MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

1 1.1				(Kshs)	(Kshs)
1 1	CONTRACTUAL REQUIREMENTS				
	Allow for provision of Performance Security in accordance with Clause 50.1 of Section VII of the General Conditions, Bidding Document Volume I.	Item	L.S		
1.2	Allow for provision of Insurance of Works and Contractor's Equipment in accordance with Clause 13.1 of Section VII of the General Conditions, Bidding Document Volume I.	ltem	L.S		
1.3	Allow for provision of Third Party Insurance (including Employer's Property) all in accordance with Clause 13.1 of Section VII of the General Conditions, Bidding Document Volume I.	Item	L.S		
1.4	Allow for provision of Insurance against Accident to Workmen in accordance with Clause 13.1 of Section VII of the General Conditions, Bidding Document Volume I.	Item	L.S		
2	SPECIAL REQUIREMENTS				-
2.1	Contractor's Camp and Storage Yard: Allow for erection of the Contractor's Camp(s), Offices, Storage Yard and other facilities including mobilization, demobilization and movement of the works site on Completion. Include for all equipment, temporary measures, machines, tools, materials, facilities for workers, water and electricity supply etc. all as specified for execution of the Works, for the entire Contract Period. The Employer has no available land to offer for Contractor's Camp, storage of materials and preparation of concrete etc. Identification and procurement of suitable area of land for Contractor's Camp whether rented or purchased is the responsibility of the Contractor. <u>Details of proposed camp / stores, location of land where the Contractor will establish his camp(s) to be submitted with the Bid.</u>	Item	L.S		
2.2	Allow a P.C. Sum of Kshs.500,000 for training of Employer's Staff during Construction, Testing and Commissioning of the Works as specified in Clause 137 of Section I, General and Particular Specifications of Bidding Document Volume II	ltem	P.C		500,000
2.3	Add% for profit, administration, attendance upon, overheads, etc. for Item 2.2 above	%	500,000		
2.4	Test Running of the Scheme: Allow for Test Running all the Project Components for a period of 4 weeks upon completion and offical commissioning of the Works. Test Running to be carried out in close liaison with the Water Services Provider's Staff. Contractor to allow for 'on job' training of Operation and Maintenance Staff, Tools, etc, and ensure that the operations are carried out full time on a 24 hour basis, all in accordance with Clause 137 Section 1 - General and Particular Specifications of the Bidding Document Volume II	Item	L.S		
2.5	Allow for provision of Operation and Maintenance (O&M) Manuals in accordance with Clause 139 - General and Particular Specifications of Bidding Document Volume II	ltem	L.S		
2.6	Allow for provision of As-Built Drawings in accordance with Clause 147 - General and Particular Specifications of Bidding Document Volume II	Item	L.S		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	SPECIFIED REQUIREMENTS				
	Sign Boards				
3.1	Allow for provision, erection and maintenance of Project Sign Boards at the sites indicated by the Engineer's Representative, within the Project Area and in accordance with the Conditions of Contract. The rate quoted by the Contractor to include for payment of all statutory charges to the relevant Authority and removal after completion of the Project. Details of the sign Board are shown on Drawing No. M410/SD/01	Nr	5		
	Setting Out & Survey Work				
3.2	Allow for establishment of Level Datum Survey, Setting Out of the Works in accordance with Clauses 104 and 105 of Section I, General & Particular Specifications of Bidding Document, Volume II. This shall include pegging of pipeline Routes and preparation of Setting Out Survey Report to the Engineer for approval.	ltem	L.S		
3.3	Provision and maintenance of Survey Equipment as specified under Clause 101(e) of the General and Particular Specifications of Bidding Document Volume II, for the sole use of the Senior Resident Engineer during the duration of the Contract. Equipment to revert to the Employer at the end of the Contract.	ltem	L.S		
	Office of the Resident Engineer				
3.4	Allow a P.C. Sum of Kshs. 3,000,000 for provision of Rental Offices for the Resident Engineer as per Clause 101 of the Specifications including monthly payments of water, electricity bills, etc. all to the Engineer's approval.	ltem	P.C		3,000,000
3.5	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.4 above.	%	3,000,000		
3.6	Allow a P.C. Sum of Ksh. 3,500,000 for provision of furniture and equipment for the Resident Engineer's Offices The List of Furniture & Equipment to be procured will be provided by the Resident Engineer prior to commencement of Works. The furniture and equipment to revert to the Employer at the end of the Contract. All furniture to be made in good working order before returned to the Employer.	ltem	P.C		3,500,000
3.7	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.6 above.	%	3,500,000		
3.8	Maintenance and attendance of the Resident Engineer's Office (1Nr. Office). Contractor to include for supply of consumables as specified under Clause 101.(a) of General and Particular Specifications of Bidding Document Volume II for the duration of the Contract. <u>Note:</u> Contractor to price for the monthly requirement of stationery, cleaning materials, cleaning staff and other consumables specified in the Specifications.	Month	20		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Resident Engineer's Staff				
	Provide the following Staff for the Resident Engineer's Office. (Note: The Staff to be employed by the Contractor but to be under the exclusive day to day instruction of the Resident Engineer). The rate to include for all overtime, acccomodation costs, requisite Governmet of Kenya mandotary deductions, etc. all neccesary for the Staff to perform their duties. The minimum relevant experience and qualifications for the Staff should be as indicated in the Specifications.				
3.9	Secretary, ref. Clause 101. (b) of the General and Specific Specifications of Bidding Document Volume II (1Nr x 20 Months each)	Month	20		
3.10	Office Assistant, ref Clause 101. (b) of the General and Specific Specifications of Bidding Document Volume II - (1Nr. x 20 Months each)	Month	20		
3.11	ACAD Technician, ref Clause 101. (b) of the General and Specific Specifications of Bidding Document Volume II - (1Nr. x 20 Months each)	Month	20		
3.12	Chainman, ref Clause 101. (b) of the General and Specific Specifications of Bidding Document Volume II - (2Nr. x 20 Months each)	Month	40		
3.13	Driver, ref Clause 101. (d) of the General and Specific Specifications of Bidding Document Volume II - (3Nr. x 20 Months each)	Month	60		
3.14	Surveyor, ref Clause 1 01. (e) of the General and Specific Specifications of Bidding Document Volume II - (1Nr. x 20 Months each)	Month	20		
	Vehicles				
3.15	Allow a P.C. Sum of KShs. 9,000,000 for supply of 1Nr. (One) 4WD Vehicle, Toyota Fortuner or approved equivalent, including road license, number plate, etc. The vehicles to revert to Employer after completion of Contract. Minimum specifications include but not limited to the following: • Engine - 3.0 litres Turbo Diesel • Rear Differential Gear Lock • Braking System to include ABS (Anti-Lock Brake System) • Power Steering with adjustable Steering Column • Electronic Fuel Injection System. • 5 Speed Automatic Transmission • Power Windows • Immobiliser and Alarm System • Fuel tank capacity between 80 litres and 100 litres • Front Bull Bar	Item	P.C		9,000,00
3.16	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.15 above.	%	9,000,000		
3.17	Allow a P.C. Sum of Kshs.14,000,000 for supply of 2Nr. (Two) 4WD Double-Cab Pick-up Vehicles to be used by the Resident Engineer and his staff, including registration, inspection number plate, etc. The vehicle to revert to the Employer after completion of Contract. Minimum specifications similar to those for the 4WD Station Wagon Vehicles above.		P.C		14,000,00
3.18	Add% for profit, administration, attendance upon, overheads, etc for item 3.17 above.	%	14,000,000		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
3.19	Allow a P.C. Sum of Kshs. 3,000,000 for maintaining, running and servicing the above Vehicles, including all costs of transfer to the Employer at the end of Contract, road licences etc.	ltem	P.C		3,000,000
3.20	Add% for profit, administration, attendance upon overheads etc for Item 3.19 above.	%	3,000,000		
3.21	P.C. Sum of Kshs. 2,400,000 for provision of Comprehensive Insurance Cover for the Project Vehicles above up to the end of Defects Liability Period.	ltem	P.C		2,400,000
3.22	Add% for profit, administration, attendance upon overheads etc for Item 3.21 above.	%	2,400,000		
3.23	Allow a P.C Sum of Kshs. 250,000 for provision, running and maintaining of a temporary supervision vehicles whilst the vehicles under the Contract are being procured.	Item	P.C		250,000
3.24	Add% for profit, administration, attendance upon overheads etc for Item 3.23 above.	%	250,000		
	Accomodation for the Supervision Staff				
3.25	Allow a P.C. Sum of Kshs. 3,000,000 for provision of furnished Accommodation for the use of the Resident Engineer, including day & night security, House Cleaner, Crockery, Electricity, Water Supply, Beddings etc. All to the satisfaction of the Engineer.	Item	P.C		3,000,000
3.26	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.25 above.	%	3,000,000		
3.27	Allow a P.C. Sum of Kshs. 2,400,000 for provision of furnished Accommodation for the use of the Assistant Resident Engineer, including day & night security, House Cleaner, Crockery, Electricity, Water Supply, beddings etc. All to the satisfaction of the Engineer.	Item	P.C		2,400,000
3.28	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.27 above.	%	2,400,000		
3.29	Allow a P.C. Sum of Kshs.3,600,000 for provision of furnished accommodation for the use of Inspectors of Works (3Nr).	ltem	P.C		3,600,000
3.30	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.29 above.	%	3,600,000		
	Telecommunications				
3.31	P.C. Sum of Kshs. 500,000 for provision of communication facilities and services (telephone, email, fax, postal, courier services, etc.) for the Project / Site Offices and the Supervision Staff.	ltem	P.C		500,000
3.32	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.31 above.	%	500,000		
	Employer's Counterpart Staff Costs				
3.33	P.C. Sum of Kshs. 3,000,000 to cover costs of the Employer's Counterpart Staff assigned to the Project including transport, communication, allowances, etc.	Item	P.C		3,000,000
3.34	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.33 above.	%	3,000,000		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Other Costs				
3.35	Allow a P.C. Sum of Kshs. 10,000,000 for Payments demanded by the Authorities for relocation of existing services (water pipelines, sewer liners power cable telcom cables etc), Road crossings, etc., including any statutory levies to relevant Authorities. Liaison with the relevant Authorities shall be the responsibility of the Contractor for the timely execution of the Works.	Item	P.C		10,000,000
3.36	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.35 above.	%	10,000,000		
3.37	Allow a P.C. Sum of Kshs. 1,000,000 for Inspection and Witness Testing of Pipes, Fittings and Equipment at manufacturer's premises by the Employer, Engineer and their representatives.	ltem	P.C		1,000,000
3.38	Allow a P.C. Sum of Kshs. 1,000,000 for Third Party Inspection of Pipes and Fittings, Equipment, etc. during Manufacture and Construction Works	ltem	P.C		1,000,000
3.39	Add% for profit, administration, attendance upon, overheads, etc. for Items 3.37 and 3.38 above.	%	2,000,000		
3.40	Allow a P.C Sum of Kshs.1.000,000 for carrying out cadastral survey by licenced Surveyor, wayleave acquisition, etc.,including obtaining approval of Director of Surveys or for any requisite Engineering Survey, as directed by the Engineer.	ltem	P.C		1,000,000
3.41	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.40 above.	%	1,000,000		
3.42	Allow a P.C Sum of KShs.1,000,000 to be used as directed by the Engineer / Employer.	Item	P.C		1,000,000
3.43	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.41 above.	%	1,000,000		
4	SPECIFIC CONDITIONS				
4.1	Allow for all specific works related to working along active pipelines and within sites of other active installations e.g storage tanks, etc. and maintaining continuity of water supply including protection of supports etc. of existing pipelines during construction activity.	ltem	L.S		
4.2	Allow for excavation for and identification of extent/limits of existing pipelines including excavation, alignment, levels and other as-built details at pipeline interconnection points. Include for backfilling of excavated areas and production of ACAD drawings showing details of pipelines. These Works to be carried out prior to commencement of pipeline works.	Item	L.S		
5	ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY REQUIREMENTS				
5.1	Allow a P.C Sum of Kshs 2,000,000 for Quarterly Environmental Audit of the Contractor's ESMP by a registered NEMA Lead Expert.	Item	P.C		2,000,000
5.2	Allow a P.C Sum of Ksh 2,000,000 for Carrying out a Training program including stakeholder engagement and consultation for HIV/AIDS awareness, Sexually Transmitted Infections (STI), Sexually Transmitted Diseases (STD), Gender Based Violence (GBV) and Sexual Exploitation and Abuse (SEA).	Item	P.C		2,000,000

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 1

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
5.3	Allow a P.C Sum of Ksh 1,000,000 for Training of Employer / Engineer's and Contractor's Staff on Environmental, Social, Health and Safety issues	ltem	P.C		1,000,000
5.4	Add% for profit, administration, attendance upon, overheads, etc. for Items 5.1 to 5.3 above.	%	5,000,000		
5.5	Air quality (PM10, NO2 , SO2, CO2, CO) monitoring for 24 hours	Nr	10		
5.6	Noise and vibration, spot measurements of the parameters stipulated in Legal Notice No. 61 – The Environmental Management and Coordination (Noise and Excessive Vibration Pollution Control) Regulations, 2009 of the Republic of Kenya.	Nr	10		
5.7	Surface water quality, spot measurements of the parameters stipulated in Environmental Management and Coordination (Water Quality) Regulations of the Republic of Kenya published as Legal Notice No. 120 on 29 th September 2006 in the Kenya Gazette	Nr	10		
5.8	Allow for any other costs associated with compliance with Environmental, Health and Safety Requirements as per the Particular Specifications of Bidding Document Volume II and the Environmental & Social Management Plan (ESMP) as required by Government Agencies and Prevailing Legislation. The Cost under this item to include preparation of the relevant ESHS documents (ESMP, HSMP & Code of Conduct etc.)	ltem	L.S		
6	OTHER WORKS OBLIGATIONS				
6.1	The Contractor shall describe in detail hereunder other works, obligations and things which may be referred to in the Specifications or which he may consider to have been omitted from the Bills of Quantities and for which he desires to enter a separate charge (the charge to be carried direct to the amount column). FULL DESCRIPTION OF ITEM(S) OF WORK OR ANY OTHER ISSUE SHOULD BE MADE. If no separate charge is made hereunder, the rates in the Bills of Quantities will be held as covering all expenses for all such Works.	Item	L.S		
i)					
ii)					
iii)					
iv)					

SECTION 1

PRELIMINARIES & GENERAL (BILL No. 1)

SUMMARY SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND	(SHORT TERM WORKS) LOT 1A
	Amount (Kshs)
Page Total, Page 1 of 6	
Page Total, Page 2 of 6	
Page Total, Page 3 of 6	
Page Total, Page 4 of 6	
Page Total, Page 5 of 6	
Page Total, Page 6 of 6	
Total Exclusive of VAT Carried to The Bill of Quantities Grand	Summary

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore 300 - 600mm	m	1,895		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,895		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	ltem	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.		•••••		(Kshs)	(Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.57		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
14	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
143	Nominal bore 350mm not in trenches	m	1895		
15	uPVC Class "B" Socket and Spigot pipes for Draining of				
-	Washouts (Provisional)				
l51	OD 160mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench. include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
14	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	Nominal bore 350mm in Trenches				
1432	Depth not exceeding 1.5m	m	740		
1433	Depth 1.5m - 2.0m	m	1,155		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 160mm in Trenches				
l513	Depth 1.5m - 2.0m	m	12		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311	ND 80mm				
A-J311.1	90°	Nr	5		
	Nominal bore n.e 300 - 600mm				
A-J313	ND 350mm				
A-J313.1	11.25°	Nr	4		
A-J313.2	22.5°	Nr	3		
A-J313.3	30°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 65	Nr	1		
A-J321.2	ND 150 x ND 100	Nr	1		
A-J323.1	ND 350 x ND 200	Nr	7		
A-J323.2	ND 350 x ND 350	Nr	1		
A-J323.3	ND 400 x ND 400	Nr	1		
A-J323.4	ND 500 x ND 350	Nr	1		
A-J323.5	ND 500 x ND 400	Nr	1		
	All Flanged Inverted Tee				
A-J323.5	ND 350 x ND150	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 200 x ND 50	Nr	1		
A-J331.2	ND 200 x ND 80	Nr	5		
A-J332.1	ND 250 x ND 150	Nr	1		
A-J332.2	ND 350 x ND 200	Nr	2		
A-J333.3	ND 400 x ND 100	Nr	1		
A-J333.4	ND 500 x ND 250	Nr	1		
A-J34	VJ Stepped Couplings				
A-J341.1	ND 65	Nr	1		
A-J341.2	ND 100	Nr	1		
A-J341.3	ND 150	Nr	2		
A-J341.3					-

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J343.1	ND 500	Nr	1		
A-J34	VJ Couplings				
A-J341.5	ND 80	Nr	10		
A-J343.2	ND 350	Nr	32		
A-J343.3	ND 400	Nr	1		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 65	Nr	1		
A-J351.2	ND 80	Nr	10		
A-J351.3	ND 100	Nr	2		
A-J351.4	ND 150	Nr	2		
A-J351.5	ND 200	Nr	3		
A-J353.1	ND 350	Nr	8		
A-J353.2	ND 400	Nr	2		
A-J353.3	ND 500	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	1		
A-J651.2	OD 200	Nr	1		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 65mm, 1.2m long	Nr	1		
A-J381.2	ND 80mm, 1.2m long	Nr	5		
A-J381.3	ND 100mm, 1.2m long	Nr	1		
A-J381.4	ND 150mm, 1.2m long	Nr	2		
A-J381.5	ND 200mm, 1.2m long	Nr	2		
A-J383.1	ND 350mm, 1.2m long	Nr	8		
A-J383.2	ND 400mm, 1.2m long	Nr	1		
A-J383.3	ND 500mm, 1.2m long	Nr	1		
	Flanged spigot pipes				
	ND 80mm 1.2m long	Nr	10		
A-J381.7	ND 100mm 1.2m long	Nr	1		
A-J381.8	ND 200mm 1.2m long	Nr	1		
A-J383.4	ND 350mm, 1.2m long	Nr	10		
	ND 400mm, 1.2m long	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.1 - LINE NM01				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	All Flanged Pipes				
A-J381.9	ND 100mm 1.2m long	Nr	1		
A-J381.10	ND 150mm 1.2m long	Nr	1		
A-J381.11	ND 200mm 1.2m long	Nr	2		
A-J382	ND 250mm, 1.2m long	Nr	1		
A-J383.6	ND 350mm, 1.2m long	Nr	3		
A-J383.7	ND 350mm, 2m long	Nr	5		
A-J383.8	ND 400mm, 1.2m long	Nr	2		
A-J383.9	ND 500mm, 1.2m long	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	1		
A-J811.2	DN 65	Nr	1		
A-J811.3	DN 80	Nr	5		
A-J811.4	DN 100	Nr	2		
A-J811.5	DN 150	Nr	2		
A-J811.6	DN 200	Nr	3		
A-J813.1	DN 350	Nr	8		
A-J813.2	DN 400	Nr	2		
A-J813.3	DN 500	Nr	1		
A-J86	Air Valves				
A-J861	Double Orifice Air Valve				
A-J861	DN 50	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	5		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	5		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	5		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.1 - LINE NM01				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311	ND 80mm				
B-J311.1	90°	Nr	5		
	Nominal bore n.e 300 - 600mm				
B-J313	ND 350mm				
B-J313.1	11.25°	Nr	4		
B-J313.2	22.5°	Nr	3		
B-J313.3	30°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 65	Nr	1		
B-J321.2	ND 150 x ND 100	Nr	1		
B-J323.1	ND 350 x ND 200	Nr	7		
B-J323.2	ND 350 x ND 350	Nr	1		
B-J323.3	ND 400 x ND 400	Nr	1		
B-J323.4	ND 500 × ND 350	Nr	1		
B-J323.5	ND 500 × ND 400	Nr	1		
	All Flanged Inverted Tee				
B-J323.5	ND 350 x ND150	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 200 x ND 50	Nr	1		
B-J331.2	ND 200 x ND 80	Nr	5		
B-J332.1	ND 250 x ND 150	Nr	1		
B-J332.2	ND 350 x ND 200	Nr	2		
B-J333.3	ND 400 x ND 100	Nr	1		
B-J333.4	ND 500 x ND 250	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
B-J34	VJ Stepped Couplings				
B-J341.1	ND 65	Nr	1		
B-J341.2	ND 100	Nr	1		
B-J341.3	ND 150	Nr	2		
B-J341.4	ND 200	Nr	2		
B-J343.1	ND 500	Nr	1		
B-J34	VJ Couplings				
B-J341.5	ND 80	Nr	10		
B-J343.2	ND 350	Nr	32		
B-J343.3	ND 400	Nr	1		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 65	Nr	1		
B-J351.2	ND 80	Nr	10		
B-J351.3	ND 100	Nr	2		
B-J351.4	ND 150	Nr	2		
B-J351.5	ND 200	Nr	3		
B-J353.1	ND 350	Nr	8		
B-J353.2	ND 400	Nr	2		
B-J353.3	ND 500	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	1		
B-J651.2	OD 200	Nr	1		
B-J38	Straight Specials				
	Plain Ended Pipes				
	ND 65mm, 1.2m long	Nr	1		
	ND 80mm, 1.2m long	Nr	5		
	ND 100mm, 1.2m long	Nr	1		
B-J381.4	ND 150mm, 1.2m long	Nr	2		
B-J381.5	ND 200mm, 1.2m long	Nr	2		
B-J383.1	ND 350mm, 1.2m long	Nr	8		
B-J383.2	ND 400mm, 1.2m long	Nr	1		
B-J383.3	ND 500mm, 1.2m long	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.1 - LINE NM01				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Flanged spigot pipes				
B-J381.6	ND 80mm 1.2m long	Nr	10		
B-J381.7	ND 100mm 1.2m long	Nr	1		
B-J381.8	ND 200mm 1.2m long	Nr	1		
B-J383.4	ND 350mm, 1.2m long	Nr	10		
B-J383.5	ND 400mm, 1.2m long	Nr	1		
	All Flanged Pipes				
B-J381.9	ND 100mm 1.2m long	Nr	1		
B-J381.10	ND 150mm 1.2m long	Nr	1		
B-J381.11	ND 200mm 1.2m long	Nr	2		
B-J382	ND 250mm, 1.2m long	Nr	1		
B-J383.6	ND 350mm, 1.2m long	Nr	3		
B-J383.7	ND 350mm, 2m long	Nr	5		
B-J383.8	ND 400mm, 1.2m long	Nr	2		
B-J383.9	ND 500mm, 1.2m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 65	Nr	1		
B-J811.3	DN 80	Nr	5		
B-J811.4	DN 100	Nr	2		
B-J811.5	DN 150	Nr	2		
B-J811.6	DN 200	Nr	3		
B-J813.1	DN 350	Nr	8		
B-J813.2	DN 400	Nr	2		
B-J813.3	DN 500	Nr	1		
B-J86	Air Valves				
B-J861	Double Orifice Air Valve				
B-J861	DN 50	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	5		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	5		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	5		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork, joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.2	-Ditto- but internal dimensions 1400mm x 1400mm	Nr	1		
K211.3	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1500mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	7		
K212.1	-Ditto- but depth 1.5 - 2.0m	Nr	3		
K212.2	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1600mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth 1.5 - 2.0m.	Nr	1		
K211.4	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1700mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	4		
K212.3	-Ditto- but depth 1.5 - 2.0m	Nr	5		
K212.4	-Ditto- but internal dimensions 1900mm x 1300mm	Nr	1		
K211.5	Provide all materials and construct Mansonry walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K212.5	-Ditto- but depth 1.5 - 2.0m	Nr	3		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.6	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drg. No. M410/SD/02	Nr	5		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	25		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K712	Breaking up and Temporary Reinstatement of EARTH road. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore 300 - 600mm.	m	20		
K742	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED Roads/Footpaths including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Dwg. No. M410/SD/04 pipe bore 300 - 600mm	m	15		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	36		
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm	Nr	3		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300 - 600mm	Nr	2		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.1 - LINE NM01				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	168		
L111.2	Excavation in trench for rock class "B"	m ³	252		
L111.3	Excavation in trench for rock class "C"	m ³	420		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L523	To pipes nominal bore 300 - 600mm	m	1,327		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L533	To pipes nominal bore 300 - 600mm	m	568		
L54	Mass Concrete Surround (Road Crossings)				
L543	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 concrete sorround to HDPE pipe under Murram Road crossings, diameter of pipe 300 - 600mm as per M410/SD/08	m	35		
L6	Pipe Wrapping				
L602	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	80		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³	-			
L711	To pipes nominal bore n.e 200mm	Nr	38		
L72	Volume:- 0.1 - 0.2m ³				
L723	To pipes nominal bore 300 - 600mm	Nr	12		
L73	Volume:- 0.2 - 0.5m ³				
L733	To pipes nominal bore 300 - 600mm	Nr	7		
L74	Volume:- 0.5 - 1m ³				
	To pipes nominal bore 300 - 600mm	Nr	8		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L76	Volume:- 2.0 - 4.0m ³				
L763	To pipes nominal bore 300 - 600mm	Nr	3		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, e.t.c.) The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement. pipe norminal bore 300 - 600mm. all works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	32		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classes (Provisional)	m³	7		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trencheless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem			
	i)				
	ii)				

BILL No. 2.1 - LINE NM01	
	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	233		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	233		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.07		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5.00		
D21.2	Girth: 1.0 m - 2 m	Nr	2.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	1.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES	_			
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
l711	Nominal bore 160mm not in trenches	m	233		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 160mm in Trenches				
1712	Depth not exceeding 1.5m	m	233		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311	ND 150mm				
-J311.1	11.25°	Nr	8		
-J311.2	22.5°	Nr	3		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.2 - LINE NM02

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.3	30°	Nr	2		
A-J311.4	45°	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J333	ND 350 x ND 150	Nr	1		
A-J34	VJ Couplings				
A-J343	ND 350	Nr	1		
A-J35	Ferrous Flange Adaptor				
A-J351	ND 150	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 160	Nr	21		
A-J38	Straight Specials Flanged spigot_pipes				
A-J381	ND 150mm 1.2m long	Nr	1		
A-J383	ND 350mm 1.2m long	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 150	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311	ND 150mm				
B-J311.1	11.25°	Nr	8		
B-J311.2	22.5°	Nr	3		
		1			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.4	45°	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J333	ND 350 x ND 150	Nr	1		
B-J34	VJ Couplings				
B-J343	ND 350	Nr	1		
B-J35	Ferrous Flange Adaptor				
B-J351	ND 150	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 160	Nr	21		
B-J38	Straight Specials Flanged spigot pipes				
B-J381	ND 150mm 1.2m long	Nr	1		
B-J383	ND 350mm 1.2m long	Nr	1		
B-J8	Valves and Penstocks	INI			
в-Jo B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 150	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	15		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	8		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	6		
K731.2	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	8		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	9		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m³	17		
L111.2	Excavation in trench for rock class "B"	m ³	25		
L111.3	Excavation in trench for rock class "C"	m ³	41		
	Note:- Blasting is NOT permitted for Item L11				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	163		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	70		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	14		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	15		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	14		
L73	Volume 0.2 - 0.5m ³				
L713	To pipes nominal bore 300 - 600mm	Nr	1		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHO	RT TERM WORKS) LOT 1A
BILL No. 2.2 - LINE NM02	
	Amount Kshs.
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Bill No. 2.2 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	1,264		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,264		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.38		
D2	Tree Cutting (Provisional)				
02	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	1.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	414		
1711	Nominal bore 160mm not in trenches	m	850		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	414		
	Nominal bore 160mm in Trenches				
1712	Depth not exceeding 1.5m	m	780		
1713	Depth not 1.5-2.0m	m	70		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.3 - LINE NM03				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	1		
A-J311.2	ND 150mm				
A-J311.2.1	11.25°	Nr	12		
A-J311.2.2	22.5°	Nr	5		
A-J311.2.3	30°	Nr	5		
A-J311.2.4	45°	Nr	3		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 100	Nr	2		
A-J321.2	ND 150 x ND 80	Nr	2		
A-J323	ND 400 x ND 200	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 150 x ND 100	Nr	2		
A-J332	ND 200 x ND 150	Nr	1		
A-J34	VJ Stepped Couplings				
A-J343	ND 400	Nr	2		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	4		
A-J351.3	ND 150	Nr	5		
A-J353	ND 400	Nr	2		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	6		
A-J651.2	OD 160	Nr	46		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.2	ND 150mm, 1.2m long	Nr	3		
A-J381.3	ND 150mm, 2.0m long	Nr	5		
A-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot_pipes				
A-J381.4	ND 80mm 1.2m long	Nr	4		
A-J381.4	ND 150mm 1.2m long	Nr	5		
A-J381.5	ND 100mm 1.2m long	Nr	4		
A-J39	Blank Flange				
A-J391	ND 150mm	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	4		
A-J811.3	DN 150	Nr	6		
A-J813	DN 400	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.3 - LINE NM03				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	1		
B-J311.2	ND 150mm				
B-J311.2.1	11.25°	Nr	12		
B-J311.2.2	22.5°	Nr	5		
B-J311.2.3	30°	Nr	5		
B-J311.2.4	45°	Nr	3		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 100	Nr	2		
B-J321.2	ND 150 x ND 80	Nr	2		
B-J323	ND 400 x ND 200	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 150 x ND 100	Nr	2		
B-J332	ND 200 x ND 150	Nr	1		
B-J34	VJ Stepped Couplings				
B-J343	ND 400	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	4		
B-J351.3	ND 150	Nr	5		
B-J353	ND 400	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	6		
B-J651.2	OD 160	Nr	46		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 150mm, 1.2m long	Nr	3		
B-J381.3	ND 150mm, 2.0m long	Nr	5		
B-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
B-J381.4	ND 80mm 1.2m long	Nr	4		
B-J381.4	ND 150mm 1.2m long	Nr	5		
B-J381.5	ND 100mm 1.2m long	Nr	4		
B-J39	Blank Flange				
B-J391	ND 150mm	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	4		
B-J811.3	DN 150	Nr	6		
B-J813	DN 400	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.3 - LINE NM03				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	8		
K211.2	Ditto but internal dimensions 1400mm x 1200mm.	Nr	2		
K211.3	Ditto but internal dimensions 1800mm x 1200mm.	Nr	2		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	60		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	13		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

K681	Allow for crossing existing underground services (specifically			
	community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S	
K7	Reinstatement			
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	6	
K8	Other Pipework Ancillaries			
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	28	
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1	
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION			
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)			
L11	In Pipe Trenches and Chambers			
L111.1	Excavation in trench for rock class "A"	m ³	78	
L111.2	Excavation in trench for rock class "B"	m ³	117	
L111.3	Excavation in trench for rock class "C"	m ³	195	
	Note:- Blasting is NOT permitted for Item L11			
L5	Surrounds			
L52	Selected Excavated Granular Fill (Provisional)			
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.			
L521	To pipes nominal bore n.e 200mm	m	885	
L53	Imported Selected Fill (Provisional)			
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.			
L531	To pipes nominal bore n.e 200mm	m	379	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	51		
L72	Volume 0.1 - 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume 1.0 - 2.0m ³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facillitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works .	m	20		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m³	3		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				
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<u>BILL No. 2.3 - LINE NM03</u>	
	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	511		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	511		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	1)	Item	LS		
	ii)	Item	LS		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.15		
D2	Tree Cutting (Provisional) Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	1.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	511		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	511		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	2		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	1		
A-J311.2.3	30°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	2		
A-J321.2	ND 100 x ND 100	Nr	2		
A-J34	VJ Stepped Couplings				
A-J341.1	ND 100	Nr	1		
A-J34	VJ Couplings				
A-J342.2	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	8		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	14		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J381.2	ND 100mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.3	ND 100mm, 1.2m long	Nr	2		
A-J381.4	ND 100mm, 2.0m long	Nr	2		
	Flanged spigot pipes				
A-J381.5	ND 80mm 1.2m long	Nr	4		
A-J381.6	ND 100mm 1.2m long	Nr	6		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
			1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.4 - LINE NM04a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
J3	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	2		
B-J311.2.2	22.5°	Nr	1		
B-J311.2.3	30°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	2		
B-J321.2	ND 100 x ND 100	Nr	2		
B-J34	VJ Stepped Couplings				
B-J341.1	ND 100	Nr	1		
B-J34	VJ Couplings				
B-J342.2	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J351.2	ND 100	Nr	8		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	14		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J381.2	ND 100mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.3	ND 100mm, 1.2m long	Nr	2		
B-J381.4	ND 100mm, 2.0m long	Nr	2		
	Flanged spigot pipes				
B-J381.5	ND 80mm 1.2m long	Nr	4		
B-J381.6	ND 100mm 1.2m long	Nr	6		
B-J8	Valves and Penstocks	-			
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	8		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork, joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

No.		_	QUANTITY	(Kshs)	AMOUNT (Kshs)
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.2	Ditto but internal dimensions 1400mm x 1200mm.	Nr	2		
K211.3	Ditto but internal dimensions 1800mm x 1200mm.	Nr	2		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	20		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	37		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	11		
K731.2	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	9		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.4 - LINE NM04a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K8	Other Pipework Ancillaries	-			
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	13		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	0		
L111.2	Excavation in trench for rock class "B"	m ³	128		
L111.3	Excavation in trench for rock class "C"	m ³	192		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	358		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	153		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	11		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	7		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
	66	-			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	23		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facillitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works .	m	6		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m³	6		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	Item			
	i)				
	ii)				

