



TENDER NO. TCML/MGD/WS/2019/03

**TENDER FOR THE PROPOSED
CONSTRUCTION AND INSTALLATION OF FIRE
TANK AND HYDRANTS**

Volume 3

Bills of Quantities

JUNE, 2019

CLIENT:

TATA CHEMICALS MAGADI LIMITED

P.O. BOX 1-00205

MAGADI

THE HEAD OF PROCUREMENT

TATA CHEMICALS MAGADI LTD.

P.O. BOX 1-00205

MAGADI



PREAMBLE TO SCHEDULE OF PRICES

1. General

- 1.1 The Schedules of prices are for the purpose of recording the rates and prices upon which the contract price is determined and are not to be taken as descriptive of the extent of Works to be executed or the extent of the Contractor's obligations.
- 1.2 The rates and prices in the schedule of prices shall be the full consideration for the Contractor's obligations under the Conditions of Contract. Specification and Drawings as reasonably could have been anticipated at the time of tender.
- 1.3 The rates and prices shall be deemed to include allowance for all the materials, equipment, labour, superintendence, services and all other things necessary to complete the Works, render them functional as intended, and remedy any defects therein, in accordance with the contract.
- 1.4 The contractor rates are assumed to cover any preliminaries anticipated in the works including provision for client's safety requirements, site offices, workmen accommodation & transport and insurance cover. It fixing his rates, the contractor may wish to take note of a 3% withholding tax chargeable on each invoice submitted.
- 1.5 The rates and prices in the Schedule of Price will be used for valuing the work executed and the Engineer will measure the whole of the Works executed in accordance with the Contract.

2. Completion of Schedule of Prices

- 2.1 The Schedule of prices shall be completed in conformity with Instructions to Tenders and clause 15 of the Preamble to Bills of Quantities above. Tenderers are advised to peruse and carefully consider the requirements of the Instructions to Tenders before making any entries in the Schedule of Prices.
- 2.2 The rates and prices inserted by the tenderer in the Schedule of Prices are to be the full inclusive costs of the Works, compete in place and in accordance with the Specifications and Drawings, including all costs and expenses for the construction of the works described, together with the costs of Contractor's Equipment and of any temporary installations which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the Contract is based.
- 2.3 No alternation shall be made to the Schedule of Prices and no extra item shall be inserted. The tenderer shall satisfy himself that the Tender Price arrived at and the pricing given is sufficient compensation for completing the whole of the works and remedying any defects therein in accordance with the Tender Documents.
- 2.4 The rates and prices entered by the tenderer shall be deemed to include for the cost of any price increases which may affect the works and which may occur during the validity of the Tender and any extended period of validity thereof, and during the execution of the Works.

PREAMBLE TO DAY WORK

The Client may if in his opinion, it is necessary or desirable, issue an instruction that any varied work shall be executed on a day work basis. The Contractor shall then be paid for such varied work under the terms set out in the day work schedule included in the Contract and at the rates and prices affixed thereto by him in the tender.

In respect of such works executed on a day work basis, the Contractor shall, during the continuance of such work, deliver each day to the Client or Client's Representative, an exact list in duplicate of names, occupation and time of all workmen employed on such work and a statement also in duplicate, showing all equipment used. Client or Client's Representative shall, on the copies of each list and statement, record in writing, signed by him, the extent to which he agrees with the accuracy thereof and return one copy to the Contractor.

The Contractor shall deliver to the Client a priced statement of the labour and equipment used and the Contractor shall not be entitled to any payment unless and until such statement has been properly rendered and supported by one copy of each of the signed lists and statements. Provided always that the Client considers that for any reason the sending of such lists or statement by the Contractor, in accordance with the foregoing provision, was impracticable he shall nevertheless be entitled to authorize payment for such work as day work on being satisfied as to the time employed and the labour deployed.

In the absence of a Day work Schedule, the Contractor shall be paid the aggregate of the gross remuneration of the workmen and of any foremen for the time they are actually engaged on the work concerned and the net cost of the materials actually used.

