

REPUBLIC OF KENYA



MINISTRY OF TRANSPORT

**SUPPLY AND INSTALLATION OF THE
FACILITIES, LOCOMOTIVES AND
ROLLING STOCKS FOR
THE MOMBASA-NAIROBI STANDARD GAUGE
RAILWAY PROJECT**

BETWEEN

KENYA RAILWAYS CORPORATION

AND

CHINA ROAD AND BRIDGE CORPORATION

CONTRACT DOCUMENT

October 2012

THE CHINA ROAD AND BRIDGE CORPORATION
C88,ZHONGLU PLAZAANDING MEN WAIDAJIE
POST CODE100011, BEIJING, CHINA

MANAGING DIRECTOR
KENYA RAILWAYS CORPORATION
POBOX 30121 - 00100
NAIROBI

18

TABLE OF CONTENTS

DESCRIPTION	PAGE
SECTION 1 – Contract Agreement and Seller's Power of Attorney	2
SECTION 2 – The Letters of Award and Acceptance	7
SECTION 3 – The Scope of the Contract	11
SECTION 4 – The Price of the Contract	13
SECTION 5 – The Schedules of Payment	15
SECTION 6 – The Delivery and Installation of Commodities	18
SECTION 7 – The Inspection and Approvals	20
SECTION 8 – The Training and Technical Assistance	22
SECTION 9 – The Technical Documentation & After Sales Services	25
SECTION 10 – The Trial and Technical Performances	27
SECTION 11 – The Conditions of Contract	29
SECTION 12 – The Specification of manufacture and installation of Commodities	36
SECTION 13 – Appendix	38

SECTION 1

THE CONTRACT AGREEMENT

AND

SELLER'S POWER OF ATTORNEY

CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT made the 4th day of October 2012 between:

THE MANAGING DIRECTOR, KENYA RAILWAYS CORPORATION of Post Office Box Number 30121-00100, Nairobi whose registered office is situated at Workshop Road of Haile Selassie Avenue, Nairobi, Kenya (hereinafter called the "**Buyer**") of the one part,

AND

M/S CHINA ROAD AND BRIDGE CORPORATION, a state-owned corporation created and organized under the laws of the People's Republic of China, with its principal office at Zhonglu Plaza C88 Andingmenwai Dajie, Beijing, China and its local office at plot 330/265, Hatheru Road, Lavington, Nairobi, Kenya whose Post Office Box number is 39037-00623 (hereinafter called the "**Seller**") of the other part.

WHEREAS the Buyer agrees to buy from the Seller and Seller agrees to sell the Buyer the facilities, locomotives and rolling stocks (hereinafter called the "Commodities") for the Mombasa - Nairobi Standard Gauge Railway Project.

The Buyer and the Seller agree as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the sections hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, and the priority of the documents shall be listed as follows:
 - (a) The contract agreement;
 - (b) The letters of award and acceptance
 - (c) The scope of the Contract;
 - (d) The price of the Contract;
 - (e) The schedules of payment ;
 - (f) The delivery and installation of Commodities;
 - (g) The inspection and approvals;
 - (h) The training and technical assistance;
 - (i) The technical documentation & after sales services;
 - (j) The trials and technical performances;
 - (k) The conditions of contract;
 - (l) The specification of manufacture and installation of commodities;
 - (m) Appendix.
3. In consideration of the payments to be made by the Buyer to the Seller as hereinafter mentioned, the Seller hereby covenants with the Buyer to supply the facilities, locomotives and rolling stocks therein in conformity with the provisions of the Contract.
4. The Buyer hereby covenants to pay the Seller in consideration of supplying the facilities, locomotives and rolling stocks therein the Contract Price.
5. The Contract Agreement shall come into full force and effect on the date when all the

following conditions are satisfied:

The Government of Kenya and the Financial Institutions of China have entered into the necessary financing agreement relating to provision of financing for the Supply and installation of the facilities, locomotives and rolling stocks for the Mombasa - Nairobi Standard Gauge Railway Project.

The duly signed financing agreement entered into by The Government of Kenya and the Financial Institutions of China has been endorsed and certified by the State Law Office of Kenya.

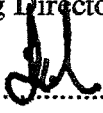
IN WITNESS whereof the parties hereto have caused this Agreement to be executed the day and year first before written.

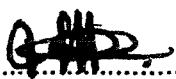
Sealed with the Common Seal of Kenya Railways Corporation (Buyer)

In the presence of:

Nduva Muli

Managing Director, Kenya Railways Corporation


.....
(Signature)


.....
(Signature of Witness)

CORPORATION SECRETARY

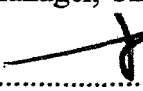
~~KENYA RAILWAYS CORPORATION~~
.....
(Name of Witness)

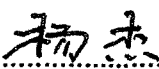
Signed for and on behalf of China Road and Bridge Corporation (Seller)

In the presence of:

Li Qiang

General Manager, China Road and Bridge Corporation (Kenya Office)


.....
(Signature)


.....
(Signature of Witness)

Yang Jie
.....
(Name of Witness)



中国路桥工程有限责任公司

CHINA ROAD AND BRIDGE CORPORATION (CRBC)

Add: C88 Andingmenwai Dajie, Beijing, China

Tel: 86-10-64280055

Post code: 100011

Fax: 86-10-64285686

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS THAT I, the undersigned

Zhang Jianchu

Chairman

of

China Road and Bridge Corporation

Lawfully authorized to represent and act on behalf of the said
Corporation, whose registered address is

Zhonglu Plaza,

C88, Andingmenwai Dajie,

Beijing 100011, People's Republic of China

Do hereby appoint

Mr. Li Qiang

P. 00461020

General Manager

Kenya Office

of

China Road and Bridge Corporation

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95

Whose signature appears below, to be the true and lawful attorney; and I authorize the said attorney sign Prequalification Document and bids, conduct negotiations, sign the Contract, conduct negotiations and execute all the necessary matters related thereto, in the name and on behalf of the said company the Contract: **SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS FOR THE MOMBASA-NAIROBI STANDARD GAUGE RAILWAY PROJECT.**

IN WITNESS WHEREOF,

I have hereto set my hand on August 15, 2012.