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	622		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	622		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	1)	Item	LS		
	ii)	Item	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.19		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	1.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	622		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	622		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	5		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	5		
A-J311.2.3	30°	Nr	3		
A-J311.2.4	45°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J321.2	ND 100 x ND 100	Nr	2		
A-J34	VJ Stepped Couplings				
A-J341.1	ND 100	Nr	2		
A-J34	VJ Couplings				
A-J341.2	ND 80	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	2		
A-J351.2	ND 100	Nr	7		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	32		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	1		
A-J381.2	ND 100mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.3	ND 100mm, 1.2m long	Nr	1		
A-J381.4	ND 100mm, 2.0m long	Nr	1		
	Flanged spigot pipes				
A-J381.5	ND 80mm 1.2m long	Nr	2		
A-J381.6	ND 100mm 1.2m long	Nr	5		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	1		
A-J811.2	DN 100	Nr	7		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.5 - LINE NM04b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
J3	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement Epoxy coated Externally and Epoxy or Cement Mortar lined				
	Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends Nominal bore n.e 200mm				
B-J311.1					
	ND 80mm	N			
B-J311.1 B-J31	90° All Flanged Bends	Nr	1		
0.001	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1		Nr	5		
B-J311.2.2		Nr	5		
B-J311.2.3		Nr	3		
B-J311.2.4	45°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	1		
B-J321.2	ND 100 x ND 100	Nr	2		
B-J34	VJ Stepped Couplings				
B-J341.1	ND 100	Nr	2		
B-J34	VJ Couplings				
B-J341.2	ND 80	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	2		
B-J351.2	ND 100	Nr	7		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	32		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	1		
B-J381.2	ND 100mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.3	ND 100mm, 1.2m long	Nr	1		
B-J381.4	ND 100mm, 2.0m long	Nr	1		
	Flanged spigot pipes				
B-J381.5	ND 80mm 1.2m long	Nr	2		
B-J381.6	ND 100mm 1.2m long	Nr	5		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	1		
B-J811.2	DN 100	Nr	7		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.5 - LINE NM04b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.2	Ditto but internal dimensions 1600mm x 1200mm.	Nr	1		
K211.3	Ditto but internal dimensions 1800mm x 1200mm.	Nr	2		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	1		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	20		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	37		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.5 - LINE NM04b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	30		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	20		
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	0		
L111.2	Excavation in trench for rock class "B"	m ³	159		
L111.3	Excavation in trench for rock class "C"	m ³	238		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds	ł			
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	435		
L53	Imported Selected Fill (Provisional)				
233	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	187		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	30		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSD	P)

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L6	Pipe Wrapping				
_601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	19		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
_711	To pipes nominal bore n.e 200mm	Nr	33		

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Page Total, Page 2 of 8	WATER AND SANITATION DEVELOPMENT PROJECT (WSD	
Amount Kshs.Page Total, Page 1 of 8Page Total, Page 2 of 8Page Total, Page 3 of 8Page Total, Page 4 of 8Page Total, Page 5 of 8Page Total, Page 5 of 8Page Total, Page 6 of 8Page Total, Page 7 of 8	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH M/	AINLAND (SHORT TERM WORKS) LOT 1A
Page Total, Page 1 of 8Kshs.Page Total, Page 2 of 8Page Total, Page 2 of 8Page Total, Page 3 of 8Page Total, Page 4 of 8Page Total, Page 5 of 8Page Total, Page 6 of 8Page Total, Page 7 of 8	BILL No. 2.5 - LINE NM04b	
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	<u>BILL No. 2.6 - LINE NM05</u>				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 250mm	m	945		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	945		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	ltem	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.28		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	2		
D21.2	Girth: 1.0 m - 2 m	Nr	1		
D22.1	Girth 2.0 m - 3 m	Nr	1		
D22.2	Girth 3.0 m - 5 m	Nr	1		
DELIE	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
14	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
l42	Nominal bore 250mm not in trenches	m	695		
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711.1	Nominal bore 200mm not in trenches	m	250		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 90mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
14	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	Nominal bore 250mm in Trenches				
l422	Depth not exceeding 1.5m	m	495		
I423	Depth 1.5 - 2.0m	m	200		
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 200mm in Trenches				
1712	Depth not exceeding 1.5m	m	60		
1713	Depth 1.5 - 2.0m	m	180		
I714	Depth 2.0 -2.5m	m	10		
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAIN	ILAND (S	SHORT TERM	WORKS) LOT	<u>1A</u>
	BILL No. 2.6 - LINE NM05				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 90mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
	Nominal bore n.e 200 - 300mm				
A-J312	ND 250mm				
A-J312.1	11.25°	Nr	5		
A-J312.2	22.5°	Nr	6		
A-J312.3	30°	Nr	7		
A-J312.4	45°	Nr	2		
A-J312.5	90°	Nr	4		
A-J31	All Flanged Bends				
A-J311.2	ND 200mm				
A-J311.2.1	11.25°	Nr	6		
A-J311.2.2	22.5°	Nr	2		
A-J311.2.3	30°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321	ND 200 x ND 80	Nr	1		
A-J322.1	ND 250 x ND 150	Nr	2		
A-J323	ND 400 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.2	ND 250 x ND 80	Nr	1		
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	WATER AND SANITATION DEVELOPMENT PROJECT (N	VSDP)			
	MOMBASA WATER DISTRIBUTION WORKS FOR NORT	H MAINLAND (S	SHORT TERM	WORKS) LOT	IA
	BILL No. 2.6 - LINE NM05				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J33				(1010)	(110110)
A-J33	Tapers All Flanged Concentric Taper				
A-J331.1	ND 150 x ND 50	Nr	1		
A-J331.2	ND 150 x ND 80	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	4		
A-J342	ND 250	Nr	46		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 80	Nr	1		
A-J343	ND 400	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	5		
A-J351.2	ND 200	Nr	1		
A-J352	ND 250	Nr	2		
A-J353	ND 400	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 200	Nr	22		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm 1.2m long	Nr	4		
A-J381.2	ND 200mm 1.2m long	Nr	1		
A-J382.1	ND 250mm 1.2m long	Nr	5		
	Plain Ended Pipes				
A-J381.3	ND 80mm, 1.2m long	Nr	3		
A-J382.2	ND 250mm, 1.2m long	Nr	2		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.4	ND 200mm, 1.2m long	Nr	1		
A-J381.5	ND 200mm, 2.0m long	Nr	1		
A-J382.3	ND 250mm, 2.0m long	Nr	1		
A-J383.2	ND 400mm, 2.0m long	Nr	1		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	.AND (S	HORT TERM	WORKS) LOT 1	<u>IA</u>
	BILL No. 2.6 - LINE NM05				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	1		
A-J811.2	DN 80	Nr	3		
A-J811.3	DN 200	Nr	1		
A-J812	DN 250	Nr	2		
A-J813	DN 400	Nr	2		
A-J86	Air Valves				
A-J861	Single Orifice Air Valve				
A-J861	DN 50	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3			-		
	Fire Hydrant	Niz	2		
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
	Nominal bore n.e 200 - 300mm				
B-J312	ND 250mm				
B-J312.1	11.25°	Nr	5		
	22.5°	Nr	6		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	_AND (S	SHORT TERM	WORKS) LOT	<u>1A</u>
	<u>BILL No. 2.6 - LINE NM05</u>				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J312.3	30°	Nr	7		
B-J312.4	45°	Nr	2		
B-J312.5	90°	Nr	4		
B-J31	All Flanged Bends	<u> </u>			
B-J311.2	ND 200mm				
B-J311.2.1	11.25°	Nr	6		
B-J311.2.2	22.5°	Nr	2		
B-J311.2.3	30°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 200 x ND 80	Nr	1		
B-J322.1	ND 250 x ND 150	Nr	2		
B-J323	ND 400 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.2	ND 250 x ND 80	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 150 x ND 50	Nr	1		
B-J331.2	ND 150 x ND 80	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	4		
B-J342	ND 250	Nr	46		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 80	Nr	1		
B-J343	ND 400	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	5		
B-J351.2	ND 200	Nr	1		
B-J352	ND 250	Nr	2		
		+	-		

B-J353

B-J6

B-J651

ND 400

OD 200

P.E Flange Adaptor (Stub End)

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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S			14
					<u></u>
	BILL No. 2.6 - LINE NM05				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	Charlente Operation			(Kshs)	(Kshs)
B-J38	Straight Specials				
B-J381.1	Flanged spigot_pipes ND 80mm 1.2m long	Nr	4		
B-J381.2	ND 200mm 1.2m long	Nr	1		
		Nr	5		
B-J382.1	ND 250mm 1.2m long		5		
B-J381.3	Plain Ended Pipes	Nr	3		
	ND 80mm, 1.2m long	Nr	2		
B-J382.2	ND 250mm, 1.2m long				
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.4	ND 200mm, 1.2m long	Nr	1		
B-J381.5	ND 200mm, 2.0m long	Nr	1		
B-J382.3	ND 250mm, 2.0m long	Nr	1		
B-J383.2	ND 400mm, 2.0m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 80	Nr	3		
B-J811.3	DN 200	Nr	1		
B-J812	DN 250	Nr	2		
B-J813	DN 400	Nr	2		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861	DN 50	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	SHORT TERM	WORKS) LOT 1	A
	BILL No. 2.6 - LINE NM05				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	5		
K211.2	Ditto but internal dimensions 1500mm x 1200mm Depth n.e 1.5m.	Nr	1		
K211.3	Ditto but internal dimensions 1900mm x 1400mm Depth n.e 1.5m.	Nr	1		
K211.3	Ditto but internal dimensions 2300mm x 1700mm Depth n.e 1.5m.	Nr	1		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisiting Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	40		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	70		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	<u>AND (S</u>	HORT TERM	WORKS) LOT 1	
ITEM	BILL No. 2.6 - LINE NM05 DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	23		
K731.2	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	15		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	39		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain and pipe outlets	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	87		
L111.2	Excavation in trench for rock class "B"	m ³	131		
L111.3	Excavation in trench for rock class "C"	m ³	218		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e. 200mm	m	175		
L522	To pipes nominal bore 200-300mm	m	487		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT 1	A
	BILL No. 2.6 - LINE NM05				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L531	To pipes nominal bore n.e 200mm	m	75		
L532	To pipes nominal bore 200-300mm	m	209		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 200mm as per Drg. No. M410/SD/08	m	8		
L542	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to FERROUS pipe under Murram/Earth Road crossings, diameter of pipe 200-300mm as per Drg. No. M410/SD/08	m	15		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	34		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	33		
L72	Volume 0.1 - 0.2m ³				
L722	To pipes nominal bore 200-300mm	Nr	15		
L73	Volume 0.2 - 0.5m ³				
L732	To pipes nominal bore 200-300mm	Nr	9		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	783		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	783		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	ltem	L.S		
	ii)	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.23		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	3		
D21.2	Girth: 1.0 m - 2 m	Nr	4		
D22.1	Girth 2.0 m - 3 m	Nr	3		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
l711	Nominal bore 110mm not in trenches	m	783		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	763		
1713	Depth 1.5-2.0m	m	20		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	13		
A-J311.2.2	22.5°	Nr	3		
A-J311.2.3	30°	Nr	3		
A-J311.2.4	45°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	2		
A-J321.2	ND 100 x ND 100	Nr	2		
A-J321.3	ND 200 x ND 100	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	10		
A-J351.3	ND 200	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	46		
A-J651.2	OD 200	Nr	1		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.2	ND 100mm, 1.2m long	Nr	2		
A-J381.3	ND 100mm, 2.0m long	Nr	2		
	Flanged spigot pipes				
A-J381.4	ND 80mm 1.2m long	Nr	4		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	NORKS) LOT 1	IA .
	BILL No. 2.7 - LINE NM06				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J381.5	ND 100mm 1.2m long	Nr	10		
A-J381.6	ND 200mm 1.2m long	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	10		
A-J811.3	DN 200	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm	\vdash			
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm	Nr	13		
B-J311.2.1		Nr	3		
B-J311.2.2					
B-J311.2.3	30°	Nr	3		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
3-J311.2.4	45°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	2		
B-J321.2	ND 100 x ND 100	Nr	2		
B-J321.3	ND 200 x ND 100	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	10		
B-J351.3	ND 200	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	46		
B-J651.2	OD 200	Nr	1		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 100mm, 1.2m long	Nr	2		
B-J381.3	ND 100mm, 2.0m long	Nr	2		
	Flanged spigot pipes				
B-J381.4	ND 80mm 1.2m long	Nr	4		
B-J381.5	ND 100mm 1.2m long	Nr	10		
B-J381.6	ND 200mm 1.2m long	Nr	1		

WATER AND SANITATION DEVELOPMENT PROJECT (
WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	10		
B-J811.3	DN 200	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.2	Ditto but internal dimensions 1600mm x 1200mm.	Nr	4		
K211.3	Ditto but internal dimensions 2200mm x 1200mm.	Nr	1		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	30		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	17		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	17		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	26		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	50		
L111.2	Excavation in trench for rock class "B"	m ³	75		
L111.3	Excavation in trench for rock class "C"	m ³	125		
	Note:- Blasting is NOT permitted for Item L11				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT 1	A
	<u>BILL No. 2.7 - LINE NM06</u>				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	548		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	235		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	17		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	12		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	45		

BILL No. 2.7 - LINE NM06					
	Amount Kshs.				
Page Total, Page 1 of 8					
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Page Total, Page 8 of 8					

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	271		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	271		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.08		
D2	Tree Cutting (Provisional) Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	3.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	2.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES. FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	271		
	<u>Transport from Site Store, Lay and Joint Pipes in Trench.</u> <u>include for Excavation, Preparation of Surfaces, Disposal of</u> <u>Excavated Material, Shoring Sides of Excavation Trenches,</u> Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	271		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311	ND 100mm				
A-J311.1	11.25°	Nr	7		
A-J311.2	22.5°	Nr	2		
A-J311.3	30°	Nr	1		
A-J311.4	45°	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	20		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends	-			
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311	ND 100mm				
B-J311.1	11.25°	Nr	7		
B-J311.2	22.5°	Nr	2		
B-J311.3	30°	Nr	1		
B-J311.4	45°	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	20		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	8		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of				
K731	MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	8		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	11		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	16		
L111.2	Excavation in trench for rock class "B"	m ³	24		
L111.3	Excavation in trench for rock class "C"	m ³	40		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	190		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	81		
L54	Mass Concrete Surround (Road Crossings)				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm				
	as per Drg. No. M410/SD/08	m	8		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by				
	the Engineer.	m²	6		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	12		

WATER AND SANITATION DEVELOPMENT PROJECT (WS	SDP)					
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A					
BILL No. 2.8 - LINE NM07						
	Amount Kshs.					
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Page Total, Page 3 of 5						
Page Total, Page 4 of 5						
Page Total, Page 5 of 5						
Bill No. 2.8 Total Exclusive of VAT Carried to Section 2 Su	ummary Sheet					

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of Works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	715		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	715		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.21		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2.0 m	Nr	3		
D22.3	Girth: 2.0 m - 3.0 m	Nr	2		
D22.4	Girth: 3.0 m - 5.0 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
l711	Nominal bore 160mm not in trenches	m	715		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 90mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 160mm in Trenches				
1712.1	Depth not exceeding 1.5m	m	665		
1712.2	Depth 1.5-2m	m	50		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 90mm	m	12		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.9 - LINE NM08				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
A-J31	All Flanged Bends				
A-J311.2	ND 150mm				
A-J311.2.1	11.25°	Nr	8		
A-J311.2.2	22.5°	Nr	6		
A-J311.2.3	30°	Nr	1		
A-J311.2.4	45°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 150 x ND 150	Nr	1		
A-J321.2	ND 150 x ND 80	Nr	1		
A-J321.3	ND 150 x ND 100	Nr	1		
A-J322.1	ND 250 x ND 150	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.4	ND 150 x ND 80	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 150 x ND 100	Nr	1		
A-J332.1	ND 250 x ND 200	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	2		
A-J342.1	ND 250	Nr	1		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 80	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	3		
A-J351.2	ND 100	Nr	2		
A-J351.3	ND 150	Nr	6		
A-J351.4	ND 200	Nr	1		
A-J352.1	ND 250	Nr	1		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	2		
A-J651.2	OD 160	Nr	37		
A-J651.3	OD 200	Nr	1		
A-J38	Straight Specials				
	Flanged spigot_pipes				
A-J381.1	ND 80mm 1.2m long	Nr	2		
A-J381.2	ND 100mm 1.2m long	Nr	2		
A-J381.3	ND 150mm 1.2m long	Nr	6		
A-J381.4	ND 200mm 1.2m long	Nr	1		
	Plain Ended Pipes				
A-J381.5	ND 80mm, 1.2m long	Nr	2		
A-J382.1	ND 250mm, 1.2m long	Nr	1		
	All Flanged Ferrous Pipe				
A-J381.6	ND 150mm, 1.2m long	Nr	3		
A-J381.7	ND 150mm, 2.0m long	Nr	1		
A-J382.2	ND 250mm, 2.0m long	Nr	1		
A-J8 A-J81	Valves and Penstocks All Flanged Gate Valves Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	2		
A-J811.3	DN 150	Nr	6		
A-J811.4	DN 200	Nr	1		
A-J812.1	DN 250	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement Epoxy coated Externally and Epoxy or Cement Mortar lined				
J3	Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	All Flanged Bends				
B-J311.2	ND 150mm				
B-J311.2.1	11.25°	Nr	8		
B-J311.2.2	22.5°	Nr	6		
B-J311.2.3	30°	Nr	1		
B-J311.2.4	45°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 150 x ND 150	Nr	1		
B-J321.2	ND 150 x ND 80	Nr	1		
B-J321.3	ND 150 x ND 100	Nr	1		
B-J322.1	ND 250 x ND 150	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.4	ND 150 x ND 80	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 150 x ND 100	Nr	1		
B-J332.1	ND 250 x ND 200	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	2		
B-J342.1	ND 250	Nr	1		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 80	Nr	1		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	3		
B-J351.2	ND 100	Nr	2		
B-J351.3	ND 150	Nr	6		
B-J351.4	ND 200	Nr	1		
B-J352.1	ND 250	Nr	1		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	2		
B-J651.2	OD 160	Nr	37		
B-J651.3	OD 200	Nr	1		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	2		
B-J381.2	ND 100mm 1.2m long	Nr	2		
B-J381.3	ND 150mm 1.2m long	Nr	6		
B-J381.4	ND 200mm 1.2m long	Nr	1		
	Plain Ended Pipes				
B-J381.5	ND 80mm, 1.2m long	Nr	2		
B-J382.1	ND 250mm, 1.2m long	Nr	1		
	All Flanged Ferrous Pipe				
B-J381.6	ND 150mm, 1.2m long	Nr	3		
B-J381.7	ND 150mm, 2.0m long	Nr	1		
B-J382.2	ND 250mm, 2.0m long	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	2		
B-J811.3	DN 150	Nr	6		
B-J811.4	DN 200	Nr	1		
B-J812.1	DN 250	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.2	Ditto but internal dimensions 1500mm x 1200mm Depth n.e 1.5m.	Nr	2		
K211.3	Ditto but internal dimensions 1800mm x 1200mm Depth n.e 1.5m.	Nr	1		
K211.4	Ditto but internal dimensions 1900mm x 1200mm Depth 1.5-2m.	Nr	1		
K211.5	Ditto but internal dimensions 1800mm x 1500mm Depth n.e 1.5m.	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
Excavate for, provide all materials and construct a valve box for washouts as detailed on DRawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	1		
Crossings				
Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	50		
Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
Reinstatement				
Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	6		
Other Pipework Ancillaries				
Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	22		
Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain and pipe outlets	Nr	1		
	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Excavate for, provide all materials and construct a valve box for washouts as detailed on DRawing No. M410/SD/02. Depth n.e 1.5m. Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02 Crossings Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete. -Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete Ditto- but for existing Fences and reinstating these after construction of the water main is completed. Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction of the water ines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of the works. Reinstatement Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cernent content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm. Other Pipework Ancillaries Supply and fix marker posts along water Main Route, Road Crossings, cha	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Nr Excavate for, provide all materials and construct a valve box for washouts as detailed on DRawing No. M410/SD/02. Depth n.e 1.5m. Nr Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02 Nr Crossings Intervention Nr Allow for crossing existing Hedges and reinstating these after construction of the water main is complete. m Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete. m Allow for crossing existing rences and reinstating these after construction of the water main is completed. m Allow for crossing existing drains and reinstating these after construction of water main is completed. m Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. m Reinstatement Item demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works. m Reinstatement Item demeed to include for pilot excavations, repairs and reistatement of	Provide all materials and construct Mansonry Walling Meter Nr Nr Provide all materials and construct Mansonry Walling Meter Nr 1 Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Nr 1 Excavate for, provide all materials and construct a valve box for washouts as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Nr 1 Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02 Nr 1 Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02 Nr 1 Crossings	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for Supply and Riving of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Nr 1 Excavate for, provide all materials and construct a valve box for washouts as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m. Nr 1 Excavate for, provide all materials and construct a valve box for washouts as detailed on Drawing No. M410/SD/02 Nr 1 Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02 Nr 1 Crossings

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

No.		UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	57		
L111.2	Excavation in trench for rock class "B"	m ³	85		
L111.3	Excavation in trench for rock class "C"	m ³	142		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	501		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	215		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	6		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	6		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	33		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	6		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m³	1		
X63	Allow for Any Method Related charges for Trenchless pipe crossing under roads for Item X61 to X62 above that the bidder feels maybe required. These must be indicated below with pricing of each item (Bidder may now add Additional Items here below if required)	ltem	L.S		
	1)				
	ii)				

BILL No. 2.9 - LINE NM08	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	583		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	583		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.17		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2.0 m	Nr	3		
D21.3	Girth: 2 m - 3.0 m	Nr	2		
D21.4	Girth: 3 m - 5.0 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	583		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 50mm	m	12		
17	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	583		
	Nominal Bore 50mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	2		
A-J311.2.2	22.5°	Nr	3		
A-J311.2.3	30°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321	ND 100 x ND 80	Nr	1		
A-J323	ND 350 x ND 200	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.3	ND 100 x ND 50	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J333	ND 200 x ND 100	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	2		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 50	Nr	1		
A-J343	ND 350	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 50	Nr	1		
A-J351.2	ND 80	Nr	2		
A-J351.3	ND 100	Nr	2		
A-J353	ND 350	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	13		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm 1.2m long	Nr	2		
A-J381.2	ND 100mm 1.2m long	Nr	2		
	Plain Ended Pipes				
A-J381.3	ND 50mm, 1.2m long	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J381.4	ND 80mm, 1.2m long	Nr	1		
A-J383.1	ND 350mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.5	ND 100mm, 1.2m long	Nr	4		
A-J381.6	ND 100mm, 2.0m long	Nr	1		
A-J383.2	ND 350mm,1.2m long	Nr	2		
		INI	2		
A-J8 A-J81	Valves and Penstocks All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	1		
A-J811.2	DN 80	Nr	1		
A-J811.3	DN 100	Nr	2		
A-J813	DN 350	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	All Flanged Bends				
B-J311.2	ND 100mm				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.1	11 750	Nr	2		
B-J311.2.2		Nr	3		
B-J311.2.3		Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 100 x ND 80	Nr	1		
B-J323	ND 350 x ND 200	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.3	ND 100 x ND 50	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J333	ND 200 x ND 100	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	2		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 50	Nr	1		
B-J343	ND 350	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 50	Nr	1		
B-J351.2	ND 80	Nr	2		
B-J351.3	ND 100	Nr	2		
B-J353	ND 350	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	13		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	2		
B-J381.2	ND 100mm 1.2m long	Nr	2		
	Plain Ended Pipes				
B-J381.3	ND 50mm, 1.2m long	Nr	1		
B-J381.4	ND 80mm, 1.2m long	Nr	1		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL NO. 2. 10 - LINE NIMOS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	All Flanged Ferrous Pipe				
B-J381.5	ND 100mm, 1.2m long	Nr	4		
B-J381.6	ND 100mm, 2.0m long	Nr	1		
B-J383.2	ND 350mm,1.2m long	Nr	2		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 80	Nr	1		
B-J811.3	DN 100	Nr	2		
B-J813	DN 350	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK				
	ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	6		
K211.2	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.6	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	15		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	30		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	10		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	13		
K863	Allow for exposing and tapping existing water pipelines to connect to the network as shiown on the drwaings as directed by the engineer. Nominal bore n.e 350mm	Nr	1		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain and pipe outlets	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	43		
L111.2	Excavation in trench for rock class "B"	m ³	63		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L111.3	Excavation in trench for rock class "C"	m ³	106		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	408		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	175		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	10		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	7		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	16		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT '	<u>1A</u>
	BILL No. 2.11 - LINE NM10a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks,Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm	m	670		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	670		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	ltem	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

WATER AND SANITATION DEVELOPMENT PROJECT (W	
WATER AND SANITATION DEVELOPMENT PROJECT (W	(307)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.11 - LINE NM10a

	BILL No. 2.11 - LINE NM10a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.21		
		- Tid	0.21		
D2	Tree Cutting (Provisional) Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	660		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
I712	Depth not exceeding 1.5m	m	660		
1713	Depth 1.5 - 2.0m	m	10		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
	BILL No. 2.11 - LINE NM10a						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)		
A-J31	All Flanged Bends			()	(1010)		
	Nominal bore n.e 200mm						
A-J311.2	ND 100mm						
A-J311.2.1	11.25°	Nr	7				
A-J311.2.2	22.5°	Nr	7				
A-J311.2.3		Nr	8				
A-J311.2.4		Nr	6				
A-J32	Junction and Branches						
	All Flanged Tee						
A-J321	ND 100 x ND 80	Nr	1				
A-J323	ND 350 x ND 200	Nr	1				
A-J33	Tapers						
A 000	All Flanged Concentric Taper						
A-J331	ND 200 x ND 100	Nr	1				
A-J34	VJ Couplings						
A-J341	ND 80	Nr	2				
A-J34	VJ Stepped Couplings						
A-J343	ND 350	Nr	2				
A-J35	Ferrous Flange Adaptor						
A-J351.1	ND 80	Nr	2				
A-J351.2	ND 100	Nr	2				
A-J353	ND 350	Nr	2				
A-3355	P.E Flange Adaptor (Stub End)						
A-J651	OD 110	Nr	39				
A-J38	Straight Specials						
M-190	Flanged spigot pipes						
A-J381.1	ND 80mm 1.2m long	Nr	2				
A-J381.2	ND 100mm 1.2m long	Nr	2				
	Plain Ended Pipes						
A-J381.3	ND 80mm, 1.2m long	Nr	1				
A-J383.1	ND 350mm, 1.2m long	Nr	2				

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT 1	1A
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	BILL No. 2.11 - LINE NM10a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	All Flanged Ferrous Pipe				
A-J381.4	ND 100mm, 1.2m long	Nr	2		
A-J381.5	ND 100mm, 2.0m long	Nr	1		
A-J383.2	ND 350mm, 1.2m long	Nr	2		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete				
	with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	1		<u>.</u>
A-J811.2	DN 100	Nr	2		
A-J813	DN 350	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation. Preparation of Surfaces. Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1		Nr	7		
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WATER AND SANITATION DEVELOPMENT PROJECT (W	NSUPI

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.11 - LINE NM10a

	BILL No. 2.11 - LINE NM10a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.3	30°	Nr	8		
B-J311.2.4	45°	Nr	6		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 100 x ND 80	Nr	1		
B-J323	ND 350 x ND 200	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	2		
B-J34	VJ Stepped Couplings				
B-J343	ND 350	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	2		
B-J351.2	ND 100	Nr	2		
B-J353	ND 350	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	39		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	2		
B-J381.2	ND 100mm 1.2m long	Nr	2		
	Plain Ended Pipes				
B-J381.3	ND 80mm, 1.2m long	Nr	1		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.4	ND 100mm, 1.2m long	Nr	2		
B-J381.5	ND 100mm, 2.0m long	Nr	1		
B-J383.2	ND 350mm, 1.2m long	Nr	2		
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	AND (S	HORT TERM	WORKS) LOT 1	IA
BILL No. 2.11 - LINE NM10a					
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	1		
B-J811.2	DN 100	Nr	2		
B-J813	DN 350	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries Note: Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposal of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	5		
K211.2	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.3	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	1		
K6	Crossings				
K641	Allow for crossing existing Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)							
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S		WORKS) LOT	<u>1A</u>			
	BILL No. 2.11 - LINE NM10a							
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)				
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5					
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10					
	Allow for crossing existing underground services (specifically							
K681	community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and	ltem	L.S					

AMOUNT (Kshs)

K671	diverting the Drains and keeping them operational during construction	m	10	
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S	
K7	Reinstatement			
K711	Breaking up and Temporary Reinstatement of EARTH road. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore n.e. 300mm.	m	3	
K731	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore n.e. 300mm.	m	6	
K8	Other Pipework Ancillaries			
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	21	
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION			
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)			
L11	In Pipe Trenches and Chambers			
L111.1	Excavation in trench for rock class "A"	m ³	50	
L111.2	Excavation in trench for rock class "B"	m ³	75	
L111.3	Excavation in trench for rock class "C"	m ³	125	
	Note:- Blasting is NOT permitted for Item L11			
L5	Surrounds			
L52	Selected Excavated Granular Fill (Provisional)			
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.			
L521	To pipes nominal bore n.e 200mm	m	470	
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT 1	A
	BILL No. 2.11 - LINE NM10a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	200		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	9		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	7		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	36		
L72	Volume 0.1 - 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume 0.5 - 1.0m ³				
L741	To pipes nominal bore n.e 200mm	Nr	1		

Page Total, Page 2 of 8		
Page Total, Page 1 of 8Kshs.Page Total, Page 2 of 8	BILL No. 2.11 - LINE NM10a	
Page Total, Page 2 of 8		
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	Page Total, Page 6 of 8	
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BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	1,035		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,035		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times.				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	ltem	LS		

WATER AND SANITATION DEVELOPMENT PROJECT (V	NSUD)
WATER AND SANITATION DEVELOPMENT PROJECT IN	VODE

BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.31		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711.1	Nominal bore 110mm not in trenches	m	620		
1711.2	Nominal bore 160mm not in trenches	m	415		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712.1	Depth not exceeding 1.5m	m	620		
	Nominal bore 160mm in Trenches				
1712.2	Depth not exceeding 1.5m	m	390		
I713	Depth 1.5 - 2.0m	m	25		
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No. CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of jointing materials, boits, nuts, gaskets etc as applicable Image: Class is a constraint of the secure place. Include supply of		RATE (Kshs)	AMOUNT (Kshs)
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J3 Internally Ferrous Pipes and Fittings Image: Second Se			
A-J31 Plain Ended Bends Image: mail of the second			
Nominal bore n.e 200mm Image: Constraint of the second secon			
J311.1 ND 80mm Image: Margin and State			
J311.1 90° Nr A-J31 All Flanged Bends Image: Composite of the second se			
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Nominal bore n.e 200mm Image: Second se	2		
J311.2 ND 100mm Image: state of the			
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I311.2.3 30° Nr I311.2.4 45° Nr I311.3.1 ND 150mm Nr I311.3.1 11.25° Nr I311.3.3 30° Nr I311.3.4 11.25° Nr I311.3.1 11.25° Nr I311.3.3 30° Nr I311.3.4 11.25° Nr I311.3.5 Nr I JJ21.1 ND 100 x ND 80 Nr J321.2 ND 100 x ND 100 Nr J321.3 ND 150 x ND 80 Nr IJ321.3 ND 150 x ND 80 Nr J341.1 ND 80 Nr	5		
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J311.3 ND 150mm Image: state states	2		
J311.3 ND 150mm Image: state states	1		
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A-J32 Junction and Branches Image: Constraint of the second seco	1		
All Flanged Tee Image: Constraint of the second s	-		
J321.1 ND 100 x ND 80 Nr J321.2 ND 100 x ND 100 Nr J321.3 ND 150 x ND 80 Nr J321.4 VJ Couplings Nr			
J321.2 ND 100 × ND 100 Nr J321.3 ND 150 × ND 80 Nr A-J34 VJ Couplings Nr J341.1 ND 80 Nr			
J321.3 ND 150 x ND 80 Nr A-J34 VJ Couplings Nr J341.1 ND 80 Nr	1		
A-J34 VJ Couplings	1		
J341.1 ND 80 Nr	1		
A-J34 VJ Stepped Couplings	4		
J341.2 ND 100 Nr	2		
A-J35 Ferrous Flange Adaptor			
J351.1 ND 80 Nr	4		
J351.2 ND 100 Nr	4		
J351.3 ND 150 Nr			
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WATER AND SANITATION DEVELOPMENT PROJECT (W	/SUD
WATER AND SANITATION DEVELOPMENT PROJECT (M	130F]

BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	21		
A-J651.2	OD 160	Nr	17		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm 1.2m long	Nr	4		
A-J381.2	ND 100mm 1.2m long	Nr	2		
A-J381.3	ND 150mm 1.2m long	Nr	1		
	Plain Ended Pipes				
A-J381.4	ND 80mm, 1.2m long	Nr	2		
A-J381.5	ND 100mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.6	ND 100mm, 1.2m long	Nr	1		
A-J381.7	ND 100mm, 2.0m long	Nr	1		
A-J381.8	ND 150mm, 1.2m long	Nr	2		
A-J381.9	ND 150mm, 2.0m long	Nr	1		
A-J39	Blank Flange				
A-J391	ND 150mm	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	4		
A-J813	DN 150	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAIN	LAND (S	SHORT TERM	WORKS) LOT 1	<u> A</u>
	BILL No. 2.12 - LINE NM10b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	5		
B-J311.2.2	22.5°	Nr	3		
B-J311.2.3	30°	Nr	2		
B-J311.2.4	45°	Nr	1		
B-J311.3	ND 150mm				
B-J311.3.1	11.25°	Nr	6		
B-J311.3.3	30°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	1		
B-J321.2	ND 100 x ND 100	Nr	1		
B-J321.3	ND 150 x ND 80	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	4		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 100	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
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WATER AND SANITATION DEVELOPMENT PROJECT (W	/SUD
WATER AND SANITATION DEVELOPMENT PROJECT (M	130F]

BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J351.3	ND 150	Nr	1		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	21		
B-J651.2	OD 160	Nr	17		
B-J38	Straight Specials Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	4		
B-J381.2	ND 100mm 1.2m long	Nr	2		
B-J381.3	ND 150mm 1.2m long	Nr	1		
	Plain Ended Pipes				
B-J381.4	ND 80mm, 1.2m long	Nr	2		
B-J381.5	ND 100mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.6	ND 100mm, 1.2m long	Nr	1		
B-J381.7	ND 100mm, 2.0m long	Nr	1		
B-J381.8	ND 150mm, 1.2m long	Nr	2		
B-J381.9	ND 150mm, 2.0m long	Nr	1		
B-J39	Blank Flange				
B-J391	ND 150mm	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	4		
B-J813	DN 150	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		

WATER AND SANITATION DEVELOPMENT PROJECT (WS	DP)

UNIT QUANTITY RATE

AMOUNT

	BILL No. 2.12 - LINE NM10b						
ITEM	DESCRIPTION						
No.							

