

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 1

PRELIMINARIES AND GENERAL

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1	<u>CONTRACTUAL REQUIREMENTS</u>				
1.1	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.	Item	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	<u>SPECIAL REQUIREMENTS</u>				
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	Item	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 official 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	Item	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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ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>SPECIFIED REQUIREMENTS</u>				
	<u>Sign Boards</u>				
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		
	<u>Setting Out & Survey Work</u>				
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.	Item	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.	Item	L.S		
	<u>Office of the Resident Engineer</u>				
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.	Item	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.	Item	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. Note: 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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PRELIMINARIES AND GENERAL

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>Resident Engineer's Staff</u>				
	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, accomodation costs, requisite Governmet of Kenya mandotary deductions, etc. all neccessary 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		
	<u>Vehicles</u>				
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		9,000,000
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.	Item	P.C		14,000,000
3.18	Add% for profit, administration, attendance upon, overheads, etc for item 3.17 above.	%	14,000,000		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 1****PRELIMINARIES AND GENERAL**

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.	Item	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.	Item	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		
<u>Accommodation for the Supervision Staff</u>					
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).	Item	P.C		3,600,000
3.30	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.29 above.	%	3,600,000		
<u>Telecommunications</u>					
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.	Item	P.C		500,000
3.32	Add% for profit, administration, attendance upon, overheads, etc. for Item 3.31 above.	%	500,000		
<u>Employer's Counterpart Staff Costs</u>					
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 1****PRELIMINARIES AND GENERAL**

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

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

BILL No. 1

PRELIMINARIES AND GENERAL

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	Item	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.)	Item	L.S		
6	<u>OTHER WORKS OBLIGATIONS</u>				
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)					
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SECTION 1

PRELIMINARIES & GENERAL (BILL No. 1)

SUMMARY SHEET

<u>WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)</u>	
<u>MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A</u>	
	Amount (Kshs)
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Total Exclusive of VAT Carried to The Bill of Quantities Grand Summary	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
I4	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
I43	Nominal bore 350mm not in trenches	m	1895		
I5	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
I51	OD 160mm	m	12		
	<u>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</u>				
I4	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	<u>Nominal bore 350mm in Trenches</u>				
I432	Depth not exceeding 1.5m	m	740		
I433	Depth 1.5m - 2.0m	m	1,155		
I5	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	<u>Nominal Bore 160mm in Trenches</u>				
I513	Depth 1.5m - 2.0m	m	12		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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BILL No. 2.1 - LINE NM01

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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Inverted Tee</u>				
A-J323.5	ND 350 x ND150	Nr	1		
A-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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-J341.4	ND 200	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
A-J381.6	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		
A-J383.5	ND 400mm, 1.2m long	Nr	1		
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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				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
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BILL No. 2.1 - LINE NM01

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>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</u>				
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				
	<u>All Flanged Tee</u>				
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 x ND 350	Nr	1		
B-J323.5	ND 500 x ND 400	Nr	1		
	<u>All Flanged Inverted Tee</u>				
B-J323.5	ND 350 x ND150	Nr	1		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
B-J381.1	ND 65mm, 1.2m long	Nr	1		
B-J381.2	ND 80mm, 1.2m long	Nr	5		
B-J381.3	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 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 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	2		
K211.2	-Ditto- but internal dimensions 1400mm x 1400mm	Nr	1		
K211.3	Provide all materials and construct Masonry 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 Masonry 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 Masonry 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 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	2		
K212.5	-Ditto- but depth 1.5 - 2.0m	Nr	3		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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 existing 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 restatement 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 deemed to include for pilot excavations, repairs and restatement of any damages to the existing buried services as a result of execution of the works.	Item	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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
L1	Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)				
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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 surround to HDPE pipe under Murrum 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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	38		
L72	Volume:- 0.1 - 0.2m³				
L723	To pipes nominal bore 300 - 600mm	Nr	12		
L73	Volume:- 0.2 - 0.5m³				
L733	To pipes nominal bore 300 - 600mm	Nr	7		
L74	Volume:- 0.5 - 1m³				
L743	To pipes nominal bore 300 - 600mm	Nr	8		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 nominal 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)	m ³	7		
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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BILL No. 2.1 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.1 - LINE NM01

	Amount Kshs.
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Bill No. 2.1 Total Exclusive of VAT Carried to Section 2 Summary Sheet	-

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 160mm not in trenches	m	233		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 160mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	233		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
A-J311.1	11.25°	Nr	8		
A-J311.2	22.5°	Nr	3		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
A-J811.1	DN 150	Nr	1		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>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 Restatement</u>				
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		
B-J311.3	30°	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
	<u>Flanged spigot pipes</u>				
B-J381	ND 150mm 1.2m long	Nr	1		
B-J383	ND 350mm 1.2m long	Nr	1		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
B-J811.1	DN 150	Nr	1		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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 existint Hedges and reinstating these after construction of the water main is complete.	m	5		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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	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"	m ³	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				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	14		
L73	Volume 0.2 - 0.5m³				
L713	To pipes nominal bore 300 - 600mm	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

BILL No. 2.2 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.2 - LINE NM02

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	0.38		
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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>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</u>				
I711	Nominal bore 110mm not in trenches	m	414		
I711	Nominal bore 160mm not in trenches	m	850		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	414		
	<u>Nominal bore 160mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	780		
I713	Depth not 1.5-2.0m	m	70		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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-J38	Straight Specials				
	<u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	<u>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 Restatement</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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-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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 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	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 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	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 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	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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reinstatement 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	<u>Reinstatement</u>				
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	<u>Other Pipework Ancillaries</u>				
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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
L1	<u>Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)</u>				
L11	<u>In Pipe Trenches and Chambers</u>				
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		
	<u>Note:- Blasting is NOT permitted for Item L11</u>				
L5	<u>Surrounds</u>				
L52	<u>Selected Excavated Granular Fill (Provisional)</u>				
	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	<u>Imported Selected Fill (Provisional)</u>				
	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	51		
L72	Volume 0.1 - 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume 1.0 - 2.0m³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
	<u>CLASS X: MISCELLANEOUS WORK</u>				
	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 nominal 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	20		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classed (Provisional)	m ³	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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BILL No. 2.3 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.3 - LINE NM03

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	511		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	511		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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-J311.2.2	22.5°	Nr	1		
A-J311.2.3	30°	Nr	2		
A-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
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				
	<u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	2		
A-J381.2	ND 100mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
A-J381.3	ND 100mm, 1.2m long	Nr	2		
A-J381.4	ND 100mm, 2.0m long	Nr	2		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
A-J811.1	DN 80	Nr	2		
A-J811.2	DN 100	Nr	8		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	<u>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 Restatement</u>				
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	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J381.2	ND 100mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
B-J381.3	ND 100mm, 1.2m long	Nr	2		
B-J381.4	ND 100mm, 2.0m long	Nr	2		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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.				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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	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 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	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 existing 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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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 Murrum/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.	m ²	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				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
L71	Volume n.e 0.1m ³				
L711	To pipes nominal bore n.e 200mm	Nr	23		
	<u>CLASS X: MISCELLANEOUS WORK</u>				
	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 nominal 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)	m ³	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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BILL No. 2.4 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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BILL No. 2.4 - LINE NM04a

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	622		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	622		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	Bends				
A-J31	Plain Ended Bends				
	<u>Nominal bore n.e 200mm</u>				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
A-J31	All Flanged Bends				
	<u>Nominal bore n.e 200mm</u>				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	5		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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-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				
	<u>All Flanged Tee</u>				
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				
	<u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	1		
A-J381.2	ND 100mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
A-J381.3	ND 100mm, 1.2m long	Nr	1		
A-J381.4	ND 100mm, 2.0m long	Nr	1		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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 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				
	<u>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 Restatement</u>				
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	5		
B-J311.2.2	22.5°	Nr	5		
B-J311.2.3	30°	Nr	3		
B-J311.2.4	45°	Nr	1		
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	1		
B-J381.2	ND 100mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
B-J381.3	ND 100mm, 1.2m long	Nr	1		
B-J381.4	ND 100mm, 2.0m long	Nr	1		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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 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 MASONRY 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	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 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	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 existing 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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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				
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)				
	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 Murrum/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 (WSDP)