PREAMBLE TO BILLS OF QUANTITIES

1. The Bills of Quantities have been prepared based on CESMM3 method of measurement for civil engineering works.
2. The Contractor is required to check the numbers of the pages and should any be found to be missing or in duplicate or the figures or writing indistinct he must inform the Engineer at once and have the same rectified. Should the Contractor be in doubt about the precise meaning of any item, word or figure, for any reason whatsoever, or observe any apparent omission of words or figures, he must inform the Engineer in order that the correct meaning may be decided upon before the date for the submission of the Tender.
3. No liability whatever will be admitted nor claim allowed in respect of errors in the Contractor's Tender due to mistakes in the Bills of Quantities which should have been rectified in the manner described above.
4. These Bills are to be read and priced in conjunction with the Conditions of Contract, the Specification, the Drawings and Schedules.
5. The quantities set forth in the Bills of Quantities are believed to be approximately correct, and to represent substantially the work to be carried out, and are given for the purpose of enabling the Employer to compare Tenders on an equal basis.
6. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed, and the Engineer will re-measure the whole of the works executed in accordance with this contract.
7. The prices and rates inserted in the Bills of Quantities are to be the full inclusive values of the work described under the items, including all costs and expenses which may be required in and for the construction of the work described, together with any temporary works and installations which may be necessary, and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based.
8. The brief description of the items given in the Bills of Quantities is purely for the purpose of identification, and in no way modifies or supersedes the details descriptions given in the Conditions of Contract and Specification. When pricing items, reference is to be made to the Conditions of Contract, and Specifications for the full directions and description of work and materials.
9. A price or rate is to be inserted, in ink, against each item in the Bills of Quantities and Schedule of materials, whether quantities are stated or not, and if the Tender includes the cost of a particular item elsewhere in his rates or prices, he shall insert the word "Nil" against both the rate and extensions of that particular item. Should the Tenderer omit to price an item, then it will be assumed that he has included the cost of the item elsewhere in his rates or prices.
10. No alteration shall be made to the Bills of Quantities or Schedule of materials and no extra item shall be inserted. The Tenderer shall satisfy himself that the Tender sum arrived at by pricing and quantities and items given is sufficient compensation for constructing and maintaining the whole of the works in accordance with these contract documents.
11. The Bills of Quantities have been prepared generally in accordance with the Standard Method and Measurement – Institution of Civil Engineers (U.K) Variations have been made in some cases to suit local practice.
12. All quantities are measured net (unless otherwise stated) in accordance with the Drawings and no allowance has been made for cutting or waste. The Tenderer must allow in his rates accordingly.
13. Where other Contractors engaged by the employer are working in the same area, the Contractor shall give way and clearance as required and shall programme his work to give a minimum of interference to other contractors. Under these conditions the Contractor must ensure that such back-filling and surplus soil as he is responsible for are kept rigidly separate from that of other Contractors also employed. The prices and rates given must include for compliance with this requirement.

14. The Contractor must note that materials should be ordered for the Contract from the working Drawings, checked where necessary from Site measurements. They may not be ordered from either the Bills of Quantities or the Tender Drawings. The contractor is solely responsible for accurate ordering of materials in accordance with the Drawings and no claim for any loss or expense will be entertained for orders for materials based upon the Bills of Quantities.
15. Metrication – All quantities are given in Metric Dimensions. However, where the changeover of production sizes has not yet taken place the Contractor may use equivalent goods manufactured to Imperial Dimensions at no extra cost to the Employer.
16. The Bills of quantities must be priced in Kenya currency, i.e. Shillings and Cents. All items in the Bills of Quantities MUST be priced and entered in "INK" against each item of work given. The word "NIL" is to be entered if no rate is required. Items not priced will be deemed to be included in other rates.
17. Definition of Abbreviation

Abbreviations used in the Bills of Quantities shall be interpreted as follows:-

"BS" Shall mean	the current British Standard Specification published by the British Standards Institution
"nr." shall mean	number
"mm" shall mean	millimeter
"M." shall mean	linear metre
"M ² " shall mean	square metre
"M ³ " shall mean	cubic metre
"n.lt" shall mean	not less than
"n.e." shall mean	not exceeding
"Kg" shall mean	kilogramme
"ha" shall mean	hectare
"EO" shall mean	extra over
Sum Shall mean	Lump sum for works which have not been broken down



BILL SUMMARY PAGE

Description	Amount (Kshs.)
1 P & G	
2 20 m3 High level tank	
3 Pillar Hydrants connections	
A Sub-total 1	
B Add 5 % Contigents	
C Sub-total 2 (A+B)	
D Add 16% VAT (16% of C)	
E Total Amount (C+D)	

	PRELIMINARIES				Bill No. 1
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KES.)	AMOUNT (KES.)
1.1 A	Allow for provision of the following items as in the contract Performance Security	Sum	1		
1.1 B	Insurance of Works and Contractor's Equipment	Sum	1		
1.1 C	Third Party Insurance (including Employer's Property)	Sum	1		
1.1 D	Insurance against personal injury or death to Workmen .	Sum	1		
1.09	Mobilisation and Demobilisation including complete clearing of site	SUM	1		