Signature of Principal





Zhang Jianchun

Chairman

China Road and Bridge Corporation

Specimen Signature of Attorney



Mr. Li Qiang

General Manager

Kenya Office

China Road and Bridge Corporation

SECTION 2
THE LETTERS OF AWARD AND ACCEPTANCE

P. O. Box 30121 - 00100, Nairobi, Kenya
Tel: +254-020-2215211, 2215796
Cell: 0728-603581, 0728-603582
Fax: +254-020-340049/ 224156
E-mail: md@krc.co.ke
Website: www.krc.co.ke



Ref: OPR. 9

Date: 3rd October, 2012

M/s China Road and Bridge Corporation (CRBC)
C88, Zhonglu Plaza,
Andingmenwai Dajie,
BEIJING, CHINA

Tel: 0086 10 64280055, Fax: 0086 10 64285667

Dear Sirs,

**RE: SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES
AND ROLLING STOCKS FOR THE MOMBASA-NAIROBI
STANDARD GAUGE RAILWAY PROJECT**

LETTER OF AWARD

This is to notify you that the Kenya Railways Corporation has accepted your proposal dated 18th June, 2012 for **Supply and installation of the facilities, locomotives and rolling stocks for the Mombasa--Nairobi Standard Gauge Railway Project** for the amount **USD1,146,791,008.75 (Say United States Dollars One Billion One Hundred Forty Six Million Seven Hundred Ninety One Thousand Eight and Cents Seventy Five Only)** exclusive of Value Added Tax, Customs Duties, IDF Fee, Cess, and Withholding Tax.

The aforementioned amount is the Contract Price payable in consideration of the execution and completion of Services as prescribed in the Contract Document.

In accordance with the provisions of the contract, the Managing Director of Kenya Railways Corporation will be the Buyer's Representative. The Managing Director shall appoint a Representative to perform the duties set under the said Conditions of Contract.

The Powers and Authority of the Buyer's representative shall be notified to you in writing.

008

All correspondence should be addressed to the Managing Director



中国路桥工程有限责任公司 (肯尼亚办事处)
CHINA ROAD AND BRIDGE CORPORATION (KENYA)

Our Ref: CRBC/092/2012

Date: 4th October, 2012

Nduva Muli
Managing Director
Kenya Railways Corporation
NAIROBI, KENYA

Dear Sir,


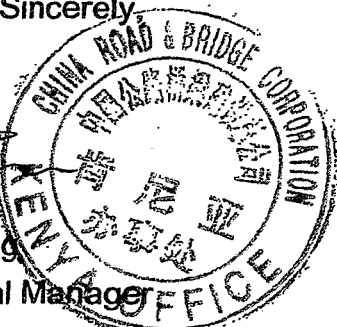
**RE: SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND
ROLLING STOCKS FOR THE MOMBASA - NAIROBI STANDARD GAUGE
RAILWAY PROJECT
ACCEPTANCE OF AWARD**

This refers to your Letter of Award, Ref:OPR.9 , dated 3rd October, 2012, awarding the above-captioned project to our company, we hereby give a formal unconditional acceptance of the award of the above-captioned project in the amount of **USD1,146,791,008.75 (Says United States Dollars One Billion One Hundred Forty Six Million Seven Hundred Ninety One Thousand Eight and Cents Seventy Five Only)** exclusive of Value Added Tax, Customs Duties, IDF Fee, Cess, and Withholding Tax.

We take this opportunity to convey our appreciation for the award of the contract, and look forward to signing the Commercial Contract with you at the earliest time.

Thank you and best regards.

Yours Sincerely,



Li Qiang
General Manager

China Road & Bridge Corporation (Kenya)

010

SECTION 3

THE SCOPE OF THE CONTRACT

Handwritten signature/initials.

THE SCOPE OF THE CONTRACT

- 3.1 The subject of this Contract is to supply and install the facilities, locomotives and rolling stocks for the Mombasa - Nairobi Standard Gauge Railway Project for the buyer.
- 3.2 The Buyer agrees to accept the Commodities according to the price stipulated in Section 4 and pay the Seller as per the schedules of the payment stipulated in Section 5 of this contract.
- 3.3 The Buyer and Seller agree that the types of facilities, locomotives and rolling stocks are listed as below:
- (1) System of Communication, Signal and Information
 - (2) System of Electricity supply
 - (3) Other Operation System
 - (4) Locomotives
 - (5) Rolling stocks for the Freight
 - (6) Rolling stocks for the Passenger
 - (7) Supply of a wide range of spares covering above items (1) to (6) (refer to Bill No.5 in the Bill of Quantities)
- 3.4 The Chinese Standard is adopted to Commodities and which meets the requirement of track with 1435mm width.