No.			QUANTIT	(Kshs)	(Kshs)
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK				
	ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks,				
	reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. Reinforcement, Formwork,joints and Finishes. -Tips for disposal of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K212.1	-Diito but Depth 1.50 - 2.0m	Nr	2		
K211.2	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1600mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.3	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K212.2	-Diito but Depth 1.50 - 2.0m	Nr	1		
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing existing Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10	<u>.</u>	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
110.				(13113)	(13113)
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore n.e. 300mm.	m	8		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	20		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	77		
L111.2	Excavation in trench for rock class "B"	m³	114		
L111.3	Excavation in trench for rock class "C"	m ³	190		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	725		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	310		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm	m	8		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	I WORKS) LOT	<u>1A</u>
	BILL No. 2.12 - LINE NM10b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	6		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	33		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.		27		

Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)

Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)

PAGE TOTAL CARRIED TO BILL COLLECTION PAGE

X62

X63

 m^3

Item

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
BILL No. 2.12 - LINE NM10b						
	Amount Kshs.					
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Page Total, Page 9 of 9						
Bill No. 2.12 Total Exclusive of VAT Carried to Section 2 Summary Sheet						

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks,Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm	m	2,716		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	2,716		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	ltem	LS		
	ii)	ltem	LS		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
		_			
D1	General site clearance along the pipeline allignment	ha	0.81		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips	_			
D21.1	Girth: 0.5 m - 1.0 m	Nr	4.00		
D21.2	Girth: 1.0 m - 2 m	Nr	2.00		
D22.1	Girth 2.0 m - 3 m	Nr	3.00		
D22.2	Girth 3.0 m - 5 m	Nr	2.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	561		
1711	Nominal bore 160mm not in trenches	m	325		
1711	Nominal bore 200mm not in trenches	m	1830		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	510		
1713	Depth 1.5 - 2.0m	m	51		
	Nominal bore 160mm in Trenches				
1712	Depth not exceeding 1.5m	m	275		
1713	Depth 1.5 - 2.0m	m	50		
	Nominal bore 200mm in Trenches				
1712	Depth not exceeding 1.5m	m	1,758		
1713	Depth 1.5 - 2.0m	m	72		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	

ITEM	BILL No. 2.13 - LINE NM11 DESCRIPTION	LINUT	OLIANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTITY	(Kshs)	(Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	6		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	6		
A-J311.2.2	22.5°	Nr	2		
A-J311.2.3	30°	Nr	5		
A-J311.3	ND 150mm				
A-J311.3.1	11.25°	Nr	3		
A-J311.4	ND 200mm				
A-J311.4.1	11.25°	Nr	21		
A-J311.4.2	22.5°	Nr	6		
A-J311.4.3	30°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	2		
A-J321.2	ND 200 x ND 80	Nr	4		
A-J321.3	ND 200 x ND 100	Nr	3		
A-J321.4	ND 200 x ND 150	Nr	1		
A-J321.5	ND 200 x ND 200	Nr	1		
A-J323	ND 400 x ND 200	Nr	1		
A-J331	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 150 x ND 100	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (M	130F]

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J331.2	ND 200 x ND 100	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	12		
A-J34	VJ Stepped Couplings				
A-J343	ND 400	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	12		
A-J351.2	ND 100	Nr	6		
A-J351.3	ND 150	Nr	1		
A-J351.4	ND 200	Nr	10		
A-J353	ND 400	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	29		
A-J651.2	OD 160	Nr	8		
A-J651.3	OD 200	Nr	73		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm 1.2m long	Nr	12		
A-J381.2	ND 100mm 1.2m long	Nr	6		
A-J381.3	ND 150mm 1.2m long	Nr	1		
A-J381.4	ND 200mm 1.2m long	Nr	10		
	Plain Ended Pipes				
A-J381.5	ND 80mm, 1.2m long	Nr	6		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.6	ND 100mm, 1.2m long	Nr	2		
A-J381.7	ND 100mm, 2.0m long	Nr	2		
A-J381.8	ND 200mm, 1.2m long	Nr	8		
A-J381.9	ND 200mm, 2.0m long	Nr	5		
A-J383.2	ND 400mm, 1.2m long	Nr	2		
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	6		
A-J811.2	DN 100	Nr	6		
A-J811.3	DN 150	Nr	1		
A-J811.4	DN 200	Nr	10		
A-J813	DN 400	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	6		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	6		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	6		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	6		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	6		
B-J311.2.2	22.5°	Nr	2		
B-J311.2.3	30°	Nr	5		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.3	ND 150mm				
3-J311.3.1	11.25°	Nr	3		
B-J311.4	ND 200mm				
B-J311.4.1	11.25°	Nr	21		
B-J311.4.2	22.5°	Nr	6		
B-J311.4.3	30°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	2		
B-J321.2	ND 200 x ND 80	Nr	4		
B-J321.3	ND 200 x ND 100	Nr	3		
B-J321.4	ND 200 x ND 150	Nr	1		
B-J321.5	ND 200 x ND 200	Nr	1		
B-J323	ND 400 x ND 200	Nr	1		
B-J331	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 150 x ND 100	Nr	1		
B-J331.2	ND 200 x ND 100	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	12		
B-J34	VJ Stepped Couplings				
B-J343	ND 400	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	12		
B-J351.2	ND 100	Nr	6		
B-J351.3	ND 150	Nr	1		
B-J351.4	ND 200	Nr	10		
B-J353	ND 400	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	29		
		Nr	8		
B-J651.2	OD 160				

WATER AND SANITATION DEVELOPMENT PROJECT (V	NSDP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	12		
B-J381.2	ND 100mm 1.2m long	Nr	6		
B-J381.3	ND 150mm 1.2m long	Nr	1		
B-J381.4	ND 200mm 1.2m long	Nr	10		
	Plain Ended Pipes				
B-J381.5	ND 80mm, 1.2m long	Nr	6		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.6	ND 100mm, 1.2m long	Nr	2		
B-J381.7	ND 100mm, 2.0m long	Nr	2		
B-J381.8	ND 200mm, 1.2m long	Nr	8		
B-J381.9	ND 200mm, 2.0m long	Nr	5		
B-J383.2	ND 400mm, 1.2m long	Nr	2		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	6		
B-J811.2	DN 100	Nr	6		
B-J811.3	DN 150	Nr	1		
B-J811.4	DN 200	Nr	10		
B-J813	DN 400	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	6		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	6		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	6		
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ITEM					
	BILL No. 2.13 - LINE NM11 DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.		0.111	QUALITY	(Kshs)	(Kshs)
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	10		
K211.2	Ditto but internal dimensions 1400mm x 1200mm	Nr	6		
K211.3	Ditto but internal dimensions 1600mm x 1200mm	Nr	2		
K211.4	Ditto but internal dimensions 1800mm x 1200mm	Nr	1		
K211.5	Ditto but internal dimensions 2200mm x 1600mm	Nr	1		
K211.6	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	6		
K211.7	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	6		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	15		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	33		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.		L.S		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	9		
K731.2	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	16		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	58		
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm.	Nr	2		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m³	192		
L111.2	Excavation in trench for rock class "B"	m³	288		
L111.3	Excavation in trench for rock class "C"	m ³	480		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	1,901		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	815		

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	25		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	18		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	99		
L72	Volume:- 0. 1- 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume:- 1 - 2m ³				
L751	To pipes nominal bore n.e 200mm	Nr	2		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	8		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m³	1		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem			
	i)				
	ii)				

BILL No. 2.13 - LINE NM11					
	Amount Kshs.				
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL BILL No. 2.14 - LINE NM12a				
TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm	m	1,430		
4262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,430		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
\35.1	Cost relating to the above mentioned specific conditions	Item	LS		
\35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
\35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.43		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	3		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	325		
1712	Nominal bore 200mm not in trenches	m	1,105		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	325		
	Nominal bore 200mm in Trenches				
1712	Depth not exceeding 1.5m	m	1,105		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
-J311.1	ND 80mm				
		1			

	MOMBASA WATER DISTRIBUTION WORKS FOR NC	ORTH MAINLAND (S	HORT TERM	WORKS) LOT 1	A
	BILL No. 2.14 - LINE NM12a		· · · · · ·		
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 100mm				
A-J311.1	11.25°	Nr	4		
A-J311.2	ND 200mm				
A-J311.2.1	11.25°	Nr	10		
A-J311.2.2	22.5°	Nr	3		
A-J311.2.3		Nr	3		
A-J311.2.4		Nr	2		
A-J311.2.4	Junction and Branches		2		
A-J32	All Flanged Tee				
A-J321.1	ND 200 x ND 80	Nr	2		
A-J321.1					
	ND 200 x ND 200	Nr	1		
A-J322	ND 300 x ND 200	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J342	ND 300	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 200	Nr	5		
A-J353	ND 300	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	9		
A-J651.2	OD 200	Nr	36		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	4		
A-J381.2	ND 200mm, 1.2m long	Nr	5		
	Plain Ended Pipes				
A-J381.3	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 300mm, 1.2m long	Nr	2		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	All Flanged Ferrous Pipe				
A-J381.4	ND 100mm, 1.2m long	Nr	1		
A-J381.5	ND 200mm, 1.2m long	Nr	4		
A-J381.6	ND 200mm, 2.0m long	Nr	2		
A-J383.2	ND 300mm, 1.2m long	Nr	2		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 200	Nr	5		
A-J813	DN 300	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site. Store, Lay and Joint Pipes in Trench. include for Excavation. Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		

	MOMBASA WATER DISTRIBUTION WORKS FOR NO	ORTH MAINLAND (S	HORT TERM	WORKS) LOT 1	<u>A</u>
	BILL No. 2.14 - LINE NM12a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 100mm				
B-J311.1	11.25°	Nr	4		
	ND 200mm				
B-J311.2.1		Nr	10		
B-J311.2.2		Nr	3		
B-J311.2.3		Nr	3		
B-J311.2.4	45°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 200 x ND 80	Nr	2		
B-J321.2	ND 200 x ND 200	Nr	1		
B-J322	ND 300 × ND 200	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J342	ND 300	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 200	Nr	5		
B-J353	ND 300	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
		Niz	0		
B-J651.1	OD 110	Nr	9		
B-J651.2	OD 200	Nr	36		
B-J38	Straight Specials Flanged spigot_pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	4		
B-J381.2	ND 200mm, 1.2m long	Nr	5		
	Plain Ended Pipes				
B-J381.3	ND 80mm, 1.2m long	Nr	2		
2 0001.0			~		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
	All Flanged Ferrous Pipe				
B-J381.4	ND 100mm, 1.2m long	Nr	1		
B-J381.5	ND 200mm, 1.2m long	Nr	4		
B-J381.6	ND 200mm, 2.0m long	Nr	2		
B-J383.7	ND 300mm, 1.2m long	Nr	2		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 200	Nr	5		
B-J813	DN 300	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Niz	2		
		Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. -Concrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	7		
	Ditto but internal dimensions 1400mm x 1200mm	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.3	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	8		
K731.2	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	6		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	25		
K863	Allow for exposing and tapping of existing water pipelines 300mm Diameter to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1		

ITEM	BILL No. 2.14 - LINE NM12a DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTIT	(Kshs)	(Kshs)
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION,				
	ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock.				
	Rate to include carting away and disposal. (Provisional)	-			
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	90		
L111.2	Excavation in trench for rock class "B"	m ³	135		
L111.3	Excavation in trench for rock class "C"	m ³	225		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
L32	Provide, place and compact selected excavated granular fill material				
	in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	1,000		
L53	Imported Selected Fill (Provisional)				
L33	Provide, transport to site and place imported selected fill and				
	compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	430		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	14		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	18		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	36		
L72	Volume:- 0. 1- 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	3		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A							
TEM No.	BILL No. 2.14 - LINE NM12a DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)			
L74	Volume:- 0.5 - 1.0m ³							
L741	To pipes nominal bore n.e 200mm	Nr	1					
	CLASS X: MISCELLANEOUS WORK							
	Trenchless Road Crossings							
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facillitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	24					
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m ³	5					
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem						
	i)							

BILL No. 2.14 - LINE NM12a							
	Amount Kshs.						
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	605		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	605		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times.				
A35.1	Cost relating to the above mentioned specific conditions	ltem	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	1)	Item	LS		
	ii)	ltem	LS		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.19		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	605		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	445		
1713	Depth 1.5m - 2.0m	m	160		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
-J311.1	ND 80mm				
-J311.1	90°	Nr	2		

WATER AND CANITATION DEVELOPMENT DRO JECT (
WATER AND SANITATION DEVELOPMENT PROJECT (V	<u>(SDP)</u>

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 100mm				
A-J311.1.1	11.25°	Nr	1		
A-J311.1.2	22.5°	Nr	3		
A-J311.1.3	30°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321	ND 100 x ND 80	Nr	2		
A-J323	ND 350 x ND 200	Nr	1		
A-J331	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J34	VJ Stepped Couplings				
A-J343	ND 350	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	3		
A-J353	ND 350	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	12		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	4		
A-J381.2	ND 100mm, 1.2m long	Nr	3		
	Plain Ended Pipes				
A-J381.3	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 350mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.4	ND 100mm, 1.2m long	Nr	4		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J381.5	ND 100mm, 2.0m long	Nr	2		
A-J383.2	ND 350mm, 1.2m long	Nr	2		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	3		
A-J813	DN 350	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	All Flanged Strainer DN 80	Nr	2		
A-J91.3	Fire Hydrant		2		
A-J91.3	DN 80	Nr	2		
11001.0	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 100mm				
3-J311.1.1	11.25°	Nr	1		

WATER AND SANITATION DEVELOPMENT PROJECT (WSI	DP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.1.2	22.5°	Nr	3		
B-J311.1.3	30°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 100 x ND 80	Nr	2		
B-J323	ND 350 x ND 200	Nr	1		
B-J331	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J34	VJ Stepped Couplings				
B-J343	ND 350	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	3		
B-J353	ND 350	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	12		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	4		
B-J381.2	ND 100mm, 1.2m long	Nr	3		
	Plain Ended Pipes				
B-J381.3	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.4	ND 100mm, 1.2m long	Nr	4		
B-J381.5	ND 100mm, 2.0m long	Nr	2		
B-J383.2	ND 350mm, 1.2m long	Nr	2		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	3		
B-J813	DN 350	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
D 001.0			-		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	4		
K212.1	-Ditto but Depth 1.5m - 2.0m	Nr	1		
K211.2	-Ditto but Internal Dimensions 1400mmx1200mm Depth n.e 1.5m	Nr	1		
K212.2	-Ditto but Depth 1.5m - 2.0m	Nr	1		
K211.3	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
212.3	-Ditto but Depth 1.5m - 2.0m	Nr	1		
(211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	14		
K863	Allow for exposing and tapping of existing water pipelines 350mm Diameter to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore not exceeding 200mm	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	48		
L111.2	Excavation in trench for rock class "B"	m ³	72		
L111.3	Excavation in trench for rock class "C"	m ³	120		
	Note:- Blasting is NOT permitted for Item L11				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)							
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A							
	BILL No. 2.15 - LINE NM12b							
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT			
No.				(Kshs)	(Kshs)			
L5	Surrounds							
L52	Selected Excavated Granular Fill (Provisional)							
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.							
L521	To pipes nominal bore n.e 200mm	m	425					
L53	Imported Selected Fill (Provisional)							
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.							
L531	To pipes nominal bore n.e 200mm	m	180					
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks							
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.							
	Class 20/20 Mass Concrete							
	NOTE:- The work includes pipe and fitting fixing							
L71	Volume n.e 0.1m ³							
L711	To pipes nominal bore n.e 200mm	Nr	19					
L72	Volume:- 0. 1- 0.2m ³							
L721	To pipes nominal bore n.e 200mm	Nr	1					
L74	Volume:- 0.5 - 1.0m ³							
L741	To pipes nominal bore n.e 200mm	Nr	1					

BILL No. 2.15 - LINE NM12b						
	Amount Kshs.					
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	1,420		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,420		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	ltem	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.43		
D2	Tree Cutting (Provisional)				
02	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
			1		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 200mm not in trenches	m	1,420		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 200mm in Trenches				
l712	Depth not exceeding 1.5m	m	1,100		
l713	Depth 1.5-2.0m	m	320		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 200mm				
-J311.2.1	11.25°	Nr	16		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	8		
A-J311.2.3	30°	Nr	10		
A-J311.2.4	45°	Nr	4		
A-J311.2.5	90°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 200 x ND 80	Nr	2		
A-J321.2	ND 200 x ND 100	Nr	1		
A-J323	ND 300 x ND 200	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J34	VJ Stepped Couplings				
A-J343	ND 300	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	1		
A-J351.3	ND 200	Nr	5		
A-J353	ND 300	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	1		
A-J651.2	OD 200	Nr	57		
A-J38	Straight Specials Flanged spigot_pipes				
A-J381.1	ND 80mm 1.2m long	Nr	4		
A-J381.2	ND 100mm 1.2m long	Nr	1		
A-J381.3	ND 200mm 1.2m long	Nr	5		
	Plain Ended Pipes				
A-J381.4	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 300mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
A-J381.5	ND 200mm, 1.2m long	Nr	3		
A-J381.6	ND 200mm, 2.0m long	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J383.2	ND 300mm, 1.2m long	Nr	2		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	1		
A-J811.3	DN 200	Nr	5		
A-J813	DN 300	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 200mm				
B-J311.2.1	11.25°	Nr	16		
B-J311.2.2	22.5°	Nr	8		
B-J311.2.3	30°	Nr	10		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.4	45°	Nr	4		
B-J311.2.5	90°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 200 x ND 80	Nr	2		
B-J321.2	ND 200 x ND 100	Nr	1		
B-J323	ND 300 x ND 200	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J34	VJ Stepped Couplings				
B-J343	ND 300	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	1		
B-J351.3	ND 200	Nr	5		
B-J353	ND 300	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	1		
B-J651.2	OD 200	Nr	57		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	4		
B-J381.2	ND 100mm 1.2m long	Nr	1		
B-J381.3	ND 200mm 1.2m long	Nr	5		
	Plain Ended Pipes				
B-J381.4	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 300mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.5	ND 200mm, 1.2m long	Nr	3		
B-J381.6	ND 200mm, 2.0m long	Nr	2		
B-J383.2	ND 300mm, 1.2m long	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8 B-J81	Valves and Penstocks All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	1		
B-J811.3	DN 200	Nr	5		
B-J813	DN 300	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	2		
K212.1	Ditto but Depth 1.5 - 2.0m	Nr	4		
K211.2	Ditto but internal dimensions 1500mm x 1200mm Depth 1.5 - 2.0m	Nr	1		
K211.3	Ditto but internal dimensions 2200mm x 1200mm Depth 1.5 - 2.0m	Nr	1		<u> </u>
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	1		
K211.5	Ditto but Depth 1.5 - 2.0m	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	15		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	11		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	11		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	32		
K863	Allow for exposing and tapping of existing water pipelines diameter 300mm to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	DESCRIPTION			RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTITY	KATE (Kshs)	AMOUNT (Kshs)
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	117		
L111.2	Excavation in trench for rock class "B"	m³	175		
L111.3	Excavation in trench for rock class "C"	m ³	291		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	995		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	425		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	11		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	14		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	40		
L72	Volume:- 0. 1- 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	18		
L74	Volume:- 0. 5- 1.0m ³				
L721	To pipes nominal bore 300-600mm	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	10		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m³	2		
X63	Allow for Any Method Related charges for Trenchless pipe crossing under roads for Item X61 to X62 above that the bidder feels maybe required. These must be indicated below with pricing of each item (Bidder may now add Additional Items here below if required)	Item	L.S		
	i)				
	ii)				

BILL No. 2.16 - LINE NM13	
	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of Works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	848		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	848		
A3	Method Related Charges				
	The Pipeline will be laid along the narrow roads of Gongoni urban centre with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) all as per but not limited to the description given in notes above.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contractor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item				
	i)	Item	L.S		
	ii)	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.25		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	848		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated				
	Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
	Nominal bore 110mm in Trenches				
1712.1	Depth not exceeding 1.5m	m	708		
1712.2	Depth 1.5-2m	m	140		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Plain Ended Bends				
A-J311	Nominal bore n.e 200mm				
-J311.1	ND 80mm				
-J311.1	90°	Nr	1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	Bends			(1010)	(1010)
A 001	All Flanged Bends				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
		Nr	17		
A-J311.2.1		Nr	8		
A-J311.2.2					
A-J311.2.3	30°	Nr	2		
A-J311.2.4	45°	Nr	2		
A-J311.2.5	90°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J321.2	ND 100 x ND 100	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	1		
A-J34	VJ Couplings				
A-J341.	ND 80	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	2		
A-J351.2	ND 100	Nr	2		
A-J351.3	ND 200	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	56		
A-J651.2	OD 200	Nr	1		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.2	ND 80mm, 1.2m long	Nr	1		
	Flanged spigot pipes				
A-J381.3	ND 80mm 1.2m long	Nr	2		
A-J381.4	ND 100mm 1.2m long	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J381.5	ND 200mm 1.2m long	Nr	1		
	All Flanged pipes				
A-J381.5	ND 100mm, 1.2m long	Nr	2		
A-J381.6	ND 100mm, 2m long	Nr	2		
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	1		
A-J811.2	DN 100	Nr	2		
A-J811.2	DN 200	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Plain Ended Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	Bends				
	All Flanged Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	17		
B-J311.2.2		Nr	8		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

B-J32	45° 90°	Nr Nr	2	
B-J311.2.5	90°			
-			2	
-		Nr	1	
	Junction and Branches			
D-0021.1	All Flanged Tee ND 100 x ND 80	Nr	1	
B-J321.2	ND 100 x ND 100	Nr	1	
	Tapers			
	All Flanged Concentric Taper			
	ND 200 x ND 100	Nr	1	
	VJ Couplings	Nr	2	
	ND 80		-	
B-J35	Ferrous Flange Adaptor			
B-J351.1	ND 80	Nr	2	
B-J351.2	ND 100	Nr	2	
B-J351.3	ND 200	Nr	1	
B-J65	P.E Flange Adaptor (Stub End)			
B-J651.1	OD 110	Nr	56	
B-J651.2	OD 200	Nr	1	
B-J38	Straight Specials			
	Plain Ended Pipes			
B-J381.2	ND 80mm, 1.2m long	Nr	1	
	Flanged spigot pipes			
B-J381.3	ND 80mm 1.2m long	Nr	2	
B-J381.4	ND 100mm 1.2m long	Nr	2	
B-J381.5	ND 200mm 1.2m long	Nr	1	
	All Flanged pipes			
B-J381.5	ND 100mm, 1.2m long	Nr	2	
B-J381.6	ND 100mm, 2m long	Nr	2	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	1		
3-J811.2	DN 100	Nr	2		
B-J811.3	DN 200	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1600mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.2	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	3		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1800mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K6	Crossings				
K641	Allow for crossing exisiting Hedges and reinstating these after construction of the water main is complete.	m	50		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	60		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	40		
K681	Allow for crossing existing underground services (specifically community water lines, severlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	16		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/06	Nr	31		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
_111.1	Excavation in trench for rock class "A"	m³	60		
.111.2	Excavation in trench for rock class "B"	m ³	90		
_111.3	Excavation in trench for rock class "C"	m ³	150		
	Note:- Blasting is NOT permitted for Item L11				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L5	Surrounds				
	Selected Excavated Granular Fill (Provisional)				
L52	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	594		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	254		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road Crossings, diameter of pipe n.e 300mm as per Drawing No. M410/SD/08 .	m	16		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	11		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	39		
L72	Volume 0.1 - 0.2m ³				
L711	To pipes nominal bore n.e 200mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAIN	LAND (SHORT TERM WORKS) LOT 1A				
<u>BILL No. 2.17 - LINE NM14</u>					
	Amount Kshs.				
Page Total, Page 1 of 8					
Page Total, Page 2 of 8					
Page Total, Page 3 of 8					
Page Total, Page 4 of 8					
Page Total, Page 5 of 8					
Page Total, Page 6 of 8					
Page Total, Page 7 of 8					
Page Total, Page 8 of 8					
Bill No. 2.17 Total Exclusive of VAT Carried to Section 2 Summa	ary Shoot				

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.18 - LINE NM15a						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
	CLASS A: GENERAL ITEM					
A26	Testing of works					
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks,Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm	m	1,215			
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,215			
A3	Method Related Charges					
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.					
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source					
A35.1	Cost relating to the above mentioned specific conditions	Item	LS			
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S			
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)					
	i)	Item	LS			
	ii)	Item	LS			
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

CLASS D: DEMOLITION AND SITE CLEARANCE Image: State Stat	RATE AMOUNT (Kshs) (Kshs)
D2 Tree Cutting (Provisional) Image: Cut down trees, grub up roots and cart away to tips D21.1 Girth: 0.5 m - 1.0 m Nr 5 D21.2 Girth: 1.0 m - 2 m Nr 3 D22.1 Girth 2.0 m - 3 m Nr 2 D22.2 Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Note: Girth 3.0 m - 5 m Nr 1 Supply of jointing materials, bolts, nuts, gaskets et as 1 1 I711 Nominal bore 200mm not in trenches m 1,215 <	
Cut down trees, grub up roots and cart away to tips Image: Cut down trees, grub up roots and cart away to tips D21.1 Girth: 0.5 m - 1.0 m Nr 5 D21.2 Girth: 1.0 m - 2 m Nr 3 D22.1 Girth 2.0 m - 3 m Nr 2 D22.2 Girth 3.0 m - 5 m Nr 1 Note: - Girth shall be measured 1.0m above ground level Image: Cut ASS 1: PIPE WORK - PIPES Image: Cut ASS 1: PIPE WORK - PIPES CLASS I: PIPE WORK - PIPES Image: Cut ASS 1: PIPE WORK - PIPES Image: Cut ASS 1: PIPE WORK - PIPES I7 Supply, Transport to site and store in secure place. Include supply of jointing materials, boits, nuts, gaskets etc as. Image: Cut ASS 1: PIPE WORK - PIPES I711 Nominal bore 200mm not in trenches Image: Cut ASS 1: PIPE WORK - PIPES I711 Nominal bore 200mm not in trenches Image: Cut ASS 1: PIPE WORK - Pipes (HDPE) - PN 12.5 with Butt I72 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Image: Cut ASS 1: PIPE WORK - PIPES I712 Depth not exceeding 1.5m Image: Cut ASS 1: PIPE WORK - FITTINGS AND VALVES - PN16 Image: Cut ASS 1: PIPE WORK - FITTINGS AND VALVES - PN16 Image: Cut ASS 1: PIPE WORK - FITTINGS AND VALVES - PN16 Image: Cut ASS 1: PIPE WORK - FITTINGS AND VALVES - PN16 Image: Cut ASS 1: PIPE	
D21.1 Girth: 0.5 m - 1.0 m Nr 5 D21.2 Girth: 1.0 m - 2 m Nr 3 D22.1 Girth 2.0 m - 3 m Nr 2 D22.2 Girth 3.0 m - 5 m Nr 1 Note:- Girth shall be measured 1.0m above ground level Nr 1 PIPES. FITTINGS AND VALVES Image: Class 1: PIPE WORK - PIPES Image: Class 1: PIPE WORK - PIPES I7 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: Class 1: PIPE WORK - PIPES I711 Nominal bore 200mm not in trenches m 1.215 I711 Nominal bore 200mm not in trenches m 1.215 I711 Nominal bore 200mm not in trenches. m 1.215 I711 Nominal bore 200mm in Trenches. m 1.215 I77 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fixewated Material, Shoring Sides of Excavation Trenches. m 1.030 I712 Depth not exceeding 1.5m m 1.030 1.030 I713 Depth 1.5-2.0m m 3.0 1.030 1.030 1.030 I714 Depth 2.0-2.5m m <td></td>	
D21.2 Girth: 1.0 m - 2 m Nr 3 D22.1 Girth: 2.0 m - 3 m Nr 2 D22.2 Girth 3.0 m - 5 m Nr 1 Note: - Girth shall be measured 1.0m above ground level Nr 1 PIPES, FITTINGS AND VALVES Image: Comparison of the second level Image: Comparison of the second level PIPES, FITTINGS AND VALVES Image: Comparison of the second level Image: Comparison of the second level I7 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: Comparison of the second level I7 Nominal bore 200mm not in trenches Image: Comparison of the second of surfaces, Disposal of second level devel dev	
D22.1 Girth 2.0 m - 3 m Nr 2 D22.2 Girth 3.0 m - 5 m Nr 1 Note:- Girth shall be measured 1.0m above ground level Nr 1 PIPES.FITTINGS AND VALVES Image: Comparison of the state and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: Comparison of the state and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. High Density Polyethylene Pipes (HDPE) - PN 12.5 Image: Comparison of Surfaces, Disposal of Excavate Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement Image: Comparison of Surfaces, Disposal of Excavate Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement I7 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing) Image: Comparison of Surfaces, Disposal of Excavate Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement I7 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing) Image: Comparison of Surfaces, Disposal of Excavation Trenches, Backfilling and Final Reinstatement I71 Depth not exceeding 1.5m Image: Comparison of Surfaces, Disposal of Excavation Trenches Image: Comparison of Surfaces, Disposal of Excavation Trenches, Backfilling and Epoxy or Cement Mortar lined Image: Comparison of Surphy of Jointing materials, bolts, nuts, gaskets etc as applicable Image: Comparison of Surfaces, Disposition of Surphy of J	
D22.2 Girth 3.0 m - 5 m Nr 1 Note: - Girth shall be measured 1.0m above ground level . . PIPES, FITTINGS AND VALVES . . CLASS I: PIPE WORK - PIPES . . Supply, Transport to site and store in secure place. Include supply of jointing materials. bolts. nuts. gaskets etc as. . . I7 Supply, Transport to site and store in secure place. Include supply of jointing materials. bolts. nuts. gaskets etc as. . . I711 Nominal bore 200mm not in trenches m 1.215 . I711 Nominal bore 200mm not in trenches m 1.215 . I711 Nominal bore 200mm not in trenches. . . . I711 Nominal bore 200mm in Trenches. . . . I72 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing) . . . I73 Depth not exceeding 1.5m m 1.030 . . I712 Depth not exceeding 1.5m m 3.0 . . . I713 Depth 2.0-2.5m m 3.0 . . .	
Note: Girth shall be measured 1.0m above ground level Image: Constraint of the shall be measured 1.0m above ground level PIPES. FITTINGS AND VALVES Image: CLASS I: PIPE WORK - PIPES Image: CLASS I: PIPE WORK - PIPES 17 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: CLASS I: PIPE WORK - PIPES 17 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: CLASS I: PIPE WORK - PIPES 1711 Nominal bore 200mm not in trenches m 1,215 I711 Nominal bore 200mm not in trenches m 1,215 I711 Nominal bore 200mm not in trenches m 1,215 I711 Nominal bore 200mm in Trenches m 1,215 I717 High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing) m 1,030 I712 Depth not exceeding 1.5m m 1,030 I713 Depth 1.5-2.0m m 155 I714 Depth 2.0-2.5m m 30 I714 Depth 1.5-2.0m m 30 I714 Depth 1.5-2.0m m 30 I713	
PIPES.FITTINGS AND VALVES Image: Class I: PIPE WORK - PIPES CLASS I: PIPE WORK - PIPES Image: Class I: PIPE WORK - PIPES I7 Supply. Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as. Image: Class III IIII IIIIIIIIIIIIIIIIIIIIIIIIII	
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A-J311.1 ND 80mm	
A-J311.1 90° Nr 2	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 200mm				
A-J311.2.1	11.25°	Nr	13		
A-J311.2.2	22.5°	Nr	5		
A-J311.2.3	30°	Nr	3		
A-J311.2.4	45°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321	ND 200 x ND 80	Nr	2		
A-J323	ND 400 x ND 200	Nr	1		
A-J34	VJ Stepped Couplings				
A-J343	ND 400	Nr	2		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 200	Nr	3		
A-J353	ND 400	Nr	2		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 200	Nr	41		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.2	ND 200mm, 1.2m long	Nr	3		
A-J381.3	ND 200mm, 2.0 long	Nr	2		
A-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
A-J381.4	ND 80mm 1.2m long	Nr	4		
A-J381.5	ND 200mm 1.2m long	Nr	3		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.18 - LINE NM15a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete				
	with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating				
	valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.2	DN 80	Nr	2		
A-J811.3	DN 200	Nr	3		
A-J813	DN 400	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench,				
	include for Excavation, Preparation of Surfaces, Disposal of				
	Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
			-		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 200mm				
B-J311.2.1	11.25°	Nr	13		
B-J311.2.2	22.5°	Nr	5		
B-J311.2.3	30°	Nr	3		
B-J311.2.4	45°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 200 x ND 80	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J323	ND 400 x ND 200	Nr	1		
B-J34	VJ Stepped Couplings				
B-J343	ND 400	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 200	Nr	3		
B-J353	ND 400	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 200	Nr	41		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 200mm, 1.2m long	Nr	3		
B-J381.3	ND 200mm, 2.0 long	Nr	2		
B-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot_pipes				
B-J381.4	ND 80mm 1.2m long	Nr	4		
B-J381.5	ND 200mm 1.2m long	Nr	3		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.2	DN 80	Nr	2		
B-J811.3	DN 200	Nr	3		
B-J813	DN 400	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
J-J-J-J-I.I		111	۷		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.18 - LINE NM15a						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
B-J91.2	All Flanged Strainer					
B-J91.2	DN 80	Nr	2			
B-J91.3	Fire Hydrant					
B-J91.3	DN 80	Nr	2			
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES					
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries					
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.					
K21	IN SITU MASONARY CHAMBERS					
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	7			
K211.2	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2			
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2			
K6	Crossings					
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10			
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10			
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10			
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10			
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.18 - LINE NM15a				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	25		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	22		
K863	Allow for exposing and tapping of existing water pipelines Diameter 400mm to connect to the new network as shown on the drawings and as directed by the engineer.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	95		
L111.2	Excavation in trench for rock class "B"	m ³	143		
L111.3	Excavation in trench for rock class "C"	m ³	238		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	850		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	365		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	25		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by				
	the Engineer.	m²	32		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	29		
L72	Volume 0.1-0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	7		
L75	Volume 1-2m ³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, e.t.c.) The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement. pipe norminal bore n.e.300mm. all works to be executed in close liaison with relevant road authorities and rates to include facillitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	10		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classes (Provisional)	m³	1		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trencheless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem			
	1)				
	ii)				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (S	HORT TERM WORKS) LOT 1A				
BILL No. 2.18 - LINE NM15a					
	Amount Kshs.				
Page Total, Page 1 of 8					
Page Total, Page 2 of 8					
Page Total, Page 3 of 8					
Page Total, Page 4 of 8					
Page Total, Page 5 of 8					
Page Total, Page 6 of 8					
Page Total, Page 7 of 8					
Page Total, Page 8 of 8					
Bill No. 2.18 Total Exclusive of VAT Carried to Section 2 Summary Sheet					