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)
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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	33		
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BILL No. 2.5 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.5 - LINE NM04b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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		
	Note:- Girth shall be measured 1.0m above ground level				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
I4	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
I42	Nominal bore 250mm not in trenches	m	695		
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711.1	Nominal bore 200mm not in trenches	m	250		
I5	uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)				
I511	OD 90mm	m	12		
	<u>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</u>				
I4	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	<u>Nominal bore 250mm in Trenches</u>				
I422	Depth not exceeding 1.5m	m	495		
I423	Depth 1.5 - 2.0m	m	200		
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 200mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	60		
I713	Depth 1.5 - 2.0m	m	180		
I714	Depth 2.0 -2.5m	m	10		
	PAGE TOTAL CARRIED TO BILL COLLECTION PAGE				

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
I5	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 90mm in Trenches				
I512	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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				
	<u>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</u>				
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				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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		
B-J312.2	22.5°	Nr	6		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

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				
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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
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	ND 400	Nr	2		
B-J6	P.E Flange Adaptor (Stub End)				
B-J651	OD 200	Nr	22		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J38	Straight Specials				
	<u>Flanged spigot pipes</u>				
B-J381.1	ND 80mm 1.2m long	Nr	4		
B-J381.2	ND 200mm 1.2m long	Nr	1		
B-J382.1	ND 250mm 1.2m long	Nr	5		
	<u>Plain Ended Pipes</u>				
B-J381.3	ND 80mm, 1.2m long	Nr	3		
B-J382.2	ND 250mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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 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 MASONRY 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 existng 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 deemed 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

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 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 MAINLAND (SHORT TERM WORKS) LOT 1A

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 Murrum/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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	33		
L72	Volume 0.1 - 0.2m³				
L722	To pipes nominal bore 200-300mm	Nr	15		
L73	Volume 0.2 - 0.5m³				
L732	To pipes nominal bore 200-300mm	Nr	9		
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BILL No. 2.6 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.6 - LINE NM05

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.7 - LINE NM06

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 110mm not in trenches	m	783		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	763		
I713	Depth 1.5-2.0m	m	20		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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 SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.7 - LINE NM06**

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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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				
	<u>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</u>				
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				
	<u>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</u>				
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	13		
B-J311.2.2	22.5°	Nr	3		
B-J311.2.3	30°	Nr	3		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.7 - LINE NM06**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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 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	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.7 - LINE NM06**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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	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				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.7 - LINE NM06**

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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	45		
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BILL No. 2.7 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.7 - LINE NM06

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.8 - LINE NM07

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	271		
	<u>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</u>				
I7	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	271		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	<u>Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.8 - LINE NM07

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J65	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	20		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 existng 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.8 - LINE NM07

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 reinstatement 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	<u>Reinstatement</u>				
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	8		
K8	<u>Other Pipework Ancillaries</u>				
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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
L1	<u>Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)</u>				
L11	<u>In Pipe Trenches and Chambers</u>				
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		
	<u>Note:-</u> Blasting is NOT permitted for Item L11				
L5	<u>Surrounds</u>				
L52	<u>Selected Excavated Granular Fill (Provisional)</u>				
	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	<u>Imported Selected Fill (Provisional)</u>				
	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	<u>Mass Concrete Surround (Road Crossings)</u>				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.8 - LINE NM07

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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	12		
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BILL No. 2.8 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.8 - LINE NM07

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
	<u>Flanged spigot pipes</u>				
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		
	<u>Plain Ended Pipes</u>				
A-J381.5	ND 80mm, 1.2m long	Nr	2		
A-J382.1	ND 250mm, 1.2m long	Nr	1		
	<u>All Flanged Ferrous Pipe</u>				
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	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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				
	<u>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 Restatement</u>				
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 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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
B-J321.4	ND 150 x ND 80	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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	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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
K211.6	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	1		
K211.7	Excavate for, provide all materials and construct a valve box for washouts as detailed on DRrawing No. M410/SD/02 . Depth n.e 1.5m.	Nr	1		
K211.8	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		
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	50		
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 deemed 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	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	22		
K871	Provide all materials and construct Masonry outfall structures on mass concrete plinths at washout drain and pipe outlets	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	<u>CLASS X: MISCELLANEOUS WORK</u>				
	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 nominal 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)	m ³	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)	Item	L.S		
	i)				
	ii)				
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BILL No.2.9 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.9 - LINE NM08

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.10 - LINE NM09**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	583		
I5	<u>uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)</u>				
I511	OD 50mm	m	12		
I7	<u>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</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	583		
	<u>Nominal Bore 50mm in Trenches</u>				
I512	Depth not exceeding 1.5m	m	12		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	<u>Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings</u>				
A-J31	<u>Bends</u>				
A-J31	<u>Plain Ended Bends</u>				
	<u>Nominal bore n.e 200mm</u>				
A-J311.1	<u>ND 80mm</u>				
A-J311.1	90°	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.10 - LINE NM09**

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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.10 - LINE NM09

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		
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.10 - LINE NM09

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.1	11.25°	Nr	2		
B-J311.2.2	22.5°	Nr	3		
B-J311.2.3	30°	Nr	1		
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
B-J321	ND 100 x ND 80	Nr	1		
B-J323	ND 350 x ND 200	Nr	1		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
B-J321.3	ND 100 x ND 50	Nr	1		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Flanged spigot pipes</u>				
B-J381.1	ND 80mm 1.2m long	Nr	2		
B-J381.2	ND 100mm 1.2m long	Nr	2		
	<u>Plain Ended Pipes</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.10 - LINE NM09

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				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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	6		
K211.2	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	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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.10 - LINE NM09**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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	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 restatement 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 deemed to include for pilot excavations, repairs and restatement 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	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 shown on the drawings 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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BILL No.2.10 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.10 - LINE NM09

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	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	30°	Nr	8		
A-J311.2.4	45°	Nr	6		
A-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
A-J321	ND 100 x ND 80	Nr	1		
A-J323	ND 350 x ND 200	Nr	1		
A-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	39		
A-J38	Straight Specials				
	<u>Flanged spigot pipes</u>				
A-J381.1	ND 80mm 1.2m long	Nr	2		
A-J381.2	ND 100mm 1.2m long	Nr	2		
	<u>Plain Ended Pipes</u>				
A-J381.3	ND 80mm, 1.2m long	Nr	1		
A-J383.1	ND 350mm, 1.2m long	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	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				
	<u>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</u>				
A-J811.1	DN 80	Nr	1		
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				
	<u>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 Restatement</u>				
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	7		
B-J311.2.2	22.5°	Nr	7		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
B-J311.2.3	30°	Nr	8		
B-J311.2.4	45°	Nr	6		
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
B-J321	ND 100 x ND 80	Nr	1		
B-J323	ND 350 x ND 200	Nr	1		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Flanged spigot pipes</u>				
B-J381.1	ND 80mm 1.2m long	Nr	2		
B-J381.2	ND 100mm 1.2m long	Nr	2		
	<u>Plain Ended Pipes</u>				
B-J381.3	ND 80mm, 1.2m long	Nr	1		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
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)

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)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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 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	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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 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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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)				
	Provide all materials and construct concrete ogee pipe sleeve and 150mm thick class 15/20 mass concrete surround to HDPE pipe under Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	36		
L72	Volume 0.1 - 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume 0.5 - 1.0m³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
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BILL No. 2.11 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.11 - LINE NM10a

