

**CHEBOKOKWA/KAMORARI WATER PROJECT- KAPCHEMUTWA WARD 2017/2018**

**100 M3 GROUND MASONRY TANK AT CHEBOKOKWA /KAMORARI**

<b>Item</b>	<b>Item description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
2.1	<b>2.1 PRELIMINARY AND GENERAL ITEMS.</b>  <b>SUPERVISION.</b>  The contractor shall allow for the engineers and /or his representative's supervision an overheads for 3 months contract period at a rate of ksh 30,000.00 per month.	3	Months	30,000/=	90,000.00
2.2	Allow for publicity Sign post	1	item		
	<b>TOTAL CARRIED TO SUMMARY SHEET</b>				

**EXCAVATION AND EARTH WORKS**

<b>Item</b>	<b>Item description</b>	<b>Qty</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
2.2.1	Clear site of bushes, shrubs, grub uproots and dispose of spoil.	60	M2		
2.2.2	Excavate oversite to reduce levels not exceeding 1.5m deep starting from the existing ground level and remove to temporary spoil heap.	90	M3		
2.2.3	Extra over excavation for excavating in rock( <b>Provisional</b> )	5	M3		
2.2.4	Allow for keeping all the excavations free from foreign materials and general waters.	L /s	Item		
2.2.5	Provide and apply anti- termite solution preferably Gladiator or any other approved grade to the surfaces of excavation.	60	M2		
2.2.6	Provide ,place and compact hardcore 300mm thick to make up levels.	25	M3		
2.2.7	Provide and compact 50mm thick selected blinding to the surface of hardcore.	10	M3		
2.2.8	Provide and place 1000gauge polythene sheet to the surface of blinded hardcore.	60	M2		
	<b>TOTAL CARRIEDNTO SUMMARY SHEET</b>				

### CONCRETE WORKS AND REINFORCEMENT.

Item	Item description	Qty	Unit	Rate	Amount
	Reinforced concrete grade 20/20 (1:2:4) as described to the following.				
2.3.1	150mm thick floor slab mixed with 1kg water proof /50kg bag of ordinary Portland cement.	12	M3		
2.3.2	Ditto 250mmx250mm square columns	0.5	M3		
2.3.3	Ditto 250mmx 250mm cross beams to the roof slab.	1.0	M3		
2.3.4	Ditto 100mm thick roof slab Provide, handle, cut to size and fix the following reinforcement bars as stated in the bending schedule.	10	M3		
2.3.5	12mm twisted bars to the beams	89	Kg		
2.3.6	Ditto to columns	71	Kg		
2.3.7	Ditto to roof slab	852	Kg		
2.3.8	Ditto to floor slab	578	Kg		
2.3.9	6mm bars to beams and columns	27	Kg		
2.3.10	8mm circumferential bars to the walls	415	Kg		
2.3.11	Allow for binding wires for tying the reinforcement	40	Kg		
2.3.12	Transport of materials to site	L/S	L/S		
	<b>TOTAL CARRIED TO SUMMARY SHEET</b>				

### WALLING, SHUTTERING AND FORMWORK.

Item	Item description	Qty	Unit	Rate	Amount
2.4.1	Provide, handle materials, mix mortar as per specification and construct 225mm thick reinforced concrete block wall in 1:1:3 cement: water proof cement: sand mortar.	74	M2		
2.4.2	Sawn timber formwork to the sides of foundation slab.	50	M		
2.4.3	Sawn timber formwork to edges of the roof slab.	100	M		
2.4.4	Sawn timber formwork to the soffit of the roof slab.	80	M2		
2.4.5	Sawn timber 3"x2" to the soffit roof slab.	150	M		
2.4.6	Struts/timber supports of approved size and quality average height 3.0m.	140	No		
5.4.7	Provide and fix 1000gauge polythene sheeting to top of timber formwork to the roof slab.	60	M2		

2.4.8	Provide, handle and fix bondex between the tank wall and the slab as per the drawing.	20	Kg		
	<b>FINISHES</b>	62	M2		
2.4.9	20mm thick cement: sand (1:3) mixed with water proof cement to the inside walls.	64	M2		
		74	M2		
2.4.10	Ditto the floor slab	62	M2		
2.4.11	Ditto to the external walls	64	M2		
2.4.12	Ditto to the exterior surface of the roof slab				
2.4.13	Ditto to the interior of the roof slab	74	M2		
2.4.14	Provide materials and apply undercoat and 2 coats of gloss oil paint to the external walls of the tank.				
	<b>TOTAL CARRIED TO SUMMARY SHEET.</b>				

#### AUXILLIARY AND PIPE WORK

Item	Item description	Qty	Unit	Rate	Amount
2.5.1	Fabricate and fix a vertical ladder comprising 25mm stainless steel tubing average height 3.0m to the internal and external surfaces of the tank.	2	No		
2.5.2	Fabricate and fix 600mmx600mm x3mm thick metal plate, manhole covers complete with lockable device and high quality padlock.	3	No		
2.5.3	Construct and complete in dressed stone walling 1500mmx1500mm man hole chambers complete with 3mm thick steel cover and padlock.	2	NO		
2.5.4	Provide and install air vents to the roof slab of the tank comprising 100mm diameter G.I pipes, nipple, and 2No G.I elbows. <b>Provide,handle,lay and fix the following pipes and fittings as described to;</b>	3	NO		
	<b>Outlet pipe.</b>				
2.5.5	100mmØ G.I pipe	6	M		
2.5.6	Ditto 90 degrees bend	1	No		
2.5.7	Ditto nipple	1	No		
2.2.8	150mmx 100mm G.I reducing socket	1	No		
2..5.9	100mm Ø sluice valve	1	No		
	<b>Scour ,inlet and Overflow pipes.</b>				

2.5.10	80mmØ G.I pipe	8	M		
2.5.11	Ditto 90 degrees bend	2	No		
2.5.12	Ditto sluice valve	1	No		
2.5.13	Ditto elbow	1	No		
2.5.14	Ditto union	1	No		
<b>TOTAL CARRIED TO SUMMARY SHEET</b>					

### RISING MAIN REQUIREMENTS

2.5.15	Supply ,fix and test 100mm G.I Sluice valve	NO	1		
2.5.16	Supply ,fix and test 100mm UPVC adaptor	NO	2		
2.5.17	Supply ,fix and test 100mm G.I pipe class B Of length 1000mm threaded both side	NO	2		
2.5.18	Supply ,fix and test 100mm G.I flanges drilled with associated fitting to fit Sluice valve	NO	2		
2.5.19	Supply ,fix and test 100mm G.I socket	NO	2		
2.5.20	Construct valve chamber 1500mmx1500mmx1000mm complete with lockable cover	NO	1		
<b>TOTAL CARRIED TO SUMMARY SHEET</b>					

### 100M3 GROUND MASONRY TANK CONSTRUCTION FOR CHEBOKOKWA

#### SUMMARY SHEET

BILL	BILL DESCRIPTION	AMOUNT KSH.

2.1	PRELIMINARY AND GENERAL ITEMS.	
2.2	EXCAVATION AND EARTH WORKS	
2.3	CONCRETE WORKS AND REINFORCEMENT	
2.4	WALLING ,SHUTTERING AND FORM WORK	
2.5	AUXILLIARY AND PIPE WORK	
2.6	RISING MAIN REQUIREMENTS	
	<b>GRAND TOTAL</b>	