KIKUU KIANGINI WATER PROJECT TREATMENT AND PIPELINE EXTENSION – KATHONZWENI WARD BILL OF QUANTITIES					
ALL PRICES ARE INCLUSIVE OF TRANSPORT, LABOUR COSTS, PROFITS, OVERHEADS & 16% VAT					
BILL OF QUANTITIES					
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
Bill 1	**General Items/ Preliminaries**				
1.1	Fabricate, erect and maintain public sign post on 1200 x 1200x1.5mm metal sheet, 1500mm above the ground level. It should be anchored 600mm deep motorised in mass concrete and well supported with 50x25mm RHS Frame to details as provided in the drawings and as instructed by the project manager.	No	1		
	Sub total carried for collection in the summary page				
	BILL 2) PIPELINE AND WATER CONNECTION				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
2.1	**Demolition, Site Clearance and Excavation**				
	The rate quoted is for site clearance and demolition along construction wayleave. Rate shall be deemed to include removal of the material, natural and artificial articles, objects and obstructions which are above th e original surface and carting away to tips, identified by the contractor in liaison with the Local AuthorityThe rate quoted will also include supply and transport to site storage, transport from site storage, excavate, lay and joint pipes complete with all jointing materials and but fusing. The rate is deemed to include excavation, bed lining, installation , backfilling of the pipe trenches and pipe pressure testing. keep trenches and ther excavations free of water.				
2.11	Site clear and excavate to pipe invert level 600 mm and 750 mm below existing ground level in road crossing sections, backfill and reinstate to original ground level after testing pipeline, all to the approval of the engineer	LM	7200		

2.2	**Pipeline**				
	The rate quoted is for supply and transport to site storage, transport from site storage, site clear excavate, lay and joint pipes complete with all jointing materials and but fusing. The rate is deemed to include excavation, bed lining, installation and backfilling of the pipe trenches. keep trenches and ther excavations free of water.				
	Syethe-Kilulini - Kaseve Pipeline				
2.21	Supply, deliver, connect to existing outlet pipe and test O/D 90 mm (3") HDPE pipes PN10 PE 100 as per KS ISO 4427:2007. To be laid in the same trench as item 2.11 above	LM	5500		
2.22	Supply, deliver and test O/D 50 mm (1.5") HDPE pipes PN10 PE 100 as per KS ISO 4427:2007 for water connection to Syethe Primary	LM	100		
2.23	Allow for onsite pipeline demarcation by the client representative	Item	1	45,000.00	45,000.00
2.24	Allow butt fusion and pipeline connection for item 2.21 and 2,22 above as per the engineers instruction	No	72		
2.25	Supply, install and test fussion tees 90mmx50mm with all the necessary accessories for airvalves and water connections as directed by supervising engineer	No	5		
	Supply, install and test fussion tees 90mmx90mm with all the necessary accessories for Washout as directed by supervising engineer	No	2		
2.27	Supply, install and DN50 PN16 gate valves Pegler or equivalent approved for installation along the pipeline for water connection	No	3		
	Supply, install and DN90 PN16 gate valves Pegler or equivalent approved for installation along the pipeline for Washout	No	2		
2.28	Construct a standard masonry valve chamber 1000x1000x600 mm c/w steel cover and lockable devices	No	5		
2.29	Supply and install standard pre-cast reinforced concrete pipeline mark posts of 750mm height along the pipeline	No.	40		