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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)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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	5		
A-J311.2.2	22.5°	Nr	3		
A-J311.2.3	30°	Nr	2		
A-J311.2.4	45°	Nr	1		
A-J311.3	ND 150mm				
A-J311.3.1	11.25°	Nr	6		
A-J311.3.3	30°	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 150 x ND 80	Nr	1		
A-J34	VJ Couplings				
A-J341.1	ND 80	Nr	4		
A-J34	VJ Stepped Couplings				
A-J341.2	ND 100	Nr	2		
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	1		
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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)
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				
	<u>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</u>				
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 MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.12 - LINE NM10b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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</u>				
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		
B-J351.2	ND 100	Nr	4		
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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)
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				
	<u>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</u>				
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		
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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)
	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		
K212.1	-Ditto 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	-Ditto 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		
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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)
K681	Allow for crossing existing underground services (specifically community water lines, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including restatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and restatement 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 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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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"	m ³	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 Murrum/Earth Road crossings, diameter of pipe n.e 300mm as per Drg. No. M410/SD/08	m	8		
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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)
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.	m ²	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 0.1m³				
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 nominal 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	27		
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)	Item			
	i)				
	ii)				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.12 - LINE NM10b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.13 - LINE NM11**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	0.81		
D2	<u>Tree Cutting (Provisional)</u>				
	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>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</u>				
I711	Nominal bore 110mm not in trenches	m	561		
I711	Nominal bore 160mm not in trenches	m	325		
I711	Nominal bore 200mm not in trenches	m	1830		
	<u>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</u>				
I7	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	510		
I713	Depth 1.5 - 2.0m	m	51		
	<u>Nominal bore 160mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	275		
I713	Depth 1.5 - 2.0m	m	50		
	<u>Nominal bore 200mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	1,758		
I713	Depth 1.5 - 2.0m	m	72		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
	<u>All Flanged Tee</u>				
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				
	<u>All Flanged Concentric Taper</u>				
A-J331.1	ND 150 x ND 100	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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				
	<u>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</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.3	ND 150mm				
B-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				
	<u>All Flanged Tee</u>				
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				
	<u>All Flanged Concentric Taper</u>				
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		
B-J651.2	OD 160	Nr	8		
B-J651.3	OD 200	Nr	73		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J38	Straight Specials				
	<u>Flanged spigot pipes</u>				
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		
	<u>Plain Ended Pipes</u>				
B-J381.5	ND 80mm, 1.2m long	Nr	6		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
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				
	<u>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</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

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 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 MASONRY 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	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 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	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 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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K7	<u>Reinstatement</u>				
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	<u>Other Pipework Ancillaries</u>				
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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
L1	<u>Extra over excavation and backfilling for excavation in Rock. Rate to include carting away and disposal. (Provisional)</u>				
L11	<u>In Pipe Trenches and Chambers</u>				
L111.1	Excavation in trench for rock class "A"	m ³	192		
L111.2	Excavation in trench for rock class "B"	m ³	288		
L111.3	Excavation in trench for rock class "C"	m ³	480		
	<u>Note</u> - Blasting is NOT permitted for Item L11				
L5	<u>Surrounds</u>				
L52	<u>Selected Excavated Granular Fill (Provisional)</u>				
	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	<u>Imported Selected Fill (Provisional)</u>				
	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

ITEM 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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	99		
L72	Volume:- 0.1- 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume:- 1 - 2m³				
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/murrum) 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 nominal 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)	m ³	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)	Item			
	i)				
	ii)				
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BILL No. 2.13 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.13 - LINE NM11

	Amount Kshs.
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Bill No. 2.13 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline alignment	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				
I711	Nominal bore 110mm not in trenches	m	325		
I712	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				
I712	Depth not exceeding 1.5m	m	325		
	Nominal bore 200mm in Trenches				
I712	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				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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	30°	Nr	3		
A-J311.2.4	45°	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 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

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				
	<u>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</u>				
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				
	<u>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 Restatement</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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		
B-J311.2	ND 200mm				
B-J311.2.1	11.25°	Nr	10		
B-J311.2.2	22.5°	Nr	3		
B-J311.2.3	30°	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 x 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)				
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		
B-J383.1	ND 300mm, 1.2m long	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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				
	<u>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</u>				
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	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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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		
K211.2	Ditto but internal dimensions 1400mm x 1200mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.14 - LINE NM12a**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.3	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	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 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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

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	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)				
	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)				
	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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	36		
L72	Volume:- 0. 1- 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	3		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

ITEM No.	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 nominal 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	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)	Item			
	i)				
	ii)				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.14 - LINE NM12a

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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 No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline alignment	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		
	<u>Note</u> : Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
17	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 110mm not in trenches	m	605		
	<u>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</u>				
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	445		
I713	Depth 1.5m - 2.0m	m	160		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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 SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.15 - LINE NM12b

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		
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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 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				
	<u>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</u>				
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	DN 80	Nr	2		
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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				
B-J311.1.1	11.25°	Nr	1		
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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 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				
	<u>All Flanged Tee</u>				
B-J321	ND 100 x ND 80	Nr	2		
B-J323	ND 350 x ND 200	Nr	1		
B-J331	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Flanged spigot pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	4		
B-J381.2	ND 100mm, 1.2m long	Nr	3		
	<u>Plain Ended Pipes</u>				
B-J381.3	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
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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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 No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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		
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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 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	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	19		
L72	Volume:- 0. 1- 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume:- 0.5 - 1.0m³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
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BILL No. 2.15 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.15 - LINE NM12b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 200mm not in trenches	m	1,420		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 200mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	1,100		
I713	Depth 1.5-2.0m	m	320		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
A-J311.2.1	11.25°	Nr	16		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.16 - LINE NM13**

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				
	<u>All Flanged Tee</u>				
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				
	<u>Flanged spigot pipes</u>				
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		
	<u>Plain Ended Pipes</u>				
A-J381.4	ND 80mm, 1.2m long	Nr	2		
A-J383.1	ND 300mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
A-J381.5	ND 200mm, 1.2m long	Nr	3		
A-J381.6	ND 200mm, 2.0m long	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

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				
	<u>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</u>				
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				
	<u>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 Restatement</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

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				
	<u>All Flanged Tee</u>				
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				
	<u>Flanged spigot pipes</u>				
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		
	<u>Plain Ended Pipes</u>				
B-J381.4	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 300mm, 1.2m long	Nr	2		
	<u>All Flanged Ferrous Pipe</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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		
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

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 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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

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	117		
L111.2	Excavation in trench for rock class "B"	m ³	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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	40		
L72	Volume:- 0. 1- 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	18		
L74	Volume:- 0. 5- 1.0m³				
L721	To pipes nominal bore 300-600mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS X: MISCELLANEOUS WORK</u>				
	<u>Trenchless Road Crossings</u>				
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 nominal 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)	m ³	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)				
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BILL No. 2.16 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.16 - LINE NM13

	Amount Kshs.
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Bill No. 2.16 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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 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	<u>Method Related Charges</u>				
	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 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				
	i)	Item	L.S		
	ii)	Item	L.S		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
CLASS D: DEMOLITION AND SITE CLEARANCE					
D1	General site clearance along the pipeline alignment	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					
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	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					
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5				
Nominal bore 110mm in Trenches					
I712.1	Depth not exceeding 1.5m	m	708		
I712.2	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				
A-J311.1	ND 80mm				
A-J311.1	90°	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.17 - LINE NM14**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J31	Bends				
	<u>All Flanged Bends</u>				
A-J311	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-J311.2.1	11.25°	Nr	17		
A-J311.2.2	22.5°	Nr	8		
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				
	<u>All Flanged Tee</u>				
A-J321.1	ND 100 x ND 80	Nr	1		
A-J321.2	ND 100 x ND 100	Nr	1		
A-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Plain Ended Pipes</u>				
A-J381.2	ND 80mm, 1.2m long	Nr	1		
	<u>Flanged spigot pipes</u>				
A-J381.3	ND 80mm 1.2m long	Nr	2		
A-J381.4	ND 100mm 1.2m long	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

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				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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	22.5°	Nr	8		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.3	30°	Nr	2		
B-J311.2.4	45°	Nr	2		
B-J311.2.5	90°	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-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-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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J81	All Flanged Gate Valves				
	<u>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</u>				
B-J811.1	DN 80	Nr	1		
B-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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K6	Crossings				
K641	Allow for crossing existng 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, sewerlines, telephone/electricity ducts, fibre optic cable duct etc.) including reinstatement 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 deemed to include for pilot excavations, repairs and reinstatement 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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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	60		
L111.2	Excavation in trench for rock class "B"	m ³	90		
L111.3	Excavation in trench for rock class "C"	m ³	150		
	Note:- Blasting is NOT permitted for Item L11				
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