THE PRICE OF THE CONTRACT

- 4.1 The total amount of this Contract is **USD 1,146,791,008.75 (Says United States Dollars One Billion One Hundred Forty Six Million Seven Hundred Ninety One Thousand Eight and Cents Seventy Five Only)** exclusive of Value Added Tax, Customs Duties, IDF Fee, Cess, and Withholding Tax.
- 4.2 The currency of the Contract is United States Dollar. The portion to be paid by Financial Institutions of China (in United States Dollar) is 90% of the Contract Price, or such percentage as shall be stipulated in the Financing Agreement between Government of Kenya and the Financial Institutions of China. The portion to be paid by Government of Kenya (in United States Dollar) is 10% of the Contract Price, or such percentage shall be the balance after the Financing Agreement stipulated.
- 4.3 In case any further changes to the cost of Commodities after signing this Contract, the Seller will, where appropriate carry out this change and pass on the any resultant costs to the Buyer. The Variation of Price to be paid is subject to clause "Variation of Price" in the "Conditions of Contract".
- 4.4 The Seller shall be exempted from Value Added Tax, Customs Duties, IDF Fee, Cess, and Withholding Tax.
- 4.5 The Buyer shall consult Ministry of Finance on issues regarding waiver of taxes for procured items.

THE SCHEDULES OF PAYMENT

5.1 The schedules of payment will be made as follows:

REF	CERTIFICATE DESCRIPTION	PERCENT OF CONTRACT PRICE	CONDITIONS FOR SUBMISSION
1	First installment	40%, 20% for locomotive & Rolling Stocks, 20% for facilities	Within one month from the date of effectiveness of the contract and confirmation by both the financial institutions of China and the Ministry of Finance of Kenya regarding such effectiveness and acceptance by the buyer the first installment payment guarantee.
2	Second installment	20%	Within one month from the date completion certificates issued of supply and installation of 30% of the total quantity of facilities (in line km of railway), except locomotives and rolling stocks.
3	Third installment	10%	Within one month from the date completion certificates issued of supply and installation of 60% of the total quantity of facilities (in line km of railway), except locomotives and rolling stocks.
4	Fourth installment	10%	Within one month from the date completion certificates issued of supply and installation of 100% of the total quantity of facilities (in line km of railway), except locomotives and rolling stocks.
5	Fifth installment	10%	Within one month from the date completion certificates issued of the locomotive and rolling stocks are ready for delivery at Chinese main port.
6	Sixth installment	10%	Within one month from the date of the locomotives, rolling stock and facilities are tested and commissioned.
	Total	100%	

5.2 The Buyer shall pay those amounts due to the Seller which are financed by the Financial Institutions of China to the Seller directly through the Financial Institutions of China. For the amounts due to the Seller which are co-financed by the Government of Kenya, the Buyer shall pay directly to the Kenya local bank account of Seller. The details of Seller's bank accounts will be provided to the Buyer before the payment is made.

5.3 The currency of the Contract is United States Dollar. The portion to be paid by Financial Institutions of China (in United States Dollar) is 90% of the Contract price, or such

SECTION 8

THE TRAINING AND TECHNICAL ASSISTANCE

SECTION 9

THE TECHNICAL DOCUMENTATION

& AFTER SALES SERVICES

SECTION 10

THE TRIALS AND TECHNICAL PERFORMANCES

SECTION 11

CONDITIONS OF CONTRACT

Each party understands to maintain the commercial confidentiality of any information, data or document which it gains during the performance of this contract and not to make such information, data or document available to any third party.

Amendments:

This Contract shall not be altered, amended or assigned except by consultation and consent of both parties in writing and performed concurrently with this contract.

Notices:

Any notice or other communication sent by the parties shall be in the English language and be deemed to be properly sent if it is delivered by hand from authorized officer of either party or sent by registered mail to:

Buyer:

Name: Kenya Railways Corporation

P.O. Box: 30121-00100

Address: Workshop Road of Haile Selassie Avenue, Nairobi, Kenya

Tel: +254 20 2215211

Fax: +254 20 340049

Seller:

Name: China Road and Bridge Corporation

P.O. Box: 39037-00623

Address: C88, Zhonglu Plaza, Andingmenwai Dajie, Beijing, China
Plot 330/265, Hatheru Road, Lavington, Nairobi, Kenya

Tel: +86 10 64280055

Fax: +86 10 64285667

**Document upon
Delivery:**

The Seller shall issue the following documents for each commodity in the English language with the delivery of Commodities:

- 1) A set of Manuals
- 2) Quality Assurance Certificates
- 3) Inspection Certificates
- 4) Calibration Certificates
- 5) Calibration Documents
- 6) Master gauges (Master Calibrators) to help in calibrations

Contract Price:

The Contract Price is quoted in United States dollars. The portion to be paid by Financial Institutions of China (in United States Dollar) is 90% of the Contract Price, or such percentage as shall be stipulated in the Financing Agreement between Government of Kenya and the Financial Institutions of China. The portion to be paid by Government of Kenya (in United States Dollar) is 10% of the Contract Price, or such percentage shall be the balance after the Financing Agreement stipulated.

The Buyer shall pay those amounts due to the Seller which are financed by the Financial Institutions of China to the Seller directly through the Financial Institutions of China.

Variation of Price

The Contract Price is to be adjusted for rises or falls in the cost of labour, Goods and other inputs to the Works, by the addition or deduction of amounts determined by the formulae prescribed in this Clause.

