

**BILL OF QUANTITIES FOR DRILLING OF PRODUCTION BOREHOLE
BARAKA PRIMARY SCHOOL IN OL JORO OROK CONSTITUENCY**

| Item No. | Description | Unit | Q'ty | Rate Ksh | Amount Ksh |
|--|--|-------------|-------------|-----------------|---------------------|
| BILL NO. 1: PRELIMINARIES | | | | | |
| 1.1 | Carry out Environmental Impact Assessment for drilling of borehole at Baraka Primary School. Submit report in two copies to the Sub-County Water Officer Ol Joro Orok | Item | Lump-sum | | 200,000.00 |
| 1.2 | Provide for acquisition of Water Resources Authority borehole drilling authorization and submit the same in two copies to the Sub-County Water Officer. | Item | Lump-sum | | 150,000.00 |
| BILL NO. 2: DRILLING AND CASING OF BOREHOLE | | | | | |
| 2.1 | Mobilization and transportation of all plant, drilling rig, construction materials, equipment and personnel to the site; demobilization on completion | Item | Lump Sum | | 150,000.00 |
| 2.2 | Drilling of a borehole of minimum diameter 203mm through various 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 the final depth | M | 250 | 8,000 | 2,000,000.00 |
| 2.3 | Supply and install 203 mm internal diameter plain steel casings in the borehole (<i>provisional</i>) | M | 84 | 5,000 | 420,000.00 |
| 2.4 | Ditto but 203mm diameter slotted steel casings with slots of maximum size of 2mm (Torched slots shall not be permitted since they allow ingress of fine sand particles into the borehole compromising both efficiency and life span of the well) (<i>provisional</i>) | M | 166 | 5,000 | 830,000.00 |
| 2.5 | Allow for taking samples of drill cuttings at two (2) metre intervals (Provisional) | No | 125 | 300 | 37,500.00 |

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| 2.6 | Supply and install into the annular space gravel pack material consisting of naturally graded weathering resistant river quartzite gravel of particle size 2 – 4mm | Tons | 12 | 5,000 | 60,000.00 |
| 2.7 | Supply materials and grout between the casing and the borehole top five (5) metres | Item | Lump Sum | | 45,000.00 |
| 2.8 | Carry out physical and chemical development of the borehole including inserting and removal of development equipment (At least 4 hours for physical development) | Item | Lump Sum | | 150,000.00 |
| 2.9 | Undertake Constant Discharge Test measurement as specified for 24 hours to ascertain borehole yield and draw down until hydraulic equilibrium is achieved | Item | Lump Sum | | 200,000.00 |
| 2.10 | Undertake borehole water level observation and recovery measurements until initial water level is recovered | Item | Lump Sum | | 50,000.00 |
| 2.11 | Carry out borehole sterilization | Item | Lump Sum | | 150,000.00 |
| 2.11 | Install wellhead with a stick-up casing of 0.5m above ground level, well cap serial number and concrete (1:3:6) plinth of dimensions 1.5 x 1.5 x 0.5m thick around the well head | Item | Lump Sum | | 55,000.00 |
| 2.12 | Supply of water and drilling fluids for drilling operations and field camp | Item | Lump Sum | | 120,000.00 |
| 2.13 | Allow for borehole water sampling for quality analysis in a government approved laboratory (1No. for Bacteriological and 1 No. for Chemical analysis each 2litres). Submit two copies of the report to the Sub-County Water Officer | Item | Lump Sum | | 20,000.00 |

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| 2.14 | Allow for making good and surface reinstatement at the borehole location as directed by the supervisor | Item | Lump Sum | | <i>10,000.00</i> |
| 2.15 | Allow for provision of borehole completion record and test pumping data and submit two copies of each to the Sub-County Water Officer | Item | Lump Sum | | <i>10,000.00</i> |
| Sub-Total | | | | | |
| 2.16 | Add 3% Project Management Costs | % | 3 | | <i>144,000.00</i> |
| TOTAL | | | | | <i>4,801,500.00</i> |