	TITLE: 20 m ³ HIGH LEVEL TANK				Bill No. 2
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KES.)	AMOUNT (KES.)
A	TANK FOUNDATION				
	<u>CLASS E: EARTH WORKS</u>				
	Excavation for foundation				
E31	Removal of top soil	m ³	2.25		
E32	Excavation in overburden material	m ³	9		
E33	Excavation in in rocks	m ³	4.5		
	Excavated ancillaries				
E52	Preparation of excavated surfaces to receive blinding	m ²	9		
E53	Disposal of spoil stockpile (Provisional)	m ³	1		
	Filling				
E81	Filling to excavated voids around structure	m ³	2		
	<u>CLASS F: IN SITU CONCRETE</u>				
	Provision of design mix				
F21	Concrete class 15/40	m ³	9		
F22	Concrete class 25/20	m ³	6.8		
	Placing of concrete				
F51	Mass concrete for gravity mass concrete	m ³	9		
F52	Reinforced concrete for foundation columns, beams and dwarfs	m ³	6.8		
	<u>CLASS G: CONCRETE ANXILLARIES</u>				
	Form work				
G11	Rough finish, all planes	m ²	18		
	Reinforcement				
G51	Deformed high yield steel bars to BS 4449	tons	1.2		
	<u>TANK SUPPORT STRUCTURE</u>				
	<u>The rate to include fabrication, transport to magadi site and installation, fabrication and installation to BS 449-1969</u>				
B	Supply and install 10 m high free standing steel structure tower and follow technical specification and the drawings for material recommended, stand to come complete with beams, adequate cross bracing, bolts, cleats, base plate, holding down bolts, protected walkway platform, ladder to the walkway platform and tank roof, painted with approved one coat of red oxide primer backed up with one coat of aluminium paint	LS	1		
	<u>PRESSED STEEL TANK</u>				
	<u>The rate to include fabrication, transport to magadi site and installation, metals used to be hot galvanized to BS EN ISO 1461:2009 and tank made to BS 1564 type 2 1975</u>				
C	Supply and install 20 m ³ pressed steel tank, with pressed metal panels sizes of 1.22m by 1.22m by 5mm thickness. As detailed in the BS 1564 TYPE 2:1975 and the technical specification, tank to come complete with legible water level indicator in metric, access lockable manhole and vent cowls. To have non-toxic bituminous paint inside, zinc chromated backed up by 2 coats of aluminium paint on the outside.	LS	1		
	<u>PIPE WORK</u>				
D	Supply and install inlet, outlet, overflow and scour pipe as detailed in the drawings, including all pipe fittings and joinery works	LS	1		
SUBTOTAL					

	TITLE: PILLAR HYDRANT CONNECTIONS NETWORK				Bill No. 3
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KES.)	AMOUNT (KES.)
D	DEMOLITION & SITE CLEARANCE				
D5	CLEARANCE OF PIPELINE WAYLEAVES, DISPOSAL AS DIRECTED				
	<u>Nominal bore: 100 - 300 mm.</u>				
D521	Pipeline only (Provisional)	m	500		
I	CLASS I: PIPEWORK - PIPES - SUPPLY & INSTALLATION				
	<i>Works to include, pipeline excavation, supply, installation, joining and backfilling</i>				
I7	Steel Pipes.				
	<u>Plain ended pipe pieces, standard length 6m, coupline connected, epoxy lined and coated</u>				
I722	DN 100, PN 16.	m	350		
I723	DN 50, PN 16. (for boiler connection)	m	120		
J	PIPEWORK - FITTINGS AND VALVES TO STEEL PIPES.				
J31	Bends Plain Ended to steel pipes, Epoxy lined and coated				
	<u>90° Long radius bends</u>				
J311	DN 100, PN 16.	nr	2		
	<u>45° Long radius bends</u>				
J311	DN 100, PN 16.	nr	2		
J32	Junctions and Branches, main plain ended, flanged branch.				
	<u>Tees branch down</u>				
J322.3	DN 100/100, PN 16.	nr	2		
J322.4	DN 100/80, PN 16.	nr	5		
	Tapers				
	<u>Special taper</u>				
J322.2	DN 63/20 PN 16.	nr	2		
J322.3	DN 80/63, PN 16.	nr	5		
J35	Adaptors, detachable collars couplings & saddles				
	<u>Flange adaptor</u>				
J351.2	DN 80, PN 16.	nr	5		
J351.3	DN 100, PN 16.	nr	2		
	<u>Blank flange</u>				
J351.4	DN 100, PN 16.	nr	1		
J38	Straight pieces				
	<u>Single flanged pipe pieces, length 1-2 m</u>				
	<u>flanged on one end, screed on the other</u>				
J381.1	DN 63, Length = 1500 mm, PN 16.	nr	5		
	DN 80, Length = 1000 mm, PN 16.	nr	5		
J8	VALVES, PENSTOCKS, HYDRANTS & METERS				
J81	<u>Gate valves, c/w spindle cap to SSRN 226</u>				
J81.2	DN 80, PN 16.	nr	5		
J81.5	DN 100, PN 16.	nr	2		
	<u>Fire hydrants</u>				
J86.7	63 mm (2.5 inch) screw type hydrant to PN 16.	nr	5		
J86.7	25 mm non ferrous metal hose reel, 30 m long, complete with the maunting brackets, isolation valve,	nr	2		
J9.2	Testing				
	<u>Test pressure exc.12 bar but not exc. 25 bar.</u>				
J9.21	DN 50 pipeline	m	120		
J9.22	DN 150 pipeline	m	350		
K	PIPEWORK - PIPE ANCILLARIES				
K7	REINSTATEMENT				
	Breaking, trench excavation fo pipe laying and making good cabro road. For pipe sleeve of 250 mm	m	12		
SUBTOTAL					