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
ITEM No.	BILL No. 2.19 - LINE NM15b DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
	CLASS A: GENERAL ITEM					
A26	Testing of Works					
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	950			
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	950			
A3	Method Related Charges					
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.					
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source					
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S			
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S			
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)					
	i)	Item	L.S			
	ii)	Item	L.S			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.29		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	1.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 160mm not in trenches	m	950		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 90mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 160mm in Trenches				
I712	Depth not exceeding 1.5m	m	900		
I713	Depth 1.5-2.0m	m	50		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 90mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSD	P)
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 150mm				
A-J311.2.1	11.25°	Nr	9		
A-J311.2.2	22.5°	Nr	5		
A-J311.2.3	30°	Nr	2		
A-J311.2.4	45°	Nr	2		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 150 x ND 80	Nr	3		
A-J321.2	ND 150 x ND 150	Nr	1		
A-J323	ND 400 x ND 200	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.4	ND 150 x ND 80	Nr	1		
A-J331	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 80 x ND 50	Nr	1		
A-J331	ND 200 x ND 150	Nr	1		
A-J34	VJ Stepped Couplings				
A-J341	ND 80	Nr	1		
A-J343	ND 400	Nr	2		
A-J34	VJ Couplings				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDD)
WATER AND GANTATION DEVELOT MENT I RODEOT	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	5		
A-J351.2	ND 150	Nr	6		
A-J353	ND 400	Nr	2		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 160	Nr	46		
A-J38	Straight Specials				
A-030	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	3		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
A 0000.1	All Flanged pipes				
A-J381.2	ND 150mm, 1.2m long	Nr	6		
A-J381.3	ND 150mm, 2.0m long	Nr	3		
A-J383.2	ND 400mm, 1.2m long	Nr	2		
A-J303.2			-		
	Flanged spigot pipes		-		
A-J381.4	ND 80mm 1.2m long	Nr	4		
A-J381.5	ND 150mm 1.2m long	Nr	6		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete. with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A 1011.1		Nr	1		
A-J811.1	DN 50				
A-J811.2	DN 80	Nr	3		
A-J811.3	DN 150	Nr	6		
A-J813	DN 400	Nr	2		
A-J86	Air Valves				
A-J861	Single Orifice Air Valve				
A-J861	DN 50	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (SH	ORT TERM W	ORKS) LOT 1A	•
	BILL No. 2.19 - LINE NM15b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 150mm				
B-J311.2.1	11.25°	Nr	9		
B-J311.2.2	22.5°	Nr	5		
B-J311.2.3	30°	Nr	2		
B-J311.2.4	45°	Nr	2		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 150 x ND 80	Nr	3		
B-J321.2	ND 150 x ND 150	Nr	1		
B-J323	ND 400 x ND 200	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.4	ND 150 x ND 80	Nr	1		
B-J331	Tapers				
	All Flanged Concentric Taper	-			
B-J331	ND 80 x ND 50	Nr	1		
B-J331	ND 200 x ND 150	Nr	1		
B-J34	VJ Stepped Couplings	-			
		Nr	1		
B-J341	ND 80	INI	I I		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J343	ND 400	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	5		
B-J351.2	ND 150	Nr	6		
B-J353	ND 400	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 160	Nr	46		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	3		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 150mm, 1.2m long	Nr	6		
B-J381.3	ND 150mm, 2.0m long	Nr	3		
B-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
B-J381.4	ND 80mm 1.2m long	Nr	4		
B-J381.5	ND 150mm 1.2m long	Nr	6		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 80	Nr	3		
B-J811.4	DN 150	Nr	6		
B-J813	DN 400	Nr	2		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861	DN 50	Nr	1		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
BILL No. 2.19 - LINE NM15b						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
B-J91.1	Flanged Water Meters					
B-J91.1	DN 80	Nr	2			
B-J91.2	All Flanged Strainer					
B-J91.2	DN 80	Nr	2			
B-J91.3	Fire Hydrant					
B-J91.3	DN 80	Nr	2			
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES					
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries					
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork, joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.					
K21	IN SITU MASONARY CHAMBERS					
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	5			
K211.2	Ditto- but internal dimensions 1500mm x 1200mm.	Nr	2			
K211.3	Ditto- but internal dimensions 1900mm x 1200mm.	Nr	1			
K211.4	Ditto- but internal dimensions 1900mm x 1800mm.	Nr	2			
K211.5	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2			
K211.6	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2			
K6	Crossings					
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	15			
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10			
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10			
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	6		
K731.2	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED road to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	10		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	31		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m³	68		
L111.2	Excavation in trench for rock class "B"	m ³	102		
L111.3	Excavation in trench for rock class "C"	m³	170		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	665		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A					
BILL No. 2.19 - LINE NM15b						
TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
L53	Imported Selected Fill (Provisional)					
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.					
L531	To pipes nominal bore n.e 200mm	m	285			
L54	Mass Concrete Surround (Road Crossings)					
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	15			
L6	Pipe Wrapping					
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	10			
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks					
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.					
	Class 20/20 Mass Concrete					
	NOTE:- The work includes pipe and fitting fixing					
L71	Volume n.e 0.1m ³					
L711	To pipes nominal bore n.e 200mm	Nr	43			
L72	Volume 0.1-0.2m ³					
L721	To pipes nominal bore n.e 200mm	Nr	2			
L75	Volume 1-2m ³					
L751	To pipes nominal bore n.e 200mm	Nr	2			
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BILL No. 2.19 - LINE NM15b	
	Amount Kshs.
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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
		m	920		
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm		920		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	920		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	ltem	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.		L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
HATER AND GARMANON DEVELOT MENT I ROCEOT (NODI)	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.28		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4.00		
D21.2	Girth: 1.0 m - 2 m	Nr	3.00		
D22.1	Girth 2.0 m - 3 m	Nr	2.00		
D22.2	Girth 3.0 m - 5 m	Nr	2.00		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711.1	Nominal bore 110mm not in trenches	m	552		
1711.2	Nominal bore 200mm not in trenches	m	368		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712.1	Depth not exceeding 1.5m	m	552		
	Nominal bore 200mm in Trenches				
1712.2	Depth not exceeding 1.5m	m	368		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)
WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

	BILL No. 2.20 - LINE NM16				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	1		
A-J311.2.2	22.5°	Nr	1		
A-J311.2.3	30°	Nr	2		
A-J311.3	ND 200mm				
A-J311.3.1	11.25°	Nr	1		
A-J311.3.2	22.5°	Nr	1		
A-J311.3.3	30°	Nr	1		
A-J311.3.4	45°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J321.2	ND 100 x ND 100	Nr	1		
A-J321.3	ND 200 x ND 80	Nr	1		
A-J321.4	ND 200 x ND 100	Nr	1		
A-J324	ND 700 x ND 350	Nr	2		
A-J331	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	2		
A-J333	ND 350 x ND 200	Nr	2		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	4		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 100	Nr	1		
A-J344	ND 700	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	7		
A-J351.3	ND 200	Nr	3		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J354	ND 700	Nr	4		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	11		
A-J651.2	OD 200	Nr	10		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm 1.2m long	Nr	4		
A-J381.2	ND 100mm 1.2m long	Nr	6		
A-J381.3	ND 200mm 1.2m long	Nr	3		
	Plain Ended Pipes				
A-J381.3	ND 80mm, 1.2m long	Nr	2		
A-J381.4	ND 100mm, 1.2m long	Nr	1		
A-J384.1	ND 700mm, 1.2m long	Nr	4		
	All Flanged Ferrous Pipe				
A-J381.5	ND 100mm, 1.2m long	Nr	3		
A-J381.6	ND 100mm, 2.0m long	Nr	1		
A-J381.5	ND 200mm, 1.2m long	Nr	3		
A-J381.6	ND 200mm, 2.0m long	Nr	1		
A-J384.2	ND 700mm, 1.2m long	Nr	4		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	7		
A-J811.3	DN 200	Nr	3		
A-J814	DN 700	Nr	4		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAN	ID (SH	ORT TERM W	ORKS) LOT 1A	
	BILL No. 2.20 - LINE NM16				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	1		
B-J311.2.2	22.5°	Nr	1		
B-J311.2.3	30°	Nr	2		
B-J311.3	ND 200mm				
B-J311.3.1	11.25°	Nr	1		
B-J311.3.2	22.5°	Nr	1		
B-J311.3.3	30°	Nr	1		
B-J311.3.4	45°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	1		
B-J321.2	ND 100 x ND 100	Nr	1		
B-J321.3	ND 200 x ND 80	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (
WATER AND SANITATION DEVELOPMENT PROJECT (WODP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J321.4	ND 200 x ND 100	Nr	1		
B-J324	ND 700 x ND 350	Nr	2		
B-J331	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	2		
B-J333	ND 350 x ND 200	Nr	2		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	4		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 100	Nr	1		
B-J344	ND 700	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	7		
B-J351.3	ND 200	Nr	3		
B-J354	ND 700	Nr	4		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	11		
B-J651.2	OD 200	Nr	10		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm 1.2m long	Nr	4		
B-J381.2	ND 100mm 1.2m long	Nr	6		
B-J381.3	ND 200mm 1.2m long	Nr	3		
	Plain Ended Pipes				
B-J381.4	ND 80mm, 1.2m long	Nr	2		
B-J381.5	ND 100mm, 1.2m long	Nr	1		
B-J384.1	ND 700mm, 1.2m long	Nr	4		
	All Flanged Ferrous Pipe				
B-J381.6	ND 100mm, 1.2m long	Nr	3		
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAN	D (SHO	ORT TERM W	ORKS) LOT 1A		
ITEM	BILL No. 2.20 - LINE NM16 DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT	
No.	DESCRIPTION	UNIT	QUANTIT	(Kshs)	(Kshs)	
B-J381.7	ND 100mm, 2.0m long	Nr	1			
B-J381.8	ND 200mm, 1.2m long	Nr	3			
B-J381.9	ND 200mm, 2.0m long	Nr	1			
B-J384.2	ND 700mm, 1.2m long	Nr	4			
B-J8 B-J81	Valves and Penstocks All Flanged Gate Valves					
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this					
B-J811.1	DN 80	Nr	2			
B-J811.2	DN 100	Nr	7			
B-J811.3	DN 200	Nr	3			
B-J814	DN 700	Nr	4			
B-J91.1	Flanged Water Meters					
B-J91.1	DN 80	Nr	2			
B-J91.2	All Flanged Strainer					
B-J91.2	DN 80	Nr	2			
B-J91.3	Fire Hydrant					
B-J91.3	DN 80	Nr	2			
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK					
	ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries					
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.					
K21	IN SITU MASONARY CHAMBERS					
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	9			
K211.2	Ditto but internal dimensions 1400mm x 1200mm	Nr	1			
K211.3	Ditto but internal dimensions 1500mm x 1400mm	Nr	1			
K211.4	Ditto but internal dimensions 1800mm x 1200mm	Nr	1			

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ITEM	BILL No. 2.20 - LINE NM16 DESCRIPTION		QUANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTIT	(Kshs)	(Kshs)
				()	()
K211.6	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.7	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	15		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	14		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	11		
K731.2	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Drg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	3		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	21		
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e. 200mm.	Nr	1		
K864	-Ditto- but Nominal bore 600-900mm.	Nr	2		
11004					

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	61		
L111.2	Excavation in trench for rock class "B"	m ³	92		
L111.3	Excavation in trench for rock class "C"	m ³	152		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	644		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	276		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	14		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	12		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A							
ITEM No.	BILL No. 2.20 - LINE NM16 DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)			
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks							
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.							
	Class 20/20 Mass Concrete							
	NOTE:- The work includes pipe and fitting fixing							
L71	Volume n.e 0.1m ³							
L711	To pipes nominal bore n.e 200mm	Nr	25					
L72	Volume:- 0. 1- 0.2m ³							
L721	To pipes nominal bore n.e 200mm	Nr	7					
L73	Volume:- 0.2 - 0.5m ³							
L731	To pipes nominal bore n.e 200mm	Nr	4					
L74	Volume:- 0.5 - 1.0m ³							
L744	To pipes nominal bore n.e 600-900mm	Nr	4					

BILL No. 2.20 - LINE NM16					
	Amount Kshs.				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore 300-600mm	m	975		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	975		
A3	Method Related Charges				
	The Pipeline will be laid along a busy highway with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	ltem	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	ltem	L.S		
	ii)	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.29		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to Site and Store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable				
14	Ferrous Epoxy Coated Externally or Approved Equivalent and Cement Mortar Lined Internally Socket and Spigot Pipes -PN 16				
l431	Nominal bore 350 mm not in trenches	m	975		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
l511	OD 160mm not in trenches	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
14	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	Nominal Bore 350mm in Trenches				
l432	Depth not exceeding 1.5m	m	335		
l433	Depth 1.5m - 2.0m	m	625		
l434	Depth 2.0m - 2.5m	m	15		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 160mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16			()	()
	Supply, Transport to Site and Store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable				
J3	Epoxy Coated Externally and Epoxy or Cement Mortar Lined Internally Ferrous Pipes and Fittings				
A-J31	Plain Ended Bends				
A-J311	Nominal bore not exceeding 200mm				
A-J311	ND 80mm				
A-J311	90°	Nr	2		
A-J313	Nominal bore 300 - 600mm				
A-J313	ND 350mm				
A-J313.1	11.25°	Nr	8		
A-J313.2	22.5°	Nr	1		
A-J313.3	30°	Nr	7		
A-J313.4	45°	Nr	2		
A-J323	Junction and Branches				
	All Flanged Tee				
A-J323.1	ND 350 x ND 150	Nr	3		
A-J324	ND 700 x ND 350	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J323.2	ND 350 x ND 150	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 150 x ND 50	Nr	1		
A-J331.2	ND 150 x ND 80	Nr	2		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J343	ND 350	Nr	40		
A-J34	VJ Stepped Couplings				
A-J341	ND 150	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTIT	(Kshs)	(Kshs)
A-J344	ND 700	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 150	Nr	1		
A-J353	ND 350	Nr	3		
A-J354	ND 700	Nr	2		
A-J38	Straight Specials				
	All Flanged Pipes				
A-J383.1	ND 350mm, 1.2m long	Nr	1		
A-J383.2	ND 350mm, 2.0m long	Nr	2		
A-J384.1	ND 700mm, 1.2m long	Nr	2		
	Flanged Spigot Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	4		
A-J383.3	ND 350mm, 1.2m long	Nr	6		
	Plain Ended Pipes				
A-J381.2	ND 80mm, 1.2m long	Nr	2		
A-J381.3	ND 150mm, 1.2m long	Nr	1		
A-J383.4	ND 350mm, 1.2m long	Nr	3		
A-J384.2	ND 700mm, 1.2m long	Nr	2		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.2	DN 50	Nr	1		
A-J811.2	DN 80	Nr	2		
A-J811.4	DN 150	Nr	1		
A-J811.5	DN 350	Nr	3		
A-J813	DN 700	Nr	2		
A-J86	Air Valves				
A-J861	Double Orifice Air Valve				
A-J861	DN 50	Nr	1		
A-J91.1	Flanged Volumetric Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.1	Flanged Strainers for Water Meters		-		
A-J91.2	DN 80	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	<u>BILL No. 2.21 - LINE NM17a</u>				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy Coated Externally and Epoxy or Cement Mortar Lined Internally Ferrous Pipes and Fittings				
B-J31	Plain Ended Bends				
B-J311	Nominal bore not exceeding 200mm				
B-J311	ND 80mm				
B-J311	90°	Nr	2		
B-J313	Nominal bore 300 - 600mm				
B-J313	ND 350mm				
B-J313.1	11.25°	Nr	8		
B-J313.2	22.5°	Nr	1		
B-J313.3	30°	Nr	7		
B-J313.4	45°	Nr	2		
B-J323	Junction and Branches				
	All Flanged Tee				
B-J323.1	ND 350 x ND 150	Nr	3		
B-J324	ND 700 x ND 350	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J323.2	ND 350 x ND 150	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 150 x ND 50	Nr	1		
B-J331.2	ND 150 x ND 80	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J343	ND 350	Nr	40		
B-J34	VJ Stepped Couplings				
B-J341	ND 150	Nr	1		
B-J344	ND 700	Nr	2		
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B-J35	Ferrous Flange Adaptor				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 150	Nr	1		
B-J353	ND 350	Nr	3		
B-J354	ND 700	Nr	2		
B-J38	Straight Specials				
	All Flanged Pipes				
B-J383.1	ND 350mm, 1.2m long	Nr	1		
B-J383.2	ND 350mm, 2.0m long	Nr	2		
B-J384.1	ND 700mm, 1.2m long	Nr	2		
	Flanged Spigot Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	4		
B-J383.3	ND 350mm, 1.2m long	Nr	6		
	Plain Ended Pipes				
B-J381.2	ND 80mm, 1.2m long	Nr	2		
B-J381.3	ND 150mm, 1.2m long	Nr	1		
B-J383.4	ND 350mm, 1.2m long	Nr	3		
B-J384.2	ND 700mm, 1.2m long	Nr	2		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.2	DN 50	Nr	1		
B-J811.2	DN 80	Nr	2		
B-J811.4	DN 150	Nr	1		
B-J811.5	DN 350	Nr	3		
B-J813	DN 700	Nr	2		
B-J86	Air Valves				
B-J861	Double Orifice Air Valve				
B-J861	DN 50	Nr	1		
B-J91.1	Flanged Volumetric Water Meters				
	DN 80	Nr	2		
B-J91.1					1
B-J91.1 B-J91.2	Flanged Strainers for Water Meters				
		Nr	2		
B-J91.2 B-J91.2	Flanged Strainers for Water Meters	Nr	2		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.3	DN 80	Nr	2	. ,	
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. -Concrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	3		
K212.1	-Ditto- but Depth 1.5 - 2.0m.	Nr	1		
K213.1	-Ditto- but Depth 2.0 - 2.5m.	Nr	1		
K211.2	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1800mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K212.2	-Ditto- but Depth 1.5 - 2.0m.	Nr	1		
K213.2	-Ditto- but Depth 2.0 - 2.5m.	Nr	1		
K212.3	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth 1.5-2.0m.	Nr	1		
K213.3	-Ditto- but Depth 2.0 - 2.5m.	Nr	1		
K211.3	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K642	Allow for crossing existing Hedges and reinstating these after construction of the water main is complete.	m	10		
K652	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	60		
K662	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	150		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K672	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10	·	
K682	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K732.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore 300-900mm	m	6		
K732.2	Breaking up, Temporary and Permanent Reinstatement of CABRO CONCRETE PAVED Roads/footpaths including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Dwg No. M410/SD/04 pipe bore 300-900mm.	m	24		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/06	Nr	19		
K864	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 600-900mm	Nr	1		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	115		
L111.2	Excavation in trench for rock class "B"	m ³	173		
L111.3	Excavation in trench for rock class "C"	m ³	287		
	Note:- Blasting is NOT permitted for Item L11				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L523	To pipes nominal bore 300 - 600mm	m	683		
L53	Imported Selected Fill (Provisional)	-			
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L533	To pipes nominal bore 300 - 600mm	m	292		
L54	Mass Concrete Surround (Road Crossings)				
L543	Provide all materials and construct concrete ogee pipe sleeves and 150mm thick class 15/20 mass concrete surround to Ferrous pipes under Murram Road Crossing, diameter of pipe 300 - 600mm as per DRG. No. M410/SD/08	m	30		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	66		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L713	To pipes nominal bore between 300-600mm	Nr	14		
L72	Volume:- 0. 1- 0.2m ³				
L723	To pipes nominal bore between 300-600mm	Nr	8		
L72	Volume n.e 0.2 - 0.5 m ³				
L723	To pipes nominal bore between 300-600mm	Nr	8		
L74	Volume:- 0.5 - 1.0m ³				
L743	To pipes nominal bore between 300-600mm	Nr	8		
L76	Volume:- 2.0 - 4.0m ³				
L764	To pipes nominal bore between 600-900mm	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TE	ERM WORKS) LOT 1A
BILL No. 2.21 - LINE NM17a	•
	Amount Kshs.
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
	BILL No. 2.22 - LINE NM17b						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)		
	CLASS A: GENERAL ITEM						
A26	Testing of works						
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm	m	415				
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	415				
A3	Method Related Charges						
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.						
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of tworks under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source						
A35.1	Cost relating to the above mentioned specific conditions	Item	LS				
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S				
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)						
	i)	Item	LS				
	ii)	Item	LS				

	BILL No. 2.22 - LINE NM17b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE			× /	<u> </u>
D1	General site clearance along the pipeline allignment	ha	0.13		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	415		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	330		
1713	Depth 1.5-2.0m	m	85		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		

	BILL No. 2.22 - LINE NM17b				MOUNT
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
-J311.2.1	11.25°	Nr	2		
A-J311.2.2	22.5°	Nr	1		
A-J311.2.3	30°	Nr	3		
A-J311.2.4	45°	Nr	2		
A-J311.2.5	90°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	2		
A-J351.2	ND 100	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	19		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	1		
	Flanged Spigot Pipes				
A-J381.2	ND 80mm 1.2m long	Nr	2		
A-J381.3	ND 100mm 1.2m long	Nr	1		
	All Flanged Ferrous Pipes				
A-J381.4	ND 100mm 1.2m long	Nr	2		
A-J381.5	ND 100mm 2.0m long	Nr	1		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM V	VORKS) LOT 1	<u>A</u>
	BILL No. 2.22 - LINE NM17b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks			, <i>i</i>	<u> </u>
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	1		
A-J811.2	DN 100	Nr	1		
A-J91.1	All Flanged Volumetric Water Meter				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	2		
B-J311.2.2	22.5°	Nr	1		
B-J311.2.3	30°	Nr	3		
B-J311.2.4	45°	Nr	2		
B-J311.2.5					
J311.2.5	อง 	Nr	1		

	BILL No. 2.22 - LINE NM17b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J32	Junction and Branches			(KSIIS)	(KSIIS)
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	1		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	2		
B-J35	Ferrous Flange Adaptor		_		
		N.	-		
B-J351.1	ND 80	Nr	2		
B-J351.2	ND 100	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	19		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	1		
	Flanged Spigot Pipes				
B-J381.2	ND 80mm 1.2m long	Nr	2		
B-J381.3	ND 100mm 1.2m long	Nr	1		
	All Flanged Ferrous Pipes				
B-J381.4	ND 100mm 1.2m long	Nr	2		
B-J381.5	ND 100mm 2.0m long	Nr	1		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	1		
B-J811.2	DN 100	Nr	1		
B-J91.1	All Flanged Volumetric Water Meter				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM V	VORKS) LOT 1	<u>A</u>
	BILL No. 2.22 - LINE NM17b				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork, joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.2	-Ditto- but Internal Dimensions 1400mm x 1200mm	Nr	1		
K211.3	Provide all materials and construct Mansonry walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 Depth n.e 1.5m.	Nr	1		
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	1		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	5		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM V	VORKS) LOT 1	<u>A</u>
	<u>BILL No. 2.22 - LINE NM17b</u>				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No. K7	Reinstatement			(Kshs)	(Kshs)
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	24		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/06 CLASS L: PIPEWORK - SUPPORTS AND PROTECTION,	Nr	8		
	ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	33		
L111.2	Excavation in trench for rock class "B"	m ³	49		
L111.3	Excavation in trench for rock class "C"	m ³	81		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional) Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	291		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	124		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per M410/SD/08	m	24		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	17		
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L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	15		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT T	ERM WORKS) LOT 1A
<u>BILL No. 2.22 - LINE NM17b</u>	
	Amount Kshs.
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Bill No. 2.22 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks , Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	280		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	280		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.09		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	280		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	165		
l713	Depth 1.5-2.0m	m	115		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends	1			
A-J31	All Flanged Bends	1			
	Nominal bore n.e 200mm	1			
A-J311.2	ND 100mm	1			
A-J311.2	11.25°	Nr	7		
A-J6	P.E Flange Adaptor (Stub End)	1			
A-J651	OD 110	Nr	15		
		1			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J38	Straight Specials				
	All Flanged Ferrous Pipe				
A-J381.4	ND 100mm, 1.2m long	Nr	1		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2	11.25°	Nr	7		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	15		
B-J38	Straight Specials				
	All Flanged Ferrous Pipe				
B-J381.4	ND 100mm, 1.2m long	Nr	1		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	5		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	9		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	23		
L111.2	Excavation in trench for rock class "B"	m ³	35		
L111.3	Excavation in trench for rock class "C"	m ³	57		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	195		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	85		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	8		
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MOMBASA WATER DISTRIBUTION WORKS FOR NOR	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A						
BILL No. 2.23 - LINE NM18a							
	Amount Kshs.						
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	355		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	355		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	ltem	LS		
	ii)	ltem	LS		
	AL CARRIED TO BILL COLLECTION PAGE				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.11		
		Πđ	0.11		
D2	Tree Cutting (Provisional) Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	-	355		
17 1 1		m	335		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	340		
l713	Depth 1.5-2.0m	m	15		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	All Flanged Bends	1			
	Nominal bore n.e 200mm	1			
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	4		
A-J311.2.2	45°	Nr	1		
A-J32	Junction and Branches	+			
	All Flanged Tee				
A-J323	ND 500 x ND 250	Nr	1		
	L CARRIED TO BILL COLLECTION PAGE	1			