2.291	Allow for pipeline anchoring on rock section and river crossig with mass or reinforced concrete class 1:3:6 as instructed by supervising engineer	CM	6		
	Construct a Standard Water Point as per drawings c/w all assorted fitting as shall be directed by supervising for Syethe Primary	No.	1		
2.3	**Kwa Nthiaka Pipeline**				
	Supply, install and test 90mmx50mm tee with all the necessary accessories for water connections as directed by supervising engineer	No	1		
2.31	Supply, deliver and test O/D 50 mm (1.5") HDPE pipes PN10 PE 100 as per KS ISO 4427:2007 for water connection to Syethe Primary	LM	1600		
2.32	Allow for onsite pipeline demarcation by the client representative	Item	1	25,000.00	25,000.00
2.33	Allow HDPE straight couplers for item 2.31 above as per the engineers instruction	No	17		
2.34	Supply, install and test saddle clamp 50mmx25mm with all the necessary accessories for airvalves as directed by supervising engineer	No	1		
2.35	Supply and install 25mm anti-shock/ anti-surge orifice Air Valves as per the technical specifications with threaded or flanged base , c/w isolating valve/fittings for connecting Airvalve	No	1		
2.36	Supply, install and DN50 PN16 gate valves Pegler or equivalent approved for installation along the line	No	3		
2.37	Construct a standard masonry valve chamber 1000x1000x600 mm c/w steel cover and lockable devices	No	3		
2.38	Supply and install standard pre-cast reinforced concrete pipeline mark posts of 750mm height along the pipeline inscribed WL, AV and WO as directed by supervising Engineer	No.	18		
	Sub Total carried for collection in the summary page				

	BILL3) TANK PLATFORM AND PLASTIC WATER TANK				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
	Supply materials and provide personnel to construct a tank base platform 1 m high to hold a 10 m3 plastic water tank (as in the attached drawing) and construct a standard water point as directed. Paint and Brand the structures as directed				
3.1	Cut the spoil upto 200mm below G.L over tank base and remove all vegetable soil to temporary spoil heap.	CM	1.5		
3.2	Allow for onsite dermacation of Water tank by client representative	Item	1	15,000.00	15,000.00
3.3	Excavate foundation from stripped level over the tank site to depth n.e. 0.6m deep and dispose soil as directed	SM	10		
3.4	Mass concrete mix 1:4:8: in 50mm thick blinding	CM	0.4		
3.5	225mm thick dressed quarry stone walling	SM	26		
3.6	Provided handle, cut, bend and fix 8 mm deformed steel bars on all alternate course of the wall	Kgs	28		
3.7	Damp proof course	LM	9.5		
3.8	Provide, pack and compact hardcore in 300 mm layers to fill the tank platform	CM	9		
3.9	Provided handle, cut, bend and fix 8 mm deformed steel bars on top slab	Kgs	16		
3.91	Vibrated reinforced concrete mix 1:2:4 in 100 mm thick for slab	CM	1		
3.92	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	SM	10		
3.93	Allow for painting of tank plantform as shall be directed	Item	1		
3.94	Supply, Deliver, Install and connect 10 m3 Double Laminated Plastic Water Tank, c/w G.I 1.5" dia. Inlet, Outlet & Overflow Pipes. To be mounted on 1.5 m high masonry tank platform	No.	1		
3.95	Allow for construction of shed over the Plastic Tanks as per the drawings complete with painting as directed by supervising engineer	Item	1		

	Total for 1 No Tank Platform and Water Point				
	Sub Total carried for collection in the summary page for 3 No (Syethe Primary, Kilulini and Kwa Nthiaka)		**3**		
	BILL4) STANDARD WATER KIOSK				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
	Supply, deliver all necessary materials as below and construct A 2M×2.5M kiosks as directed by client representative				
4.1	**FOUNDATION**				
4.11	Site clear and Cut to spoil top soil n.e. 150mm below g.l. over Kiosks and fetching bay areas into a permanent heap	m2	7		
4.12	Allow for onsite demarcation of water kiosk by client representative	Item	1	15,000.00	15,000.00
4.13	Cut to spoil a strip foundation trench n.e. 600mm below g.l.	CM	1.2		
4.14	300mm thick hardcore filling well watered and compacted in layers of 150mm maximum thickness to make up levels	CM	2.1		
4.15	50mm thick quarry dust/Murram blinding to surfaces of hardcore	SM	7		
4.16	Chemical anti-termite treatment (as gladiator or equally approved) executed complete by an approved specialist under ten (10) year guarantee to surfaces of blinded hardcore	SM	7		
4.17	1000 gauge polythene or any other equally approved Damp proof membrane laid under surface bed with 300mm side and end laps(measured nett - allow for laps)	SM	9		
4.18	Natural stone walling, roughly chisel dressed on both sides and jointed in cement and sand (1:3) mortar 200mm foundation walling	LM	9		
4.19	Mass concrete class 15 (1:4:8) in 50mm thick surface blinding under strip footings	CM	0.35		
4.191	Mesh fabric reinforcement A98 to B.S 4483 (measured nett-allow for laps)	m2	7		
4.192	100mm thick 1:2:4 (C20/20) vibrated RC floor slab over Kiosks and fetching bay areas	m2	7		