The adjustment to be applied to each installment payable to the Seller. The formulae shall be of the following general type

$$P_n = a + bL_n/L_o + cE_n/E_o + dM_n/M_o + \dots$$

Where:

"P_n" is the adjustment multiplier to be applied to the estimated contract value in the relevant currency of the work carried out in installment "n".

"a" is a fixed coefficient, stated in the Appendix C.

"b", "c", "d", ... are coefficients representing the estimated proportion of each cost element related to the execution of the Works, are stated in Appendix C, such tabulated cost elements may be indicative of resources such as labour, equipment and materials.

"L_n", "E_n", "M_n" ... are the current cost indices or reference prices for installment "n", each of which is applicable to cost element in Appendix C on the date 30 days prior to the submission day of installment.

"L_o", "E_o", "M_o", ... are the base cost indices or reference prices, each of which is applicable to cost element in Appendix C on the Base date.

SECTION 12

**THE SPECIFICATION OF MANUFACTURE AND
INSTALLATION OF COMMODITIES**

SECTION 13

APPENDIX

ION – BINDING BILL OF QUANTITIES

TECHNICAL PARAMETER OF MAJOR COMMODITIES

ABLE OF ADJUSTMENT DATA FOR CHANGE IN COST

MINUTES OF NEGOTIATIONS

ding Bill of Qual

SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS

BILL NO : 2 ELECTRICITY SUPPLY SYSTEM					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE USD	AMOUNT USD
2.1	<u>ELECTRICITY SUPPLY SYSTEM EQUIPMENT AND MATERIAL SUPPLY & INSTALLATION</u>				
2.11	Mombasa Relief Line	L.sum	1.0	7,281,939.00	7,281,939.00
2.12	Mombasa Station	L.sum	1.0	11,146,664.48	11,146,664.48
2.13	Intermediate Stations	L.sum	1.0	109,125,277.01	109,125,277.01
2.14	Nairobi Station	L.sum	1.0	23,618,515.63	23,618,515.63
2.2	<u>Maintenance and Spare Expense</u>	L.sum	1.0	4,535,171.88	4,535,171.88
2.3	<u>Training</u>	L.sum	1.0	778,537.84	778,537.84
Total of Bill carried forward to summary					156,486,105.84

SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS

BILL NO. 4: LOCOMOTIVES AND ROLLING STOCKS					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE USD	AMOUNT USD
4.1	Locomotives for Freight (DF _{8B})	No.	43.0	2,468,571.43	106,148,571.49
4.2	Locomotives for Passenger (DF _{4D})	No.	5.0	2,057,142.86	10,285,714.30
4.3	Locomotives for Shunter (DF ₇)	No.	8.0	1,671,428.57	13,371,428.56
4.4	Rolling Stocks for Freight	No.	1,620.0	116,682.86	189,026,233.20
4.5	Rolling Stocks for Passenger	No.	40.0	977,142.86	39,085,714.40
4.6	Provide and installtion of Training Simulator (suitable for DF8B)	No.	1.0	1,028,571.43	1,028,571.43
4.7	Maintenance and Spare Expense	L.sum	1.0	10,768,387.00	10,768,387.00
4.8	Training	L.sum	1.0	1,794,930.53	1,794,930.53
Total of Bill carried forward to summary					371,509,550.91

SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS

BILL NO. 5: SPARE PARTS FOR BILL NO.4					
ITEM	DESCRIPTION	UNIT	QUANTITY	RATE USD	AMOUNT USD
5.01	Running Spares	L. sum	1.0	2,000,000.00	2,000,000.00
5.02	Major Spares	L. sum	1.0	20,000,000.00	20,000,000.00
Total of Bill carried forward to summary					22,000,000.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 1.1 : COMMUNICATION SYSTEM

1.11 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Communication System				
2	2. Communication Equipment				
3	(1) Wire Communication				
4	II. Installation Expense				
5	Transmission Equipment of Signal Station (SDH) 622Mb/s	No.	1	87,073.30	87,073.30
6	Communication Equipment of Intermediate Station	No.	1	13,162.99	13,162.99
7	Communication power supply equipment 48V / 100A-h	No.	1	34,274.81	34,274.81
8	Buried single-mode fiber optic cable (12 core)	Km	11	17,738.46	195,123.06
9	Power of low frequency symmetrical cable (7 x 4 x 0.9)	Km	11	39,357.81	432,935.91
10	Power of low frequency symmetrical cable (4 x 4 x 0.9)	Km	1	28,935.10	28,935.10
11	communication cable line of Intermediate station	No.	1	143,984.36	143,984.36
12	III. Equipment Expense				
13	Optical Distribution Frame	No.	1	7,486.25	7,486.25
14	Electrification to the introduction of synthetical counter of the intermediate station	No.	1	5,757.35	5,757.35
15	Optical fiber monitoring station	No.	1	23,294.17	23,294.17
16	SDH optical transmission add-drop multiplexer (ADM) to 622Mb /s	No.	1	146,283.26	146,283.26
17	Optical fiber transmission access network unit equipment	No.	1	73,594.53	73,594.53
18	Digital dispatching subsystem	No.	1	39,806.80	39,806.80
19	Digital Voice Recorder	No.	1	3,415.22	3,415.22
20	Station switching power supply	No.	1	17,644.17	17,644.17
21	Storage battery (20Ah/12V)	No.	20	283.64	5,672.80
22	Environmental monitoring substation	No.	1	24,424.17	24,424.17
23	Power lightning protection devices	No.	2	3,185.10	6,370.20
24	Video of conference	No.	1	39,806.80	39,806.80
25	(2) Wireless Communication				
26	III. Equipment Expense				
27	Type B system radio scheduling equipment(LTW495B-ZS)	No.	1	10,523.92	10,523.92
28	Fixed radio station ZD-1 (400MHz)	No.	1	2,153.02	2,153.02
29	Portable radio	No.	20	1,191.26	23,825.20
30	Antenna	No.	2	501.11	1,002.22
31	Lighting arrester	No.	2	116.60	233.20
32	Scheduling command adapter	No.	1	2,795.04	2,795.04
33	Wireless Train number checking equipment	No.	1	2,725.80	2,725.80
34	Public security wireless equipment	No.	1	94,378.42	94,378.42
TOTAL OF BILL					1,466,682.07