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J331	Tapers				
	All Flanged Concentric Taper				
A-J332	ND 250 x ND 100	Nr	1		
A-J34	VJ Stepped Couplings				
A-J343	ND 500	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351	ND 100	Nr	1		
A-J353	ND 500	Nr	2		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	12		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 100mm, 1.2m long	Nr	1		
	Plain Ended Pipes		· ·		
A-J383.1	ND 500mm, 1.2m long	Nr	2		
A-JJ003.1	All Flanged Ferrous Pipe		2		
A 1004 0		Nia			
A-J381.2	ND 100mm, 1.2m long	Nr	2		
A-J383.2	ND 500mm, 1.2m long	Nr	2		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
A-J8 A-J81	Valves and Penstocks All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811	DN 100	Nr	1		
A-J813	DN 500	Nr	2		
	AL CARRIED TO BILL COLLECTION PAGE				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.DESCRIPTIONUNIT VIITQUANTITY (Kshs)RATE (Kshs)AMOUNT (Kshs)RADECLASS J: PIPEWORK - FITTINGS AND VALVES - PMIGIIITansport from Site. Store, Lay and Joint Pipes in Trunch, Escavated Material. Shoring Sites of Escavation Tronches, Backfilling and Final RelistatementIIIJ3Epoys coded Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and FittingsIIIIB-J31All Flanged BendsIIIIIB-J312NI found bore no 200mmIIIIIIB-J312NI found bore no 200mmIIIIIIB-J312NI found bore no 200mmIIIIIIB-J312Store And ParchesIIIIIIIB-J312Jonction and BranchesII		BILL No. 2.24 - LINE NM18b			
Transport from Site, Store, Lay and Joint Pipes in Trench., include for Exeavation, Preparation of Surfaces, Disposal of scavation Arron Surfaces, Disposal of scavation Trenches, Backfüling and Final ReistatementImage: Construct Scavation Scavatio		DESCRIPTION	UNIT	QUANTITY	
include for Excavation, Preparation of Surfaces, Disposal of Backfilling and Final ReistatementImageImageImageJaEpoxy coated Externally and Epoxy or Cement Mortar lined imageImageImageImageImageB-J31All Flanged BendsImageImageImageImageImageImageB-J311All Flanged BendsImageImageImageImageImageImageImageImageB-J312No DoomImage <td></td> <td>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</td> <td></td> <td></td> <td></td>		CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16			
B-33 Internally Ferrous Pipes and Fittings Image: Constraint of the section of the sectin of the section of the section of the s		include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches,			
Aminal bore ne 200mmIndIndIndIndB-J311.2N0 100mmI.25 <td< td=""><td>J3</td><td></td><td></td><td></td><td></td></td<>	J3				
B-J311.2ND 100mmImage: section of the section o	B-J31	All Flanged Bends			
B-3311.21112.5°Nr44B-3311.2145°Nr111B-332Junction and BranchesIIIIAll Flanged TeeIIIIIB-323ND 500 x ND 250Nr1IIIB-333TapersIIIIIIB-333TapersIIIIIIB-334ND 500 x ND 200Nr1IIIIB-334ND 500 x ND 100Nr1IIIIB-334ND 500 x ND 100Nr1IIIIB-334ND 500Nr1IIIIIB-335Ferous Flange AdaptorNr1III <td< td=""><td></td><td>Nominal bore n.e 200mm</td><td></td><td></td><td></td></td<>		Nominal bore n.e 200mm			
B-J311.2245°Nr11B-J32Junction and BranchesIIIAll Flanged TeeIIIIB-J323ND 500 x ND 250Nr1IIB-J324D500 x ND 250NrIIIIB-J333TapersIIIIIB-J334D250 x ND 100NrIIIIB-J332ND 250 x ND 100NrIIIIB-J334VD 500 x ND 100NrIIIIB-J343ND 500 x ND 100NrIIIIB-J344ND 500 x ND 100NrIIIIB-J353Ferous Flange AdaptorNrIIIIB-J354ND 500ND 100NrIIIIB-J355ND 500Statiget Adaptor (Stub End)NrIIIIB-J364D100 mm, 1.2m longNrIIIIIIIB-J381.1ND 500m, 1.2m longNrIIIIIIIIB-J381.2ND 500m, 1.2m longNrIIIIIIIIB-J381.3ND 500m, 1.2m longNrIIIIIIIIB-J381.4ND 100m, 1.2m longNrIIIIIIII	B-J311.2	ND 100mm			
B-322Junction and BranchesImage: section of the	B-J311.2.1	11.25°	Nr	4	
All Flanged TeeImage: Constraint of the second	B-J311.2.2	45°	Nr	1	
B-J323ND 500 × ND 250Nr11B-J331Tapers111B-J331Tapers111All Flanged Concentric Taper111B-J332ND 250 × ND 100Nr11B-J34VJ Stepped Couplings111B-J351ND 500Nr21B-J353Ferrous Flange AdaptorNr21B-J353ND 500Nr11B-J354ND 100Nr11B-J355Ferrous Flange AdaptorNr11B-J351ND 100Nr11B-J353ND 500Nr12B-J354ND 100Nr12B-J355Refrange Adaptor (Stub End)Nr11B-J361OD 110Nr121B-J363Straight Specials111B-J383Straight Specials111B-J381.ND 100mm, 1.2m longNr11B-J383.1ND 500mm, 1.2m longNr21B-J383.2ND 500mm, 1.2m longNr21B-J383.3ND 500mm, 1.2m longNr21B-J383.4ND 100mm, 1.2m longNr21B-J383.4ND 500mm, 1.2m longNr21B-J383.4ND 500mm, 1.2m longNr21B-J383.5Blank FlangeNr21 <td>B-J32</td> <td>Junction and Branches</td> <td></td> <td></td> <td></td>	B-J32	Junction and Branches			
B-J331TapersInInInInAll Flanged Concentric TaperInInInInB-J332ND 250 × ND 100Nr1InInB-J34VJ Stepped CouplingsInInInInB-J34VJ Stepped CouplingsInInInInB-J35Ferrous Flange AdaptorNrInInInB-J351ND 100NrInInInInB-J353ND 500NrInInInInB-J351ND 100NrInInInInB-J353ND 500NrInInInInB-J354ND 500NrInInInInB-J355OD 110NrInInInInInB-J358Straight SpecialsInInInInInB-J381ND 100mm, 1.2m longNrInInInInB-J381.1ND 500mm, 1.2m longNrInInInInB-J381.2ND 500mm, 1.2m longNrInInInInB-J381.2ND 500mm, 1.2m longNrInInInInB-J381.2ND 500mm, 1.2m longNrInInInInB-J381.3ND 500mm, 1.2m longNrInInInInB-J381.4ND 100mm, 1.2m longNrInInInInB-J381.4ND 100mm, 1.2m lon		All Flanged Tee			
All Flanged Concentric TaperInInInInInB-J332ND 250 x ND 100Nr1111B-J341VJ Stepped CouplingsInIn111B-J343ND 500Nr2In11B-J353Ferrous Flange AdaptorInIn111B-J351ND 100Nr1In111B-J353ND 500Nr1In111B-J353ND 500Nr12In111B-J66P.E Flange Adaptor (Stub End)Nr12In111B-J651OD 110Nr12In11	B-J323	ND 500 x ND 250	Nr	1	
B-J332ND 250 × ND 100Nr1Image: state of the	B-J331	Tapers			
B-J34VJ Stepped CouplingsImage: section of the		All Flanged Concentric Taper			
B-J343ND 500Nr2Image: constraint of the second s	B-J332	ND 250 x ND 100	Nr	1	
B-J35 Ferrous Flange Adaptor Image: mail of the second se	B-J34	VJ Stepped Couplings			
B-J351ND 100NrAIIB-J353ND 500Nr2IIB-J353ND 500Nr2IIB-J61P.E Flange Adaptor (Stub End)INr12IB-J381OD 110Nr12IIB-J383Straight SpecialsIIIIB-J381ND 100mm, 1.2m longNr1IIB-J381.1ND 500mm, 1.2m longNr1IIB-J381.2ND 500mm, 1.2m longNr2IIB-J381.2ND 100mm, 1.2m longNr2IIB-J381.3ND 500mm, 1.2m longNr2IIB-J381.4ND 500mm, 1.2m longNr2IIB-J381.5ND 100mm, 1.2m longNr2IIB-J381.6ND 100mm, 1.2m longNr2IIB-J381.7ND 100mm, 1.2m longNr2IIB-J381.8ND 500mm, 1.2m longNr2IIB-J381.9ND 100mm, 1.2m longNr2IIB-J383ND 500mm, 1.2m longNr1IIB-J383ND 100mmNr1IIB-J384ND 100mmN1IIB-J384ND 100mmNN1IIB-J384ND 100mmNN1IIB-J384ND 100mmN </td <td>B-J343</td> <td>ND 500</td> <td>Nr</td> <td>2</td> <td></td>	B-J343	ND 500	Nr	2	
B-J353ND 500Nr2Image: second secon	B-J35	Ferrous Flange Adaptor			
B-J6P.E Flange Adaptor (Stub End)Image: Constraint of the state of the stat	B-J351	ND 100	Nr	1	
B-J651 OD 110 Nr 12 B-J38 Straight Specials Image: Constraint of the system of the sys	B-J353	ND 500	Nr	2	
B-J38 Straight Specials Image: spigot pipes Image: spigot pipes B-J381.1 ND 100mm, 1.2m long Nr 1 Image: spigot pipes B-J381.1 ND 100mm, 1.2m long Nr 1 Image: spigot pipes B-J383.1 ND 500mm, 1.2m long Image: spigot pipes Image: spigot pipes Image: spigot pipes B-J383.1 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.1 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 100mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 2 Image: spigot pipes B-J383.2 ND 500mm, 1.2m long Nr 1 Image: spigot pipes B-J383.3 ND 100mm Nr 1 Image: spigot pipes B-J383.4 ND 100mm Image: spigot pipes Image: spigot pipes B-J383.	B-J6	P.E Flange Adaptor (Stub End)			
Flanged spigot pipes Image: Spigot pipes Image: Spigot pipes Image: Spigot pipes B-J381.1 ND 100mm, 1.2m long Nr 1 Image: Spigot pipes B-J383.1 ND 500mm, 1.2m long Nr 2 Image: Spigot pipes B-J383.1 ND 500mm, 1.2m long Nr 2 Image: Spigot pipes B-J383.1 ND 500mm, 1.2m long Nr 2 Image: Spigot pipes B-J381.2 ND 100mm, 1.2m long Nr 2 Image: Spigot pipe B-J383.2 ND 500mm, 1.2m long Nr 2 Image: Spigot pipe B-J383.2 ND 500mm, 1.2m long Nr 2 Image: Spigot pipe B-J383.2 ND 500mm, 1.2m long Nr 2 Image: Spigot pipe B-J393 Blank Flange Image: Spigot pipe Image: Spigot pipe Image: Spigot pipe B-J391 ND 100mm Nr 1 Image: Spigot pipe	B-J651	OD 110	Nr	12	
B-J381.1ND 100mm, 1.2m longNN1IPlain Ended PipesIIIIIB-J383.1ND 500mm, 1.2m longNr2IIAll Flanged Ferrous PipeIIIIIB-J381.2ND 100mm, 1.2m longNr2IIB-J381.2ND 100mm, 1.2m longNr2IIB-J383.3ND 500mm, 1.2m longNr2IIB-J383.4ND 500mm, 1.2m longNr2IIB-J383.2ND 500mm, 1.2m longNr2IIB-J383.3ND 500mm, 1.2m longNr1IIB-J383.4ND 500mm, 1.2m longNr1IIB-J383.4ND 500mm, 1.2m longNr1IIB-J383.4ND 500mm, 1.2m longNrIIIB-J383.4ND 500mm, 1.2m longNrIIIB-J383.4ND 500mm, 1.2m longNrIIIB-J383.4ND 500mm, 1.2m longIIIIB-J393ND 100mmNrNr1IIB-J394ND 100mmIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII <td>B-J38</td> <td>Straight Specials</td> <td></td> <td></td> <td></td>	B-J38	Straight Specials			
Plain Ended Pipes Image: Constraint of the second seco		Flanged spigot pipes			
B-J383.1MD 500mm, 1.2m longNr2Image: Constraint of the second	B-J381.1	ND 100mm, 1.2m long	Nr	1	
All Flanged Ferrous Pipe Image: Constraint of the second		Plain Ended Pipes			
B-J381.2 ND 100mm, 1.2m long Nr 2 Image: Constraint of the second	B-J383.1	ND 500mm, 1.2m long	Nr	2	
B-J383.2 ND 500mm, 1.2m long Nr 2		All Flanged Ferrous Pipe			
B-J39 Blank Flange Image: Constraint of the second	B-J381.2	ND 100mm, 1.2m long	Nr	2	
B-J391 ND 100mm Nr 1	B-J383.2	ND 500mm, 1.2m long	Nr	2	
	B-J39	Blank Flange			
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE	B-J391	ND 100mm	Nr	1	
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
3-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
8-J811	DN 100	Nr	1		
-J813	DN 500	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, Disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork,joints and Finishes. - Tips for Disposal of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	3		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	5		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	10		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	7		
K863	Allow for exposing and tapping of existing water pipelines 500mm Diameter to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore not exceeding 200mm	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m³	27		
L111.2	Excavation in trench for rock class "B"	m³	40		
L111.3	Excavation in trench for rock class "C"	m ³	65		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	250		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	105		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	10		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	7		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	6		
L73	Volume:- 0.2- 0.5m ³				
L731	To pipes nominal bore n.e 200mm	Nr	1		
L76	Volume:- 2 - 4m ³				
L761	To pipes nominal bore n.e 200mm	Nr	1		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHOR	T TERM WORKS) LOT 1A			
BILL No. 2.24 - LINE NM18b				
	Amount Kshs.			
Page Total, Page 1 of 7				
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Page Total, Page 4 of 7				
Page Total, Page 5 of 7				
Page Total, Page 6 of 7				
Page Total, Page 7 of 7				
ill No. 2.24 Total Exclusive of VAT Carried to Section 2 Summary Sheet				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of Works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	1,345		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,345		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNI (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.40		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	2		
D21.2	Girth: 1.0 m - 2 m	Nr	1		
D22.1	Girth 2.0 m - 3 m	Nr	1		
022.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 160mm not in trenches	m	1345		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
1511	OD 90mm	m	100		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)				
	Nominal bore 160mm in Trenches				
1712	Depth not exceeding 1.5m	m	810		
1713	Depth 1.5-2.0m	m	310		
1714	Depth 2.0-2.5m	m	225		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 90mm in Trenches				
l512	Depth n.e 1.5m	m	50		
l514	Depth n.e 2.0-2.5m	m	50		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy Coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
A-J31	All Flanged Bends				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 150mm				
A-J311.2.1	11.25°	Nr	18		
A-J311.2.2	22.5°	Nr	8		
A-J311.2.3	30°	Nr	1		
A-J311.2.4	45°	Nr	1		
A-J311.2.5	90°	Nr	3		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 150 × ND 80	Nr	4		
A-J321.2	ND 150 x ND 100	Nr	1		
A-J321.3	ND 150 x ND 150	Nr	1		
A-J323.1	ND 350 x ND 200	Nr	1		
A-J323.2	ND 500 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.5	ND 150 x ND 80	Nr	2		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 80 x ND 50	Nr	2		
A-J331.2	ND 200 x ND 150	Nr	1		
A-J332	ND 250 x ND 150	Nr	1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J34	VJ Stepped Couplings				
A-J341.1	ND 80	Nr	2		
A-J343.1	ND 350	Nr	2		
A-J343.2	ND 500	Nr	2		
A-J34	VJ Couplings				
A-J341.2	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	6		
A-J351.2	ND 100	Nr	1		
A-J351.3	ND 150	Nr	9		
A-J353.1	ND 350	Nr	2		
A-J353.2	ND 500	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651.1	OD 110	Nr	1		
A-J651.2	OD 160	Nr	79		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	4		
A-J383.1	ND 350mm 1.2m long	Nr	2		
A-J383.2	ND 500mm, 1.2m long	Nr	1		
	Flanged Spigot Pipes				
A-J381.2	ND 80mm 1.2m long	Nr	4		
A-J381.3	ND 100mm 1.2m long	Nr	1		
A-J381.4	ND 150mm 1.2m long	Nr	9		
A-J383.3	ND 500mm 1.2m long	Nr	1		
	All Flanged Pipes				
A-J381.8	ND 150mm, 2.0m long	Nr	3		
A-J381.9	ND 150mm, 1.2m long	Nr	10		
A-J383.1	ND 350mm, 1.2m long	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	2		
A-J811.2	DN 80	Nr	4		
A-J811.3	DN 100	Nr	1		
A-J811.4	DN 150	Nr	9		
A-J813.1	DN 350	Nr	2		
A-J813.2	DN 500	Nr	1		
A-J86	Air Valves				
A-J861	Single Orifice Air Valve				
A-J861	DN 50	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.2	ND 150mm				
3-J311.2.1	11.25°	Nr	18		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
3-J311.2.2	22.5°	Nr	8		
3-J311.2.3		Nr	1		
B-J311.2.4	45°	Nr	1		
B-J311.2.5	90°	Nr	3		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 150 x ND 80	Nr	4		
B-J321.2	ND 150 x ND 100	Nr	1		
B-J321.3	ND 150 x ND 150	Nr	1		
B-J323.1	ND 350 x ND 200	Nr	1		
B-J323.2	ND 500 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.5	ND 150 x ND 80	Nr	2		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 80 x ND 50	Nr	2		
B-J331.2	ND 200 x ND 150	Nr	1		
B-J332	ND 250 x ND 150	Nr	1		
B-J34	VJ Stepped Couplings				
B-J341.1	ND 80	Nr	2		
B-J343.1	ND 350	Nr	2		
B-J343.2	ND 500	Nr	2		
B-J34	VJ Couplings				
B-J341.2	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	6		
B-J351.2	ND 100	Nr	1		
B-J351.3	ND 150	Nr	9		
B-J353.1	ND 350	Nr	2		
B-J353.2	ND 500	Nr	1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
B-J65	P.E Flange Adaptor (Stub End)				
B-J651.1	OD 110	Nr	1		
B-J651.2	OD 160	Nr	79		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	4		
B-J383.1	ND 350mm 1.2m long	Nr	2		
B-J383.2	ND 500mm, 1.2m long	Nr	1		
	Flanged Spigot Pipes				
B-J381.2	ND 80mm 1.2m long	Nr	4		
B-J381.3	ND 100mm 1.2m long	Nr	1		
B-J381.4	ND 150mm 1.2m long	Nr	9		
B-J383.5	ND 500mm 1.2m long	Nr	1		
	All Flanged Pipes				
B-J381.6		Nr	3		
	ND 150mm, 2.0m long	Nr	10		
B-J381.7	ND 150mm, 1.2m long		2		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	2		
B-J811.2	DN 80	Nr	4		
B-J811.3	DN 100	Nr	1		
B-J811.4	DN 150	Nr	9		
B-J813.1	DN 350	Nr	2		
B-J813.2	DN 500	Nr	1		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861	DN 50	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.25 - LINE NM19 ITEM DESCRIPTION UNIT QUANTITY RATE AMOUNT No. (Kshs) (Kshs) B-J91.1 Flanged Water Meters B-.191 1 DN 80 Nr 2 All Flanged Strainer B-J91.2 Nr 2 B-J91.2 DN 80 B-J91.3 Fire Hydrant B-J91.3 DN 80 Nr 2 CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services.-Concrete, Reinforcement, Formwork, joints and Finishes -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities. K21 IN SITU MASONARY CHAMBERS Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing Nr 3 K211.1 of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m Nr K212.1 Ditto but Depth 1.5 - 2.0m 4 Provide all materials and construct Mansonry walling Chambers, Nr 1 internal dimensions 1500mm x 1200mm. Include for supply and fixing K211.2 of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m Nr K212.2 Ditto but Depth 1.5 - 2.0m 1 Provide all materials and construct Mansonry walling Chambers, Nr 1 internal dimensions 1900mm x 1200mm. Include for supply and fixing K212.3 of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e. 1.5m Nr Ditto but Depth 1.5 - 2.0m 1 K212.3

Provide all materials and construct Mansonry walling Chambers,

M410/SD/02. Depth n.e 1.5m
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K211.3

internal dimensions 2100mm x 1900mm. Include for supply and fixing

of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. Nr

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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.5	Provide all materials and construct Mansonry walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	1		
K212.4	Ditto but Depth 1.5 - 2.0m	Nr	1		
K211.6	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on No. M410/SD/02	Nr	2		
< 211.7	Excavate for, provide all materials and construct a valve box for washouts as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	20		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K711	Breaking up and Temporary Reinstatement of Earth Roads according to Drg. No. M410/SD/04 pipe bore n.e 300mm	m	6		
K731.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	7		
K731.2	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED Roads/Footpaths including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Drg. No. M407/SD/04 pipe bore n.e 300mm	m	18		
K8	Other Pipework Ancillaries				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	39		
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm	Nr	1		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	Nr	2		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
_111.1	Excavation in trench for rock class "A"	m³	119		
_111.2	Excavation in trench for rock class "B"	m ³	178		
.111.3	Excavation in trench for rock class "C"	m³	296		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	935		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	410		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road Crossings, diameter of pipe n.e 300mm as per Drg No. M410/SD/08.	m	26		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	18		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
GE TOT			1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	48		
L72	Volume 0.1 - 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	6		
L73	Volume 0.2 - 0.5m3				
L731	To pipes nominal bore n.e 200mm	Nr	2		
L74	Volume 0.5 - 1.0m3				
L743	To pipes nominal bore 300-600mm	Nr	1		
L75	Volume 2.0 - 4.0m3				
L743	To pipes nominal bore 300-600mm	Nr	1		

	TH MAINLAND (SHORT TERM WORKS) LOT 14
BILL No. 2.25 - LINE NM19	
	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks,Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm	m	718		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	718		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	ltem	LS		
	ii)	Item	LS		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.22		
D2	Tree Cutting (Provisional) Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
l711	Nominal bore 110mm not in trenches	m	718		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	478		
1713	Depth 1.5-2.0m	m	240		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16 Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	8		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	3		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 50	Nr	1		
A-J321.2	ND 100 x ND 80	Nr	2		
A-J324	ND 700 x ND 350	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	1		
A-J333	ND 350 x ND 200	Nr	1		
A-J34	VJ Stepped Couplings				
A-J344	ND 700	Nr	2		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	3		
A-J354	ND 700	Nr	2		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	30		
A-J38	Straight Specials <u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J384.1	ND 700mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.2	ND 100mm, 1.2m long	Nr	6		
A-J381.3	ND 100mm, 2.0m long	Nr	2		
A-J381.4	ND 200mm, 1.2m long	Nr	1		
A-J384.2	ND 700mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
A-J381.5	ND 80mm 1.2m long	Nr	4		
A-J381.6	ND 100mm 1.2m long	Nr	3		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include				
	for this				
A-J811.1	DN 50	Nr	1		
A-J811.2	DN 80	Nr	2		
A-J811.3	DN 100	Nr	3		
A-J814	DN 700	Nr	2		
A-J86	Air Valves				
A-J861	Single Orifice Air Valve				
A-J861	DN 50	Nr	1		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	8		
B-J311.2.2	22.5°	Nr	3		
			-		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 × ND 50	Nr	1		
B-J321.2	ND 100 x ND 80	Nr	2		
B-J324	ND 700 x ND 350	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	1		
B-J333	ND 350 x ND 200	Nr	1		
B-J34	VJ Stepped Couplings				
B-J344	ND 700	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	3		
B-J354	ND 700	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	30		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J384.1	ND 700mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 100mm, 1.2m long	Nr	6		
B-J381.3	ND 100mm, 2.0m long	Nr	2		
B-J381.4	ND 200mm, 1.2m long	Nr	1		
B-J384.2	ND 700mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
B-J381.5	ND 80mm 1.2m long	Nr	4		
B-J381.6	ND 100mm 1.2m long	Nr	3		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete				
	with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating				
	valves to be supplied with wheel only. Contractor's rates to include				
	for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 80	Nr	2		
B-J811.3	DN 100	Nr	3		
B-J814	DN 700	Nr	2		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861	DN 50	Nr	1		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK				
	ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks,				
	reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include:				
	- Excavation, preparation of surfaces, disposal of surplus excavated				
	material, shoring sides of excavation, backfilling and removal of				
	redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes.				
	-Tips for disposal of excavated material of debris to be identified by				
	the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
	Provide all materials and construct Mansonry walling Chambers,				
	internal dimensions 1200mm x 1200mm. Include for supply and				
K211.1	fixing of removable precast concrete covers, step irons, compacted	Nr	4		
	granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.				
K211.2	Ditto but internal dimensions 1400mm x 1200mm.	Nr	2		
K211.3	Ditto but internal dimensions 2100mm x 1400mm.	Nr	2		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	4		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	16		
K864	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 600-900mm.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	58		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L111.2	Excavation in trench for rock class "B"	m ³	87		
L111.3	Excavation in trench for rock class "C"	m ³	145		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	503		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	215		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	4		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	3		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	27		
L72	Volume 0.1 - 0.2m ³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume 0.5 - 1.0m ³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
L77	Volume 4.0 - 6.0m ³				
L771	To pipes nominal bore n.e 200mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHOP	RT TERM WORKS) LOT 1A
BILL No. 2.26 - LINE NM20a	
	Amount Kshs.
Page Total, Page 1 of 8	
Page Total, Page 2 of 8	
Page Total, Page 3 of 8	
Page Total, Page 4 of 8	
Page Total, Page 5 of 8	
Page Total, Page 6 of 8	
Page Total, Page 7 of 8	
Page Total, Page 8 of 8	
Bill No. 2.26 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

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BILL No. 2.27 - LINE NM20b				
DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
CLASS A: GENERAL ITEM				
Testing of works				
Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e 200mm	m	1,015		
Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	1,015		
Method Related Charges				
The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times.				
Cost relating to the above mentioned specific conditions	Item	LS		-
Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
i)	Item	LS		
ii)	ltem	LS		
	DESCRIPTION CLASS A: GENERAL ITEM Testing of works Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e 200mm Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval. Method Related Charges The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment. The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of two works. These include but are not limited to the following: No blasting will be permitted in these areas The Contactor to maintain uninterrupted continuity of water supply in existing pipelines. No blasting will be permitted in these areas Ne blasting will be permitted in these areas Ne blasting will be permitted in these areas No blasting will be permitted in these a	DESCRIPTION UNIT CLASS A: GENERAL ITEM	DESCRIPTION UNIT QUANTITY CLASS A: GENERAL ITEM Image: Classical Content of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings,etc. Nominal bore n.e. 200mm Image: Classical Clasical Clasclas Classical Classical Clasclas Classical Clasclas C	DESCRIPTION UNIT QUANTITY RATE (Kshs) CLASS A: GENERAL ITEM Image: Comparison of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrus Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm Image: Comparison of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrus Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm Image: Comparison of the Pipeline including provision of ansportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm Image: Comparison of the Pipeline fitter of 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Choirine, all as specified and safe disposal of disinfecting water to Engineer's approval. Image:

WATED AND CANITATION DEVELOPMENT DDO JECT (V	
WATER AND SANITATION DEVELOPMENT PROJECT (W	NSUPI

BILL No. 2.27 - LINE NM20b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.30		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	1,015		
	Transport from Site Store, Lay and Joint Pipes in Trench. include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	Nominal bore 110mm in Trenches				
1712	Depth not exceeding 1.5m	m	745		
1713	Depth 1.5-2.0m	m	270		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include				
	supply of jointing materials, bolts, nuts, gaskets etc as				
	applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
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WATER AND CANITATION DEVELOPMENT DROJECT (V	
WATER AND SANITATION DEVELOPMENT PROJECT (V	VSUPI

BILL No. 2.27 - LINE NM20b

ITEM	BILL No. 2.27 - LINE NM20b DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	7		
A-J311.2.2	22.5°	Nr	4		
A-J311.2.3	30°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	2		
A-J323	ND 400 x ND 200	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 200 x ND 100	Nr	1		
A-J34	VJ Stepped Couplings				
A-J343	ND 400	Nr	2		
A-J34	VJ Couplings				
A-J341	ND 80	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	4		
A-J351.2	ND 100	Nr	3		
A-J353	ND 400	Nr	2		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	28		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
A-J381.2	ND 100mm, 1.2m long	Nr	4		
A-J381.3	ND 100mm, 2.0m long	Nr	2		
A-J383.2	ND 400mm, 1.2m long	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT ()	MCDD)
MATER AND GANTATION DEVELOT MENT TROBEOT	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Flanged spigot pipes				
A-J381.4	ND 80mm 1.2m long	Nr	4		
A-J381.5	ND 100mm 1.2m long	Nr	3		
A-J39	Blank Flange				
A-J391	ND 100mm	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	3		
A-J813	DN 400	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	2		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	2		
B-J31	All Flanged Bends				
B 10// 5	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	7		

WATER AND SANITATION DEVELOPMENT PROJECT ()	NSDP)

BILL No. 2.27 - LINE NM20b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
3-J311.2.2	22.5°	Nr	4		
3-J311.2.3	30°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	2		
B-J323	ND 400 × ND 200	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 200 x ND 100	Nr	1		
B-J34	VJ Stepped Couplings				
B-J343	ND 400	Nr	2		
B-J34	VJ Couplings				
B-J341	ND 80	Nr	4		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	4		
B-J351.2	ND 100	Nr	3		
B-J353	ND 400	Nr	2		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	28		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	All Flanged pipes				
B-J381.2	ND 100mm, 1.2m long	Nr	4		
B-J381.3	ND 100mm, 2.0m long	Nr	2		
B-J383.2	ND 400mm, 1.2m long	Nr	2		
	Flanged spigot pipes				
B-J381.4	ND 80mm 1.2m long	Nr	4		
B-J381.5	ND 100mm 1.2m long	Nr	3		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		

WATER AND SANITATION DEVELOPMENT PROJECT (
WATER AND SANITATION DEVELOPMENT PROJECT (NSDP)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	2		
B-J811.2	DN 100	Nr	3		
B-J813	DN 400	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	2		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	2		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	2		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. -Concrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposal of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K212	Ditto but Depth 1.50m - 2.0m	Nr	3		
K211.2	Ditto but internal dimensions 1400mm x 1200mm Depth n.e 1.50m	Nr	2		
K211.3	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	2		
K211.4	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on Drawing No. M410/SD/02	Nr	2		

WATER AND SANITATION DEVELOPMENT PROJECT (WSI	
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TEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K6	Crossings				
(641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
(651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	10		
(661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
<671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	10		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of EARTH road to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	8		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	15		
K863	Allow for exposing and tapping of existing water pipelines 400mm Dia. to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
.111.1	Excavation in trench for rock class "A"	m ³	80		
.111.2	Excavation in trench for rock class "B"	m ³	120		
.111.3	Excavation in trench for rock class "C"	m ³	200		
	Note:- Blasting is NOT permitted for Item L11				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT	<u>1A</u>	
ITEM						
No.				(Kshs)	(Kshs)	
L5	Surrounds					
L52	Selected Excavated Granular Fill (Provisional) Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.					
L521	To pipes nominal bore n.e 200mm	m	710			
L53	Imported Selected Fill (Provisional)					
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.					
L531	To pipes nominal bore n.e 200mm	m	305			
L54	Mass Concrete Surround (Road Crossings)					
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	8			
L6	Pipe Wrapping					
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	6			
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks					
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.					
	Class 20/20 Mass Concrete					
	NOTE:- The work includes pipe and fitting fixing					
L71	Volume n.e 0.1m ³					
L711	To pipes nominal bore n.e 200mm	Nr	26			
L72	Volume 0.1 - 0.2m ³					
L721	To pipes nominal bore n.e 200mm	Nr	1			
L75	Volume 1.0 - 2.0m ³					
L751	To pipes nominal bore n.e 200mm	Nr	1			
AGE TOT	AL CARRIED TO BILL COLLECTION PAGE	I	II			

BILL No. 2.27 - LINE NM20b			
	Amount Kshs.		
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	SHORT TERM V	WORKS) LOT 1	IA
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm	m	460		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	460		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	ltem	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	ltem	LS		

WATER AND SANITATION DEVELOPMENT PROJECT (V	
WATER AND SANITATION DEVELOPMENT PROJECT (V	vour)

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.15		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	3		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	460		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches,				
	Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)				
	Nominal bore 110mm in Trenches				
I712	Depth not exceeding 1.5m	m	460		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
A-J31	All Flanged Bends				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
-J311.2.1	11.25°	Nr	4		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERN	WORKS) LOT	<u>1A</u>
	BILL No. 2.28 - LINE NM21		_		
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	1		
A-J311.2.3	30°	Nr	2		
A-J311.2.4	45°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J321.2	ND 100 x ND 100	Nr	2		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	2		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 100	Nr	4		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	2		
A-J351.2	ND 100	Nr	7		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	18		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	1		
A-J381.2	ND 100mm, 1.2m long	Nr	4		
	Flanged spigot pipes				
A-J381.3	ND 80mm 1.2m long	Nr	2		
A-J381.4	ND 100mm 1.2m long	Nr	3		
	All Flanged Ferrous Pipe				
A-J381.5	ND 100mm, 1.2m long	Nr	1		
A-J381.6	ND 100mm, 2m long	Nr	1		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 80	Nr	1		
A-J811.2	DN 100	Nr	7		

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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINI	AND (S	HORT TERM	WORKS) LOT	<u>1A</u>
ITEM	BILL No. 2.28 - LINE NM21 DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.				(Kshs)	(Kshs)
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	1		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	1		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	1		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	1		
B-J31	All Flanged Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	4		
B-J311.2.2	22.5°	Nr	1		
B-J311.2.3	30°	Nr	2		
B-J311.2.4	45°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 80	Nr	1		
B-J321.2	ND 100 x ND 100	Nr	2		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	2		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 100	Nr	4		
B-J35	Ferrous Flange Adaptor				
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
1				WORKS) LOT	1.4
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (C		WORKS) LOT	
	BILL No. 2.28 - LINE NM21				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J351.1	ND 80	Nr	2		
B-J351.2	ND 100	Nr	7		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	18		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	1		
B-J381.2	ND 100mm, 1.2m long	Nr	4		
	Flanged spigot pipes				
B-J381.3	ND 80mm 1.2m long	Nr	2		
B-J381.4	ND 100mm 1.2m long	Nr	3		
	All Flanged Ferrous Pipe				
B-J381.5	ND 100mm, 1.2m long	Nr	1		
B-J381.6	ND 100mm, 2m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 80	Nr	1		
B-J811.2	DN 100	Nr	7		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	1		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	1		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT 1	A
	BILL No. 2.28 - LINE NM21				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.2	- Ditto- but internal dimensions 1400mm x 1200mm	Nr	1		
K211.3	- Ditto- but internal dimensions 1700mm x 1200mm	Nr	2		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on No. M410/SD/02	Nr	1		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	5		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	15		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K741.2	Breaking up, Temporary and Permanent Reinstatement of MURRAM Footpath according to Dwg. No. M410/SD/04 pipe bore	m	5		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	20		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e. 200mm	Nr	2		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	0		
L111.2	Excavation in trench for rock class "B"	m ³	280		
L111.3	Excavation in trench for rock class "C"	m ³	420		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	322		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	138		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road Crossings, diameter of pipe n.e. 300mm as per drg. No. M410/SD/08	m	15		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	10		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
AGE TOT	AL CARRIED TO BILL COLLECTION PAGE		II		
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	20		
			1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH I	MAINLAND (SHORT TERM WORKS) LOT 1A
BILL No. 2.28 - LINE NM21	
	Amount Kshs.
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DESCRIPTION TEM DESCRIPTION TEM DESCRIPTION DESCRIPTIO	m	QUANTITY 3,625 3,625	RATE (Kshs)	AMOUNT (Kshs)
Aning of the Pipeline including provision of all nd works necessary for testing such as but ks, Anchor Blocks, Provision, Transportation f Water, Pipe Fittings,etc. Nominal bore n.e. ; Flushing with clear water, filling with water um Hypochlorite, left for 24 hours. This ssary Equipment, Materials, Chemicals and f Residual Chlorine, all as specified and safe water to Engineer's approval. ates atid along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, id statutory charges, etc. The Contractor will Method Statement for execution of works notificans for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply				
nd works necessary for testing such as but kks, Anchor Blocks,Provision, Transportation f Water, Pipe Fittings,etc. Nominal bore n.e. ; Flushing with clear water, filling with water um Hypochlorite, left for 24 hours. This ssary Equipment, Materials, Chemicals and f Residual Chlorine, all as specified and safe water to Engineer's approval. ges aid along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, id statutory charges, etc. The Contractor will Method Statement for execution of works notificon for approval prior to execution of the ut are not limited to the following: ermitted in these areas initain uninterrupted continuity of water supply				
nd works necessary for testing such as but kks, Anchor Blocks,Provision, Transportation f Water, Pipe Fittings,etc. Nominal bore n.e. ; Flushing with clear water, filling with water um Hypochlorite, left for 24 hours. This ssary Equipment, Materials, Chemicals and f Residual Chlorine, all as specified and safe water to Engineer's approval. ges aid along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, id statutory charges, etc. The Contractor will Method Statement for execution of works notificon for approval prior to execution of the ut are not limited to the following: ermitted in these areas initain uninterrupted continuity of water supply				
um Hypochlorite, left for 24 hours. This ssary Equipment, Materials, Chemicals and f Residual Chlorine, all as specified and safe water to Engineer's approval. add along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, ed statutory charges, etc. The Contractor will Method Statement for execution of works nditions for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply				
um Hypochlorite, left for 24 hours. This ssary Equipment, Materials, Chemicals and f Residual Chlorine, all as specified and safe water to Engineer's approval. add along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, ed statutory charges, etc. The Contractor will Method Statement for execution of works nditions for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply		3,625		
aid along narrow urban roads with existing on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. Shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, id statutory charges, etc. The Contractor will Method Statement for execution of works notification for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply				
on the surface (electricity, etc) and buried ter pipelines, fiber optic cables, etc.) and with or mechanical excavation equipment. shall be deemed to include for any measures these conditions, provision of access road to n relevant authorities and local residents, ed statutory charges, etc. The Contractor will Method Statement for execution of works inditions for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply				
these conditions, provision of access road to n relevant authorities and local residents, id statutory charges, etc. The Contractor will Method Statement for execution of works nditions for approval prior to execution of the ut are not limited to the following: ermitted in these areas intain uninterrupted continuity of water supply				
lighting, bands, warning signs, etc. to be iree of excessive groundwater, seepage or				
ve mentioned specific conditions	Item	LS		
local residents and relevant authorities and accidental damage, temporary access to execution of the Works, etc.	ltem	L.S		
thod related charges the tenderer feels may ould be indicated below with pricing for each ach additional sheets if necessary)				
	Item	LS		
	Item	LS		
t	execution of the Works, etc. hod related charges the tenderer feels may uld be indicated below with pricing for each	Item Item Item Item Item Item Item Item	execution of the Works, etc. Item L.S hod related charges the tenderer feels may uld be indicated below with pricing for each ich additional sheets if necessary) Item	Item L.S hod related charges the tenderer feels may uld be indicated below with pricing for each ich additional sheets if necessary) Item

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	1.20		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	5		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	1		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 110mm not in trenches	m	3625		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 50mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)				
	Nominal bore 110mm in Trenches				
l712	Depth not exceeding 1.5m	m	3,625		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 50mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16	1			
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm	-			

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)			
	MOMBASA WATER DISTRIBUTION WORKS FOR NORT	H MAINLAND (S	SHORT TERM	WORKS) LOT	IA
	BILL No. 2.29 - LINE NM22				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.1	ND 80mm			(1313)	(K3115)
		Nir	7		
	90°	Nr	7		
A-J31	All Flanged Bends				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	38		
A-J311.2.2	22.5°	Nr	15		
A-J311.2.3	30°	Nr	15		
A-J311.2.4	45°	Nr	7		
A-J311.2.5	90°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 100 x ND 50	Nr	1		
A-J321.2	ND 100 x ND 80	Nr	7		
A-J321.3	ND 500 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.4	ND 100 x ND 50	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 250 x ND100	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	14		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 50	Nr	1		
A-J341.3	ND 500	Nr	2		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 50	Nr	1		
A-J351.2	ND 80	Nr	14		
A-J351.3	ND 100	Nr	8		
A-J351.4	ND 500	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	133		
	L CARRIED TO BILL COLLECTION PAGE				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	I WORKS) LOT 1	<u>IA</u>	
	BILL No. 2.29 - LINE NM22					
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)	
A-J38	Straight Specials					
	Plain Ended Pipes					
A-J381.1	ND 50mm, 1.2m long	Nr	1			
A-J381.2	ND 80mm, 1.2m long	Nr	7			
A-J381.3	ND 500mm, 1.2m long	Nr	1			
	Flanged spigot_pipes					
A-J381.4	ND 80mm 1.2m long	Nr	14			
A-J381.5	ND 100mm 1.2m long	Nr	8			
A-J381.6	ND 500mm 1.2m long	Nr	1			
	All Flanged Ferrous Pipe					
A-J381.7	ND 100mm, 1.2m long	Nr	12			
A-J381.8	ND 100mm, 2m long	Nr	7			
A-J381.9	ND 500mm, 2m long	Nr	1			
A-J8	Valves and Penstocks					
A-J81	All Flanged Gate Valves					
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this					
A-J811.1	DN 50	Nr	2			
A-J811.2	DN 80	Nr	7			
A-J811.3	DN 100	Nr	8			
A-J811.4	DN 500	Nr	1			
A-J86	Air Valves					
A-J861	Single Orifice Air Valve					
A-J861.1	DN 50	Nr	1			
A-J91.1	Flanged Water Meters					
A-J91.1	DN 80	Nr	7			
A-J91.2	All Flanged Strainer					
A-J91.2	DN 80	Nr	7			
A-J91.3	Fire Hydrant					
A-J91.3	DN 80	Nr	7			
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16	-				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Bends				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	7		
B-J31	All Flanged Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2.1	11.25°	Nr	38		
B-J311.2.2	22.5°	Nr	15		
B-J311.2.3	30°	Nr	15		
B-J311.2.4	45°	Nr	7		
B-J311.2.5	90°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 100 x ND 50	Nr	1		
B-J321.2	ND 100 x ND 80	Nr	7		
B-J321.3	ND 500 x ND 250	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.4	ND 100 x ND 50	Nr	1		
B-J33	Tapers				
		1			

