



WATER RESOURCES AUTHORITY

TENDER ADDENDUM NO. 1

TENDER NO. WRA/T/006/2020-2021

ISSUED ON 3RD DECEMBER, 2020

CLOSING DATE: 8TH DECEMBER, 2020 AT 11.00AM

Tender Name:

Drilling and Related Data Collection Exploratory/Production Boreholes at Njumbi High School Murang'a County and Drilling and Related Data Collection Exploratory/Production Boreholes at Nuu Boys Secondary School Kitui County

Tender No: WRA/T/006/2020-2021

We would like to bring to the **ATTENTION** of all interested bidders and **NOTE** that the tender document Bill of Quantities is amended as follows;

BILL OF QUANTITIES FOR DRILLING, CASING AND DATA COLLECTION

LOCATION: Njumbi High School, Mathioya Sub-County Murang'a County

GEOGRAPHICAL COORDINATES: Longitude 36.952155; Latitude: -0.64146 Elevation:
1861 amsl

BILL OF QUANTITIES NO. 1 PROPOSED DEPTH: 350M

ITEM	DESCRIPTION	UNIT	QTY	RATE KShs	TOTAL KShs.
1.1	Mobilisation/set-up/camp/water supply/restitution/demobilisation				
a	Mobilise drilling plant/camp and set up/demobilise	LS	1		
b	Providing water for drilling and camp	LS	1		
1.2	DRILLING				
a	drilling 305mm diameter hole to accommodate surface casing	M	12		
b	drilling 203mm diameter from base of surface casing to 100 metres	M	88		
c	<i>drilling 203 mm diameter hole to allow for 152 mm diameter finished cased hole from 100 to 350</i>	<i>M</i>	<i>250</i>		
1.3	Sample collection, storage and record keeping				
a	Formation samples collected at 2 m intervals, record keeping complete and borehole down the hole lithological logging and storage of the sample for access to WRA	LS	1		
b	In situ Water quality testing at every water struck level (two samples per water struck level)	No.	3		
1.4	Logging/ Borehole camera				
a	<i>Geologist logging including rock description in terms of color, texture, shape, roundedness, porosity, weathering etc, after every 2 metres</i>	<i>No.</i>	<i>175</i>		
b	<i>Geophysical logging</i>				
	<i>1. Electric Logging:IP, SP, Lateral, SN, LN, Temperature</i>	<i>M</i>	<i>350</i>		
	<i>2. Gamma Logging:</i>	<i>M</i>	<i>350</i>		

c	A DVD of the color video log of the well casing/screen. NOTE: Only one (1) copy of the video log is required to be submitted to the WRMA	LS			
1.5	supply and installation of casings				
a	Supply and install and/or remove temporary/surface casing	M	12		
b	<i>Supply/install 152mm (6") ID mild steel plain casing</i>	<i>M</i>	<i>250</i>		
c	<i>Supply/install 152mm (6") ID mild steel plasma-slotted screen</i>	<i>M</i>	<i>100</i>		
1.6	Gravel pack				
a	supply and insert gravel pack material	Tonnes	8		
1.7	Well Head				
a	Construct well head with cement grout 1m x 1m x 1m	LS	1		
b	Supply and install tamper proof well cap	LS	1		
1.8	Development				
a	Installation and removal of development equipment	hr	12		
b	Actual development	hr	8		
1.9	Test Pumping and Recovery Measurements				
a	Installation and removal of test pumping equipment	LS	LS		
b	Trial step drawdown test	hr	10		
c	Trial test recovery measurements	hr	12		
d	Constant discharge test	hr	24		
e	Constant test recovery measurements	hr	12		
1.10	Water quality analysis				
a	Collect water sample and carry out full chemical analysis	No.	1		
b	Collect water sample and carry out full bacteriological analysis	No.	1		
1.11	Borehole completion record and full report				
	Complete WRMA 009A and 3 copies of all reports bound in one document	LS	1		
	SUB TOTAL -1				

BILL OF QUANTITIES FOR DRILLING, CASING AND DATA COLLECTION
LOCATION: NUU SECONDARY SCHOOL, KITUI COUNTY
GEOGRAPHICAL COORDINATES: Easting: 0428980, Northing: 9882119, Elevation: 633m ASL

BILL OF QUANTITIES NO. 2 PROPOSED DEPTH: 300M

ITEM	DESCRIPTION	UNIT	QTY	RATE KShs	TOTAL KShs.
1.1	Mobilisation/set-up/camp/water supply/restitution/demobilisation				
a	Mobilise drilling plant/camp and set up /demobilise	LS	1		
b	Providing water for drilling and camp	LS	1		
1.2	DRILLING				
a	drilling 305mm diameter hole to accommodate surface casing	M	12		
b	drilling 203mm diameter from base of surface casing to 100 metres	M	88		
c	<i>drilling 203 mm diameter hole to allow for 152 mm diameter finished cased hole from 100 to 350m below the ground</i>	M	200		
1.3	Sample collection, storage and record keeping				
a	Formation samples collected at 2 m intervals, record keeping complete and borehole down the hole lithological logging and storage of the sample for delivery to WRMA	LS	1		
b	In situ Water quality testing at every water struck level (two samples per water struck level)	No.	3		
1.4	Logging/ Borehole camera				
a	<i>Geologist logging including rock description in terms of color, texture, shape , roundedness, porosity, weathering etc, after every 2 metres</i>	No.	150		
b	<i>Geophysical logging</i> <i>1. Electric Logging:IP, SP, Lateral, SN, LN, Temperature</i>	M	300		
	<i>3. Gamma Logging:</i>	M	300		

c	A DVD of the color video log of the well casing/screen. NOTE: Only one (1) copy of the video log is required to be submitted to the WRMA	LS			
1.5	supply and installation of casings				
a	Supply and install and/or remove temporary/surface casing	M	12		
b	<i>Supply/install 152mm (6") ID mild steel plain casing</i>	M	200		
c	<i>Supply/install 152mm (6") ID mild steel plasma-slotted screen</i>	M	100		
1.6	Gravel pack				
a	supply and insert gravel pack material	Tonnes	7		
1.7	Well Head				
a	Construct well head with cement grout 1mx1mx1m	LS	1		
b	Supply and install tamper proof well cap	LS	1		
1.8	Development				
a	Installation and removal of development equipment	hr	12		
b	Actual development	hr	8		
1.9	Test Pumping and Recovery Measurements				
a	Installation and removal of test pumping equipment	LS	LS		
b	Trial step drawdown test	hr	10		
c	Trial test recovery measurements	hr	12		
d	Constant discharge test	hr	24		
e	Constant test recovery measurements	hr	12		
1.10	Water quality analysis				
	Collect water sample and carry out full chemical analysis	No.	1		
	Collect water sample and carry out full bacteriological analysis	No.	1		
1.11	Borehole completion record				
	Complete WRMA 009A and borehole completion report and present one bound report containing all the report	LS	1		
	SUB TOTAL -2				
	GRAND TOTAL (sub total 1+ Sub total 2)				

CHIEF EXECUTIVE OFFICER

**WATER RESOURCES AUTHORITY,
NHIF BUILDING WING B 9TH FLOOR,
RAGATI RD, OFF NGONG RD NAIROBI
P. O. BOX 45250-00100
NAIROBI**