ITEM 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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	39		
L72	Volume 0.1 - 0.2m³				
L711	To pipes nominal bore n.e 200mm	Nr	1		
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BILL No.2.17 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.17 - LINE NM14

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>					
D1	General site clearance along the pipeline alignment	ha	0.37		
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				
<u>PIPES, FITTINGS AND VALVES</u>					
<u>CLASS I: PIPE WORK - PIPES</u>					
I7	<u>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</u>				
I711	Nominal bore 200mm not in trenches	m	1,215		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 200mm in Trenches</u>				
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		
<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>					
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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 SANITATION DEVELOPMENT PROJECT (WSDP)**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-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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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				
	<u>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</u>				
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				
	<u>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 Restatement</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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-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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 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	7		
K211.2	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	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 existing 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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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 Murrum/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.	m ²	32		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	29		
L72	Volume 0.1-0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	7		
L75	Volume 1-2m³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
	<u>CLASS X: MISCELLANEOUS WORK</u>				
	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 nominal 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 classes (Provisional)	m ³	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)	Item			
	i)				
	ii)				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.18 - LINE NM15a

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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)
	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 Contractor 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)				
	i)	Item	L.S		
	ii)	Item	L.S		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	0.29		
D2	<u>Tree Cutting (Provisional)</u>				
	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
17	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 160mm not in trenches	m	950		
15	<u>uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)</u>				
I511	OD 90mm	m	12		
	<u>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</u>				
17	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)</u>				
	<u>Nominal bore 160mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	900		
I713	Depth 1.5-2.0m	m	50		
15	<u>uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)</u>				
	<u>Nominal Bore 90mm in Trenches</u>				
I512	Depth not exceeding 1.5m	m	12		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
A-J321.4	ND 150 x ND 80	Nr	1		
A-J331	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
A-J341	ND 80	Nr	4		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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)
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				
	<u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	3		
A-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
A-J811.1	DN 50	Nr	1		
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		
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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)
A-J91.3	Fire Hydrant				
A-J91.3	DN 80	Nr	2		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
B-J321.4	ND 150 x ND 80	Nr	1		
B-J331	Tapers				
	<u>All Flanged Concentric Taper</u>				
B-J331	ND 80 x ND 50	Nr	1		
B-J331	ND 200 x ND 150	Nr	1		
B-J34	VJ Stepped Couplings				
B-J341	ND 80	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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-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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	3		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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				
	<u>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</u>				
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		
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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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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	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 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	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 existintg 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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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)
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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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 I: 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	68		
L111.2	Excavation in trench for rock class "B"	m ³	102		
L111.3	Excavation in trench for rock class "C"	m ³	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		
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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)
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)				
	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		
L541					
L6	Pipe Wrapping				
	Supply "Denso Tape" Wrapping or approved equivalent. Bidder to include wrapping / jointing on the pipe in two layers as directed by the Engineer.	m ²	10		
L601					
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 0.1m³				
	To pipes nominal bore n.e 200mm	Nr	43		
L711					
L72	Volume 0.1-0.2m³				
	To pipes nominal bore n.e 200mm	Nr	2		
L721					
L75	Volume 1-2m³				
	To pipes nominal bore n.e 200mm	Nr	2		
L751					
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BILL No. 2.19 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.19 - LINE NM15b

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Bill No. 2.19 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

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	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.				
	<p>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:</p> <ol style="list-style-type: none"> i. No blasting will be permitted in these areas ii. The Contractor 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)				
	i)	Item	L.S		
	ii)	Item	L.S		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline alignment	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				
I711.1	Nominal bore 110mm not in trenches	m	552		
I711.2	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				
I712.1	Depth not exceeding 1.5m	m	552		
	Nominal bore 200mm in Trenches				
I712.2	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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)

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

BILL No. 2.20 - LINE NM16

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				
	<u>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</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) 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				
	<u>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</u>				
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				
	<u>All Flanged Tee</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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 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 MASONRY 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		
K211.5	Ditto but internal dimensions 2100mm x 1200mm	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.20 - LINE NM16**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.6	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	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 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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

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 Murrum/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.	m ²	12		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	25		
L72	Volume:- 0. 1- 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	7		
L73	Volume:- 0.2 - 0.5m³				
L731	To pipes nominal bore n.e 200mm	Nr	4		
L74	Volume:- 0.5 - 1.0m³				
L744	To pipes nominal bore n.e 600-900mm	Nr	4		
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BILL No. 2.20 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.20 - LINE NM16

	Amount Kshs.
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Bill No. 2.20 Total Exclusive of VAT Carried to Section 2 Summary Sheet	-

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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 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	<u>Method Related Charges</u>				
	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	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to Site and Store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable</u>				
I4	Ferrous Epoxy Coated Externally or Approved Equivalent and Cement Mortar Lined Internally Socket and Spigot Pipes -PN 16				
I431	Nominal bore 350 mm not in trenches	m	975		
I5	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
I511	OD 160mm not in trenches	m	12		
	<u>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</u>				
I4	Ferrous Epoxy coated externally or Approved equivalent and cement mortar lined internally socket and spigot pipes - PN 16				
	Nominal Bore 350mm in Trenches				
I432	Depth not exceeding 1.5m	m	335		
I433	Depth 1.5m - 2.0m	m	625		
I434	Depth 2.0m - 2.5m	m	15		
I5	uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)				
	Nominal Bore 160mm in Trenches				
I512	Depth not exceeding 1.5m	m	12		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to Site and Store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as Applicable</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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				
	<u>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</u>				
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-J91.2	Flanged Strainers for Water Meters				
A-J91.2	DN 80	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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				
	<u>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</u>				
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				

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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				
	<u>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</u>				
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				
B-J91.1	DN 80	Nr	2		
B-J91.2	Flanged Strainers for Water Meters				
B-J91.2	DN 80	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					
B-J91.3	Fire Hydrant				

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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 restatement 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 deemed to include for pilot excavations, repairs and restatement of any damages to the existing buried services as a result of execution of the works.	Item	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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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 Murrum 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.	m ²	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 0.1m³				
L713	To pipes nominal bore between 300-600mm	Nr	14		
L72	Volume:- 0. 1- 0.2m³				
L723	To pipes nominal bore between 300-600mm	Nr	8		
L72	Volume n.e 0.2 - 0.5 m³				
L723	To pipes nominal bore between 300-600mm	Nr	8		
L74	Volume:- 0.5 - 1.0m³				
L743	To pipes nominal bore between 300-600mm	Nr	8		
L76	Volume:- 2.0 - 4.0m³				
L764	To pipes nominal bore between 600-900mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.21 - LINE NM17a

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	415		
	<u>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</u>				
I7	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	330		
I713	Depth 1.5-2.0m	m	85		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
A-J311.2	ND 100mm				
A-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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
	<u>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</u>				
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	90°	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
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				
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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	1		
	<u>Flanged Spigot Pipes</u>				
B-J381.2	ND 80mm 1.2m long	Nr	2		
B-J381.3	ND 100mm 1.2m long	Nr	1		
	<u>All Flanged Ferrous Pipes</u>				
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				
	<u>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</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
B-J91.3	Fire Hydrant				
B-J91.3	DN 80	Nr	1		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 exvavated 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 existitng 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 reinstatement 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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	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	8		
	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	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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	15		
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BILL No. 2.22 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.22 - LINE NM17b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.23 - LINE NM18a**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
<u>CLASS A: GENERAL ITEM</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 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	<u>Method Related Charges</u>				
	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.23 - LINE NM18a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>					
D1	General site clearance along the pipeline alignment	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					
<u>PIPES, FITTINGS AND VALVES</u>					
<u>CLASS I: PIPE WORK - PIPES</u>					
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
High Density Polyethylene Pipes (HDPE) - PN 12.5					
I711	Nominal bore 110mm not in trenches	m	280		
<u>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</u>					
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
<u>Nominal bore 110mm in Trenches</u>					
I712	Depth not exceeding 1.5m	m	165		
I713	Depth 1.5-2.0m	m	115		
<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>					
<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>					
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-J311.2	ND 100mm				
A-J311.2	11.25°	Nr	7		
A-J6	P.E Flange Adaptor (Stub End)				
A-J651	OD 110	Nr	15		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.23 - LINE NM18a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J38	Straight Specials				
	<u>All Flanged Ferrous Pipe</u>				
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				
	<u>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</u>				
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				
	<u>All Flanged Ferrous Pipe</u>				
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 existng 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.23 - LINE NM18a**