B-J331

B-J34

B-J341.1

B-J34

B-J341.2

B-J341.3 ND 500

ND 250 x ND100

VJ Stepped Couplings

PAGE TOTAL CARRIED TO BILL COLLECTION PAGE

VJ Couplings

ND 80

ND 50

Nr

Nr

Nr

Nr

1

14

1

2

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 50	Nr	1		
B-J351.2	ND 80	Nr	14		
B-J351.3	ND 100	Nr	8		
B-J351.4	ND 500	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 110	Nr	133		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 50mm, 1.2m long	Nr	1		
B-J381.2	ND 80mm, 1.2m long	Nr	7		
B-J381.3	ND 500mm, 1.2m long	Nr	1		
	Flanged spigot_pipes				
B-J381.4	ND 80mm 1.2m long	Nr	14		
B-J381.5	ND 100mm 1.2m long	Nr	8		
B-J381.6	ND 500mm 1.2m long	Nr	1		
	All Flanged Ferrous Pipe				
B-J381.7	ND 100mm, 1.2m long	Nr	12		
B-J381.8	ND 100mm, 2m long	Nr	7		
B-J381.9	ND 500mm, 2m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	2		
B-J811.2	DN 80	Nr	7		
B-J811.3	DN 100	Nr	8		
B-J811.4	DN 500	Nr	1		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861.1	DN 50	Nr	1		
B-J91.1	Flanged Water Meters				
D-031.1	ו ומושטע אאמנכו ואוכובוס				

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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	I WORKS) LOT	<u>1A</u>
	BILL No. 2.29 - LINE NM22				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.1	DN 80	Nr	7		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	7		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	7		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Fromwork,joints and Finishes. - Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	10		
K211.2	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1500mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	8		
K211.3	-Ditto- but internal dimensions 2000mm x 2000mm		1		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	7		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on No. M410/SD/02	Nr	7		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	20		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	40		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	250		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	40		
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT	<u>1A</u>
	BILL No. 2.29 - LINE NM22				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during				

AMOUNT

(Kshs)

NOO I	community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	ltem	L.S	
K7	Reinstatement	nem	L.0	
K712	Breaking up and Temporary Reinstatement of EARTH road, nominal bore not exceeding 300mm.	m	20	
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	35	
K741.1	Breaking up, Temporary and Permanent Reinstatement of MURRAM Footpath according to Dwg. No. M410/SD/04 pipe bore	m	10	
K8	Other Pipework Ancillaries			
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in drg No. M410/SD/07	Nr	90	
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300 - 600mm	Nr	1	
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	Nr	2	
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION			
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)			
L11	In Pipe Trenches and Chambers			
L111.1	Excavation in trench for rock class "A"	m³	240	
L111.2	Excavation in trench for rock class "B"	m³	360	
L111.3	Excavation in trench for rock class "C"	m³	600	
	Note:- Blasting is NOT permitted for Item L11			
L5	Surrounds			
L52	Selected Excavated Granular Fill (Provisional)			
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.			
L521	To pipes nominal bore n.e 200mm	m	2,538	
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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINL	AND (S	HORT TERM	WORKS) LOT	<u>1A</u>
	BILL No. 2.29 - LINE NM22				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	1,087		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road Crossings, diameter of pipe n.e. 300mm as per drg. No. M410/SD/08	m	55		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	44		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	130		
L73	Volume n.e 0.1 - 0.2m ³				
L731	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume n.e 0.5 - 1.0m ³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume n.e 1.0 - 2.0m ³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, e.t.c.) The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement. pipe norminal bore n.e.300mm. all works to be executed in close liaison with relevant road authorities and rates to include facilitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	25		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classes (Provisional)	m³	4		
PAGE TOTA	AL CARRIED TO BILL COLLECTION PAGE				
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trencheless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem			
	i)				
	ii)				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLANE	O (SHORT TERM WORKS) LOT 1A			
<u>BILL No. 2.29 - LINE NM22</u>				
	Amount Kshs.			
Page Total, Page 1 of 10				
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Page Total, Page 10 of 10				
Bill No. 2.29 Total Exclusive of VAT Carried to Section 2 Summary Sh	leet			

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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore 300 - 600mm	m	2,806		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	2,806		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas iii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iiii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times. iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. V. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)				
	i)	Item	L.S		
	ii)	Item	L.S		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	0.84		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	3		
D21.2	Girth: 1.0 m - 2 m	Nr	4		
D22.1	Girth 2.0 m - 3 m	Nr	4		
D22.2	Girth 3.0 m - 5 m	Nr	1		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
14	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings - PN16				
l431	Nominal bore 350mm not in trenches	m	2,806		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement	-			
14	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings - PN16				
	Nominal bore 350mm in Trenches				
I432	Depth not exceeding 1.5m	m	1,634		
1433	Depth 1.5m - 2.0m	m	948		
1434	Depth 2.0m - 2.5m	m	224		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	7		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Nominal bore 300 - 600mm				
A-J313	ND 350mm				
A-J313	11.25°	Nr	7		
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2	90°	Nr	1		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321	ND 100 x ND 80	Nr	1		
A-J322	ND 250 x ND 250	Nr	7		
A-J323.1	ND 350 x ND 150	Nr	1		
A-J323.2	ND 350 × ND 200	Nr	8		
A-J323.3	ND 350 × ND 250	Nr	8		
A-J323.4	ND 350 x ND 350	Nr	1		
A-J323.5	ND 400 x ND 250	Nr	1		
A-J323.6	ND 400 x ND 350	Nr	2		
A-J323.7	ND 500 x ND 250	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 150 x ND 100	Nr	1		
A-J331.2	ND 200 x ND 50	Nr	1		
A-J331.3	ND 200 x ND 80	Nr	7		
A-J332	ND 250 x ND 100	Nr	1		
A-J333.1	ND 400 x ND 100	Nr	1		
A-J333.2	ND 500 x ND 350	Nr	1		
A-J34	VJ Stepped Couplings				
A-J341.1	ND 80	Nr	1		
A-J341.2	ND 100	Nr	3		
A-J342	ND 250	Nr	10		
A-J343.1	ND 350	Nr	8		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J343.2	ND 500	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	14		
A-J343.1	ND 350	Nr	44		
A-J343.2	ND 400	Nr	1		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	15		
A-J351.2	ND 100	Nr	3		
A-J352	ND 250	Nr	17		
A-J353.1	ND 350	Nr	28		
A-J353.2	ND 400	Nr	1		
A-J353.3	ND 500	Nr	1		
A-J38	Straight Specials				
	Flanged spigot pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	14		
A-J382.1	ND 250mm, 2.0m long	Nr	7		
A-J383.1	ND 350mm, 1.2m long	Nr	10		
	Plain Ended Pipes				
A-J381.2	ND 80mm, 1.2m long	Nr	7		
A-J381.3	ND 80mm, 2.0m long	Nr	1		
A-J381.4	ND 100mm, 1.2m long	Nr	2		
A-J381.5	ND 100mm, 2.0m long	Nr	1		
A-J382.2	ND 250mm, 1.2m long	Nr	10		
A-J383.3	ND 350mm, 1.2m long	Nr	28		
A-J383.4	ND 350mm, 24m long	Nr	1		
A-J383.5	ND 400mm, 1.2m long	Nr	1		
A-J383.6	ND 500mm, 1.2m long	Nr	1		
	All Flanged Pipes				
A-J381.6	ND 100mm, 1.2m long	Nr	1		
A-J381.7	ND 100mm, 2.0m long	Nr	2		
A-J381.8	ND 100mm, 15m long	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J383.7	ND 250mm, 1.2m long	Nr	14		
A-J383.8	ND 250mm, 2.0m long	Nr	4		
A-J383.9	ND 350mm, 1.2m long	Nr	19		
A-J383.10	ND 350mm, 2.0m long	Nr	8		
A-J383.11	ND 400mm, 1.2m long	Nr	1		
A-J383.12	ND 400mm, 2.0m long	Nr	1		
A-J383.13	ND 500mm, 1.2m long	Nr	1		
A-J8 A-J81	Valves and Penstocks All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	1		
A-J811.2	DN 80	Nr	8		
A-J811.3	DN 100	Nr	3		
A-J812	DN 250	Nr	5		
A-J813.1	DN 350	Nr	28		
A-J813.2	DN 400	Nr	1		
A-J813.3	DN 500	Nr	1		
A-J86	Air Valves Double Orifice Air Valve				
A-J861	ND 50mm	Nr	1		
A-J9	Flanged Water Meters				
A-J91	DN 80	Nr	7		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	7		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	7		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
				(113113)	(1313)
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of				
	Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reistatement				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
B-J311.1	ND 80mm				
B-J311.1	90°	Nr	7		
	Nominal bore 300 - 600mm				
B-J313	ND 350mm				
B-J313	11.25°	Nr	7		
B-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
B-J311.2	ND 100mm				
B-J311.2	90°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321	ND 100 x ND 80	Nr	1		
B-J322	ND 250 x ND 250	Nr	7		
B-J323.1	ND 350 x ND 150	Nr	1		
B-J323.2	ND 350 x ND 200	Nr	8		
B-J323.3	ND 350 x ND 250	Nr	8		
B-J323.4	ND 350 x ND 350	Nr	1		
B-J323.5	ND 400 x ND 250	Nr	1		
B-J323.6	ND 400 x ND 350	Nr	2		
B-J323.7	ND 500 x ND 250	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 150 x ND 100	Nr	1		
B-J331.2	ND 200 x ND 50	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J331.3	ND 200 x ND 80	Nr	7		
B-J332	ND 250 x ND 100	Nr	1		
B-J333.1	ND 400 x ND 100	Nr	1		
B-J333.2	ND 500 x ND 350	Nr	1		
B-J34	VJ Stepped Couplings				
B-J341.1	ND 80	Nr	1		
B-J341.2	ND 100	Nr	3		
B-J342	ND 250	Nr	10		
B-J343.1	ND 350	Nr	8		
B-J343.2	ND 500	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	14		
B-J343.1	ND 350	Nr	44		
B-J343.2	ND 400	Nr	1		
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	15		
B-J351.2	ND 100	Nr	3		
B-J352	ND 250	Nr	17		
B-J353.1	ND 350	Nr	28		
B-J353.2	ND 400	Nr	1		
B-J353.3	ND 500	Nr	1		
B-J38	Straight Specials				
	Flanged spigot pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	14		
B-J382.1	ND 250mm, 2.0m long	Nr	7		
B-J383.1	ND 350mm, 1.2m long	Nr	10		
	Plain Ended Pipes				
B-J381.2	ND 80mm, 1.2m long	Nr	7		
B-J381.3	ND 80mm, 2.0m long	Nr	1		
B-J381.4	ND 100mm, 1.2m long	Nr	2		
B-J381.5	ND 100mm, 2.0m long	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J382.2	ND 250mm, 1.2m long	Nr	10		
B-J383.3	ND 350mm, 1.2m long	Nr	28		
B-J383.4	ND 350mm, 24m long	Nr	1		
B-J383.5	ND 400mm, 1.2m long	Nr	1		
B-J383.6	ND 500mm, 1.2m long	Nr	1		
	All Flanged Pipes				
B-J381.6	ND 100mm, 1.2m long	Nr	1		
B-J381.7	ND 100mm, 2.0m long	Nr	2		
B-J381.8	ND 100mm, 15m long	Nr	1		
B-J383.7	ND 250mm, 1.2m long	Nr	14		
B-J383.8	ND 250mm, 2.0m long	Nr	4		
B-J383.9	ND 350mm, 1.2m long	Nr	19		
B-J383.10	ND 350mm, 2.0m long	Nr	8		
B-J383.11	ND 400mm, 1.2m long	Nr	1		
B-J383.12	ND 400mm, 2.0m long	Nr	1		
B-J383.13	ND 500mm, 1.2m long	Nr	1		
B-J8 B-J81	Valves and Penstocks All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	1		
B-J811.2	DN 80	Nr	8		
B-J811.3	DN 100	Nr	3		
B-J812	DN 250	Nr	5		
B-J813.1	DN 350	Nr	28		
B-J813.2	DN 400	Nr	1		
B-J813.3	DN 500	Nr	1		
B-J86	Air Valves Double Orifice Air Valve				
B-J861	ND 50mm	Nr	1		
B-J9	Flanged Water Meters				
B-J91	DN 80	Nr	7		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	7		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	7		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Formwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct masonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth n.e 1.5m.	Nr	22		
K211.2	Ditto but internal dimensions 1400mm x 1200mm	Nr	1		
K211.3	Ditto but internal dimensions 1700mm x 1200mm	Nr	3		
K211.4	Ditto but internal dimensions 1700mm x 1400mm	Nr	4		
K211.5	Ditto but internal dimensions 1700mm x 1500mm	Nr	3		
K211.6	Ditto but internal dimensions 2000mm x 1400mm	Nr	1		
K211.7	Ditto but internal dimensions 2000mm x 1500mm	Nr	1		
K211.8	Ditto but internal dimensions 2100mm x 1800mm	Nr	3		
K212.1	Provide all materials and construct masonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02. Depth 1.5-2.0m.	Nr	10		
K212.2	Ditto but internal dimensions 1700mm x 1200mm	Nr	1		
K212.3	Ditto but internal dimensions 1700mm x 1400mm	Nr	1		
K212.4	Ditto but internal dimensions 1700mm x 1500mm	Nr	1		
K212.5	Ditto but internal dimensions 2100mm x 1800mm	Nr	3		
K213.1	Provide all materials and construct masonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth 2.0-2.5m.	Nr	1		

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K213.2	Ditto but internal dimensions 2100mm x 1800mm	Nr	1		
K211.9	Provide all materials and construct Masonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	3		
K212.6	Ditto but depth 1.5-2.0m	Nr	3		
K213.3	Ditto but depth 2.0 - 2.5m	Nr	1		
K211.10	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on No. M410/SD/02. Depth n.e 1.5m.	Nr	7		
K6	Crossings				
K642	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	5		
K652	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	5		
K662	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	5		
K672	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	104		
K682	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K732	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore 300- 900mm.	m	20		
K742	Breaking up, Temporary and Permanent Reinstatement of CONCRETE Footpath according to Drg. No. M410/SD/04 pipe bore 300- 900mm	m	57		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	74		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 2.30 - LINE NM23				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K861	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore n.e 200mm.	Nr	2		
K862	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 200-300mm.	Nr	2		
K863	Allow for exposing and tapping of existing water pipelines to connect to the new network as shown on the drawings and as directed by the engineer. Nominal bore 300-600mm.	Nr	7		
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "B"	m ³	1,136		
L111.2	Excavation in trench for rock class "C"	m ³	1,704		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L523	To pipes nominal bore 500mm	m	1,964		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L533	To pipes nominal bore 500mm	m	842		
L54	Mass Concrete Surround (Road Crossings)				
L543	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to Ferrous pipe under Murram/Earth Road crossings, diameter of pipe 300-600mm as per Drg. No. M410/SD/08	m	77		
L6	Pipe Wrapping				
L603	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	169		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L713	To pipes nominal bore 350mm	Nr	72		
L72	Volume 0.1-0.2m ³				
L723	To pipes nominal bore 350mm	Nr	26		
			20		
L73	Volume:- 0. 2- 0.5m ³				
L733	To pipes nominal bore 350mm	Nr	5		
L74	Volume:- 0. 5- 1.0m ³				
L743	To pipes nominal bore 350mm	Nr	7		
L75	Volume:- 1.0- 2.0m ³				
L753	To pipes nominal bore 350mm	Nr	1		
L76	Volume:- 2.0- 4.0m ³				
L763	To pipes nominal bore 350mm	Nr	1		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, etc.). The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement, etc. pipe norminal bore n.e.300mm. All works to be executed in close liaison with relevant road authorities and rates to include facillitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	35		
X62	Extra over road crossing item X61 above for tunnelling in rock, all classed (Provisional)	m³	12		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trenchless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem	L.S		
	i)				
	ii)				
	Decommissioning of Redundant Asbestos Cement Mains				
X64	Allow for locating, in liason with the WSP, excavating/ exposing and puncturing/ breaking of the Existing Asbestos Cement (AC) Mains that are to be decommissioned. The AC Pipe and any debris after breaking of the pipe are to be left in the ground. Minimum Area to be exposed is 2m x 2m and depth n.e 2m to the top of the pipe	Nr	6		

BILL No. 2.30 - LINE NM23	
<u>DILL NU. 2.30 - LINL NW23</u>	Amount Kshs.
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS A: GENERAL ITEM				
A26	Testing of works				
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm	m	3,860		
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	3,860		
A3	Method Related Charges				
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.				
	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source				
A35.1	Cost relating to the above mentioned specific conditions	Item	LS		
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S		
A35.3	Allow for any other method related charges the tenderer feels may be required. These should be indicated below with pricing for each item (Tenderer may attach additional sheets if necessary)				
	i)	Item	LS		
	ii)	Item	LS		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline allignment	ha	1.30		
D2	Tree Cutting (Provisional)				
	Cut down trees, grub up roots and cart away to tips				
D21.1	Girth: 0.5 m - 1.0 m	Nr	4		
D21.2	Girth: 1.0 m - 2 m	Nr	3		
D22.1	Girth 2.0 m - 3 m	Nr	2		
	Note:- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as High Density Polyethylene Pipes (HDPE) - PN 12.5				
1711	Nominal bore 200mm not in trenches	m	3860		
15	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
l511	OD 90mm	m	12		
	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches, Backfilling and Final Reinstatement				
17	High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)				
	Nominal bore 200mm in Trenches				
l712	Depth not exceeding 1.5m	m	3,823		
1713	Depth 1.5 - 2.0m	m	37		
15	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 90mm in Trenches				
l512	Depth not exceeding 1.5m	m	12		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	BILL No. 2.31 - LINE NM24 DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.1	ND 80mm			(N3113)	(1313)
A-J311.1	90°	Nr	9		
A-J31	All Flanged Bends				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 200mm				
A-J311.2.1	11.25°	Nr	6		
A-J32	Junction and Branches				
	All Flanged Tee				
A-J321.1	ND 200 x ND 80	Nr	9		
A-J321.2	ND 200 x ND 100	Nr	2		
A-J321.3	ND 200 x ND 150	Nr	1		
A-J321.4	ND 200 x ND 200	Nr	2		
A-J323.1	ND 350 x ND 200	Nr	1		
A-J323.2	ND 350 × ND 300	Nr	1		
A-J323.3	ND 350 x ND 350	Nr	1		
A-J323.4	ND 500 x ND 350	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
A-J321.5	ND 200 x ND 80	Nr	1		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331.1	ND 100 x ND 50	Nr	2		
A-J331.2	ND 200 x ND 100	Nr	1		
A-J333.1	ND 350 x ND 200	Nr	1		
A-J333.2	ND 500 x ND 200	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	18		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 80	Nr	1		
A-J341.3	ND 100	Nr	1		
A-J341.4	ND 150	Nr	1		
A-J341.5	ND 200	Nr	4		
A-J343.1	ND 300	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J343.2	ND 350	Nr	1		
A-J343.3	ND 500	Nr	1		
A-J35	Ferrous Flange Adaptor				
A-J351.1	ND 80	Nr	19		
A-J351.2	ND 100	Nr	1		
A-J351.3	ND 150	Nr	1		
A-J351.4	ND 200	Nr	15		
A-J353.1	ND 300	Nr	1		
A-J353.2	ND 350	Nr	1		
A-J353.3	ND 500	Nr	1		
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 200	Nr	38		
A-J38	Straight Specials				
	Plain Ended Pipes				
A-J381.1	ND 80mm, 1.2m long	Nr	10		
A-J381.2	ND 100mm, 1.2m long	Nr	1		
A-J381.3	ND 150mm, 1.2m long	Nr	1		
A-J381.4	ND 200mm, 1.2m long	Nr	4		
A-J383.1	ND 300mm, 1.2m long	Nr	1		
A-J383.2	ND 350mm, 1.2m long	Nr	1		
A-J383.3	ND 500mm, 1.2m long	Nr	1		
	Flanged spigot pipes				
A-J381.5	ND 80mm 1.2m long	Nr	18		
A-J381.6	ND 200mm 1.2m long	Nr	11		
	All Flanged Ferrous Pipe				
A-J381.7	ND 100mm, 1.2m long	Nr	1		
A-J381.8	ND 150mm, 1.2m long	Nr	1		
A-J381.9	ND 200mm, 1.2m long	Nr	23		
A-J381.10	ND 200mm, 2m long	Nr	9		
A-J383.4	ND 300mm, 1.2m long	Nr	1		
A-J383.5	ND 350mm, 1.2m long	Nr	2		
A-J383.6	ND 500mm, 1.2m long	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
A-J811.1	DN 50	Nr	2		
A-J811.2	DN 80	Nr	10		
A-J811.3	DN 100	Nr	1		
A-J811.4	DN 150	Nr	1		
A-J811.5	DN 200	Nr	15		
A-J813.1	DN 300	Nr	1		
A-J813.2	DN 350	Nr	1		
A-J813.3	DN 500	Nr	1		
A-J86	Air Valves				
A-J861	Single Orifice Air Valve				
A-J861.1	DN 50	Nr	2		
A-J91.1	Flanged Water Meters				
A-J91.1	DN 80	Nr	9		
A-J91.2	All Flanged Strainer				
A-J91.2	DN 80	Nr	9		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	9		
	CLASS J: PIPEWORK - FITTIGNS AND VALVES - PN16				
	Transport from Site, Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation Trenches,				
	Backfilling and Final Reistatement				
J3	Backfilling and Final Reistatement Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
J3 B-J31	Epoxy coated Externally and Epoxy or Cement Mortar lined				
	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
B-J31	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings Bends				
B-J31	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings Bends Plain Ended Bends				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J31	All Flanged Bends				
B-J311	Nominal bore n.e 200mm				
B-J311.2	ND 200mm				
B-J311.2.1	11.25°	Nr	6		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J321.1	ND 200 x ND 80	Nr	9		
B-J321.2	ND 200 x ND 100	Nr	2		
B-J321.3	ND 200 x ND 150	Nr	1		
B-J321.4	ND 200 x ND 200	Nr	2		
B-J323.1	ND 350 x ND 200	Nr	1		
B-J323.2	ND 350 x ND 300	Nr	1		
B-J323.3	ND 350 x ND 350	Nr	1		
B-J323.4	ND 500 x ND 350	Nr	1		
	All Flanged Level Invert Tee (For Washouts)				
B-J321.5	ND 200 x ND 80	Nr	1		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331.1	ND 100 x ND 50	Nr	2		
B-J331.2	ND 200 x ND 100	Nr	1		
B-J333.1	ND 350 x ND 200	Nr	1		
B-J333.2	ND 500 x ND 200	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	18		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 80	Nr	1		
B-J341.3	ND 100	Nr	1		
B-J341.4	ND 150	Nr	1		
B-J341.5	ND 200	Nr	4		
B-J343.1	ND 300	Nr	1		
B-J343.2	ND 350	Nr	1		
B-J343.3	ND 500	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J35	Ferrous Flange Adaptor				
B-J351.1	ND 80	Nr	19		
B-J351.2	ND 100	Nr	1		
B-J351.3	ND 150	Nr	1		
B-J351.4	ND 200	Nr	15		
B-J353.1	ND 300	Nr	1		
B-J353.2	ND 350	Nr	1		
B-J353.3	ND 500	Nr	1		
B-J65	P.E Flange Adaptor (Stub End)				
B-J651	OD 200	Nr	38		
B-J38	Straight Specials				
	Plain Ended Pipes				
B-J381.1	ND 80mm, 1.2m long	Nr	10		
B-J381.2	ND 100mm, 1.2m long	Nr	1		
B-J381.3	ND 150mm, 1.2m long	Nr	1		
B-J381.4	ND 200mm, 1.2m long	Nr	4		
B-J383.1	ND 300mm, 1.2m long	Nr	1		
B-J383.2	ND 350mm, 1.2m long	Nr	1		
B-J383.3	ND 500mm, 1.2m long	Nr	1		
	Flanged spigot pipes				
B-J381.5	ND 80mm 1.2m long	Nr	18		
B-J381.6	ND 200mm 1.2m long	Nr	11		
	All Flanged Ferrous Pipe				
B-J381.7	ND 100mm, 1.2m long	Nr	1		
B-J381.8	ND 150mm, 1.2m long	Nr	1		
B-J381.9	ND 200mm, 1.2m long	Nr	23		
B-J381.10	ND 200mm, 2m long	Nr	9		
B-J383.4	ND 300mm, 1.2m long	Nr	1		
B-J383.5	ND 350mm, 1.2m long	Nr	2		
B-J383.6	ND 500mm, 1.2m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Gate Valves for Washouts and line valves to be supplied complete with extension Spindle n.e. 2.0m and Tee-key. Air valve isolating valves to be supplied with wheel only. Contractor's rates to include for this				
B-J811.1	DN 50	Nr	2		
B-J811.2	DN 80	Nr	10		
B-J811.3	DN 100	Nr	1		
B-J811.4	DN 150	Nr	1		
B-J811.5	DN 200	Nr	15		
B-J813.1	DN 300	Nr	1		
B-J813.2	DN 350	Nr	1		
B-J813.3	DN 500	Nr	1		
B-J86	Air Valves				
B-J861	Single Orifice Air Valve				
B-J861.1	DN 50	Nr	2		
B-J91.1	Flanged Water Meters				
B-J91.1	DN 80	Nr	9		
B-J91.2	All Flanged Strainer				
B-J91.2	DN 80	Nr	9		
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	9		
	CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES Chambers ducts, culverts, crossings, thrust, anchor blocks, reinstatement and other pipework ancillaries				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposals of surplus exvacated material, shoring sides of excavation, backfilling and removal of redundant servicesConcrete, Reinforcement, Fromwork,joints and Finishes. -Tips for disposals of excavated material of debris to be identified by the Contractor in liaison with the Local Authorities.				
K21	IN SITU MASONARY CHAMBERS				
K211.1	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	18		
K211.2	- Ditto- but internal dimensions 1400mm x 1200mm	Nr	3		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.3	- Ditto- but internal dimensions 1500mm x 1200mm	Nr	9		
K211.2	- Ditto- but internal dimensions 1500mm x 1500mm	Nr	1		
K211.3	- Ditto- but internal dimensions 1600mm x 1500mm	Nr	1		
K211.3	- Ditto- but internal dimensions 2000mm x 1900mm	Nr	1		
K211.4	Provide all materials and construct Mansonry Walling Meter Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	9		
K211.5	Excavate for, provide all materials and construct a valve box for Fire Hydrants as detailed on No. M410/SD/02	Nr	9		
K6	Crossings				
K641	Allow for crossing exisitng Hedges and reinstating these after construction of the water main is complete.	m	10		
K651	-Ditto- but for existing Masonry Walls and reinstating these after construction of the water main is complete	m	20		
K661	Ditto- but for existing Fences and reinstating these after construction of the water main is completed.	m	10		
K671	Allow for crossing existing drains and reinstating these after construction of water main is completed. Include for provision of diverting the Drains and keeping them operational during construction	m	5		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Dwg No. M410/SD/04. Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	20		
K741.1	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED Roads/ Footpath including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Dwg. No. M410/SD/04 pipe bore n.e 300mm	m	95		
K741.2	Breaking up, Temporary and Permanent Reinstatement of MURRAM Footpath according to Dwg. No. M410/SD/04 pipe bore n.e 300mm	m	20		
K8	Other Pipework Ancillaries				
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in				
	drg No. M410/SD/07	Nr	76		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain pipe outlets.	Nr	1		
	CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
L11	In Pipe Trenches and Chambers				
L111.1	Excavation in trench for rock class "A"	m ³	0		
L111.2	Excavation in trench for rock class "B"	m ³	800		
L111.3	Excavation in trench for rock class "C"	m ³	1,200		
	Note:- Blasting is NOT permitted for Item L11		,		
L5	Surrounds				
L52	Selected Everyted Creatiles Fill (Provisional)				
LJZ	Selected Excavated Granular Fill (Provisional) Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	2,702		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	1,158		
L54	Mass Concrete Surround (Road Crossings)				
L541	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murram/Earth Road Crossings, diameter of pipe n.e. 300mm as per drg. No. M410/SD/08	m	115		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	145		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L711	To pipes nominal bore n.e 200mm	Nr	51		
L72	Volume:- 0.1 - 0.2m ³				
L723	To pipes nominal bore 300 - 600mm	Nr	17		
L73	Volume:- 0.2 - 0.5m ³				
L733	To pipes nominal bore 300 - 600mm	Nr	10		
L74	Volume:- 0.5 - 1m ³				
L743	To pipes nominal bore 300 - 600mm	Nr	4		
L75	Volume:- 1.0 - 2m ³				
L753	To pipes nominal bore 300 - 600mm	Nr	1		
L76	Volume:- 2.0 - 4.0m ³				
L763	To pipes nominal bore 300 - 600mm	Nr	1		
	CLASS X: MISCELLANEOUS WORK				
	Trenchless Road Crossings				
X61	Provide all equipment and materials, excavate below road surface in common material (soil/murram) using trenchless technique (e.g. pipe jacking, horizontal drilling, e.t.c.) The rate includes all preparatory works, any requisite shoring, strutting, installation of pipe and pipe casing and necessary grouting and reinstatement. pipe norminal bore n.e 200mm. all works to be executed in close liaison with relevant road authorities and rates to include facililitation of the same. The Bidder to submit Method Statement with Bid for execution of these Works.	m	225		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classes (Provisional)	m³	22		
X63	Allow for Any Method Related charges the Bidder feels may be required in carrying out works for trencheless pipe crossing under roads for Item X61 to X62 above. These must be indicated below with pricing of each item (Separate additional sheet may be attached if necessary)	ltem			
	i)				
	ii)				
	Decommissioning of Redundant Asbestos Cement Mains				
X64	Allow for locating, in liason with the WSP, excavating/ exposing and puncturing/ breaking of the Existing Asbestos Cement (AC) Mains that are to be decommissioned. The AC Pipe and any debris after breaking of the pipe are to be left in the ground. Minimum Area to be exposed is 2m x 2m and depth n.e 2m to the top of the pipe	Nr	8		

0	
<u>0</u> BILL No. 2.31 - LINE NM24	
<u>BILL NO. 2.31 ° LINE NM24</u>	Amount Kshs.
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SECTION 2 MOMBASA NORTH MAINLAND (BILL No. 2.1 - 2.26) SUMMARY SHEET

IOMBASA WATER DISTRIBUTION WORKS FOR NORTH	MAINLAND (SHORT TERM WORKS) LOT 1A
	Amount (Kshs.)
Bill No. 2.1 - Line NM01	
3ill No. 2.2 - Line NM02	
Sill No. 2.3 - Line NM03	
Bill No. 2.4 - Line NM04a	
Bill No. 2.5 - Line NM04b	
Bill No. 2.6 - Line NM05	
Bill No. 2.7 - Line NM06	
Bill No. 2.8 - Line NM07	
Bill No. 2.9 - Line NM08	
Bill No. 2.10 - Line NM09	
Bill No. 2.11 - Line NM10a	
Bill No. 2.12 - Line NM10b	
Bill No. 2.13 - Line NM11	
Bill No. 2.14 - Line NM12a	
Bill No. 2.15 - Line NM12b	
Bill No. 2.16 - Line NM13	
Bill No. 2.17 - Line NM14	
Bill No. 2.18 - Line NM15a	
Bill No. 2.19 - Line NM15b	
Bill No. 2.20 - Line NM16	
Bill No. 2.21 - Line NM17a	
Bill No. 2.22 - Line NM17b	
Bill No. 2.23 - Line NM18a	
Bill No. 2.24 - Line NM18b	
Bill No. 2.25 - Line NM19	
Bill No. 2.26 - Line NM20a	
Bill No. 2.27 - Line NM20b	
Bill No. 2.28 - Line NM21	
Bill No. 2.29 - Line NM22	
3ill No. 2.30 - Line NM23	
Bill No. 2.31 - Line NM24	

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A BILL No. 3.1 - SHORT TERM TERTIARY MAINS							
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOL			
No.				(Kshs)	(Ksh			
	CLASS A: GENERAL ITEM							
A26	Testing of Works							
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Blocks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm	m	38,537					
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	38,537					
A3	Method Related Charges							
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.							
	 deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: No blasting will be permitted in these areas The Contactor to maintain uninterrupted continuity of water supply in existing pipelines Pedestrian and vehicular Access to individual shops / plots to be maintained at all times Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. Keeping trenches free of excessive groundwater, seepage or water from any source 							
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S					
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S					
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidderr may attach additional sheets if necessary)							
	i)	Item	L.S					
	ii)	Item	L.S					
D1	Site Clearance							
D110	General clearance along the pipeline alignment. (The Contractor's rate for this item will be deemed to include for clearance of any extra land that may be considered necessary for execution of the Work and reinstatement of hedges and fences etc. removed during construction).	ha	6					