4.193	25mm thick Cement sand screed (1:3) finished with steel float.	LM	5		
	Item total			**Ksh**	
4.2	**WALLING**				
4.21	Hessian based bituminous felt DPC 225mm wide horizontally placed below masonry walling	LM	10		
4.22	Dressed Natural stone / Block walling: 200mm thick, bedded and jointed with cement and sand mortar (1:3), reinforced with 20SWG hoop iron in alternate courses to external wall including gable ends	m2	30		
4.23	Vibrated reinforced concrete 1:2:4 (class 20 (20/20mm) in Ringbeams	CM	0.4		
4.24	High yield square twisted steel reinforcement bars to BS 4461 including for cutting, bending to shape, tying, hooking and spacer blocks as described in:				
4.25	8mm diameter ditto	KG	10		
4.26	12mm diameter ditto	KG	50		
4.27	Sawn formwork to Sides of ringbeam	m2	2.7		
4.28	Horizontal key pointing in masonry joints in external wall surfaces	m2	27		
4.29	15mm thick Cement sand plaster to walls surfaces (1:3) finished to walls to receive paint internally	m2	30		
	Item total			**Ksh**	
4.3	**ROOFING:**				
4.31	Wrought Cypress Timber 4x2	LM	17		
4.32	Wrought Cypress Timber 3" x 2"	LM	20		
4.33	Wrought Cypress Timber 2" x 2"	LM	20		
4.34	G30 2m Corrugated Iron Sheets.	SM	10		
4.35	Roofing Nails	Kg	2		
4.36	Assorted Ordinary Wire Nails	Kg	2		
4.37	2.1M x 1M Standard steel door complete with frame, hinges latch bolts and padlock.	SM	1		
4.38	1M X 1M Standard steel window complete with frame hinges and latch bolts.	m2	1		
	Item Total			**Ksh**	

4.4	**FINISHES:**				
4.41	ROOF: 8" x 1" planed timber fascia board	LM	36		
4.42	METAL SURFACES: Prepare and apply three coats plastic enamel paint to General metal surfaces (both sides).- (Red oxide primer glossy)	SM	4		
4.43	INTERNAL PLASTERED WALLS: Prepare and apply three coats plastic silk emulsion paint to Plastered wall surfaces internally	SM	30		
4.44	EXTERNAL WALLS: Prepare and apply three coats permaplast external wall paint to Rendered sides of beam and walls externally	SM	7		
4.45	Allow for Branding of water kiosk and water tanks complete with National and County Government logos as directed project engineer	Item	1		
	Item total			**Ksh**	
4.5	**PLUMBING:**				
4.51	Supply, Deliver, joint and test 1.5 "dia. G.I. Pipes, Class 'B', 6m Long, for outlet of tanks	No.	3		
4.52	1.5" diameter GI elbow	No	4		
4.53	1.5" diameter GI union sockets	No.	4		
4.54	1.5" by 3/4" reducing socket G.I	No.	1		
4.55	Water meter 1" dia. Kent	No.	1		
4.56	3/4" diameter assorted length G.I nipples	No	5		
4.57	3/4" diameter GI Pipe class B	No.	1		
4.58	3/4" diameter Gate valve-peglar type	No.	3		
4.59	3/4" diameter valve sockets	No	2		
4.6	3/4" diameter GI union.	No.	4		
4.61	3/4" diameter GI Elbow	No	4		
	Item total			**Ksh**	
	Total for 1No. Water Kiosk			**Ksh**	
	Sub Total carried for collection in the summary page for 2 No (Kilulini and Kwa Nthiaka)		**2**		
	BILL 5) REHABIITATION OF SYETHE WATER KIOSK AND TANK PLATFORM				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
5.1	**Water Kiosk**				