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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	8		
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BILL No. 2.23 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.23 - LINE NM18a

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.24 - LINE NM18b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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	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	<u>Method Related Charges</u>				
	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.24 - LINE NM18b**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 110mm not in trenches	m	355		
	<u>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</u>				
I7	High Density Polyethylene Pipes (HDPE) - PN 12.5 with Butt Fusion (Seamless Jointing)				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	340		
I713	Depth 1.5-2.0m	m	15		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings				
A-J31	All Flanged Bends				
	Nominal bore n.e 200mm				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.24 - LINE NM18b

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		
	All Flanged Ferrous Pipe				
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	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
A-J811	DN 100	Nr	1		
A-J813	DN 500	Nr	2		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.24 - LINE NM18b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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-J311.2.1	11.25°	Nr	4		
B-J311.2.2	45°	Nr	1		
B-J32	Junction and Branches				
	All Flanged Tee				
B-J323	ND 500 x ND 250	Nr	1		
B-J331	Tapers				
	All Flanged Concentric Taper				
B-J332	ND 250 x ND 100	Nr	1		
B-J34	VJ Stepped Couplings				
B-J343	ND 500	Nr	2		
B-J35	Ferrous Flange Adaptor				
B-J351	ND 100	Nr	1		
B-J353	ND 500	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 100mm, 1.2m long	Nr	1		
	Plain Ended Pipes				
B-J383.1	ND 500mm, 1.2m long	Nr	2		
	All Flanged Ferrous Pipe				
B-J381.2	ND 100mm, 1.2m long	Nr	2		
B-J383.2	ND 500mm, 1.2m long	Nr	2		
B-J39	Blank Flange				
B-J391	ND 100mm	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.24 - LINE NM18b**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
B-J811	DN 100	Nr	1		
B-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 existng 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 reinstatement 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.24 - LINE NM18b**

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"	m ³	27		
L111.2	Excavation in trench for rock class "B"	m ³	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 Murrum/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.	m ²	7		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.24 - LINE NM18b

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	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		
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BILL No. 2.24 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.24 - LINE NM18b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	0.40		
D2	<u>Tree Cutting (Provisional)</u>				
	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		
	Note: - Girth shall be measured 1.0m above ground level				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
17	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 160mm not in trenches	m	1345		
15	<u>uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)</u>				
I511	OD 90mm	m	100		
	<u>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</u>				
17	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)</u>				
	<u>Nominal bore 160mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	810		
I713	Depth 1.5-2.0m	m	310		
I714	Depth 2.0-2.5m	m	225		
15	<u>uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)</u>				
	<u>Nominal Bore 90mm in Trenches</u>				
I512	Depth n.e 1.5m	m	50		
I514	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

BILL No. 2.25 - LINE NM19

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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				
	<u>All Flanged Tee</u>				
A-J321.1	ND 150 x 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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
A-J321.5	ND 150 x ND 80	Nr	2		
A-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

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				
	<u>Plain Ended Pipes</u>				
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		
	<u>Flanged Spigot Pipes</u>				
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		
	<u>All Flanged Pipes</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
	<u>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</u>				
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				
B-J311.2.1	11.25°	Nr	18		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.2	22.5°	Nr	8		
B-J311.2.3	30°	Nr	1		
B-J311.2.4	45°	Nr	1		
B-J311.2.5	90°	Nr	3		
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
B-J321.5	ND 150 x ND 80	Nr	2		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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				
	<u>Plain Ended Pipes</u>				
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		
	<u>Flanged Spigot Pipes</u>				
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		
	<u>All Flanged Pipes</u>				
B-J381.6	ND 150mm, 2.0m long	Nr	3		
B-J381.7	ND 150mm, 1.2m long	Nr	10		
B-J383.1	ND 350mm, 1.2m long	Nr	2		
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.25 - LINE NM19**

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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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	4		
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	1		
K212.2	Ditto but Depth 1.5 - 2.0m	Nr	1		
K212.3	Provide all materials and construct Mansonry walling Chambers, internal dimensions 1900mm 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		
K212.3	Ditto but Depth 1.5 - 2.0m	Nr	1		
K211.3	Provide all materials and construct Mansonry walling Chambers, 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. M410/SD/02 . Depth n.e 1.5m	Nr	1		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.25 - LINE NM19**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
K211.5	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	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		
K211.7	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 existing 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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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				
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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	119		
L111.2	Excavation in trench for rock class "B"	m ³	178		
L111.3	Excavation in trench for rock class "C"	m ³	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 Murrum/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.	m ²	18		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	48		
L72	Volume 0.1 - 0.2m³				
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		
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BILL No. 2.25 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.25 - LINE NM19

	Amount Kshs.
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Bill No. 2.25 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.26 - LINE NM20a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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 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	<u>Method Related Charges</u>				
	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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.26 - LINE NM20a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	CLASS D: DEMOLITION AND SITE CLEARANCE				
D1	General site clearance along the pipeline alignment	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		
	<u>Note</u> :- Girth shall be measured 1.0m above ground level				
	PIPES, FITTINGS AND VALVES				
	CLASS I: PIPE WORK - PIPES				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
	High Density Polyethylene Pipes (HDPE) - PN 12.5				
I711	Nominal bore 110mm not in trenches	m	718		
	<u>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</u>				
I7	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	478		
I713	Depth 1.5-2.0m	m	240		
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.26 - LINE NM20a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.2.2	22.5°	Nr	3		
A-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
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				
	<u>All Flanged Concentric Taper</u>				
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		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.26 - LINE NM20a

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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				
	<u>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 Restatement</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.26 - LINE NM20a**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
B-J321.1	ND 100 x 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				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J384.1	ND 700mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.26 - LINE NM20a**

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 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 MASONRY 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		
K211.2	Ditto but internal dimensions 1400mm x 1200mm.	Nr	2		
K211.3	Ditto but internal dimensions 2100mm x 1400mm.	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.26 - LINE NM20a**

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 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	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 restatement 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 deemed to include for pilot excavations, repairs and restatement 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 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.26 - LINE NM20a**

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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	27		
L72	Volume 0.1 - 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume 0.5 - 1.0m³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
L77	Volume 4.0 - 6.0m³				
L771	To pipes nominal bore n.e 200mm	Nr	1		
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BILL No. 2.26 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.26 - LINE NM20a

	Amount Kshs.
Page Total, Page 1 of 8
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Page Total, Page 3 of 8
Page Total, Page 4 of 8
Page Total, Page 5 of 8
Page Total, Page 6 of 8
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Bill No. 2.26 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.27 - LINE NM20b

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	1,015		
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	1,015		
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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 alignment	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				
I711	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				
I712	Depth not exceeding 1.5m	m	745		
I713	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A**

BILL No. 2.27 - LINE NM20b

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	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.27 - LINE NM20b

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				
	<u>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</u>				
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				
	<u>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</u>				
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	7		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.27 - LINE NM20b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J311.2.2	22.5°	Nr	4		
B-J311.2.3	30°	Nr	1		
B-J32	Junction and Branches				
	<u>All Flanged Tee</u>				
B-J321.1	ND 100 x ND 80	Nr	2		
B-J323	ND 400 x ND 200	Nr	1		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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				
	<u>Plain Ended Pipes</u>				
B-J381.1	ND 80mm, 1.2m long	Nr	2		
B-J383.1	ND 400mm, 1.2m long	Nr	2		
	<u>All Flanged pipes</u>				
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		
	<u>Flanged spigot pipes</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.27 - LINE NM20b

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
B-J8	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.27 - LINE NM20b**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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 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		
	<u>CLASS L: PIPEWORK - SUPPORTS AND PROTECTION, ANCILLARIES TO LAYING AND EXCAVATION</u>				
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	80		
L111.2	Excavation in trench for rock class "B"	m ³	120		
L111.3	Excavation in trench for rock class "C"	m ³	200		
	Note:- Blasting is NOT permitted for Item L11				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.27 - LINE NM20b**

