd at rate of 500g per 50kg of cement or equal and approved by engineer and Place, vibrate and cure concrete in the following elements of the structure as per details on drawings. The minimum cement content to be 350Kg/m^3 and a maximum water/cement ratio of 0.45.				
	Reinforced Concrete; Class 30/20				

	Bases, walls, Pipe Caps, and Ground Slabs, roof slabs and beams				
3.2	Wall base including key and splay	m^3	180		
3.3	Tank floor slab laid to slopes	m^3	380		
3.4	Bases to columns	m^3	60		
3.5	Base to chambers	m^3	6		
	Suspended Slabs; Thickness >150 <300mm				
3.6	Roof slab including all upstands	m^3	180		
	Walls; Thickness >200 <350mm				
3.70	Tank walls	m^3	160		
3.8	Walls - washout sump	m^3	6		
	-				
3.9	Walls - chambers	m^3	8		
	Walls; Thickness >350 <700mm				
3.10	Tank walls	m^3	170		
	Columns; Cross-Sectional Area >0.03 <0.2m²				
3.11	Columns	m^3	30.0		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					

	Other Concrete Forms				
3.12	Beams	m^3	30.0		
4	**CLASS G: CONCRETE ANCILLARIES**				
	Dimensions as per details on Specific Structural Drawings				
	Modular steel frame with 5mm steel plates covering formwork and/or marine board formwork.				
	Formwork: Fair Finish; Plane Vertical				
4.1	External sides of base slab; width >0.2 <1.6m	m^2	70		
4.2	Both sides of key; width >0.4 ≤1.22m	m^2	30		
4.3	External sides of washout sumps: width exceeding 1.22m	m^2	4		
	Formwork: Fair Finish; Plane Horizontal				
4.4	Soffit of overflow chambers; width >0.4 ≤1.22m	m^2	4.0		
4.5	Soffit of suspended slab;	m^2	810		
	Formwork: Fair Finish; Plane Sloping				
	(Provisional Items - Only if no-recoverable formwork is required)				
4.6	Splay in wall at overflow chamber; width >0.1 ≤0.2m	m	8.0		
4.7	Splay out base slab; width >0.2 ≤0.4m	m^2	50		

4.8	Splay in wall; width >0.2 ≤0.4m	m^2	200		
	Formwork: Fair Finish; Plane Vertical				
	-				
4.10	Internal sides of washout sumps; width >0.4 ≤1.22m	m^2	21.0		
4.11	Inner sides of access manholes; width >0.4 ≤1.22m	m^2	4		
4.12	Both sides of overflow chamber; width exceeding 1.22m	m^2	44		
4.13	Outer side of access manholes upstands 300mm high; width exceeding 1.22m	m^2	4		
4.14	Inner side of roof upstands 300mm high; width exceeding 1.22m	m^2	18		
4.15	Outer side of roof upstands 300mm high; width exceeding 1.22m	m^2	32		
	Walls in circular formwork				
4.16	External side	m^2	800		
4.17	Internal side; wall thickness 300mm	m^2	770		
	Formwork: Fair Finish; For Voids				
	-				
4.18	Large void depth n.e. 0.5m; 300mm dia. void for overflow	Nr	1		
4.19	Large void depth n.e. 0.5m; 200mm dia. void for airvents	Nr	15		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					

	Formwork: Fair Finish; Concrete Components of Constant Cross-section				
	Columns				
	-				
4.20	Sides of columns;	m	400		
	Other Members				
	-				
4.21	50mm x 50mm champers general	m	10		
	-				
4.22	50mm x 50mm rebates general	m	10		
4.23	50mm x 50mm rebates for manhole covers	m	10		
4.24	-Ditto but for overflow chamber cover	m	2		
4.25	12mm dia. half round fillet for drip mould round soffit of roof slab overhang	m	110		
4.26	Fillet to form 25mm x 25mm chamfer for all roof slab upstands & manhole upstands	m	127		
4.27	Boxing out 1400mm x 1150mm holes in concrete wall of tank for inlet	Nr	1		
4.28	-Ditto - but size 1000mm x 350mm for overflow	Nr	1		
4.29	Boxing out 700mm dia. hole in concrete wall of sump in tank & making good after installation of pipework	Nr	2		
4.29	Boxing out 250mm dia. hole in concrete wall of sump in tank & making good after installation of pipework	Nr	2		

