**PROJECT – KOKWONGOI COMMUNITY WATER SUPPLY PROJECT.**

**PROPOSED CONSTRUCTION OF 50M$^3$ CAPACITY GROUND MASONRY TANK AND PIPELINE EXTENSION**

Kokwongoi community water project is located in Lelan ward in Marakwet West Sub County. The proposed intake site can be accessed through Kapsowar-Cheptongei –Kipnai-Kokwongoi Road at Kokwongoi Centre.

The Contractor is advised to visit the site and familiarize himself/herself with site conditions prior to bidding.

# BILL OF QUANTITIES

**50M$^3$ CAPACITY GROUND MASONNRY WATER TANK**

| Item No | Item Description | Unit | Qty | Rate | Amount |
|---|---|---|---|---|---|
| 1.0 | **EARTH WORKS (ALL PROVISIONAL)** | | | | |
| 1.01 | Strip top soil 200mm from ground level over the area of tank and remove all the soil to a temporary soil heap | M2 | 0 | | |
| 1.02 | Trim ,spread and level the ground around the tank to form suitable drainage of surface water | M2 | 20 | | |
| 1.03 | Excavate from the stripped level to a depth not exceeding 1.5m deep and dispose of the materials 50m away from the foundation, allowing the use of selected excavated materials for fill or back fill as required. | M3 | 68 | | |
| 1.04 | Extra over excavation for excavating in rock item 6.03 (provisional) | M3 | 5 | | |
| | **Hardcore filling as specifications** | | | | |
| 1.05 | Provide, place and compact hardcore using, 500mm thick to make up levels. | M3 | 10 | | |
| 1.06 | Blind the surface of the hardcore using, 50mm layer of 1:4:8 concrete mix to make up levels under floor slab. | M3 | 2.5 | | |

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|---|---|---|---|---|---|
| 1.07 | Provide and place 500gauge polythene sheet to the surface of the blinded hardcore | M2 | 26 | | |
| | Ditto to roof cover slab | M2 | 26 | | |
| 1.08 | **Concrete works.** **Provide materials, handle, mix and place.** | | | | |
| 1.09 | Vibrated 1:2:4 concrete mix as described to 150mm thick floor slab. | M3 | 5.2 | | |
| | Ditto to 150mm thick roof slab | M3 | 4.2 | | |
| 1.10 | | | | | |
| 1.11 | Ditto to outlet /inlet pipes anchorage including inlet and outlet valve chambers and column. | M3 | 0.5 | | |
| **Sub-total carried to summary** | | | | | |

**BILL NO.4**

**50 M3 CAPACITY GROUND MASONRY WATER TANK**

| Item | Description | Unit | Qty | Rate | Amount |
|---|---|---|---|---|---|
| | **Reinforcement Bars** | | | | |
| | **Provide, handle,cut,bend and fix in position the following reinforcement bars as per the bending schedule.** | | | | |
| 1.12 | 12mmΦ high yield reinforcement bars to the roof slab and column | M | 420 | | |
| 1.13 | Ditto to the floor slab | M | 360 | | |
| 1.14 | 8mmΦ mild steel circumferential bars bent to average radius of 2875mm. | M | 864 | | |
| 1.15 | 10mmΦ mild steel reinforcement bars to valve chamber cover slabs. | M | 72 | | |
| 1.16 | Allow for binding wire to items 6.12,6.13,6.14 and 6.15 | Kg | 50 | | |

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|---|---|---|---|---|---|
| | **Shuttering/formwork** | | | | |
| 1.17 | Provide sawn timber form work to soffit of roof slab including the inlet /outlet valve chambers and columns | $M^2$ | 36 | | |
| 1.18 | Provide cut and fix ply wood to the edges of 150mm tick floor slab | $M^2$ | 3.6 | | |
| 1.19 | Ditto to edges of roof slab | $M^2$ | 3.4 | | |
| 1.20 | Sawn timber formwork 150mm wide to the edges of manhole opening including the outlet and inlet valve chambers. | M | 10 | | |
| 1.21 | Provide and place good quality timber sruts/pole support to roof slab average size 100mmΦ and 3000mm long | No. | 75 | | |
| **Sub-Total Carried to Summary.** | | | | | |

**BILL NO.4**

**50M$^3$ CAPACITY GROUND MASONRY WATER TANK**

| Item | Description | Unit | Qty | Rate | Amount |
|---|---|---|---|---|---|
| | **Concrete block walling**<br>**Provide all materials, handle, mix mortar as per specification and construct the following.** | | | | |
| 1.22 | 225mm thick concrete block walling in 1:1:3 cement: water proof cement: sand mortar ration between the joints. | $M^2$ | 58 | | |
| 1.23 | Provide and install bondex seal in the joints as per the instruction | Item | L/S | - | |
| 1.24 | Install double layer of bitumen coat between surface of masonry wall and floor/roof slab | Item | L/S | - | |
| 1.25 | Construct and complete valve chamber in concrete masonry block measuring 1500mmx1500mmx1000mm deep complete | | | | |