5.11	METAL SURFACES: Prepare and apply three coats plastic enamel paint to General metal surfaces (both sides).- (Red oxide primer glossy)	SM	4		
5.12	INTERNAL PLASTERED WALLS: Prepare and apply three coats plastic silk emulsion paint to Plastered wall surfaces internally	SM	28		
5.13	EXTERNAL WALLS: Prepare and apply three coats permaplast external wall paint to Rendered walls externally	SM	28		
5.14	Allow for Branding of water kiosk complete with National and County Government logos as directed project engineer	Item	1		
5.15	Allow for plumbing works rates to include installation of PPR fittings as directed	Item	1		
5.2	**Tank Platform**				
5.21	EXTERNAL PLASTER - 20mm thick 1:2 cement sand to exterior face of tank wall	SM	15		
5.22	Allow for painting of tank plantform as shall be directed	No.	1		
	Sub total carried for collection in the summary page				
	BILL 6) WATER TREATMENT				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
6.4	Supply, install and test Mixtron MX 1.300 P022 Water Powered Dosing Pump 0.2 – 2% of water flow rate with a flexible dosing ratio and operating pressure of between 0.3 and 6 bar	No	1		
6.5	Supply, install and test Plastic tube rotameter flowmeter DN 32 LZS - 32 0.4 - 4 M3/HR	No	1		
6.6	Supply, install and test 170 LT Chemical tank	No	1		
6.7	Supply, install and test PVC Screen Filter 1"	No	1		
6.8	Supply, install and test brass ball valve 3" as shall be approved	No	1		
6.9	Supply, install and test pipework, PVC installation fittings and plumbing fittings for the mixtron treatment system	Item	1		
6.91	Supply and instal chlorine 65 in the system item 5.2 above	Kgs	100		
6.92	HTH Test KIT 3 IN 1	No	1		

6.93	Construct a standard water treatment house 2.5 m x 2 m x 2m with reinforced concrete foundation, ground and top slab and Masonary walling with a firm steel door as shall be approved	No	1		
	Sub Total carried for collection in the summary page				
	BILL 7) AUTOMATION OF WATER KIOSK				
S/NO	**ITEM DESCRIPTION**	**UNIT**	**QTY**	**RATE**	**AMOUNT (KSH)**
7.1	Supply, install and test Water Kiosk ATM (Standard 2 - Taps) complete with custom mpesa paybill processing and intergration, Management Web Platform and Mobile Money. Powered by solar panels 100W, solar conroller 20A, and Battery 100Ah, GPRS Network boster complete with Tri-band boost, male pole and management dashboard of 10 years subscription.	No	1		
	Sub Total carried for collection in the summary page				
BILL	**GRAND SUMMARY**	**UNIT**	**QTY**	**RATE**	**AMOUNT**
					KSHS
1	GENERAL ITEMS/PRELIMINARIES				
2	PIPELINE AND WATER CONNECTION				
3	TANK PLATFORM AND PLASTIC WATER TANK				
4	STANDARD WATER KIOSK				
5	REHABIITATION OF SYETHE WATER KIOSK AND TANK PLATFORM				
6	WATER TREATMENT				
7	AUTOMATION OF WATER KIOSK				
	SUB TOTAL A				

	PROVISIONAL SUMS				
	Allow a Provisional sum of 3% for Contingencies to be expended by project manager				
	SUB TOTAL B				
	Public Procurement Capacity Building Leavy order which is 0.03% of total cost before tax (Pursuat to PPRA Circular No.1 of 2024)				
	16% VAT				
	TOTAL TAKEN TO TENDER FORM				