4.30	-Ditto - but size 400mm dia. hole in base of overflow chamber	Nr	1		
4.31	-Ditto - but size 1020mm x 1020mm hole in roof slab of tank	Nr	4		
	Reinforcement; Deformed High Tensile Steel Bars to BS4449				
	Rate to include for cutting, bending, supporting, trying and securing reinforcement				
4.32	T 8mm	Kg	4,250		
4.33	T10mm	Kg	4,000		
4.34	T 12mm	Kg	18,460		
4.35	T 16mm	Kg	65,630		
4.36	T 20mm	Kg	71,800		
4.37	T 25mm	Kg	82,400		
	Construction Joints				
	Provide and install the following waterstops in construction joints including all surface treatment, formwork, forming of rebate and sealing of rebate with polysuphide sealant, all as per drawings and specification				
4.38	Open surface with filler; average width n.e. 0.5m	m^2	117		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					
4.39	Formed surface with filler; average width n.e. 0.5m	m^2	53		

4.40	Plastic horizontal waterstops; rear guard type, width 200mm	m	920		
4.41	Plastic vertical waterstops, width 200mm	m	70		
4.42	Sealed 20mm x 20mm rebates with polysuphide joint sealant	m	220		
	Miscellaneous Work (Including Provision and Laying)				
4.43	1000 gauge polythene sheeting on blinding below base slab	m^2	1,000		
4.44	Provide all materials and render the base and inside of tank walls with water proofing as an integral capillary system water proofing as a brush- or spray-applied slurry which is approved for potablewater applications under the ANSI/NSF Standard 61 –Drinking Water System Components to engineeers approval. Min rate (1 kg per SM) in accordance with the manufacturer's printed instruction.	m^2	1,800		
5	**CLASS H: PRECAST CONCRETE**				
	Precast concrete Class 25/20 finished fair on all surfaces and reinforced with one layer steel mesh fabric reinforcement BRC No. A141. Provide and fix:				
5.1	75mm thick cover slab size1325mm long x 750mm wide including 2nr mild steel key holes cast with slab constructed as per details	Nr	5		
6	**CLASS J: PIPEWORK -PIPES, FITTINGS AND VALVES**				
	Supply, Transport to Site & Store in Secure Place Including Jointing Material, Bolts, Gaskets, Packing, Jointing Glues, etc., As Applicable				

	Transport From Site Store, Install, Test & Commission. Include for Excavation & Backfilling of Pipe Trenches Where Applicable.				
	Include laying in trenches and chambers, including all jointing materials; Rubbers welding etc. All steel pipe fittings to be fusion bonded epoxy powder coated and lined with fusion bonded/solvent free epoxy. All flanges drilled to EN 1092.				
6	**Inlet pipe**				
6.1.1	DN 355 PN 16 double flanged steel pipe 4500 mm long	nr	1		
6.1.2	DN 355 PN 16 double flanged pipe with puddle flange Length 1100mm.	nr	1		
6.1.3	DN 355 PN 16 double flanged gate valve	nr	1		
6.1.4	DN 355 PN 16 flange pipe with puddle flange 1100 mm long	nr	1		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					
6.1.5	DN 355 PN 16 double flanged 90^0 bend	nr	2		
6.1.6	DN 355 Flange adapter	nr	1		
6.1.7	Approved DN 355 Double flanged water meter as per the section	nr	1		
6.1.8	Construct Valve Chambers as shown on the contract Drawings	nr	2		
6.1.9	Construct thrust blocks as shown on the contract Drawings	nr	2		
6.1.10	900mm DN 355 PN 16 Steel Double flanged pipes	nr	1		