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.12 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Communication				
2	2. Communication Equipment				
3	(1) Wire Communication				
4	II. Installation Expense				
5	Transmission Equipment of Signal Station (SDH) 622Mb/s	No.	2	87,073.30	174,146.60
6	Transmission Equipment of Intermediate Station (SDH) 155Mb/s	No.	3	25,592.99	76,778.97
7	Program-controlled areas of communications equipment	No.	1	21,653.66	21,653.66
8	Communication Equipment of district of Station	No.	1	94,064.54	94,064.54
9	Communication power supply equipment 48V / 500A-h	No.	1	37,665.24	37,665.24
10	Communication power supply equipment 48V / 100A-h	No.	2	34,274.81	68,549.62
11	Power of low frequency symmetrical cable (4 x 4 x 0.9)	Km	3	28,935.10	86,805.30
12	communication cable line of district of station	No.	1	572,480.84	572,480.84
13	Medium-sized broadcasting cable line of passenger station	No.	1	73,442.75	73,442.75
14	III. Equipment Expense				
15	Power of the introduction of the frame	No.	1	7,057.38	7,057.38
16	Testing frame	No.	1	5,829.23	5,829.23
17	Intermediate distribution frame	No.	1	5,206.79	5,206.79
18	Ranking frame	No.	2	5,467.41	10,934.82
19	Optical Distribution Frame	No.	1	7,486.25	7,486.25
20	Digital Distribution Frame	No.	1	9,707.07	9,707.07
21	Electrification to the introduction of synthetical counter of the intermediate station	No.	2	5,757.35	11,514.70
22	Cable Monitoring Center	No.	1	57,450.96	57,450.96
23	SDH optical transmission add-drop multiplexer (ADM) to 622Mb /	No.	2	146,283.26	292,566.52
24	SDH optical transmission add-drop multiplexer (ADM) to 155Mb /	No.	3	67,292.48	201,877.44
25	DWDM / SDH network element management system	No.	1	238,993.34	238,993.34
26	Optical fiber transmission access network infrastructure equipment	No.	1	226,259.49	226,259.49
27	Optical fiber transmission access network unit equipment	No.	3	73,594.53	220,783.59
28	Access network management system	No.	1	141,285.30	141,285.30
29	Digital dispatching subsystem	No.	1	39,806.80	39,806.80
30	Digital Voice Recorder	No.	1	3,415.22	3,415.22
31	Station switching power supply	No.	2	17,644.17	35,288.34
32	AC distribution screen with UPS	No.	1	116,009.54	116,009.54
33	DC power distribution screen (48V/1000A)	No.	1	11,577.27	11,577.27
34	Switching power supply (300A)	No.	1	50,028.78	50,028.78
35	Storage battery (20Ah/12V)	No.	200	283.64	56,728.00
36	Environmental monitoring substation	No.	5	24,424.17	122,120.85

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.12 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
37	Environmental monitoring center	No.	1	54,060.96	54,060.96
38	Power lightning protection devices	No.	7	3,185.10	22,295.70
39	Program-controlled telephone PBX	No.	1	242,876.08	242,876.08
40	Main Distribution Frame	m	2000	22.26	44,520.00
41	Switchboard maintenance terminal (including billing terminal, printer, alarm equipment)	No.	1	43,895.90	43,895.90
42	Called shift telephone (small)	No.	1	17,644.17	17,644.17
43	Stations automatically / wire / magnet / called shift extension telephone	No.	290	92.00	26,680.00
44	Video of conference	No.	2	204,428.74	408,857.48
45	TV Network Management System of conference	No.	1	68,315.13	68,315.13
46	(2) Wireless Communication				
47	III. Equipment Expense				
48	Type B system radio scheduling equipment(LTW495B-ZS)	No.	1	10,523.92	10,523.92
49	Fixed radio station ZD-1 (400MHz)	No.	3	2,153.02	6,459.06
50	Portable radio	No.	120	1,191.26	142,951.20
51	Antenna	No.	6	501.11	3,006.66
52	Lighting arrester	No.	6	116.60	699.60
53	Scheduling command adapter	No.	1	2,795.04	2,795.04
54	Wireless Train number checking equipment	No.	1	2,725.80	2,725.80
55	Public security wireless equipment	No.	1	94,378.42	94,378.42
56	(3) Other Communication				
57	III. Equipment expense				
58	Communications work area maintenance vehicles	No.	2	67,133.16	134,266.32
59	Communications work area maintenance tools	No.	1	210,337.08	210,337.08
60	Wireless overhaul maintenance tools	No.	1	192,442.39	192,442.39
TOTAL OF BILL					4,807,246.11