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	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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	26		
L72	Volume 0.1 - 0.2m³				
L721	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume 1.0 - 2.0m³				
L751	To pipes nominal bore n.e 200mm	Nr	1		
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BILL No. 2.27 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.27 - LINE NM20b

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.28 - LINE NM21

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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	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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.28 - LINE NM21

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	ha	0.15		
D2	<u>Tree Cutting (Provisional)</u>				
	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as</u>				
	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5</u>				
I711	Nominal bore 110mm not in trenches	m	460		
	<u>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</u>				
I7	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	460		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	<u>Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings</u>				
A-J31	<u>Bends</u>				
A-J31	<u>Plain Ended Bends</u>				
	<u>Nominal bore n.e 200mm</u>				
A-J311.1	<u>ND 80mm</u>				
A-J311.1	90°	Nr	1		
A-J31	<u>All Flanged Bends</u>				
A-J311	<u>Nominal bore n.e 200mm</u>				
A-J311.2	<u>ND 100mm</u>				
A-J311.2.1	11.25°	Nr	4		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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				
	<u>All Flanged Tee</u>				
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				
	<u>Plain Ended Pipes</u>				
A-J381.1	ND 80mm, 1.2m long	Nr	1		
A-J381.2	ND 100mm, 1.2m long	Nr	4		
	<u>Flanged spigot pipes</u>				
A-J381.3	ND 80mm 1.2m long	Nr	2		
A-J381.4	ND 100mm 1.2m long	Nr	3		
	<u>All Flanged Ferrous Pipe</u>				
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				
	<u>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</u>				
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 MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.28 - LINE NM21

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				
	<u>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</u>				
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				
	<u>All Flanged Tee</u>				
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)

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

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				
	<u>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</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****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 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 MASONRY 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	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 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	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 existing 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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.28 - LINE NM21

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 Murrum/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.	m ²	10		
L7	Concrete Support, Thrust Blocks, Stools and Anchor Blocks				
	Rates to include for excavation, Formwork, provision and placing of concrete, backfilling etc.				
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	Class 20/20 Mass Concrete				
	NOTE:- The work includes pipe and fitting fixing				
L71	Volume n.e 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	20		
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BILL No. 2.28 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.28 - LINE NM21

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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.29 - LINE NM22

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
17	<u>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</u>				
I711	Nominal bore 110mm not in trenches	m	3625		
15	<u>uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)</u>				
I511	OD 50mm	m	12		
	<u>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</u>				
17	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)</u>				
	<u>Nominal bore 110mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	3,625		
15	<u>uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)</u>				
	<u>Nominal Bore 50mm in Trenches</u>				
I512	Depth not exceeding 1.5m	m	12		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	<u>Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings</u>				
A-J31	Bends				
A-J31	Plain Ended Bends				
	Nominal bore n.e 200mm				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.29 - LINE NM22

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.1	ND 80mm				
A-J311.1	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****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				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.29 - LINE NM22

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>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 Restatement</u>				
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				
	<u>All Flanged Tee</u>				
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		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
B-J321.4	ND 100 x ND 50	Nr	1		
B-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
B-J331	ND 250 x ND100	Nr	1		
B-J34	VJ Couplings				
B-J341.1	ND 80	Nr	14		
B-J34	VJ Stepped Couplings				
B-J341.2	ND 50	Nr	1		
B-J341.3	ND 500	Nr	2		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.29 - LINE NM22

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				
	<u>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</u>				
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				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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	10		
K211.2	Provide all materials and construct Masonry 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 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	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 existing 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 MAINLAND (SHORT TERM WORKS) LOT 1A

BILL No. 2.29 - LINE NM22

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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement of any damages to the existing buried services as a result of execution of the works.	Item	L.S		
K7	Reinstatement				
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"	m ³	240		
L111.2	Excavation in trench for rock class "B"	m ³	360		
L111.3	Excavation in trench for rock class "C"	m ³	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 MAINLAND (SHORT TERM WORKS) LOT 1A

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 Murrum/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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	130		
L73	Volume n.e 0.1 - 0.2m³				
L731	To pipes nominal bore n.e 200mm	Nr	1		
L74	Volume n.e 0.5 - 1.0m³				
L741	To pipes nominal bore n.e 200mm	Nr	1		
L75	Volume n.e 1.0 - 2.0m³				
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/murrum) 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 nominal 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)	m ³	4		
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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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BILL No. 2.29 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.29 - LINE NM22

	Amount Kshs.
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Bill No. 2.29 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
<u>CLASS A: GENERAL ITEM</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 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	<u>Method Related Charges</u>				
	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.	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
I4	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings - PN16				
I431	Nominal bore 350mm not in trenches	m	2,806		
	<u>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</u>				
I4	Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings - PN16				
	<u>Nominal bore 350mm in Trenches</u>				
I432	Depth not exceeding 1.5m	m	1,634		
I433	Depth 1.5m - 2.0m	m	948		
I434	Depth 2.0m - 2.5m	m	224		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
	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 x ND 200	Nr	8		
A-J323.3	ND 350 x 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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				
	<u>Flanged spigot pipes</u>				
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		
	<u>Plain Ended Pipes</u>				
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		
	<u>All Flanged Pipes</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
	CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16				
	<u>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</u>				
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				
	<u>All Flanged Tee</u>				
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				
	<u>All Flanged Concentric Taper</u>				
B-J331.1	ND 150 x ND 100	Nr	1		
B-J331.2	ND 200 x ND 50	Nr	1		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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	Valves and Penstocks				
B-J81	All Flanged Gate Valves				
	<u>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</u>				
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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**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)
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 existing 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 deemed 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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 Murrum/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.	m ²	169		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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)
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 0.1m³				
L713	To pipes nominal bore 350mm	Nr	72		
L72	Volume 0.1-0.2m³				
L723	To pipes nominal bore 350mm	Nr	26		
L73	Volume:- 0. 2- 0.5m³				
L733	To pipes nominal bore 350mm	Nr	5		
L74	Volume:- 0. 5- 1.0m³				
L743	To pipes nominal bore 350mm	Nr	7		
L75	Volume:- 1.0- 2.0m³				
L753	To pipes nominal bore 350mm	Nr	1		
L76	Volume:- 2.0- 4.0m³				
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 nominal 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	35		
X62	Extra over road crossing item X61 above for tunnelling in rock, all classed (Provisional)	m ³	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)	Item	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		
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BILL No. 2.30 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.30 - LINE NM23

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Bill No. 2.30 Total Exclusive of VAT Carried to Section 2 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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	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	<u>Method Related Charges</u>				
	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS D: DEMOLITION AND SITE CLEARANCE</u>				
D1	General site clearance along the pipeline alignment	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				
	<u>PIPES, FITTINGS AND VALVES</u>				
	<u>CLASS I: PIPE WORK - PIPES</u>				
I7	<u>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</u>				
I711	Nominal bore 200mm not in trenches	m	3860		
I5	<u>uPVC Class "B" Socket and Spigot pipes for draining of washouts (Provisional)</u>				
I511	OD 90mm	m	12		
	<u>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</u>				
I7	<u>High Density Polyethylene Pipes (HDPE) - PN 12.5 with butt fusion (seamless jointing)</u>				
	<u>Nominal bore 200mm in Trenches</u>				
I712	Depth not exceeding 1.5m	m	3,823		
I713	Depth 1.5 - 2.0m	m	37		
I5	<u>uPVC Class "B" Socket and Spigot pipes for Draining of Washouts (Provisional)</u>				
	<u>Nominal Bore 90mm in Trenches</u>				
I512	Depth not exceeding 1.5m	m	12		
	<u>CLASS J: PIPEWORK - FITTINGS AND VALVES - PN16</u>				
	<u>Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable</u>				
J3	<u>Epoxy coated Externally and Epoxy or Cement Mortar lined Internally Ferrous Pipes and Fittings</u>				
A-J31	Bends				
A-J31	Plain Ended Bends				
	<u>Nominal bore n.e 200mm</u>				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J311.1	ND 80mm				
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				
	<u>All Flanged Tee</u>				
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 x ND 300	Nr	1		
A-J323.3	ND 350 x ND 350	Nr	1		
A-J323.4	ND 500 x ND 350	Nr	1		
	<u>All Flanged Level Invert Tee (For Washouts)</u>				
A-J321.5	ND 200 x ND 80	Nr	1		
A-J33	Tapers				
	<u>All Flanged Concentric Taper</u>				
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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J8	Valves and Penstocks				
A-J81	All Flanged Gate Valves				
	<u>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</u>				
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 - FITTINGS AND VALVES - PN16				
	<u>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 Restatement</u>				
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	9		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.31 - LINE NM24**