6.1.11	DN 355 single flanged bend	nr	1		
7	**Outlet pipe**				
7.2.1	DN 400 PN 10 flanged Strainer	nr	1		
7.2.2	DN 400 PN 10 double flanged steel pipe 7800 mm long cut to suit on site	nr	1		
7.2.3	DN 400 PN 10 double flanged anchoring pipes with puddle flange Length = 1050mm.	nr	2		
7.2.4	DN 400 PN 10 double flanged gate valve as per the specification	nr	1		
7.2.5	DN 400 PN 10 double flanged 90^0 bend	nr	1		
7.2.8	DN 400 PN 10 flanged pipe 1000 mm long	nr	1		
7.2.9	Construct Valve Chambers as Shown on the Drawings	nr	1		
7.2.10	DN 400 flange adaptor	nr	2		
8	**Overflow pipe**				
8.1	DN 355 flanged bellmouth PN 10	nr	1		
8.2	DN 355 PN 10 double flanged 90^0 bend	nr	3		
8.3	DN 355 PN 10 double flanged anchoring pipe with puddle flange Length = 2000mm.	nr	1		

8.4	Construct thrust blocks as shown on the Drawings	nr	1		
8.5	DN 355 PN 10 flange adapter	nr	1		
8.6	DN 355 Double flanged Pipe L=2200 with a paddle flange	nr	1		
8.7	DN 355 Double flanged Pipe L=7500 cut to suit on site	nr	1		
8.8	DN 150 PN 6 overflow Indicaor pipe	nr	1		
9	**Scour Pipe**				
9.1	DN 355 PN 10 flanged spigot steel pipe 3000 mm long	nr	1		
9.2	DN 355 PN 10 flange adapter	nr	1		
9.3	DN 355 PN 10 flanged steel pipe with puddle flange 1000 mm long	nr	1		
9.4	DN 355 PN 10 double flanged gate valve	nr	1		
9.5	DN 355 PN 10 Double flanged Pipe L=1250	nr	1		
9.6	DN 355 PN 10 Double flanged Pipe L=1000	nr	1		
9.7	DN 355 PN 10 Double flanged 90 bend	nr	1		

9.9	DN 355 PN 10 Double flanged Pipe L=600	nr	1		
9.11	DN 355 PN 10 all equal Tee	nr	1		
9.12	DN 150 Double flanged L=3000	nr	1		
9.13	DN 150 Double flanged With puddle flange	nr	1		
9.14	DN 355 flanged bellmouth PN 10	nr	1		
10.1	**PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION**				
	Provide and place:				
10.1	Mass Concrete Class 15/20 surround to washout pipe diameter 250mm	m	6		
10.2	-Ditto - but outlet pipe, diameter 250mm	m	7		
10.2a	Extra over Items 2.1 to 2.3 for excavation in rock Class 'A', blasting not permitted (Provisional)	m^3	1		
10.2b	-Ditto- for excavation in rock Class 'B', blasting not permitted (Provisional)	m^3	1		
10.2c	-Ditto- for excavation in rock Class 'C', blasting not permitted (Provisional)	m^3	1		
11	**Concrete Class 20/20 in Stools and Thrust Blocks**				

11.1	Nominal bore 250 - 600mm; volume n.e. 0.1m³	Nr	4		
12	**CLASS N: MISCELLANEOUS METALWORK**				
	Rate to include supply and fixing, inclusive of foundations where applicable				
12.1	Lockable mild steel checkered plate covers for access manholes as per detail.	Nr	6		
12.2	Lockable Resevoir Hatch of Heavy-Gauge Aluminum Diamond Plate Cover, Extruded Aluminum Angle Frame, Stainless Steel Lift Handle & Swing Bolts, Bulb Gasket Seal, Lift-Assist Gas Spring, Aluminum Hold-Open Arm, 100mm Curb,External Padlock Clip	Nr	3		
13	**CLASS X: MISCELLANEOUS WORK**				
13.1	Provide and fix vent pipes as shown on the drawings	Nr	15		
13.2	Provide & lay 300mm wide x 12mm thick rubberoid layer between wall & roof slab.	m	250		
13.3	Allow for construction of 600mm x 600mm access manhole with cast iron frame and cover	Nr	4		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					
14.4	Provide all materials and fix galvanised wrought iron cat ladder to outside of reservoir (stringers - 50mm x 10mm, rungs - 20mm dia. at 300mm centres). Length n.e. 11.5m	Nr	2		
14.5	Provide all materials and fix galvanised wrought iron cat ladder to inside of reservoir (stringers - 50mm x 10mm, rungs - 20mm dia. at 300mm centres) as per details. Length n.e. 11.5m	Nr	2		