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.13 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Communication				
2	2. Communication Equipment				
3	(1) Wire Communication				
4	II. Installation Expense				
5	Transmission Equipment of Signal Station (SDH) 622Mb/s	No.	37	87,073.30	3,221,712.10
6	Transmission Equipment of intermediate Station (SDH) 155Mb/s	No.	7	25,592.99	179,150.93
7	Communication Equipment of Intermediate Station	No.	31	13,162.99	408,052.69
8	Communication power supply equipment 48V / 100A-h	No.	31	34,274.81	1,062,519.11
9	Buried single-mode fiber optic cable (20 core)	Km	1040	19,878.46	20,673,598.40
10	Power of low frequency symmetrical cable (4 x 4 x 0.9)	Km	31	28,935.10	896,988.10
11	Power of low frequency symmetrical cable (7 x 4 x 0.9)	Km	520	39,357.81	20,466,061.20
12	communication cable line of Intermediate station	No.	31	143,418.13	4,445,962.03
13	Medium-sized broadcasting cable line of passenger station	No.	5	44,843.60	224,218.00
14	III. Equipment expense				
15	Optical Distribution Frame	No.	31	7,486.25	232,073.75
16	Electrification to the introduction of synthetical counter of the intermediate station	No.	38	5,757.35	218,779.30
17	Cable Monitoring station equipment	No.	3	255,537.08	766,611.24
18	SDH optical transmission add-drop multiplexer (ADM) to 622Mb /	No.	37	146,283.26	5,412,480.62
19	SDH optical transmission add-drop multiplexer (ADM) to 155Mb /	No.	7	67,292.48	471,047.36
20	Optical fiber transmission access network unit equipment	No.	38	73,594.53	2,796,592.14
21	Digital dispatching subsystem	No.	31	39,806.80	1,234,010.80
22	Digital Voice Recorder	No.	31	3,415.22	105,871.82
23	Station switching power supply	No.	38	17,644.17	670,478.46
24	Storage battery (20Ah/12V)	No.	760	283.64	215,566.40
25	Environmental monitoring substation	No.	43	24,424.17	1,050,239.31
26	Power lightning protection devices	No.	76	3,185.10	242,067.60
27	Stations automatically / wire / magnet / called shift extension telephone	No.	310	92.00	28,520.00
28	Video of conference	No.	31	39,806.80	1,234,010.80
29	(2) Wireless Communication				
30	III. Equipment Expense				
31	Type B system radio scheduling equipment(LTW495B-ZS)	No.	31	10,523.92	326,241.52
32	Fixed radio station ZD-1 (400MHz)	No.	5	2,153.02	10,765.10
33	Portable radio	No.	112	1,191.26	133,421.12
34	Antenna	No.	67	501.11	33,574.37
35	Lighting arrester	No.	62	116.60	7,229.20
36	Scheduling command adapter	No.	31	2,795.04	86,646.24

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.13 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
37	Wireless Train number checking equipment	No.	31	2,725.80	84,499.80
38	Public security wireless equipment	No.	31	94,378.42	2,925,731.02
39	Optical repeater (proximal)	No.	1	25,078.87	25,078.87
40	Optical repeater (remote)	No.	1	35,109.19	35,109.19
41	(3) Other Communication				
42	III. Equipment Expense				
43	Communications work area maintenance vehicles	No.	2	67,133.16	134,266.32
44	Communications work area maintenance tools	No.	1	210,337.08	210,337.08
45	Wireless overhaul maintenance tools	No.	1	192,442.39	192,442.39
TOTAL OF BILL					70,461,954.38

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.14 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Communication				
2	2. Communication Equipment				
3	(1) Wire Communication				
4	II . Installation Expense				
5	Transmission Equipment of Signal Station (SDH) 622Mb/s	No.	2	87,073.30	174,146.60
6	Transmission Equipment of intermediate Station (SDH) 155Mb/s	No.	4	25,592.99	102,371.96
7	Program-controlled areas of communications equipment	No.	1	44,264.89	44,264.89
8	Communication Equipment of district of Station	No.	1	94,064.54	94,064.54
9	Communication power supply equipment 48V / 500A·h	No.	1	37,665.24	37,665.24
10	Communication power supply equipment 48V / 100A·h	No.	2	34,274.81	68,549.62
11	Power of low frequency symmetrical cable (4 x 4 x 0.9)	Km	3	28,935.10	86,805.30
12	communication cable line of district of station	No.	1	572,480.84	572,480.84
13	Medium-sized broadcasting cable line of passenger station	No.	1	73,442.75	73,442.75
14	III. Equipment Expense				
15	Power of the introduction of the frame	No.	1	7,057.38	7,057.38
16	Testing frame	No.	1	5,829.23	5,829.23
17	Intermediate distribution frame	No.	1	5,206.79	5,206.79
18	Ranking frame	No.	2	5,467.41	10,934.82
19	Optical Distribution Frame	No.	1	7,486.25	7,486.25
20	Digital Distribution Frame	No.	1	9,707.07	9,707.07
21	Electrification to the introduction of synthetical counter of the intermediate station	No.	2	5,757.35	11,514.70
22	Cable Monitoring Center	No.	1	57,450.96	57,450.96
23	SDH optical transmission add-drop multiplexer (ADM) to 622Mb /	No.	2	146,283.26	292,566.52
24	SDH optical transmission add-drop multiplexer (ADM) to 155Mb /	No.	4	67,292.48	269,169.92
25	DWDM / SDH network element management system	No.	1	238,993.34	238,993.34
26	Optical fiber transmission access network infrastructure equipment	No.	1	226,259.49	226,259.49
27	Optical fiber transmission access network unit equipment	No.	4	73,594.53	294,378.12
28	IntegRate(USD)d Timing Supply Equipment	No.	1	220,783.59	220,783.59
29	GPS reciever	No.	1	9,199.32	9,199.32
30	Access network management system	No.	1	141,285.30	141,285.30
31	Digital dispatching the main system	No.	1	193,643.87	193,643.87
32	Digital dispatching telephone duty units	No.	4	3,066.44	12,265.76
33	Digital Voice Recorder	No.	3	3,415.22	10,245.66
34	Switching power supply (300A)	No.	2	17,644.17	35,288.34
35	AC distribution screen	No.	1	116,009.54	116,009.54
36	DC power distribution screen (48V/1000A)	No.	1	11,577.27	11,577.27