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	TERM V	VORKS) LOT 1	<u>A</u>	
	BILL No. 3.1 - SHORT TERM TERTIARY MAINS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
D2	Cutting of Trees				
	Provide all material and cut trees, girth measured 1m above ground level. Bushes are deemed to be included in Item D110. the disposal of trees shall be decided by the Engineer distance of haul not exceeding 5km. The rate to include liason with the relevant authorities and obtaining permission.				
D210.1	Girth 0.5m - 1.0m	Nr	23		
D210.2	Girth 1.0m - 2.0m	Nr	14		
D220.1	Girth 2.0m - 3.0m	Nr	9		
	CLASS I: PIPE WORK - PIPES				
	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) SDR 11 (PN 12.5)				
1711	Norminal bore n.e 200mm not in Trenches				
1711	OD 63mm	m	38,537		
	CLASS I: PIPE WORK - PIPES		00,001		
	Transport from Site Store, Lay and Joint Pipes in Trench, Include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation trenches, Backfilling and final Reinstatement.				
17	High Density Polyethylene Pipes (HDPE) (PN 12.5) with Butt Fusion (seamless) Jointing				
	Nominal bore 63 mm in trenches				
1712	Depth not exceeding 1.5 m	m	38,537		
	CLASS J: PIPE WORK - FITTINGS AND VALVES - PN 16				
А	Supply, Transport to site and store in secure place.				
A-J61	HDPE Compression Fittings				
A-J611	Not exceeding nominal bore 200mm				
A-J611.1	Nominal bore 63mm				
A-J611.1.1	HDPE Elbow 90°	Nr	72		
A-J611.1.2	45°	Nr	22		
A-J32	Junction and Branches All Flanged Ferrous Tee				
A-J321	ND 100 x ND 50	Nr	103		
	P.E. Flange Adapter (stub end) complete with metal back up ring				
A-J651.1	OD 63	Nr	103		
A-J651.2	OD 110	Nr	206		
A-J35	Flange Adaptors				
		Nr	103		
A-J351	ND 50	141	100		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SI	HORT TERM V	VORKS) LOT 1	A	
17514	BILL No. 3.1 - SHORT TERM TERTIARY MAINS			D 4 7 5	
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J38	Straight Specials				
	Flanged Spigot Pipes, 1.2m long				
A-J381.1	DN 50mm	Nr	103		
	All Flanged Pipes, 1.2m long				
A-J381.2	ND100	Nr	206		
A-J69	HDPE End Plug				
A-J691.1	OD 63	Nr	103		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valve				
A-J811	DN 50	Nr	103		
В	Transport From Site Store, Install, Test & Commission				
B-J61	HDPE Compression Fittings				
B-J611	Not exceeding nominal bore 200mm				
B-J611.1	Nominal bore 63mm				
B-J611.1.1	HDPE Elbow 90°	Nr	72		
B-J611.1.2	45°	Nr	22		
B-J32	Junction and Branches				
D-032	All Flanged Ferrous Tee				
B-J321	ND 100 x ND 50	Nr	103		
B-J321		INI	103		
D 1054.4	P.E. Flange Adapter (stub end) complete with metal back up ring OD 63	Nr	402		
B-J651.1			103		
B-J651.2	OD 110	Nr	206		
B-J35	Flange Adaptors				
B-J351	ND 50	Nr	103		
B-J38	Straight Specials				
	Flanged Spigot Pipes, 1.2m long				
B-J381.1	DN 50mm	Nr	103		
	All Flanged Pipes, 1.2m long				
B-J381.2	ND100	Nr	206		
B-J69	HDPE End Plug				
B-J691.1	OD 63	Nr	103		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valve				
B-J811	DN 50	Nr	103		

	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	TERM V	VORKS) LOT 1	<u>A</u>	
	BILL No. 3.1 - SHORT TERM TERTIARY MAINS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOU (Ksh
	CLASS K: PIPE WORK - CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers, ducts, culverts, crossings, thrust, anchor blocks, reinstatement and others pipework ancillaries.				
	Note:- Items for Work in this class shalll include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, Joints and Finishes. - Tips for disposal of excavated material or debris to be identified by the Contractor in liaison with the Local Authorities.				
K211	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	72		
K212	-Ditto- but depth 1.5-2.0m	Nr	31		
K6	Crossings				
K641	Allow for crossing existing hedges, including reinstatement to original state.	m	620		
K651	-Ditto- but for existing masonry boundary walls, including reinstatement to original state	Nr	250		
K661	Allow for crossing existing fences (chain link, barbed wire etc.), including reinstatement to original state.	Nr	130		
K671	Allow for crossing existing drains and sewers, and reinstate these after construction of the water line has been completed. Pipe bore n.e. 300mm	Nr	250		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	500		
<741.3	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED Roads/Footpaths including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Drg. No. M410/SD/04. pipe bore n.e 300mm	m	149		
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	140		

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHOR	T TERM V	VORKS) LOT 1	<u>A</u>	
	BILL No. 3.1 - SHORT TERM TERTIARY MAINS				
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTIT	(Kshs)	(Kshs)
	CLASS L: PIPEWORK - ANCILLARIES TO LAYING AND EXCAVATION				
	Extras to excavation and backfilling in pipe trenches				
L111.1	Excavation in rock Class A	m ³	1,162		
L111.2	-Ditto- but rock Class B	m ³	1,734		
L111.3	-Ditto- but rock Class C	m³	2,904		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	26,976		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	11,561		
L54	Mass Concrete Surround (Road Crossings)				
L541	150mm thick Mass Concrete surround Class 15/20 to pipe on road crossings, include for formwork, supports, vibrating etc, as per Standard Drawings at locations as directed by the Engineer.	m	649		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	370		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	206		
PAG	GE TOTAL CARRIED TO BILL COLLECTION SHEET				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	TERM	VORKS) LOT 1	<u>A</u>	
	BILL No. 3.1 - SHORT TERM TERTIARY MAINS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)
	CLASS X: MISCELLANEOUS WORK				
X8	Supply of Electro- Fusion and Butt- Fusion Jointing Machines				
X81	Supply and hand over to MOWASSCO WSP Electro-Fusion Jointing Machine for HDPE pipe diameters ranging from 32mm to 90mm as per Clause 518 of General Specifications. The machine to be engraved with the word "MOWASSCO" or as directed by the Engineer	Nr	1		
X82	Supply and hand over to MOWASSCO WSP Hydraulic Butt Fusion Machine for HDPE pipe diameters ranging from 110mm to 200mm as per Clause 519 of General Specifications. The machine to be engraved with the word "MOWASSCO" or as directed by the Engineer	Nr	1		
X83	Supply, deliver to site, test and commission 3kVA portable petrol Generator set for use with the Machines above with minimum output 2,750 Watts, complete with inbuilt fuel tank (min tank capacity 15L), overload circuit breaker, minimum running time on full tank of 8 hrs, anti-vibration feet, electric starter, fold down handles and pneumatic tyred wheels for easy of mobility and quiet running (72db at 7m) or an approved equivalent. Rate to include 50m electric cable and with sockets / plugs.	Nr	2		
X84	Supply Steel Fuel Jerry Can, 10L carrying capacity; complete with positive locking cap with rubber seal and fixed spout.	Nr	2		
Х9	Spare Parts, Repair Kits, Tools and Equipment for Operation & Maintenance Activities.				
X91	Allow a P.C Sum of Kshs.2,000,000 for use in the Procurement of Spare Parts, Repair Kits, Tools and Equipment for the Operation and Maintenance Activities by the Water Company. This includes all necessary Jointing Materials/Fittings. List of items to be procured will be issued by the Engineer in consultation with the Water Company.	Item	P.C		2,000
X92	Add% for profit, administration, attendance upon, overheads, etc. for Item X91 above.	%	2,000,000		
					<u> </u>

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)			
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	FERM WORKS) LOT 1A		
BILL No. 3.1 - SHORT TERM TERTIARY MAINS			
	Amount Kshs.		
Page Total, Page 1 of 6			
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Page Total, Page 3 of 6			
Page Total, Page 4 of 6			
Page Total, Page 5 of 6			
Page Total, Page 6 of 6			
Bill No. 3.1 Total Exclusive of VAT Carried to Section 3 Summary Sheet			

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	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)						
	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	TERM WO	<u>ORKS) LOT 1A</u>				
	BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED						
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)		
	CLASS A: GENERAL ITEM	<u> </u>	T I		<u> </u>		
A26	Testing of Works						
A261	Testing and Commissioning of the Pipeline including provision of all equipment, materials and works necessary for testing such as but not limited to Thrust Bloks, Anchor Blocks, Provision, Transportation and use and disposal of Water, Pipe Fittings, etc. Nominal bore n.e. 200mm	m	14,724				
A262	Disinfection of Pipeline ; Flushing with clear water, filling with water containing 0.05g/l Calcium Hypochlorite, left for 24 hours. This includes supply of necessary Equipment, Materials, Chemicals and Water, Measurement of Residual Chlorine, all as specified and safe disposal of disinfecting water to Engineer's approval.	m	14,724				
A3	Method Related Charges						
	The Pipeline will be laid along narrow urban roads with existing active services both on the surface (electricity, etc) and buried (existing community water pipelines, fiber optic cables, etc.) and with limited working space for mechanical excavation equipment.						
_	The Contractor's rates shall be deemed to include for any measures necessary to deal with these conditions, provision of access road to work site, liaison with relevant authorities and local residents, payment of any required statutory charges, etc. The Contractor will be required to submit Method Statement for execution of works under these specific conditions for approval prior to execution of the works. These include but are not limited to the following: i. No blasting will be permitted in these areas ii. The Contractor empirited in these areas						
	 ii. The Contactor to maintain uninterrupted continuity of water supply in existing pipelines iii. Pedestrian and vehicular Access to individual shops / plots to be maintained at all times 						
	 iv. Safety hoarding, lighting, bands, warning signs, etc. to be maintained at all times. v. Keeping trenches free of excessive groundwater, seepage or water from any source 						
A35.1	Cost relating to the above mentioned specific conditions	Item	L.S				
A35.2	Liaison, facilitation with local residents and relevant authorities and payment for access, accidental damage, temporary access to working spaces during execution of the Works, etc.	Item	L.S				
A35.3	Allow for any other method related charges the Bidder feels may be required. These should be indicated below with pricing for each item (Bidder may attach additional sheets if necessary)						
)	Item	L.S				
	ii)	Item	L.S				
	+		+ +		1		
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PAGE TOTAL CARRIED TO BILL COLLECTION SHEET

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WATER AND SANITATION DEVELOPMENT PROJECT (
WATER AND SANITATION DEVELOPMENT PROJECT (NSUP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	Site Clearance				
D110	General clearance along the pipeline alignment.	ha	3		
	(The Contractor's rate for this item will be deemed to include for clearance of any extra land that he may consider necessary for execution of his Work and reinstatement of hedges and fences etc. removed during construction).				
D2	Cutting of Trees				
	Provide all material and cut trees, girth measured 1m above ground level. Bushes are deemed to be included in Item D110. the disposal of trees shall be decided by the Engineer distance of haul not exceeding 5km. The rate to include liason with the relevant authorities and obtaining permission.				
D210.1	Girth 0.5m - 1.0m	Nr	9		
D210.2	Girth 1.0m - 2.0m	Nr	6		
D220.1	Girth 2.0m - 3.0m	Nr	4		
	CLASS I: PIPE WORK - PIPES				
17	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
17	High Density Polyethylene Pipes (HDPE) SDR 11 (PN 12.5)				
1711	Norminal bore n.e 200mm not in Trenches				
1711.1	OD 32mm	m	703		
1711.1	OD 40mm	m	277		
1711.2	OD 50mm	m	7,206		
1711.3	OD 63mm	m	1,799		
1711.4	OD 75mm	m	3,806		
1711.5	OD 90mm	m	933		
	CLASS I: PIPE WORK - PIPES				
	Transport from Site Store, Lay and Joint Pipes in Trench, Include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation trenches, Backfilling and final Reinstatement.				
17	High Density Polyethylene Pipes (HDPE) (PN 12.5) with Butt Fusion (seamless) Jointing				
	Nominal bore 32 mm in trenches				
1712.1	Depth not exceeding 1.5 m	m	703		
	Nominal bore 40 mm in trenches				
1712.2	Depth not exceeding 1.5 m	m	277		
	Nominal bore 50 mm in trenches				
1712.3	Depth not exceeding 1.5 m	m	7,206		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Nominal bore 63 mm in trenches				
1712.4	Depth not exceeding 1.5 m	m	1,799		
	Nominal bore 75 mm in trenches				
1712.5	Depth not exceeding 1.5 m	m	2,855		
1713.1	Depth 1.5 m - 2.0 m	m	952		
	Nominal bore 90 mm in trenches				
1712.6	Depth not exceeding 1.5 m	m	606		
1713.2	Depth 1.5 m - 2.0 m	m	327		
	CLASS J: PIPE WORK - FITTINGS AND VALVES - PN 16				
Α	Supply, Transport to site and store in secure place.				
A-J61	HDPE Compression Fittings				
A-J611	Not exceeding nominal bore 200mm				
A-J611.1	Nominal bore 32mm				
A-J611.1.1	HDPE Elbow 90°	Nr	7		
A-J611.1.2	45°	Nr	4		
A-J611.2	Nominal bore 40mm				
A-J611.2.1	HDPE Elbow 90°	Nr	7		
A-J611.2.2	45°	Nr	6		
A-J611.3	Nominal bore 50mm				
A-J611.3.1	HDPE Elbow 90°	Nr	97		
A-J611.3.2	45°	Nr	56		
A-J611.4	Nominal bore 63mm				
A-J611.4.1	HDPE Elbow 90°	Nr	31		
A-J611.4.1	45°	Nr	21		
			21		
A-J611.5	Nominal bore 75mm				
A-J611.5.1	HDPE Elbow 90°	Nr	21		
A-J611.5.2	45°	Nr	22		
A-J611.6	Nominal bore 90mm				
A-J611.6.1	HDPE Elbow 90°	Nr	17		
A-J611.6.2	45°	Nr	24		
A-J32	Junction and Branches				
	All Flanged Ferrous Tee				
A-J321.1	ND 100 x ND 50	Nr	35		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No. A-J321.2 A-J321.3	DESCRIPTION ND 100 x ND 80	UNIT	QUANTITY	RATE	AMOUNT
A-J321.3	ND 100 x ND 80		I	(Kshs)	(Kshs)
		Nr	27		
A 1004 4	ND 150 x ND 80	Nr	4		
A-J321.4	ND 200 x ND 80	Nr	2		
A-J322.1	ND 250 x ND 150	Nr	2		
A-J33	Tapers				
	All Flanged Concentric Taper				
A-J331	ND 150 x ND 80	Nr	2		
A-J621	HDPE Tee				
A-J621.1	OD 32 x OD 32	Nr	5		
A-J621.2	OD 40 x OD 40	Nr	1		
A-J621.3	OD 50 x OD 40	Nr	7		
A-J621.4	OD 50 x OD 50	Nr	28		
A-J621.5	OD 63 x OD 50	Nr	26		
A-J621.6	OD 63 x OD 63	Nr	7		
A-J621.7	OD 75 x OD 63	Nr	13		
A-J621.8	OD 75 x OD 75	Nr	3		
A-J621.9	OD 90 x OD 75	Nr	5		
A-J621.10	OD 90 x OD 90	Nr	5		
A-J63	HDPE Reducing Couplers				
A-J631.1	OD 50 x OD 40	Nr	7		
A-J631.2	OD 90 x OD 63	Nr	4		
A-J631.3	OD 90 x OD 75	Nr	26		
A-J34	VJ Stepped Couplings				
A-J341.1	ND 80	Nr	13		
A-J341.2	ND 100	Nr	58		
A-J341.3	ND 150	Nr	7		
A-J34	VJ Couplings				
A-J341.4	ND 250	Nr	3		
	P.E. Flange Adapter (stub end) complete with metal back up ring				
A-J651.1	OD 63	Nr	35		
A-J651.2	OD 90	Nr	33		
A-J651.3	OD 110	Nr	65		
A-J651.4	OD 200	Nr	3		
PAG	E TOTAL CARRIED TO BILL COLLECTION SHEET				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM	BILL NO. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REI		OLIANTITY	DATE	AMOUNT
No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	(Kshs)
A-J35	Flange Adaptors				
A-J351.1	ND 50	Nr	35		
A-J351.2	ND 80	Nr	32		
A-J38	Straight Specials				
	Flanged Spigot Pipes, 1.2m long				
A-J381.1	DN 50mm	Nr	35		
A-J381.2	DN 80mm	Nr	33		
A-J381.3	DN 100mm	Nr	41		
A-J382.1	DN 250mm	Nr	3		
	All Flanged Pipes, 1.2m long				
A-J381.4	ND100	Nr	82		
A-J381.5	ND150	Nr	7		
A-J381.6	ND200	Nr	3		
A-J69	HDPE End Plug				
A-J691.1	OD 32	Nr	5		
A-J691.2	OD 40	Nr	8		
A-J691.3	OD 50	Nr	52		
A-J691.4	OD 63	Nr	59		
A-J691.5	OD 75	Nr	30		
A-J691.6	OD 90	Nr	14		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valve				
A-J811.1	DN 50	Nr	35		
A-J811.2	DN 80	Nr	32		
В	Transport From Site Store, Install, Test & Commission				
B-J61 B-J611	HDPE Compression Fittings Not exceeding nominal bore 200mm				
	Nominal bore 32mm				
B-J611.1.1	HDPE Elbow 90°	Nr	7		
	45°	Nr	4		
B-J611.2	Nominal bore 40mm				
B-J611.2.1	HDPE Elbow 90°	Nr	7		
B-J611.2.2	45°	Nr	6		
B-J611.3	Nominal bore 50mm				
B-J611.3.1	HDPE Elbow 90°	Nr	97		
PAG	E TOTAL CARRIED TO BILL COLLECTION SHEET				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J611.3.2	45°	Nr	56		
B-J611.4	Nominal bore 63mm				
B-J611.4.1	HDPE Elbow 90°	Nr	31		
B-J611.4.2	45°	Nr	21		
B-J611.5	Nominal bore 75mm				
B-J611.5.1	HDPE Elbow 90°	Nr	21		
B-J611.5.2	45°	Nr	22		
B-J611.6	Nominal bore 90mm				
B-J611.6.1	HDPE Elbow 90°	Nr	17		
B-J611.6.2	45°	Nr	24		
B-J32	Junction and Branches				
	All Flanged Ferrous Tee				
B-J321.1	ND 100 x ND 50	Nr	35		
B-J321.2	ND 100 x ND 80	Nr	27		
B-J321.3	ND 150 x ND 80	Nr	4		
B-J321.4	ND 200 x ND 80	Nr	2		
B-J322.1	ND 250 x ND 150	Nr	2		
B-J33	Tapers				
	All Flanged Concentric Taper				
B-J331	ND 150 x ND 80	Nr	2		
B-J621	HDPE Tee				
B-J621.1	OD 32 x OD 32	Nr	5		
B-J621.2	OD 40 x OD 40	Nr	1		
B-J621.3	OD 50 x OD 40	Nr	7		
B-J621.4	OD 50 x OD 50	Nr	28		
B-J621.5	OD 63 x OD 50	Nr	26		
B-J621.6	OD 63 x OD 63	Nr	7		
B-J621.7	OD 75 x OD 63	Nr	13		
B-J621.8	OD 75 x OD 75	Nr	3		
B-J621.9	OD 90 x OD 75	Nr	5		
B-J621.10	OD 90 x OD 90	Nr	5		
B-J63	HDPE Reducing Couplers				
B-J631.1	OD 50 x OD 40	Nr	7		
B-J631.2	OD 90 x OD 63	Nr	4		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J631.3	OD 90 x OD 75	Nr	26		
B-J34	VJ Stepped Couplings				
B-J341.1	ND 80	Nr	13		
B-J341.2	ND 100	Nr	58		
B-J341.3	ND 150	Nr	7		
B-J34	VJ Couplings				
B-J341.4	ND 250	Nr	3		
	P.E. Flange Adapter (stub end) complete with metal back up ring				
B-J651.1	OD 63	Nr	35		
B-J651.2	OD 90	Nr	33		
B-J651.3	OD 110	Nr	65		
B-J651.4	OD 200	Nr	3		
B-J35	Flange Adaptors				
B-J351.1	ND 50	Nr	35		
B-J351.2	ND 80	Nr	32		
B-J38	Straight Specials				
	Flanged Spigot Pipes, 1.2m long				
B-J381.1	DN 50mm	Nr	35		
B-J381.2	DN 80mm	Nr	33		
B-J381.3	DN 100mm	Nr	41		
B-J381.4	DN 250mm	Nr	3		
	All Flanged Pipes, 1.2m long				
B-J381.5	ND100	Nr	82		
B-J381.6	ND150	Nr	7		
B-J381.7	ND200	Nr	3		
B-J69	HDPE End Plug				
B-J691.1	OD 32	Nr	5		
B-J691.2	OD 40	Nr	8		
B-J691.3	OD 50	Nr	52		
B-J691.4	OD 63	Nr	59		
B-J691.5	OD 75	Nr	30		
B-J691.6	OD 90	Nr	14		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valve				
B-J811.1	DN 50	Nr	35		
PAC	GE TOTAL CARRIED TO BILL COLLECTION SHEET				

	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP) MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT	TERM W	ORKS) LOT 14		
	BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUI (Kshs
B-J811.2	DN 80	Nr	32		
	CLASS K: PIPE WORK - CHAMBERS AND PIPE WORK ANCILLARIES				
	Chambers, ducts, culverts, crossings, thrust, anchor blocks, reinstatement and others pipework ancillaries.				
	Note:- Items for Work in this class shall include: - Excavation, preparation of surfaces, disposal of surplus excavated material, shoring sides of excavation, backfilling and removal of redundant services. - Concrete, Reinforcement, Formwork, Joints and Finishes. - Tips for disposal of excavated material or debris to be identified by the Contractor in liaison with the Local Authorities.				
K25	IN SITU MASONRY CHAMBERS				
K211	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1200mm x 1200mm. Include for supply and fixing of removable precast concrete covers, step irons, compacted granular fill, rendering of exposed blockwork etc. All as detailed on Drawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	47		
K212	-Ditto- but depth 1.5-2.0m	Nr	20		
K6	Crossings				
K641	Allow for crossing existing hedges, including reinstatement to original state.	m	240		
K651	Ditto- but for existing masonry boundary walls, including reinstatement to original state	Nr	100		
K661	Allow for crossing existing fences (chain link, barbed wire etc.), including reinstatement to original state.	Nr	50		
K671	Allow for crossing existing drains and sewers, and reinstate these after construction of the water line has been completed. Pipe bore n.e. 300mm	Nr	100		
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reistatement to the original status and liason with the relevant body for inspection/approval during execution of the works. Pilot excavation shall be done to establish exact location of any buried services prior to actual excavation. The rate shall be demeed to include for pilot excavations, repairs and reistatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
K731	Breaking up, Temporary and Permanent Reinstatement of MURRAM road with 300mm thick well graded stabilised gravel with 3% cement content base compacted in layers of 150mm thick using an 8-10 tonne roller to the satisfaction of the Engineer. All as per Drg No. M410/SD/04 . Contractor to allow for provision of requisite diversion signage, controls and safety precaution in his rates, nominal bore not exceeding 300mm.	m	190		
K741	Breaking up, Temporary and Permanent Reinstatement of CONCRETE BLOCK PAVED Roads/Footpaths including sub-base, base and sand bed layers, raised kerbs and flush kerbs all according to Drg. No. M410/SD/04. pipe bore n.e 300mm	m	57		
	GE TOTAL CARRIED TO BILL COLLECTION SHEET				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUN (Kshs)
K8	Other Pipework Ancillaries				
K82	Supply and fix marker posts along water Main Route, Road Crossings, change of direction, Air valves, Washouts and valve chambers. All in accordance with drawings and specifications as in Drg No. M410/SD/07	Nr	50		
	CLASS L: PIPEWORK - ANCILLARIES TO LAYING AND EXCAVATION				
	Extras to excavation and backfilling in pipe trenches				
L111.1	Excavation in rock Class A	m³	445		
L111.2	-Ditto- but rock Class B	m³	667		
L111.3	-Ditto- but rock Class C	m³	1,110		
	Note:- Blasting is NOT permitted for Item L11				
L5	Surrounds				
L52	Selected Excavated Granular Fill (Provisional)				
	Provide, place and compact selected excavated granular fill material in bed and surround to pipes as specified and where directed by the Engineer.				
L521	To pipes nominal bore n.e 200mm	m	10,307		
L53	Imported Selected Fill (Provisional)				
	Provide, transport to site and place imported selected fill and compact in bed and surround to pipes as specified and where directed by the Engineer.				
L531	To pipes nominal bore n.e 200mm	m	4,417		
L54	Mass Concrete Surround (Road Crossings)				
L541	150mm thick Mass Concrete surround Class 15/20 to pipe on road crossings, include for formwork, supports, vibrating etc, as per Standard Drawings at locations as directed by the Engineer.	m	247		
L6	Pipe Wrapping				
L601	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m²	140		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	139		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)					
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TE	RM WORKS) LOT 1A					
BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED						
	Amount Kshs.					
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SECTION 3

MOMBASA NORTH MAINLAND (BILL No. 3.1 - 3.2)

SUMMARY SHEET

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Amount (Kshs.)

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	MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (S	HORT 1	ERM WORK	<u>S) LOT 1A</u>	
	BILL No. 4.1 - SUPPLY OF PIPES, FITTINGS AND ACCESSORIES FOR I	NEW CO		ONNECTIONS	- SHORT TERM
ITEM No.	DESCRIPTION		QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1	Supply of Pipes and Fittings for Consumer Connection Works			(1313)	(((3)))
· ·	Typical Arrangement of Pipes and Fittings for a Consumer Connection are given in Drawing No. M410/SD/10.				
	Under this Item, the Contractor will Supply Pipes and Fitttings for Consumer Connections and hand them over to the Water Company who will then carry out the Installation Works for New Consumers being connected to the Distribution Network for the first time				
	The Pipes and Fittings to be suplied under this Item are for <u>1,000 Nr.</u> New Consumer Connections.				
	Supply, Transport to Site and hand over to the Water Company stores as directed by the Engineer the following Pipes and Fittings for Consumer Connections. Rates to Include all necessary Jointing Material/fittings. All pipes and fittings to be pressure Class PN 10 Rating.				
1.1	Pipes				
1.1.1	15mm Dia. HDPE pipe	m	28,000		
1.1.2	32mm Dia. HDPE pipe	m	200		
	Fittings				
1.2	HDPE Saddle Clamps				
1.2.1	DN50 x DN32	Nr	100		
1.2.2	DN40 x DN15	Nr	300		
1.2.3	DN32 x DN15	Nr	500		
1.3	90° HDPE Elbows				
1.3.1	DN15	Nr	2,000		
1.4	HDPE Adaptor Flange Adaptor (Stub end) complete with metal back up ring				
1.4.1	DN15	Nr	2,000		
1.5	End Cap				
1.5.1	DN15	Nr	1,000		
1.6	Brass Ferrule				
1.6.1	DN32	Nr	100		
1.6.2	DN15	Nr	800		
1.7	HDPE Equal Tee				
1.7.1	DN32 x DN32	Nr	100		
1.8	HDPE Reducing Coupler				
1.8.1	DN32 x DN15	Nr	200		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP) MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A BILL No. 4.1 - SUPPLY OF PIPES, FITTINGS AND ACCESSORIES FOR NEW CONSUMER CONNECTIONS - SHOR					
ITEM No.	DESCRIPTION		QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Consumer Water Meters and Stop Cocks				
1.9	Consumer Water Meters				
	Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent.				
1.9.1	15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer	Nr	1,000		
1.10	Stop Cocks				
1.10.1	15mm dia Stop Cock, make Pegler or approved equivalent.	Nr	1,000		
1.11	Meter Boxes				
1.11.1	Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm.	Nr	1,000		
AGE TOT	AL CARRIED TO BILL COLLECTION PAGE				

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERI	M WORKS) LOT 1A
BILL No. 4.1 - SUPPLY OF PIPES, FITTINGS AND ACCESSORIES FOR NEW CONSU CONNECTIONS - SHORT TERM	JMER_
	Amount
Page Total, Page 1 of 2	Kshs.
Page Total, Page 2 of 2	
Bill No. 4.1 Total Exclusive of VAT Carried to Section 5 Summary Sheet	

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 4.2 - REINSTATEMENT OF EXISTING CONSUMER CONNECTIONS AFTER LAYING OF NEW MAINS - SHORT TERM

	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Notes				
	1) The works under this Bill entail the Reinstatement of Consumer Connections that already exist on the Pipelines that are being replaced/ decommissioned under the Project. Consumer Connections that are on the replaced/ decommissioned lines have to be transferred to the new mains once these mains have been commissioned.				
	 2) The Reinstatement of Existing Consumer Commissioned. 2) The Reinstatement of Existing Consumer Connections will be carried out by a <u>Nominated Sub-Contractor</u> who will be appointed by the Client and then enter into a Sub-Contract Agreement with the Main Contractor. 				
	3) Pipes, Fittings and Accessories for the connections will be procured by the Main Contractor and handed over to the Water Company as directed by the Engineer. The Water Company will issue the Pipes and Fittings to the Nominated Sub-Contractor to carry out the Installation Works upon verification of the Existing Connections				
	4) Payment to the Nominated Sub-Contractor will be made through the Main Contractor after certification by the Engineer and WSP. An Item for percentage mark up for the Main Contractor's attendance upon the Nominated Sub- Contractor has been Included under this Bill.				
1	Supply of Pipes and Fittings to be used for Reinstatement of Existing Consumer Connections				
	Typical Arrangement of Pipes and Fittings for a Consumer Connection are given in Drawing No. M410/SD/10.				
	The Pipes and Fittings to be suplied under this Item are for <u>2400 Nr.</u> Consumer Connections.				
	Supply, Transport to Site and hand over to the Water Company the following Pipes and Fittings for Consumer New Connections. Rates to				
	Include all necessary Jointing Material Fittings. All pipes and fittings to be pressure Class PN 10 Rating.				
1.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings				
1.1 1.1.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating.	m	66,000		
	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe	 	66,000		
1.1.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes				
1.1.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings				
1.1.1 1.1.2 1.2	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps				
1.1.1 1.1.2 1.2 1.2.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32	m	300		
1.1.1 1.1.2 1.2 1.2.1 1.2.2	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15	m Nr Nr	300 240 720		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15	m Nr	300 		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3 1.3	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15 90° HDPE Elbows	m Nr Nr Nr	300 240 720 1,200		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3 1.3.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15 90° HDPE Elbows DN15	m Nr Nr	300 240 720		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3 1.3	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15 90° HDPE Elbows	m Nr Nr Nr	300 240 720 1,200		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3 1.3 1.3.1 1.4	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15 90° HDPE Elbows DN15 HDPE Adaptor	m Nr Nr Nr	300 240 720 1,200		
1.1.1 1.1.2 1.2 1.2.1 1.2.2 1.2.3 1.3.1	Include all necessary Jointing Material/ Fittings. All pipes and fittings to be pressure Class PN 10 Rating. Pipes 15mm Dia. HDPE pipe 32mm Dia. HDPE pipe Fittings HDPE Saddle Clamps DN50 x DN32 DN40 x DN15 DN32 x DN15 90° HDPE Elbows DN15 HDPE Adaptor Flange Adaptor (Stub end) complete with metal back up ring	m Nr Nr Nr	300 240 720 1,200 4,800		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 4.2 - REINSTATEMENT OF EXISTING CONSUMER CONNECTIONS AFTER LAYING OF NEW MAINS - SHORT TERM

No. Image: Second S	Nr Nr Nr Nr	QUANTITY 240 1,920 240 240 480	RATE (Kshs)	AMOUNT (Kshs)
1.6.1 DN32 N 1.6.2 DN15 N 1.6.2 DN15 N 1.7 HDPE Equal Tee N 1.7.1 DN32 x DN32 N 1.8 HDPE Reducing Coupler N 1.8 HDPE Reducing Coupler N 1.8 HDPE Reducing Coupler N 1.8.1 DN32 x DN15 N Consumer Water Meters and Stop Cocks N 1.9 Consumer Water Meters N Note: All Water Meters to conform with ISO 4061-1:2005. BS 5728-7:1997 and KS OMIL. R 49:2006 Specifications for Domestic Water Meters or approved equivalent. N 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. N 1.9.1 Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer N 1.10 Stop Cocks 1 1 1.11 Meter Boxes 1 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections 1 N	Nr Nr	240		
1.6.2 DN15 N 1.7 HDPE Equal Tee N 1.7.1 DN32 x DN32 N 1.8 HDPE Reducing Coupler N 1.8.1 DN32 x DN15 N Consumer Water Meters and Stop Cocks 1.9 Consumer Water Meters Note: All Water Meters to conform with ISO 4061-1.2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. N 1.9 Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non-approved equivalent. The Meters to include inbuilt Meter Strainers & Non-term Meters. All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks N 1.11 Meter Boxes N 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections N 2.1 Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will cary out the installaltion works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr Nr	240		
1.70 HDPE Equal Tee 1.7.1 HDPE Equal Tee 1.7.1 DN32 x DN32 1.8 HDPE Reducing Coupler 1.8.1 DN32 x DN15 1.8 HDPE Reducing Coupler 1.8.1 DN32 x DN15 Consumer Water Meters and Stop Cocks 1.9 Consumer Water Meters Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Suppl of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks 1.11 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections 1 Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	240		
1.7.1 DN32 x DN32 N 1.8 HDPE Reducing Coupler N 1.8.1 DN32 x DN15 N Consumer Water Meters and Stop Cocks 1.9 Consumer Water Meters Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL, R 49:2006 Specifications for Domestic Water Meters or approved equivalent. Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL, R 49:2006 Specifications for Domestic Water Meters or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Neter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer N 1.9.1 Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer N 1.10.1 15mm dia Stop Cock, make Pegler or approved equivalent. N 1.11 Meter Boxes N 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections N 2.1 Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installaltion				
Init Dride a bride 1.8 HDPE Reducing Coupler 1.8.1 DN32 x DN15 1.8.1 DN32 x DN15 1.8 Consumer Water Meters and Stop Cocks 1.9 Consumer Water Meters Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL, R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- 1.9.1 1.9.1 Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks 1.11 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections 1.11.1 Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract <td></td> <td></td> <td></td> <td></td>				
1.8.1 DN32 x DN15 N 1.8.1 DN32 x DN15 N Consumer Water Meters and Stop Cocks 1 1.9 Consumer Water Meters 1 Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 1 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks 1 1.11 Meter Boxes 1 1.11 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections 1 Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	480		
Consumer Water Meters and Stop Cocks 1.9 Consumer Water Meters Note: All Water Meters to conform with ISO 4061-1:2005. BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks 1.11 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections 1.11 Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installaltion works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	480		
1.9 Consumer Water Meters 1.9 Consumer Water Meters to conform with ISO 4061-1.2005, BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.0 Stop Cocks 1.10.1 15mm dia Stop Cock, make Pegler or approved equivalent. 1.11 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
Note: All Water Meters to conform with ISO 4061-1:2005. BS 5728-7:1997 and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.10 Stop Cocks 1.11 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
and KS OMIL R 49:2006 Specifications for Domestic Water Meters or approved equivalent. 15mm dia Consumer Plastic Water Meters, Piston Type, PSM Elser Kent or approved equivalent. The Meters to include inbuilt Meter Strainers & Non- Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer N 1.00 Stop Cocks I 1.10 Stop Cocks I 1.11 Meter Boxes I 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections I Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installaltion works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
approved equivalent. The Meters to include inbuilt Meter Strainers & Non-Return Mechanism. Rate to include for Supply of Meters Liner (2Nr for each Meter). All Meters to be engraved with word "MOWASSCO" or as directed by the Engineer 1.00 Stop Cocks 1.10 Stop Cocks 1.11 Meter Boxes 1.11.1 Meter Boxes 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
1.10.1 15mm dia Stop Cock, make Pegler or approved equivalent. N 1.11.1 15mm dia Stop Cock, make Pegler or approved equivalent. N 1.11 Meter Boxes Interfease 1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections Interfease Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	2,400		
Interview Interview <thinterview< th=""> Interview <thinterview< th=""> Interview Interview</thinterview<></thinterview<>				
1.11.1 Standard Plastic Meter Boxes with cover and opening key, minimum dimensions; length-265mm, width-150mm & height-180mm. N 2 Reconnection of Consumer Connections N Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	2,400		
1.11.1 dimensions; length-265mm, width-150mm & height-180mm. 2 Reconnection of Consumer Connections 2 Reconnection of Consumer Connections Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The 2.1 Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
Under this Item, upon completion of new pipelines and decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The 2.1 Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract	Nr	2,400		
decommissioning of old pipelines by the Main Contractor, the Nominated Sub-Contractor will carry out works to reconnect consumers who were previously connected to the old pipelines. The 2.1 Nominated Sub-Contractor will collect the required pipes and fittings from the water company's store and carry out the installation works progressively as the water company verifies and approves the customers to be re-connected. (Ref Clause 1120 in the Contract				
opecifications)				
Allow a P.C. Sum of Ksh. 30,000,000 for reinstallation of Existing 2.1.1 Consumer Connections by a Nominated Sub-Contractor to be appointed by the Client after the award of the Main Works Contract.		P.C		30,000,000
2.1.2 Add% for profit, administration, attendance upon, overheads, etc. for tem 2.1.1 above.	ltem			
GE TOTAL CARRIED TO BILL COLLECTION PAGE	ltem %	30,000,000		

