

BILLS OF QUANTITIES FOR 2N0. BOREHOLES DRILLING AND EQUIPING

Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
1.0	Bill No. 1: GENERAL ITEMS				
1.1	Allow for a provisional sum to cater for costs associated with acquisition of relevant approval documents e.g. WRA, NEMA and any other.	Item	2	120,000	240,000.00
1.2	Allow for a provisional sum to cater for the implementation of ESMP activities(see attached)	Item	1	90,000	90,000.00
1.3	Provide for prime cost sum to be expended by the Engineer to cater for supervision and monitoring.	Item	2	200,000	400,000.00
1.4	Provide borehole inspection camera for use during inspection of completed works which shall be handed over to employer upon project completion. <i>(Camera specifications to be provided by the Engineer)</i>	item	1	100,000	100,000.00
1.5	Provide for 10% cost adjustment on items 1.1 to 1.4 above for overheads and profits	Item			83,000.00
	Sub-Total for Bill No. 1				913,000.00
2. DRILLING AND EQUIPING OF RORET OFFICE BOREHOLE – DEPTH250M					
2.0	Bill No. 2: BOREHOLE DRILLING				
2.01	Mobilization, transportation of machinery, erection of camps and sanitary facilities and demobilization	Nr	1		
2.02	Erecting and dismantling of drilling equipment and other machinery at the site	Nr	1		
2.03	Drilling of borehole of minimum diameter 255mm through all types of strata including disposal of excavated materials, taking any remedial measures to overcome caving-in or over drilling to accommodate sloughed material and keeping drilling records as specified between ground level and 250 meters below ground level.	m	250		
2.04	Supply and install 205mm internal diameter plain steel casings in the borehole	m	170		
2.05	Ditto 3.4 but 205mm internal diameter slotted steel casings	m	80		

2.06	Allow for taking samples of drilling cuttings at two(2)meters interval	Nr	125		
2.07	Supply and insert gravel pack (rounded 2-4mm diameter).	Tons	8		
2.08	Grout between the casing and the borehole for top ten (10) meters.	Nr	1		
2.09	Physical and chemical development of the borehole including inserting and removal of development equipment;				
	a) Physical development	No.	1		
	b) Chemical development	No.	1		
2.10	Undertake constant discharge test as specified (24hours for actual test pumping and 8 hours for insertion and removal of test pumping equipment).The rate to include a sum of not less than Kshs. 10,000 to facilitate 2 Engineer's staff during test pumping.	No.	1		
2.11	Undertake water level observation and record recovery	Nr	1		
2.12	Carry out borehole sterilization	Nr	1		
2.13	Install wellhead, well cap serial number and cement slab of dimensions 1.0 x 1.0 x 0.3 metres around the wellhead. Rate to Include all associated formworks. To be ground level by 150mm	Nr	1		
2.14	Supply of water and drilling fluids for drilling operation and field camp	Nr	1		
2.15	Take water samples for laboratory analysis (1No sample for bacteriological and 1 No for chemical each 15litres).	Nr	1		
2.16	Allow for making good and surface reinstatement at the borehole location to the Engineer on site satisfaction	Nr	1		
	Sub-Total for Bill No. 2				
3.0	Bill No. 3: BOREHOLE EQUIPING				
3.10	Provisional sum for supply, installation, testing and commissioning of a submersible pump set and capable of pumping 30m ³ /hr. against a dynamic head of 160m, complete with pumping control unit, installation sundries and all accessories including cables, pipes and fittings.	P.S	1	1,500,000	1,500,000.00
	Sub-Total for Bill No. 3				1,500,000.00

	Totals for Roret Borehole to be carried forward to summary page	
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DRILLING AND EQUIPING OF KERMA BOREHOLE – DEPTH270M					
Item	Description	Unit	Qty	Rate (Kshs)	Amount (Kshs)
4.0	Bill No. 2: BOREHOLE DRILLING				
4.1	Mobilization, transportation of machinery, erection of camps and sanitary facilities and demobilization	Item	1		
4.2	Erecting and dismantling of drilling equipment and other machinery at the site	Item	1		
4.3	Drilling of borehole of minimum diameter 205mm through all types of strata including disposal of excavated materials, taking any remedial measures to overcome caving-in or over drilling to accommodate sloughed material and keeping drilling records as specified between ground level and 270 metres below ground level.	m	270		
4.4	Supply and install 152mm internal diameter plain steel casings in the borehole	m	180		
4.5	Ditto 3.4 but 152mm internal diameter slotted steel casings	m	90		
4.6	Allow for taking samples of drilling cuttings at two(2) metres interval	Nr	135		
4.7	Supply and insert gravel pack (rounded 2-4mm diameter).	Tons	10		
4.8	Grout between the casing and the borehole for top ten (10) metres.	Nr	1		
4.9	Physical and chemical development of the borehole including inserting and removal of development equipment;				
	a) Physical development	No.	1		
	b) Chemical development	No.	1		
4.10	Undertake constant discharge test as specified (24hours for actual test pumping and 8 hours for insertion and removal of test pumping equipment). The rate to include a sum of not less than Kshs. 10,000 to facilitate 2 Engineer's staff during test pumping.	No.	1		

4.11	Undertake water level observation and record recovery	Nr	1		
4.12	Carry out borehole sterilization	Nr	1		
4.13	Install wellhead, well cap serial number and cement slab of dimensions 1.0 x 1.0 x 0.3 metres around the wellhead. Rate to Include all associated formworks. To be ground level by 150mm	Nr	1		
4.14	Supply of water and drilling fluids for drilling operation and field camp	Nr	1		
4.15	Take water samples for laboratory analysis (1No sample for bacteriological and 1 No for chemical each 15litres).	Nr	1		
4.16	Allow for making good and surface reinstatement at the borehole location to the Engineer on site satisfaction	Nr	1		
Sub-Total for Bill No. 4					
5.0	Bill No. 3: BOREHOLE EQUIPING				
5.10	Provisional sum for supply, installation, testing and commissioning of a submersible pump set and capable of pumping 30m ³ /hr. against a dynamic head of 160m, complete with pumping control unit, installation sundries and all accessories including cables, pipes and fittings.	P.S	1	1,500,000	1,500,000.00
Sub-Total for Bill No. 5					1,500,000.00
Totals for Kerma Borehole to be carried forward to summary page					

COST ESTIMATE SUMMARY

S/NO	DESCRIPTIONS	AMOUNT(KSH)
1	General Items	913,000.00
2	Roret Office Borehole	
3	Kerma Borehole	
	Total	
	Add 16% V.A.T	
	GRAND TOTAL	