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.14 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
37	Switching power supply (300A)	No.	1	50,028.78	50,028.78
38	Storage battery (20Ah/12V)	No.	200	283.64	56,728.00
39	Environmental monitoring substation	No.	5	24,424.17	122,120.85
40	Environmental monitoring center	No.	1	54,060.96	54,060.96
41	Power lightning protection devices	No.	7	3,185.10	22,295.70
42	Program-controlled telephone PBX	No.	1	576,948.73	576,948.73
43	Main Distribution Frame	m	3000	22.26	66,780.00
44	Switchboard maintenance terminal (including billing terminal, printer, alarm equipment)	No.	1	43,895.90	43,895.90
45	Called shift telephone (mediate)	No.	1	17,644.17	17,644.17
46	Stations automatically / wire / magnet / called shift extension telephone	No.	340	92.00	31,280.00
47	Video of conference	No.	2	204,428.74	408,857.48
48	TV Network Management System of conference	No.	1	68,315.13	68,315.13
49	(2) Wireless Communication				
50	III. Equipment Expense				
51	B system wireless dispatch monitoring switchboard	No.	1	13,161.10	13,161.10
52	B system wireless scheduling switchboard	No.	2	22,818.87	45,637.74
53	B system radio scheduling (LTW495B-ZS)	No.	7	10,523.92	73,667.44
54	Fixed radio station ZD-1 (400MHz)	No.	6	2,153.02	12,918.12
55	Portable radio	No.	190	1,191.26	226,339.40
56	Antenna	No.	6	501.11	3,006.66
57	Lighting arrester	No.	6	116.60	699.60
58	Scheduling command adapter	No.	1	2,795.04	2,795.04
59	Wireless Train number checking equipment	No.	1	2,725.80	2,725.80
60	Public security wireless equipment	No.	1	94,378.42	94,378.42
61	Optical repeater (proximal)	No.	1	25,078.87	25,078.87
62	Optical repeater (remote)	No.	1	35,109.19	35,109.19
63	Fiber-optic repeate network	No.	1	34,336.21	34,336.21
64	(3) Other Communication				
65	III. Equipment Expense				
66	Communications work area maintenance vehicles	No.	2	67,133.16	134,266.32
67	Communications work area maintenance tools	No.	1	210,337.08	210,337.08
68	Wireless overhaul maintenance tools	No.	1	192,442.39	192,442.39
TOTAL OF BILL					6,066,500.06

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 1.2 : SIGNALSYSTEM

1.21 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Signal System for Mombasa Relief line	No.	3	2,815,637.11	8,446,911.33
TOTAL OF BILL					8,446,911.33

1.22 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Signal System				
2	1. Blocking Equipment				
3	(2) Blocking among automatic stations				
4	II. Installation Expense				
5	Laying signal cable with type of PJZA23. 12 core	m	4500	17.50	78,750.00
6	Electric connecting box	No.	3	257.08	771.24
7	Sensor	No.	3	128.18	384.54
8	Blocking of district station	No.	1	1,076.06	1,076.06
9	Electrical concentration of 6502 station in electrified section and combination of semi-automatic block	No.	3	85,848.64	257,545.92
10	III. Equipment Expense				
11	Equipment cost for outdoor axle sensor	No.	3	4,063.17	12,189.51
12	Equipment cost for indoor axle counter control system	No.	1	59,583.56	59,583.56
13	2. Control system for train operation				
14	(2) Cab signaling equipment				
15	II. Installation Expense				
16	Cab signaling inspection and test equipment. Subjective cab signaling. Main engine test stand	No.	1	395.84	395.84
17	Cab signaling inspection and test equipment. General-purpose cab signaling. Code sending box for comprehensive	No.	4	612.54	2,450.16
18	Cab signaling inspection and test equipment. Inspection and test stand	No.	1	200.20	200.20
19	Cab signaling inspection and test equipment. Switch pillar	No.	3	277.54	832.62
20	Cab signaling inspection and test equipment. Test loop line	m	600	7.62	4,572.00
21	Cab signaling inspection and test equipment. Test area	No.	6	4,206.10	25,236.60
22	III. Equipment Expense				
23	Portable and integrated code sending box for multi-information cab signaling test.	No.	5	4,504.52	22,522.60
24	Code sending box for cab signaling comprehensive test.	No.	2	11,005.35	22,010.70
25	Main engine test stand of integrated cab signaling	No.	1	76,781.48	76,781.48