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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

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				
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 2.31 - LINE NM24

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>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</u>				
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		
	<u>CLASS K: PIPE WORK -CHAMBERS AND PIPE WORK ANCILLARIES</u>				
	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 MASONRY 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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.31 - LINE NM24**

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 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	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 existing 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 restatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and restatement 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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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.31 - LINE NM24**

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 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 Murrum/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.	m ²	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 0.1m³				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 2.31 - LINE NM24**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
L711	To pipes nominal bore n.e 200mm	Nr	51		
L72	Volume:- 0.1 - 0.2m³				
L723	To pipes nominal bore 300 - 600mm	Nr	17		
L73	Volume:- 0.2 - 0.5m³				
L733	To pipes nominal bore 300 - 600mm	Nr	10		
L74	Volume:- 0.5 - 1m³				
L743	To pipes nominal bore 300 - 600mm	Nr	4		
L75	Volume:- 1.0 - 2m³				
L753	To pipes nominal bore 300 - 600mm	Nr	1		
L76	Volume:- 2.0 - 4.0m³				
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 nominal bore n.e 200mm. 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	225		
X62	Extra over road crossing item X61 above for excavating/drilling in rock, all classes (Provisional)	m ³	22		
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)				
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		
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BILL No. 2.31 COLLECTION SHEET

<p><u>WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)</u></p> <p><u>MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A</u></p> <p><u>0</u></p> <p><u>BILL No. 2.31 - LINE NM24</u></p>	
	<p>Amount Kshs.</p>
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Page Total, Page 2 of 11
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Page Total, Page 4 of 11
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Page Total, Page 6 of 11
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Page Total, Page 11 of 11
<p>Bill No. 2.31 Total Exclusive of VAT Carried to Section 2 Summary Sheet</p>	

SECTION 2
MOMBASA NORTH MAINLAND (BILL No. 2.1 - 2.26)
SUMMARY SHEET

<u>WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)</u>	
<u>MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A</u>	
	Amount (Kshs.)
Bill No. 2.1 - Line NM01	
Bill No. 2.2 - Line NM02	
Bill 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	
Bill No. 2.30 - Line NM23	
Bill No. 2.31 - Line NM24	
Section 2 Total Exclusive of VAT Carried to The Bill of Quantities Grand Summary	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.1 - SHORT TERM TERTIARY MAINS**

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	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.				
	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 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)				
	i)	Item	L.S		
	ii)	Item	L.S		
D1	Site Clearance				
D110	General clearance along the pipeline alignment.	ha	6		
	(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).				
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****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 liaison 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				
	<u>Supply, Transport to site and store in secure place. Include supply of joining materials, bolts, nuts, gaskets etc as applicable</u>				
I7	High Density Polyethylene Pipes (HDPE) SDR 11 (PN 12.5)				
I711	Nominal bore n.e 200mm not in Trenches				
I711	OD 63mm	m	38,537		
	CLASS I: PIPE WORK - PIPES				
	<u>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.</u>				
I7	High Density Polyethylene Pipes (HDPE) (PN 12.5) with Butt Fusion (seamless) Jointing				
	Nominal bore 63 mm in trenches				
I712	Depth not exceeding 1.5 m	m	38,537		
	CLASS J: PIPE WORK - FITTINGS AND VALVES - PN 16				
A	<u>Supply, Transport to site and store in secure place.</u>				
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				
A-J351	ND 50	Nr	103		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.1 - SHORT TERM TERTIARY MAINS**

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		
B	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				
	All Flanged Ferrous Tee				
B-J321	ND 100 x ND 50	Nr	103		
	P.E. Flange Adapter (stub end) complete with metal back up ring				
B-J651.1	OD 63	Nr	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.1 - SHORT TERM TERTIARY MAINS**

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 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.				
K211	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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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		
K741.3	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 3.1 - SHORT TERM TERTIARY MAINS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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	m ³	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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	206		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 3.1 - SHORT TERM TERTIARY MAINS

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS X: MISCELLANEOUS WORK</u>				-
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		
X9	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		2,000,000
X92	Add% for profit, administration, attendance upon, overheads, etc. for Item X91 above.	%	2,000,000		
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BILL No. 3.1 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 3.1 - SHORT TERM TERTIARY MAINS

	Amount Kshs.
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Bill No. 3.1 Total Exclusive of VAT Carried to Section 3 Summary Sheet	

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	<u>CLASS A: GENERAL ITEM</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 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)				
	i)	Item	L.S		
	ii)	Item	L.S		
PAGE TOTAL CARRIED TO BILL COLLECTION SHEET					

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

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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				
I7	Supply, Transport to site and store in secure place. Include supply of jointing materials, bolts, nuts, gaskets etc as applicable				
I7	High Density Polyethylene Pipes (HDPE) SDR 11 (PN 12.5)				
I711	Nominal bore n.e 200mm not in Trenches				
I711.1	OD 32mm	m	703		
I711.1	OD 40mm	m	277		
I711.2	OD 50mm	m	7,206		
I711.3	OD 63mm	m	1,799		
I711.4	OD 75mm	m	3,806		
I711.5	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.				
I7	High Density Polyethylene Pipes (HDPE) (PN 12.5) with Butt Fusion (seamless) Jointing				
	Nominal bore 32 mm in trenches				
I712.1	Depth not exceeding 1.5 m	m	703		
	Nominal bore 40 mm in trenches				
I712.2	Depth not exceeding 1.5 m	m	277		
	Nominal bore 50 mm in trenches				
I712.3	Depth not exceeding 1.5 m	m	7,206		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED**

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Nominal bore 63 mm in trenches				
I712.4	Depth not exceeding 1.5 m	m	1,799		
	Nominal bore 75 mm in trenches				
I712.5	Depth not exceeding 1.5 m	m	2,855		
I713.1	Depth 1.5 m - 2.0 m	m	952		
	Nominal bore 90 mm in trenches				
I712.6	Depth not exceeding 1.5 m	m	606		
I713.2	Depth 1.5 m - 2.0 m	m	327		
	CLASS J: PIPE WORK - FITTINGS AND VALVES - PN 16				
A	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-J611.4.2	45°	Nr	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		
PAGE TOTAL CARRIED TO BILL COLLECTION SHEET					

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

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
A-J321.2	ND 100 x ND 80	Nr	27		
A-J321.3	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				
	<u>All Flanged Concentric Taper</u>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION SHEET					

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

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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		
B	Transport From Site Store, Install, Test & Commission				
B-J61	HDPE Compression Fittings				
B-J611	Not exceeding nominal bore 200mm				
B-J611.1	Nominal bore 32mm				
B-J611.1.1	HDPE Elbow 90°	Nr	7		
B-J611.1.2	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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED**

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		
PAGE TOTAL CARRIED TO BILL COLLECTION SHEET					

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

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

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (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 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	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 reinstatement to the original status and liaison 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 deemed to include for pilot excavations, repairs and reinstatement 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		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)**MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A****BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED**

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	50		
	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	445		
L111.2	-Ditto- but rock Class B	m ³	667		
L111.3	-Ditto- but rock Class C	m ³	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.	m ²	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 0.1m³				
L711	To pipes nominal bore n.e 200mm	Nr	139		
PAGE TOTAL CARRIED TO BILL COLLECTION SHEET					