14.6	Supply and install float and board level gauge indicator, 6" wide alluminium / MS Powder coated scale in black colour with white stickers Indication on gauge board , 10 mm wide graduation , minor marking at every 100 mm in white figures of 40 mm heights , major markings at 1000 mm in white stickers of 70 mm height.Nylon pulleys with weather proof pulley housing . Guide wire spring assembly with SS guide wires.Gauge Board Support Assembly : MS Painted / Powder Coated.MS Powder Coated Indicator (Red) assembly..	Nr	1		-
14.7	Allow a sum of Kshs 300,000.00 to reroute existing DN 160 pipe that passes through proposed New tank site along route to be agreed with the engineer as determined on site.	PS	PS	300,000.00	300,000.00
14.8	Supply and install cold applied liquid waterproofing membrane to exposed water tank concrete roof in polyurethane modified acrylic as Sika lastic 560 or equally and approved as per manufactures instruction to Engineers Approval	m^2	850		-
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					

COLLECTION PAGE BILL NO 2

	DESCRIPTION	AMOUNT
		Kshs.
	BILL NO. 2: STORAGE WATER TANK: Reinforced Concrete (5000m³ CAPACITY)	
1	From Pg B2/1	
2	From Pg B2/2	
3	From Pg B2/3	
4	From Pg B2/4	
5	From Pg B2/5	
6	From Pg B2/6	
7	From Pg B2/7	
8	From Pg B2/8	
	TOTAL CARRIED TO GRAND SUMMARY	

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

TENDER No. KACWASCO/CON/5/2019-2020

BILL NO. 3: PIPEWORK AND ANCILLARY WORKS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE Kshs	AMOUNT Kshs
1	**Demolition and Clearance**				
1.1	**General clearance, width n.e. 1.5 m on either of the centreline of the pipeline route**	m2	300		
2.0	**PIPEWORK - PIPES**				
	Supply- UPvc Pipes Class PN10				
2.1	UPvc pipes DN 400mm	m	190		
2.2	UPvc pipes DN 355mm	m	80		

3.0	**Excavate, lay, joint and backfill for pipelines as stated below. Rate to include transport to site and storage, jointing materials/couplings, fusion, complete set of galvanized bolts washers, nuts and appropriate gaskets, etc., as applicable. All diameters are outside.**				
3.1	Trench excavation in normal materials for OD 400mm, UPvc pipe				
3.2	Depth up to 1.5m	m^3	400		
3.3	Depth between 1.5m to 2.0m	m^3	230		
3.4	Depth between 2.0m to 4.0m	m^3	315		
3.50	E.O. for excavation in rock	m^3	50		
4.00	**Trench excavation in normal materials for DN 355mm, UPvc pipe**				
4.10	Depth up to 1.5m	m^3	400		
4.20	Depth between 1.5m to 2.0m	m^3	230		
4.30	Depth between 2.0m to 4.0m	m^3	315		

4.4	E.O. for excavation in rock	m^3	50		
4.50	E.O. for supplying and compacting grannular surround material as directed	m^3	526		
4.60	Ditto but selected backfill from excavated material	m^3	150		
5.00	**Setting Out**				
5.10	Extra over excavavtion item for setting out whole pipeline route taking levels and preparing profiles of the pipeline for approval to the approval of engineers representative	LS	1		
	PAGE TOTAL				
6.00	**PIPEWORK - FITTINGS AND VALVES**				
	All Steel Fittings to be PN 16				
6.10	**Double flanged TEE**				
	DN 350/350mm with DN 400mm branchout	nr	1		
6.20	DN 500/500mm with DN 400mm branchout	nr	1		
6.30	DN 400/400mm with DN 355 mm branchout	nr	1		
	Flanged adapter				