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|---|---|---|---|---|---|
| | with steel plate cover including locking device. | No | 2 | | |
| | **FINISHES** | | | | |
| 1.26 | Provide all materials , handle ,mix and apply 20mm thick 1:3 cement: sand mortar screed Including water proof cement to floor slab | $M^2$ | 20 | | |
| 1.27 | Ditto rendering to the interior surface of the concrete block walls including waterproof cement. | $M^2$ | 48 | | |
| 1.28 | Ditto to the exterior surface of block walls including water proof cement. | $M^2$ | 52.4 | | |
| 1.29 | 20mm thick 1:3 cement: sand mortar screed to the exterior surface of the roof slab. | $M^2$ | 24 | | |
| | **Metal work and miscellaneous items** | | | | |
| 4.30 | Supply and install internal and external tank ladder fabricated on stainless steel tubing and include provision and fixing of 25mm G.S Pipes extension of ladder top as directed by the Engineer. | No. | 2 | | |
| 1.31 | Supply and install tank manhole cover size 600mmx 450mm fabricated on 3mm thick steel plate including locking device and good quality padlock. | No. | 2 | | |
| 1.32 | Supply and install 100mmΦ GI bend to air vent as per the drawing | No. | 3 | | |
| 1.33 | 100mmΦ G.S pipe threaded on one side and side lugged and fixed to the top concrete cover slab. | M | 3 | | |
| | **PAINTING** | | | | |
| | Apply undercoat to external walling | | | | |
| 1.34 | Ditto cream paint | $M^2$ | 50 | | |
| 1.35 | Ditto Bermuda blue paint 600mm from bottom | $M^2$ | 50 | | |
| 1.36 | of tank and 600mm from top of tank | $M^2$ | 30 | | |
| | **Sub-total carried out to summary** | | | | |

**BILL NO.4**

| Item | Description | unit | qty | rate | Amount |
|---|---|---|---|---|---|
| 1.37 | Provide and tie mosquito gauze to the G.S bend opening to air vents above the tank roof cover slap. | No | 3 | | |
| | **Tank-Associated pipe work Provide, handle cut and fix the following pipe fittings as per the drawing**. | | | | |
| | **Intake** | No | 1 | | |
| 1.38 | 50mmΦ G.I pipe | No | 3 | | |
| 1.39 | 50mmΦ G.I bend | No | 1 | | |
| 1.40 | 50mmΦ G.I Socket | No | 1 | | |
| 1.41 | 50mmΦ G.I nipple | No | 1 | | |
| 1.42 | 50mmΦ G.I elbow | | | | |
| | **Offtake** | No. | 2 | | |
| 1.43 | 50mmΦ G.I pipe | No | 2 | | |
| 1.44 | 50mm ΦG.I tee | No | 2 | | |
| 1.45 | 50mmΦ bend | No | 2 | | |
| 1.46 | 50mmΦ plain screwd flanges | $M^2$ | 1 | | |
| 1.47 | 3mm thick rubber gasket | No | 3 | | |
| 1.48 | 50mm x 40mmΦ G.I reducing bush | No | 1 | | |
| 1.49 | 50mmΦ Pegler(UK) gate valve | | | | |
| | **Overflow pipe** | M | 1 | | |
| 1.50 | 50mmΦ G.I pipe | No | 1 | | |
| 1.51 | 50mmΦ G.I socket | No | 1 | | |
| 1.52 | 50mmΦ G.I Plain flange | No | 1 | | |
| 1.53 | 50mmΦ G.I bend | | | | |
| | **Scour pipe** | No. | 1 | | |
| 1.54 | 50mmΦ G.I pipe | No | 1 | | |
| 1.55 | 50mmΦ plain G.I flange | No | 2 | | |
| 1.56 | 50mm ΦG.I nipple | No | 1 | | |
| 1.57 | 50mmΦG.I bend | No | 2 | | |
| 1.58 | 50mmΦ G.I socket | No | 1 | | |
| 1.59 | 50mmΦG.I union | No | 1 | | |
| 1.60 | 50mmΦpeglar(UK) gate valve | | | | |
| | **Sub-total carried to summary** | | | | |
| | | | | | |
| **Sub Total** | | | | | |

| Item No. | Description | Unit | Quantity | Rate | Amount (Ksh.) |
|---|---|---|---|---|---|
| | **Pipes and Fittings.** | | | | |
| 1 | Supply and lay 2" upvc pipes class D | m | 576 | | |
| 2 | Supply and lay 2" G.I pipes class B | m | 24 | | |
| **3** | **Supply and fix the following fittings:** | | | | |
| 3.1 | 2" GI Equal Tee | No | 2 | | |
| 3.2 | 2" valve sockets | No | 6 | | |
| 3.3 | 2" G.I Elbow | No | 4 | | |
| 3.4 | 2"x 1" GI red Tee | No | 2 | | |
| 3.5 | 1" Valve sockets | No | 2 | | |
| 3.6 | 1"x $^{3}/_{4}$" reducing brush G.I | No | 2 | | |
| 3.7 | 2" Pegler gate valve | No | 2 | | |
| 4 | Excavate trench size 0.2x0.8m and backfill the same after pipe laying for the above line | m | 600 | | |
| | **Sub Total** | | | | |
| | **Total** | | | | |
| Add Engineers Supervision (Three months contract period) | | | | | 60,000 |
| Add Sign post | | | | | |
| | | | | | |
| **Grand Total to be carried to form of tender** | | | | | |

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**AMOUNT IN WORDS (KSHS)…….**
**……**
**……**

**CONTRACTOR'S NAME.....**

**ADDRESS……**

**SIGN…….**

**STAMP…….**