BILL No. 3.2 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

BILL No. 3.2 - SHORT TERM EXISTING TERTIARY MAINS TO BE REPLACED

	Amount Kshs.
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Bill No. 3.2 Total Exclusive of VAT Carried to Section 3 Summary Sheet	

SECTION 3
MOMBASA NORTH MAINLAND (BILL No. 3.1 - 3.2)
SUMMARY SHEET

<u>WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)</u>	
<u>MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A</u>	
	Amount (Kshs.)
Bill No. 3.1 - Short Term Tertiary Mains	
Bill No. 3.2 - Short Term Existing Tertiary Mains to be Replaced	
Section 3 Total Exclusive of VAT Carried to The Bill of Quantities Grand Summary	

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 - SHORT TERM

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Consumer Water Meters and Stop Cocks				
1.9	Consumer Water Meters				
	<i>Note: All Water Meters to conform with ISO 4061-1:2005, BS 5728-7:1997 and KS OMLL R 49:2006 Specifications for Domestic Water Meters or approved equivalent.</i>				
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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

BILL No. 4.1 COLLECTION SHEET

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

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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**

ITEM No.	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 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 supplied under this Item are for 2400 Nr. 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	Pipes				
1.1.1	15mm Dia. HDPE pipe	m	66,000		
1.1.2	32mm Dia. HDPE pipe	m	300		
	Fittings				
1.2	HDPE Saddle Clamps				
1.2.1	DN50 x DN32	Nr	240		
1.2.2	DN40 x DN15	Nr	720		
1.2.3	DN32 x DN15	Nr	1,200		
1.3	90° HDPE Elbows				
1.3.1	DN15	Nr	4,800		
1.4	HDPE Adaptor				
	Flange Adaptor (Stub end) complete with metal back up ring				
1.4.1	DN15	Nr	4,800		
1.5	HDPE End Cap				
1.5.1	DN15	Nr	2,400		
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WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.6	Brass Ferrule				
1.6.1	DN32	Nr	240		
1.6.2	DN15	Nr	1,920		
1.7	HDPE Equal Tee				
1.7.1	DN32 x DN32	Nr	240		
1.8	HDPE Reducing Coupler				
1.8.1	DN32 x DN15	Nr	480		
	Consumer Water Meters and Stop Cocks				
1.9	Consumer Water Meters				
	<i>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.</i>				
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	2,400		
1.10	Stop Cocks				
1.10.1	15mm dia Stop Cock, make Pegler or approved equivalent.	Nr	2,400		
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	2,400		
2	Reconnection of Consumer Connections				
2.1	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 Specifications)				
2.1.1	Allow a P.C. Sum of Ksh. 30,000,000 for reinstallation of Existing Consumer Connections by a Nominated Sub-Contractor to be appointed by the Client after the award of the Main Works Contract.	Item	P.C		30,000,000
2.1.2	Add% for profit, administration, attendance upon, overheads, etc. for Item 2.1.1 above.	%	30,000,000		
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BILL No. 4.2 COLLECTION SHEET

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

	Amount Kshs.
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SECTION 4
LOT 1A - MOMBASA NORTH MAINLAND (BILL No. 5.1 - 5.2)
SUMMARY SHEET

<u>WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)</u>	
<u>MOMBASA WATER DISTRIBUTION WORKS FOR NORTH MAINLAND (SHORT TERM WORKS) LOT 1A</u>	
	Amount (Kshs.)
Bill No. 4.1 - Supply of Pipes, Fittings and Accessories for New Consumer Connections - Short Term	
Bill 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 Grand Summary	

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 No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1	<u>Supply and Installation of Bulk Water Meters, Fittings and Associated Civil Works</u>				
	All fittings 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	<u>Supply, Transport to site and store in secure place.</u>				
1.1.1	Electromagnetic Water Meters				
1.1.1.1	100mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	17		
1.1.1.2	150mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	8		
1.1.1.3	200mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	7		
1.1.1.4	250mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	2		
1.1.1.5	300mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	1		
1.1.1.6	350mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	5		
1.1.1.7	400mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	6		
1.1.1.8	500mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	1		
1.1.1.9	700mm dia. All Flanged Battery Powered Electromagnetic Water Meter, complete with remote LED Display and requisite fittings	Nr	3		
1.1.2	Gate Valves				
1.1.2.1	100mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	17		
1.1.2.2	150mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	8		
1.1.2.3	200mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	7		
1.1.2.4	250mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	2		
1.1.2.5	300mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.1.2.6	350mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	5		
1.1.2.7	400mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	6		
1.1.2.8	500mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.1.2.9	700mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	3		
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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 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		
1.1.4.9	700mm dia, Viking Johnson Coupling or approved equivalent.	Nr	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		
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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 No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
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		
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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 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	<u>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</u>				
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		
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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 No.	DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1.2.2	Gate Valves				
1.2.1.1	100mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	17		
1.2.2.2	150mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	8		
1.2.2.3	200mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	7		
1.2.2.4	250mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	2		
1.2.2.5	300mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.2.2.6	350mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	5		
1.2.2.7	400mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	6		
1.2.2.8	500mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	1		
1.2.2.9	700mm dia, All Flanged Gate Valves with Gear arrangements to BS 5163, hand operated, Biwater Series 3403 or approved equivalent.	Nr	3		
1.2.3	All Flanged Ferrous Bends				
1.2.3.1	100mm dia. All Flanged 45° bend.	Nr	68		
1.2.3.2	150mm dia. All Flanged 45° bend.	Nr	32		
1.2.3.3	200mm dia. All Flanged 45° bend.	Nr	28		
1.2.3.4	250mm dia. All Flanged 45° bend.	Nr	8		
1.2.3.5	300mm dia. All Flanged 45° bend.	Nr	4		
1.2.3.6	350mm dia. All Flanged 45° bend.	Nr	20		
1.2.3.7	400mm dia. All Flanged 45° bend.	Nr	24		
1.2.3.8	500mm dia. All Flanged 45° bend.	Nr	4		
1.2.3.9	700mm dia. All Flanged 45° bend.	Nr	12		
1.2.4	Couplings				
1.2.4.1	100mm dia, Viking Johnson Coupling or approved equivalent.	Nr	17		
1.2.4.2	150mm dia, Viking Johnson Coupling or approved equivalent.	Nr	8		
1.2.4.3	200mm dia, Viking Johnson Coupling or approved equivalent.	Nr	7		
1.2.4.4	250mm dia, Viking Johnson Coupling or approved equivalent.	Nr	4		
1.2.4.5	300mm dia, Viking Johnson Coupling or approved equivalent.	Nr	3		
1.2.4.6	350mm dia, Viking Johnson Coupling or approved equivalent.	Nr	7		
1.2.4.7	400mm dia, Viking Johnson Coupling or approved equivalent.	Nr	6		
1.2.4.8	500mm dia, Viking Johnson Coupling or approved equivalent.	Nr	1		
1.2.4.9	700mm dia, Viking Johnson Coupling or approved equivalent.	Nr	5		
1.2.5	Stepped Couplings				
1.2.5.1	100mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	22		
1.2.5.2	150mm dia, Viking Johnson Stepped Coupling or approved equivalent.	Nr	10		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

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 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.	Item	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 appurtenances 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		
PAGE TOTAL CARRIED TO BILL COLLECTION PAGE					

BILL No. 5 COLLECTION SHEET

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

	Amount Kshs.
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Page Total, Page 8 of 8	
Bill No. 5 Total Exclusive of VAT Carried to Section 5 Summary Sheet	

SECTION 5
MOMBASA NORTH MAINLAND (BILL No. 5.1)
SUMMARY SHEET

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

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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	Pipelaye	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		
PAGE TOTAL CARRIED FORWARD TO BILL COLLECTION SHEET					

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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.
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	m ³	20		
3.6	Use of shuttering timber	m ²	10		
3.7	Murrum	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	m ³	10		
3.13	Concrete Class 25/20	m ³	10		
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SECTION 6
SCHEDULE OF DAYWORKS
SUMMARY SHEET

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

WATER AND SANITATION DEVELOPMENT PROJECT (WSDP)

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

GRAND SUMMARY

SECTION	DESCRIPTION	TOTAL AMOUNT <input type="checkbox"/> (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)]	