6.4	DN 500 mm	nr	2		
6.5	DN 400 mm	nr	1		
6.60	DN 350 mm	nr	2		
7.00	**VALVES**				
	Supply and install an approved gate valves, rate to include transportation, storage on site including fittings as per the specification				
7.10	DN 400 mm Non Return Valve	nr	4		
8.00	**Flanged sluice valve**				
8.10	DN 355 mm	nr	2		
8.20	DN 400 mm	nr	2		
9.00	**Double Socket Bends**				
9.10	OD 355 mm 90^0 bend	nr	2		
9.20	OD 400 mm 45^0 bend	nr	2		
9.30	OD 400mm 22.5^0 bend	nr	2		
9.40	OD 400mm 90^0 bend	nr	2		
9.50	OD 300 mm 45^0 bend	nr	2		
10.00	**Chambers**				

10.10	Provide all materials (except pipes, fitting and valves and construct chambers complete with lockable covers as shown on the drawings;-	nr	8		
11	**Flow Meters**				
11.10	supplly and install on the rising main at the treatment works Flowmeter Chamber as per the specification and to engineers approval	nr	1		
11.20	supplly and install on the inlet pipe at the farm tank site a Flowmeter in the Chamber as per the specification and to engineers approval	nr	2		
	PAGE TOTAL				
12	**Marker Posts**				
	Provide all materials and cast and fix Reinforced Concrete Market				
	Marker Post complete in accordnance with the drawings				
12.10	Sluice Valve	nr.	5		
12.20	Flow Meter	nr.	3		
12.30	Pipeline	nr.	6		
13.00	**Pressure Testing and Sterilisation**				

13.10	Carry our pressure test on pipeline as per the specification	m	270		
13.20	Flush and sterilise pipeline after connecting fully, as per				
	specification				
	DN. 300 to DN500	m	270		
13.10	600mm diameter equilibrium type, single beat design ball float valve with Long actuating lever for slow closure with Flanged outlet and Drop tight shut off complete with all fittings	nr.	1		
13.20	Provide all matrials and construct bell mouths complete with strainers for the overflow of DN 355, the Scour pipe of DN 355 and the outlet pipe of DN 400	LS	LS		
PAGE TOTAL CARRIED TO SECTION COLLECTION SHEET					

	DESCRIPTION				**AMOUNT**
					Kshs.
	BILL NO. 3: Pipework and Ancillary works				
	From Pg B3/1				
	From Pg B3/2				
	From Pg B3/3				
	TOTAL CARRIED TO GRAND SUMMARY				
	PG B3/3				

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

TENDER No. KACWASCO/CON/5/2019-2020

BILL NO. 4: MISCELLANEOUS WORKS

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				**Kshs**	**Kshs**
	Fencing				
1.1	Provide all materials and fix chainlink fence 2.4m high of 14 gauge chain-link complete with 12 1/2gauge 6x 6 strands galvanised plain wireon concrete posts spaced at 3000mm c/c complete with bracing supports. Rate to include anchoring of posts in class 15 concrete and staring wire	m	200		
	-				
1.2	**Gates**				
a	Provide all materials to supply and fix Double leaf Access Gate 1.5m wide and 2.4m high all as per details on the drawings including 2300 x50 x 50mm square hollow section steel posts casted in position complete with one end closed and welded, the other split fanged and one coat of red oxide primer.	nr	1.0		
	-				

b	Provide all materials to supply and fix Double leaf Access Gate 5m wide and 2.4m high all as per details on the drawings including 2300 x100 x 100mm square hollow section steel posts casted in position complete with one end closed and welded, the other split fanged and one coat of red oxide primer.	nr	1.0		
	PAGE TOTAL CARRIED TO SECTIONAL SUMMARY				
	-				
	Footpaths and Drainage				
	Excavation				
	Excavations shall include for strutting, shuttering, stabilizing excavated surfaces and keeping excavations free of water bailing out, pumping or other means				
	-				
1.3	Excavate to reduce levels in 250mm top soil for pavement laying	m^3	125		
1.4	DN 300 IBD Storm Water Drains with side slabs	m	50		
1.5	Channel restrain 100mm x 100mm flat pcc channels complete with bedding and haunching in class 15 concrete for footpath	m	75		
1.6	Footpath 600x600 paving slabs on 50mm sand	nr	150		
1.7	Allow for management of the environment (to be used for tree planting, other mitigation measures and climate change adaptation)	P.C.	1	300,000.00	300,000.00
1.8	Allow for stakeholders meetings during construction	P.C.	1	300,000.00	300,000.00
1.90	Add …….% for profit, administration, attendance upon, overheads, etc. for Item 1.7 and 1.8 above	%		600,000	
	PAGE TOTAL CARRIED TO SECTIONAL SUMMARY				
	BILL 4 TOTAL CARRIED TO GRAND SUMMARY				