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)	
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM	I WORKS) LOT 1A
BILL No. 4.2 - REINSTATEMENT OF EXISTING CONSUMER CONNECTIONS AFTER NEW MAINS - SHORT TERM	LAYING OF
	Amount Kshs.
Page Total, Page 1 of 2	
Page Total, Page 2 of 2	
Bill No. 4.2 Total Exclusive of VAT Carried to Section 5 Summary Sheet	

SECTION 4

LOT 1A - MOMBASA NORTH MAINLAND (BILL No. 5.1 - 5.2)

SUMMARY SHEET

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	Amount
	(Kshs.)
ill No. 4.1 - Supply of Pipes, Fittings and Accessories for New Consumer Connections - Short Term	
ill No. 4.2 - Reinstatement of Existing Consumer Connections after Laying of New Mains - Short Term	
Section 4 Total Exclusive of VAT Carried to The Bill of Quantities Gran Summary	d

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP) MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A BILL No. 5 - BULK WATER METERS - SHORT TERM ITEM DESCRIPTION UNIT QUANTIT RATE AMOUNT No. (Kshs) (Kshs) Supply and Installation of Bulk Water Meters, Fittings and Associated 1 Civil Works All fitttings and specials to be supplied with bolts, washers, nuts, gaskets, packing, jointing material etc. and should match diameters of relevant existing mains All diameters are nominal Ref. Drawings Nos. M410/MO/NM/LP/01, M410/MO/NM/BM-2020/01 and M410/MO/NM/BM-2020/02 and Clause 517 of General Specifications 1.1 Supply, Transport to site and store in secure place. 1.1.1 Electromagnetic Water Meters 100mm dia. All Flanged Battery Powered Electromagnetic Water Meter, Nr 17 1.1.1.1 complete with remote LED Display and requisite fittings 150mm dia. All Flanged Battery Powered Electromagnetic Water Meter, Nr 8 1.1.1.2 complete with remote LED Display and requisite fittings 200mm dia. All Flanged Battery Powered Electromagnetic Water Meter, 7 Nr 1.1.1.3 complete with remote LED Display and requisite fittings 250mm dia. All Flanged Battery Powered Electromagnetic Water Meter, Nr 2 1.1.1.4 complete with remote LED Display and requisite fittings 300mm dia. All Flanged Battery Powered Electromagnetic Water Meter, Nr 1 1.1.1.5 complete with remote LED Display and requisite fittings Nr 5 350mm dia. All Flanged Battery Powered Electromagnetic Water Meter, 1116 complete with remote LED Display and requisite fittings Nr 6 400mm dia. All Flanged Battery Powered Electromagnetic Water Meter, 1.1.1.7 complete with remote LED Display and requisite fittings Nr 500mm dia. All Flanged Battery Powered Electromagnetic Water Meter, 1 1.1.1.8 complete with remote LED Display and requisite fittings 700mm dia. All Flanged Battery Powered Electromagnetic Water Meter, Nr 3 1.1.1.9 complete with remote LED Display and requisite fittings 1.1.2 Gate Valves Nr 17 100mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, 1.1.1.1 hand operated, Biwater Series 3403 or approved equivalent. Nr 8 150mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, 1.1.2.2 hand operated, Biwater Series 3403 or approved equivalent. 200mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 7 1.1.2.3 hand operated, Biwater Series 3403 or approved equivalent. 250mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 2 1.1.2.4 hand operated, Biwater Series 3403 or approved equivalent. 300mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 1 1.1.2.5 hand operated, Biwater Series 3403 or approved equivalent. Nr 5 350mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, 1.1.2.6 hand operated, Biwater Series 3403 or approved equivalent. 6 400mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 1.1.2.7 hand operated, Biwater Series 3403 or approved equivalent. 500mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 1 1.1.2.8 hand operated, Biwater Series 3403 or approved equivalent. 3 700mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, Nr 1.1.2.9 hand operated, Biwater Series 3403 or approved equivalent. PAGE TOTAL CARRIED TO BILL COLLECTION PAGE

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.1.3	All Flanged Ferrous Bends				
1.1.3.1	100mm dia. All Flanged 45° bend.	Nr	68		
1.1.3.2	150mm dia. All Flanged 45° bend.	Nr	32		
1.1.3.3	200mm dia. All Flanged 45° bend.	Nr	28		
1.1.3.4	250mm dia. All Flanged 45° bend.	Nr	8		
1.1.3.5	300mm dia. All Flanged 45° bend.	Nr	4		
1.1.3.6	350mm dia. All Flanged 45° bend.	Nr	20		
1.1.3.7	400mm dia. All Flanged 45° bend.	Nr	24		
1.1.3.8	500mm dia. All Flanged 45° bend.	Nr	4		
1.1.3.9	700mm dia. All Flanged 45° bend.	Nr	12		
1.1.4	Couplings				
1.1.4.1	100mm dia, Viking Johnson Coupling or approved equivalent.	Nr	17		
1.1.4.2	150mm dia, Viking Johnson Coupling or approved equivalent.	Nr	8		
1.1.4.3	200mm dia, Viking Johnson Coupling or approved equivalent.	Nr	7		
1.1.4.4	250mm dia, Viking Johnson Coupling or approved equivalent.	Nr	4		
1.1.4.5	300mm dia, Viking Johnson Coupling or approved equivalent.	Nr	3		
1.1.4.6	350mm dia, Viking Johnson Coupling or approved equivalent.	Nr	7		
1.1.4.7	400mm dia, Viking Johnson Coupling or approved equivalent.	Nr	6		
1.1.4.8	500mm dia, Viking Johnson Coupling or approved equivalent.	Nr	1		
		Nr	5		
1.1.4.9	700mm dia, Viking Johnson Coupling or approved equivalent.	INI	5		
1.1.5	Stepped Couplings				
1.1.5.1	100mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	22		
1.1.5.2	150mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	10		
1.1.5.3	200mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		
1.1.5.4	250mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		
1.1.5.5	350mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	8		
1.1.5.6	400mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	12		
1.1.5.7	500mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		
1.1.5.8	700mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	4		
1.1.6	P.E Flange Adaptor (Stub End)				
1.1.6.1	110mm dia, P.E Flange Adaptor (Stub End)	Nr	12		
1.1.6.2	160mm dia, P.E Flange Adaptor (Stub End)	Nr	6		
1.1.6.3	200mm dia, P.E Flange Adaptor (Stub End)	Nr	12		
1.1.7	Flange Adaptors				
1.1.7.1	100mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	34		
1.1.7.2	150mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	16		
1.1.7.3	200mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	14		
AGE TOT	AL CARRIED TO BILL COLLECTION PAGE				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
		Nie	4		
1.1.7.4	250mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	4		
1.1.7.5	300mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	2		
1.1.7.6	350mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	10		
1.1.7.7	400mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	12		
1.1.7.8	500mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	2		
1.1.7.9	700mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	6		
1.1.8	All Flanged Ferrous Pipes				
1.1.8.1	100mm dia. All Flanged Pipe, 1200mm long	Nr	6		
1.1.8.2	100mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 575mm from one end	Nr	17		
1.1.8.3	150mm dia. All Flanged Pipe, 1200mm long	Nr	3		
1.1.8.4	150mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 575mm from one end	Nr	8		
1.1.8.5	200mm dia. All Flanged Pipe, 1200mm long	Nr	6		
1.1.8.6	200mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 550mm from one end	Nr	7		
1.1.8.7	250mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 500mm from one end	Nr	2		
1.1.8.8	300mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 475mm from one end	Nr	1		
1.1.8.9	350mm dia. All Flanged Pipe, 1200mm long with Puddle Flange 450mm from one end	Nr	5		
1.1.8.10	400mm dia. All Flanged Pipe, 2000mm long with Puddle Flange 425mm from one end	Nr	6		
1.1.8.11	500mm dia. All Flanged Pipe, 2500mm long with Puddle Flange 525mm from one end	Nr	1		
1.1.8.12	700mm dia. All Flanged Pipe, 3500mm long with Puddle Flange 570mm from one end	Nr	3		
1.1.9	Flanged Spigot Ferrous Pipes				
1.1.9.1	100mm dia. Flanged Spigot Pipe, 1200mm long	Nr	51		
1.1.9.2	100mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 575mm from the plain end	Nr	17		
1.1.9.3	150mm dia. Flanged Spigot Pipe, 1200mm long	Nr	24		
1.1.9.4	150mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 575mm from the plain end	Nr	8		
1.1.9.5	200mm dia. Flanged Spigot Pipe, 1200mm long	Nr	21		
1.1.9.6	200mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 550mm from the plain end	Nr	7		
1.1.9.7	250mm dia. Flanged Spigot Pipe, 1200mm long	Nr	6		
1.1.9.8	250mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 500mm from the plain end	Nr	2		
1.1.9.9	300mm dia. Flanged Spigot Pipe, 1200mm long	Nr	3		
1.1.9.10	300mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 475mm from the plain end	Nr	1		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.1.9.11	350mm dia. Flanged Spigot Pipe, 1200mm long	Nr	15		-
1.1.9.12	350mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 450mm from the plain end	Nr	5		
1.1.9.13	400mm dia. Flanged Spigot Pipe, 1200mm long	Nr	18		
1.1.9.14	400mm dia. Flanged Spigot Pipe, 1200mm long with Puddle Flange 425mm from the plain end	Nr	6		
1.1.9.15	500mm dia. Flanged Spigot Pipe, 1200mm long	Nr	3		
1.1.9.16	500mm dia. Flanged Spigot Pipe, 1500mm long with puddle flange 525mm from the plain end	Nr	1		
1.1.9.17	700mm dia. Flanged Spigot Pipe, 1200m long	Nr	9		
1.1.9.18	700mm dia. Flanged Spigot Pipe, 2100mm long with puddle flange 570mm from the plain end	Nr	3		
1.1.10	Plain Ended Ferrous Pipes				
1.1.10.1	100mm dia. Plain Ended Pipe, 1200mm long	Nr	11		
1.1.10.2	150mm dia. Plain Ended Pipe, 1200mm long	Nr	5		
1.1.10.3	200mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.1.10.4	250mm dia. Plain Ended Pipe, 1200mm long	Nr	2		
1.1.10.5	300mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.1.10.6	350mm dia. Plain Ended Pipe, 1200mm long	Nr	5		
1.1.10.7	400mm dia. Plain Ended Pipe, 1200mm long	Nr	6		
1.1.10.8	500mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.1.10.9	700mm dia. Plain Ended Pipe, 1200mm long	Nr	3		
1.2	Transport from Site Store, Lay and Joint Pipes in Trench, include for Excavation, Preparation of Surfaces, Disposal of Excavated Material, Shoring Sides of Excavation and Backfilling				
1.2.1	Electromagnetic Water Meters				
1.2.1.1	100mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	17		
1.2.1.2	150mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	8		
1.2.1.3	200mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	7		
1.2.1.4	250mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	2		
1.2.1.5	300mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	1		
1.2.1.6	350mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	5		
1.2.1.7	400mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	6		
1.2.1.8	500mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	1		
1.2.1.9	700mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	3		
PAGE TOT	AL CARRIED TO BILL COLLECTION PAGE				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

1.2.1.1 hand oper 1.2.2.2 150mm dia hand oper 1.2.2.3 200mm dia hand oper 1.2.2.4 250mm dia hand oper 1.2.2.5 300mm dia hand oper 1.2.2.6 350mm dia hand oper 1.2.2.7 400mm dia hand oper 1.2.2.8 500mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.3.1 100mm dia hand oper 1.2.3.2 150mm dia hand oper 1.2.3.3 200mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.6 350mm dia hand oper 1.2.3.7 400mm dia hand oper 1.2.3.8 500mm dia hand oper 1.2.4.1 100mm dia hand oper 1.2.4.2 150mm dia hand oper 1.2.4.3 200mm dia hand oper 1.2.4.4 250mm dia hand oper 1.2.4.5 300mm dia hand oper 1.2.4.6<	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.2.1.1 hand oper 1.2.2.2 150mm dia hand oper 1.2.2.3 200mm dia hand oper 1.2.2.4 250mm dia hand oper 1.2.2.5 300mm dia hand oper 1.2.2.6 350mm dia hand oper 1.2.2.7 400mm dia hand oper 1.2.2.8 500mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.3.1 100mm dia hand oper 1.2.3.2 150mm dia hand oper 1.2.3.3 200mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.6 350mm dia hand oper 1.2.3.7 400mm dia hand oper 1.2.3.8 500mm dia hand oper 1.2.4.1 100mm dia hand oper 1.2.4.2 150mm dia hand oper 1.2.4.3 200mm dia hand oper 1.2.4.4 250mm dia hand oper 1.2.4.5 300mm dia hand oper 1.2.4.6<	ves				
1.2.2.2 hand oper- 1.2.2.3 200mm dia hand oper- 1.2.2.4 250mm dia hand oper- 1.2.2.5 300mm dia hand oper- 1.2.2.6 350mm dia hand oper- 1.2.2.7 400mm dia hand oper- 1.2.2.8 500mm dia hand oper- 1.2.2.9 700mm dia hand oper- 1.2.2.9 700mm dia hand oper- 1.2.3.1 100mm dia hand oper- 1.2.3.2 150mm dia hand oper- 1.2.3.3 200mm dia hand oper- 1.2.3.4 100mm dia hand oper- 1.2.3.5 300mm dia hand oper- 1.2.3.4 250mm dia hand oper- 1.2.3.5 300mm dia hand oper- 1.2.3.4 250mm dia hand oper- 1.2.3.5 300mm dia hand oper- 1.2.3.6 350mm dia hand oper- 1.2.3.7 400mm dia hand oper- 1.2.3.8 500mm dia hand oper- 1.2.4.1 100mm dia hand oper- 1.2.4.2 150mm dia hand oper- 1.2.4.3 200mm dia hand oper- 1.2.4.4 250mm dia hand oper-	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, prated, Biwater Series 3403 or approved equivalent.	Nr	17		
1.2.2.3 hand oper 1.2.2.4 250mm dia hand oper 1.2.2.5 300mm dia hand oper 1.2.2.6 350mm dia hand oper 1.2.2.7 400mm dia hand oper 1.2.2.7 400mm dia hand oper 1.2.2.8 500mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.3.4 100mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 100mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.6 350mm dia hand oper 1.2.3.7 400mm dia hand oper 1.2.3.8 500mm dia hand oper 1.2.4.1 100mm dia hand oper 1.2.4.2 150mm dia hand oper 1.2.4.3 200mm dia hand oper 1.2.4.4 250mm dia hand oper 1.2.4.5 300mm dia hand oper 1.2.4.6<	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, prated, Biwater Series 3403 or approved equivalent.	Nr	8		
1.2.2.4 hand oper- shand o	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, prated, Biwater Series 3403 or approved equivalent.	Nr	7		
1.2.2.5 hand oper 1.2.2.6 350mm dia hand oper 1.2.2.7 400mm dia hand oper 1.2.2.8 500mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.3.4 100mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 150mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.4 250mm dia hand oper 1.2.3.5 300mm dia hand oper 1.2.3.6 350mm dia hand oper 1.2.3.7 400mm dia hand oper 1.2.3.8 500mm dia hand oper 1.2.4.1 100mm dia hand oper 1.2.4.2 150mm dia hand oper 1.2.4.3 200mm dia hand oper 1.2.4.4 250mm dia hand oper 1.2.4.5 300mm dia hand oper 1.2.4.6 350mm dia hand oper 1.2.4.7<	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, prated, Biwater Series 3403 or approved equivalent.	Nr	2		
1.2.2.0 hand oper- hand oper- 400mm dia hand oper- 500mm dia hand oper- 700mm dia hand oper- 700mm dia hand oper- 700mm dia 1.2.3.4 1.2.2.9 700mm dia fund oper- 700mm dia hand oper- 700mm dia 1.2.3.4 700mm dia 1.2.3.2 1.2.3.1 100mm dia 100mm dia 1.2.3.4 250mm dia 250mm dia 1.2.3.5 700mm dia 300mm dia 1.2.3.6 1.2.3.4 250mm dia 1.2.3.7 400mm dia 400mm dia 1.2.3.9 700mm dia 700mm dia 1.2.4.1 1.2.4.1 100mm dia 1.2.4.3 200mm dia 200mm dia 1.2.4.4 100mm dia 200mm dia 1.2.4.5 1.2.4.5 300mm dia 300mm dia 1.2.4.7 400mm dia 400mm dia 1.2.4.8 100mm dia 400mm dia 1.2.4.8	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, erated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.2.2.7 hand oper 1.2.2.8 500mm dia hand oper 1.2.2.9 700mm dia hand oper 1.2.3 All Flange 1.2.3.1 100mm dia 1.2.3.2 150mm dia 1.2.3.3 200mm dia 1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, erated, Biwater Series 3403 or approved equivalent.	Nr	5		
1.2.2.8 hand oper- 1.2.2.9 700mm dia hand oper- 1.2.3 All Flange 1.2.3.1 100mm dia hand oper- 1.2.3.2 150mm dia hand oper- 1.2.3.3 200mm dia hand oper- 1.2.3.4 150mm dia hand oper- 1.2.3.5 300mm dia hand oper- 1.2.3.4 250mm dia hand oper- 1.2.3.5 300mm dia hand oper- 1.2.3.6 350mm dia hand oper- 1.2.3.7 400mm dia hand oper- 1.2.3.8 500mm dia hand oper- 1.2.3.9 700mm dia hand oper- 1.2.4.1 100mm dia hand oper- 1.2.4.2 150mm dia hand oper- 1.2.4.3 200mm dia hand oper- 1.2.4.4 250mm dia hand oper- 1.2.4.5 300mm dia hand oper- 1.2.4.6 350mm dia hand oper- 1.2.4.7 400mm dia hand oper- 1.2.4.8 500mm dia hand oper-	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, erated, Biwater Series 3403 or approved equivalent.	Nr	6		
1.2.2.9 hand oper- 1.2.3 All Flange 1.2.3.1 100mm dia 1.2.3.2 150mm dia 1.2.3.3 200mm dia 1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, arated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.2.3.1 100mm dia 1.2.3.2 150mm dia 1.2.3.2 150mm dia 1.2.3.3 200mm dia 1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	tia, All Flanged Gate Valves with Gear arrangements to BS 5163, arated, Biwater Series 3403 or approved equivalent.	Nr	3		
1.2.3.2 150mm dia 1.2.3.3 200mm dia 1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	ged Ferrous Bends				
1.2.3.3 200mm dia 1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	68		
1.2.3.4 250mm dia 1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.4 Couplings 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	dia. All Flanged 45° bend.	Nr	32		
1.2.3.5 300mm dia 1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	dia. All Flanged 45° bend.	Nr	28		
1.2.3.6 350mm dia 1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	8		
1.2.3.7 400mm dia 1.2.3.8 500mm dia 1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.4.1 700mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.8 500mm dia	dia. All Flanged 45° bend.	Nr	4		
1.2.3.8 500mm dia 1.2.3.9 700mm dia 1.2.3.9 700mm dia 1.2.4 Couplings 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	20		
1.2.3.9 700mm dia 1.2.4 Couplings 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	24		
1.2.4 Couplings 1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	4		
1.2.4.1 100mm dia 1.2.4.2 150mm dia 1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia. All Flanged 45° bend.	Nr	12		
1.2.4.2 150mm dia 1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia					
1.2.4.3 200mm dia 1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia, Viking Johnson Coupling or approved equivalent.	Nr	17		
1.2.4.4 250mm dia 1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia, Viking Johnson Coupling or approved equivalent.	Nr	8		
1.2.4.5 300mm dia 1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	tia, Viking Johnson Coupling or approved equivalent.	Nr	7		
1.2.4.6 350mm dia 1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia, Viking Johnson Coupling or approved equivalent.	Nr	4		
1.2.4.7 400mm dia 1.2.4.8 500mm dia	lia, Viking Johnson Coupling or approved equivalent.	Nr	3		
1.2.4.8 500mm dia	lia, Viking Johnson Coupling or approved equivalent.	Nr	7		
	lia, Viking Johnson Coupling or approved equivalent.	Nr	6		
	lia, Viking Johnson Coupling or approved equivalent.	Nr	1		
1.2.4.5 / 00mm uid	lia, Viking Johnson Coupling or approved equivalent.	Nr	5		
	Couplings				
	· •	Nr	22		
	lia, Viking Johnson Stepped Coupling or approved equivalent.				
1.2.5.2 150mm dia	lia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	10		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL NO. 5 - BULK WATER METERS - SHORT TERM		01141	D 4 7 7	
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.2.5.3	200mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		-
1.2.5.4	250mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		
1.2.5.5	350mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	8		
1.2.5.6	400mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	12		
1.2.5.7	500mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	2		
1.2.5.8	700mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	4		
1.2.6	P.E Flange Adaptor (Stub End)				
1.2.6.1	110mm dia, P.E Flange Adaptor (Stub End)	Nr	12		
1.2.6.2	160mm dia, P.E Flange Adaptor (Stub End)	Nr	6		
1.2.6.3	200mm dia, P.E Flange Adaptor (Stub End)	Nr	12		
1.2.7	Flange Adaptors				
1.2.7.1	100mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	34		
1.2.7.2	150mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	16		
1.2.7.3	200mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	14		
1.2.7.4	250mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	4		
1.2.7.5	300mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	2		
1.2.7.6	350mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	10		
1.2.7.7	400mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	12		
1.2.7.8	500mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	2		
1.2.7.9	700mm dia, Viking Johnson Flange Adaptor or approved equivalent.	Nr	6		
1.2.8	All Flanged Ferrous Pipes				
1.2.8.1	100mm dia. All Flanged Pipe, 1200mm long	Nr	6		
1.2.8.2	100mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 575mm from one end	Nr	17		
1.2.8.3	150mm dia. All Flanged Pipe, 1200mm long	Nr	3		
1.2.8.4	150mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 575mm from one end	Nr	8		
1.2.8.5	200mm dia. All Flanged Pipe, 1200mm long	Nr	6		
1.2.8.6	200mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 550mm from one end	Nr	7		
1.2.8.7	250mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 500mm from one end	Nr	2		
1.2.8.8	300mm dia. All Flanged Pipe, 1000mm long with Puddle Flange 475mm from one end	Nr	1		
1.2.8.9	350mm dia. All Flanged Pipe, 1200mm long with Puddle Flange 450mm from one end	Nr	5		
1.2.8.10	400mm dia. All Flanged Pipe, 2000mm long with Puddle Flange 425mm from one end	Nr	6		
1.2.8.11	500mm dia. All Flanged Pipe, 2500mm long with Puddle Flange 525mm from one end	Nr	1		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.2.8.12	700mm dia. All Flanged Pipe, 3500mm long with Puddle Flange 570mm from one end	Nr	3		
1.2.9	Flanged Spigot Ferrous Pipes				
1.2.9.1	100mm dia. Flanged Spigot Pipe, 1200mm long	Nr	51		
1.2.9.2	100mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 575mm from the plain end	Nr	17		
1.2.9.3	150mm dia. Flanged Spigot Pipe, 1200mm long	Nr	24		
1.2.9.4	150mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 575mm from the plain end	Nr	8		
1.2.9.5	200mm dia. Flanged Spigot Pipe, 1200mm long	Nr	21		
1.2.9.6	200mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 550mm from the plain end	Nr	7		
1.2.9.7	250mm dia. Flanged Spigot Pipe, 1200mm long	Nr	6		
1.2.9.8	250mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 500mm from the plain end	Nr	2		
1.2.9.9	300mm dia. Flanged Spigot Pipe, 1200mm long	Nr	3		
1.2.9.10	300mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 475mm from the plain end	Nr	1		
1.2.9.11	350mm dia. Flanged Spigot Pipe, 1200mm long	Nr	15		
1.2.9.12	350mm dia. Flanged Spigot Pipe, 1000mm long with Puddle Flange 450mm from the plain end	Nr	5		
1.2.9.13	400mm dia. Flanged Spigot Pipe, 1200mm long	Nr	18		
1.2.9.14	400mm dia. Flanged Spigot Pipe, 1200mm long with Puddle Flange 425mm from the plain end	Nr	6		
1.2.9.15	500mm dia. Flanged Spigot Pipe, 1200mm long	Nr	3		
1.2.9.16	500mm dia. Flanged Spigot Pipe, 1500mm long with puddle flange 525mm from the plain end	Nr	1		
1.2.9.17	700mm dia. Flanged Spigot Pipe, 1200m long	Nr	9		
1.2.9.18	700mm dia. Flanged Spigot Pipe, 2100mm long with puddle flange 570mm from the plain end	Nr	3		
1.2.10	Plain Ended Ferrous Pipes				
1.2.10.1	100mm dia. Plain Ended Pipe, 1200mm long	Nr	11		
1.2.10.2	150mm dia. Plain Ended Pipe, 1200mm long	Nr	5		
1.2.10.3	200mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.2.10.4	250mm dia. Plain Ended Pipe, 1200mm long	Nr	2		
1.2.10.5	300mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.2.10.6	350mm dia. Plain Ended Pipe, 1200mm long	Nr	5		
1.2.10.7	400mm dia. Plain Ended Pipe, 1200mm long	Nr	6		
1.2.10.8	500mm dia. Plain Ended Pipe, 1200mm long	Nr	1		
1.2.10.9	700mm dia. Plain Ended Pipe, 1200mm long	Nr	3		
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MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.2.11	Method related Charges for Installation of New Appurtenances along Distribution and Transmission Pipelines				-
i)	Allow for exposing of pipes, cutting, connecting new fittings, making good and removal of all waste materials and leaving the site in a neat and clean state free from any debris etc. Dismantled pipes, fittings and fixtures to be delivered to the Storage Yard as directed by the Engineer. The Contractor to include for any mobile equipment e.g. generators, drills, pumps etc. to successfully complete the Works.	ltem	L.S		
ii)	Dealing with water flow and maintaining continuity of supply by fixing requisite pipe diameter / material as make up piece and other required fittings.	Item	L.S		
iii)	Requisite preparation works for installation of new appurtanances within existing chambers	Item	L.S		
1.2.12	Allow for any other method related charges the Bidder feels may be required.	Item	L.S		
i)					
ii)					
iii)					
1.3	Construction of Valve & Meter Chambers				
1.3.1	Excavate for, provide all materials and Construct Valve chamber internal dimensions 1200mm x 1200mm to depth n.e 2.0m as shown on Drawing No. M410/SD/02 . Include for supply and fixing of precast covers, indicator posts, step irons, concrete, reinforcement, formwork, joints, finishes, backfilling and removal of surplus material.	Nr	30		
1.3.2	-Ditto- but internal dimensions 1200mm x 1400mm	Nr	8		
1.3.3	-Ditto- but internal dimensions 1400mm x 1600mm	Nr	12		
1.3.4	Excavate for, provide all materials and Construct Electromagnetic Meter chamber internal dimensions 1200mm x 1200mm to depth n.e 2.0m as shown in Drg. No. M410/SD/9 . Include for supply and fixing of precast covers, indicator posts, step irons, concrete, reinforcement, formwork, joints, finishes, backfilling and removal of surplus material.	Nr	30		
1.3.5	-Ditto- but internal dimensions 1200mm x 1400mm	Nr	8		
1.3.6	-Ditto- but internal dimensions 1400mm x 1800mm	Nr	6		
1.3.6	-Ditto- but internal dimensions 1800mm x 2100mm Depth n.e 3.0m	Nr	6		

	Amount
	Kshs.
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SECTION 5

MOMBASA NORTH MAINLAND (BILL No. 5.1)

SUMMARY SHEET

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A				
	Amount (Kshs.)			
Bill No. 5 - Bulk Water Meters - Short Term				
Section 5 Total Exclusive of VAT Carried to The Bill of Quantities Grand Summary				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

	BILL No. 6 - SCHEDULE OF DAYWORKS				
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT KShs.
	NOTE: THE WHOLE OF THIS BILL IS PROVISIONAL				
1	LABOUR				
	The rates inserted herein should include for all costs such as insurance, travelling time, overtime, accommodation, use and maintenance of small tools of trade, supervision, overheads and profit. Only time engaged upon work will be paid for:				
1.1	Unskilled Labourer	Hrs	100		
1.2	Timberman	Hrs	50		
1.3	Stone Mason	Hrs	100		
1.4	Carpenter	Hrs	50		
1.5	Concretor	Hrs	50		
1.6	Blaster (Certified)	Hrs	10		
1.7	Pipelayer	Hrs	50		
1.8	Painter	Hrs	10		
1.9	Surveyor	Hrs	50		
1.10	Foreman	Hrs	100		
1.11	Watchman (including use of firewood, lights, day, night, Sunday and Public Holiday watching)	Hrs	50		
2	PLANT				
	The rates inserted herein should include for all operational and maintenance costs, fuel, oil, grease, operators, turnboys, supervision, overhead and profits. Only the time actually employed on works will be paid for and the rates should include for idle, travelling and overtime				
2.1	Compressor (3.0 m ³ /minute)	Hrs	50		
2.2	D4 Tractor	Hrs	50		
2.3	Concrete Vibrator (Petrol or Diesel)	Hrs	50		
2.4	Concrete Mixer 14/10 (including batch weighing gear and drag feed shovel)	Hrs	100		
2.5	Dumper 0.38 m ³	Hrs	50		
2.6	Tandem 3 wheels roller. Dead weight 9 tonnes	Hrs	20		
2.7	5 Tonne Lorry (Tipper)	Hrs	50		

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT KShs.
2.8	7 Tonne Lorry (Tipper)	Hrs	50		
2.9	Portable water pump 50mm diameter (inclusive of hoses, couplings, etc.)	Hrs	50		
2.10	Oxy-Acetylene cutting and welding set, including oxygen and acetylene	Hrs	20		
2.11	Electric welding set including electrodes	Hrs	10		
3	MATERIALS				
	All materials are to comply with the specifications. The rates inserted herein are to include for delivery to site, storage, handling, overheads and profits				
3.1	Ordinary Portland Cement	Tonne	1		
3.2	Mild steel (any size from 8mm to 25mm dia.)	Kg	50		
3.3	High tensile steel (any size from 8mm to 15mm dia.)	Kg	50		
3.4	Fine aggregate for concrete	m ³	20		
3.5	Coarse aggregate for concrete	m³	20		
3.6	Use of shuttering timber	m²	10		
3.7	Murram	m ³	20		
3.8	Concrete Block Type 'A'	m	20		
3.9	Concrete Block Type 'B'	m	20		
3.10	300mm dia. Concrete Ogee Pipe	m	20		
3.11	Concrete Class 15/20	m ³	10		
3.12	Concrete Class 20/20	m³	10		
3.13	Concrete Class 25/20	m ³	10		
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BILL No. 6 - SCHEDULE OF DAYWORKS

SECTION 6 SCHEDULE OF DAYWORKS SUMMARY SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)				
MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A				
	Amount			
	(Kshs.)			
Page Total, Page 1 of 2				
Page Total, Page 2 of 2				
Bill No. 6 Total Exclusive of VAT Carried to The Bill of Quantities Grand Summary				

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A

SECTION	DESCRIPTION		TOTAL AMOUNT⊡ (Kshs.)
1	PRELIMINARIES & GENERAL (BILL No. 1)		()
2	PRIMARY AND SECONDARY MAINS (BILL No. 2.1 - BILL No. 2.26)		
3	TERTIARY AND SERVICE MAINS (BILL No. 3.1 - BILL No. 3.2)		
4	CONSUMER CONNECTIONS (Bill No. 4.1)		
5	BULK WATER METERS (BILL No. 5.1)		
6	SCHEDULE OF DAYWORKS (BILL No. 6)		
	Bills Total Exclusive of VAT	(A)	
	Add 10% of (A) for Contingencies	(B)	
	Bill Total Inclusive of Contingencies	(C)	
	Value Added Tax (VAT) - 16% of (C)	(D)	
	GRAND TOTAL CARRIED TO LETTER OF BID [(C) + (D)]		

GRAND SUMMARY