KAKAMEGA COUNTY WATER AND SANITATION COMPANY

CONSTRUCTION WORKS FOR A 5000 m3 R.C WATER STORAGE TANK IN MILIMANI – KAKAMEGA TOWN.

KACWASCO/CON/5/2019-2020

BILL NO. 4: MISCELLANEOUS WORKS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE Kshs	AMOUNT Kshs
	NOTE: THE WHOLE OF THIS BILL IS PROVISIONAL				
1	**LABOUR**				
	The rates inserted herein should include for all costs such as mobilization, insurance, travelling time, overtime, accommodation, use and maintenance of small tools of trade, supervision, overheads and profit. Only time engaged upon work will be paid for				
1.1	Unskilled Labourer	Hrs	100		
1.2	Timberman	Hrs	25		
1.3	Stone Mason	Hrs	50		
1.4	Carpenter	Hrs	25		
1.5	Concretor	Hrs	30		
1.6	Blaster (Certified)	Hrs	20		
1.7	Pipelayer	Hrs	50		
1.8	Painter	Hrs	10		

1.9	Surveyor	Hrs	20		
1.10	Foreman	Hrs	100		
1.11	Watchman (including use of firewood, lights, day, night, Sunday and Public Holiday watching)	Hrs	50		
	PAGE TOTAL TO SECTIONAL SUMMARY				
2	**PLANT**				
	The rates inserted herein should include for all operational and maintenance costs, fuel, oil, grease, operators, turnboys, supervision, overhead and profits. Only the time actually employed on works will be paid for and the rates should include for idle, travelling and overtime				
2.1	Compressor (3.0 m^3/minute)	Hrs	50		
2.2	Tandem 3 wheels roller. Dead weight 9 tonnes	Hrs	16		
2.3	5 Tonne Lorry (Tipper)	Hrs	10		
2.4	7 Tonne Lorry (Tipper)	Hrs	10		
2.5	10 Tonne Lorry (Tipper)	Hrs	10		
2.60	Portable water pump 50mm diameter (inclusive of hoses, couplings, etc.)	Hrs	20		
2.7	Oxy-Acetylene cutting and welding set, including oxygen and acetylene	Hrs	10		

2.8	Electric welding set including electrodes	Hrs	10		
2.9	Mechanical Pressure Testing Equipment	Hrs	30		
2.10	Back Hoe Excavator	Hrs	30		
3	**MATERIALS**				
	All materials are to comply with the specifications. The rates inserted herein are to include for delivery to site, storage, handling, overheads and profits				
3.1	Ordinary Portland Cement	Tonne	1		
3.2	Mild steel (any size from 8mm to 25mm dia.)	Kg	30		
3.3	High tensile steel (any size from 8mm to 15mm dia.)	Kg	50		
3.4	Fine aggregate for concrete	m^3	30		
3.5	Coarse aggregate for concrete	m^3	30		
	PAGE TOTAL CARRIED TO SECTIONAL SUMMARY				
3.6	Use of shuttering timber	m^2	20		
3.7	Murram	m^3	20		
3.8	Concrete Class 15/20	m^3	5		
3.9	Concrete Class 20/20	m^3	5		

3.10	Concrete Class 25/20	m^3	5		
3.11	Grout (specialised cement) injected to seal cracks	m^2	10		
3.12	UpVC DN 315 Class PN 16	m	12		
	PAGE TOTAL CARRIED TO SECTIONAL SUMMARY				

	COLLECTION PAGE BILL NO 5	
	DESCRIPTION	**AMOUNT**
		Kshs.
	BILL NO. 5: Day works	
1	From Pg B4/1	
2	From Pg B4/2	
3	From Pg B4/3	
	TOTAL CARRIED TO GRAND SUMMARY	**-**