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.22 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
26	Test stand for cab signaling running	No.	2	68,250.20	136,500.40
27	Train running monitor and record device. Comprehensive test stand	No.	1	51,187.64	51,187.64
28	Pressure sensor test stand	No.	1	41,291.37	41,291.37
29	Test bench for velocity sensor	No.	1	40,950.11	40,950.11
30	(3) LEU and dot mode transponder equipment				
31	II. Installation Expense				
32	Dot mode transponder, passive	No.	47	100.00	4,700.00
33	III. Equipment Expense				
34	Passive transponder	No.	47	4,603.47	216,363.09
35	3. Interlocking apparatus				
36	(2) Computer interlocking				
37	II. Installation Expense				
38	Station 6502 electric interlocking Group 10 switch in the electrification section	No.	1	468,758.24	468,758.24
39	Station 6502 electric interlocking Group 15 switch in the electrification section	No.	1	525,296.72	525,296.72
40	Station 6502 electric interlocking Group 60 switch in the electrification section	No.	1	1,596,765.60	1,596,765.60
41	Switch less 50 groups in microcomputer interlocking room than the increased part of electric interlocking	No.	2	8,311.74	16,623.48
42	Switch 51-100 groups in microcomputer interlocking room than the increased part of electric interlocking	No.	1	8,383.40	8,383.40
43	Foundation ground hardening of outdoor equipment for the purpose of one facility	No.	450	104.52	47,034.00
44	Foundation ground hardening of outdoor equipment for the purpose of adding one facility each time	No.	380	59.54	22,625.20
45	One towing point for electric single turnout internal lock close 43, 50kg/m, No. 9 and 12	No.	65	3,415.82	222,028.30
46	Two towing points for electric single turnout internal lock close 50kg/m, No.12	No.	21	9,698.58	203,670.18
47	Switch shield	No.	107	1,809.70	193,637.90
48	ZPW-2000 track circuit compensation capacitor railroad tie type	No.	126	320.42	40,372.92
49	Steel rail bond 25 m rail one plug one weld extrusion-welding	Km	22	5,554.02	122,188.44
50	ZPW-2000 coded transmit cabinet within the Station	No.	3	26,461.34	79,384.02
51	ZPW-2000 coded integrated cabinet	No.	3	12,439.72	37,319.16
52	Computer interlocking system is installed with 2×2-vote-2 type≤ 50 groups switch	No.	2	894.08	1,788.16
53	Computer interlocking system is installed with 2×2-vote-2 type≤ 100 groups switch	No.	1	1,444.62	1,444.62
54	Current-limiting resistor RJ-4.4/440 with fixed tap	No.	2	455.00	910.00
55	25-week lightning protection compensator FB-1	No.	28	299.32	8,380.96
56	25-week lightning protection compensator FB-2	No.	28	335.24	9,386.72

054

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.22 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
57	ZPW-2000 outdoor four-wire coded matching box HBP-R	No.	32	2,141.64	68,532.48
58	ZPW-2000 outdoor four-wire coded inductance capacitance box HBP-R	No.	42	1,059.94	44,517.48
59	ZPW-2000 indoor four-wire coded lightning protection and matching combination	No.	3	24,426.74	73,280.22
60	ZPW-2000 indoor four-wire coded resistance combination	No.	2	5,460.02	10,920.04
61	Alarm module for burnout of filaments	No.	92	191.56	17,623.52
62	Alarm host for burnout of filaments	No.	1	28,737.90	28,737.90
63	Signal lighting isolation transformer BXG-35	No.	88	359.24	31,613.12
64	Hydraulic breaker	No.	420	239.48	100,581.60
65	Signal power lightning protection box	No.	3	23,947.48	71,842.44
66	Safe relay JWXC-1700	No.	30	312.24	9,367.20
67	III. Equipment Expense				
68	Non-insulated transmitting box ZPW. F	No.	24	7,488.41	179,721.84
69	25-week rail testing panel PG-26	No.	1	1,367.74	1,367.74
70	25-week rail testing panel PG-48	No.	2	1,559.52	3,119.04
71	Computer interlocking equipment (2-10 groups)	No.	1	477,751.36	477,751.36
72	Computer interlocking equipment (11-15 groups)	No.	1	546,001.54	546,001.54
73	Computer interlocking equipment (51-60 groups)	No.	1	1,037,402.94	1,037,402.94
74	All electronic computer interlocking executing machine	No.	9	197,925.56	1,781,330.04
75	Microcomputer under the monitoring of all electronic computer interlocking	No.	3	70,434.20	211,302.60
76	Modular Intelligent power supply panel 15KVA with UPS	No.	2	229,200.31	458,400.62
77	Modular Intelligent power supply panel 20KVA with UPS	No.	1	263,325.40	263,325.40
78	Electric point machine ZD6-D	No.	65	8,016.67	521,083.55
79	Electric point machine ZD6-E	No.	21	8,450.74	177,465.54
80	Electric point machine ZD6-J	No.	21	8,016.67	168,350.07
81	4. Hump signal				
82	(1) Hump control system				
83	II. Installation Expense				
84	Hump microcomputer automatic centralized 2 beams, 12 tracks and 20 groups switch	No.	1	314,030.50	314,030.50
85	Semi-automatic control 2 beams and 12 tracks (Only having the third part)	No.	1	172,691.20	172,691.20
86	Shunt uniport 2 beams and 12 tracks	No.	1	40,588.40	40,588.40
87	Adding one point to the shunt uniport	No.	3	7,425.62	22,276.86

055

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.22 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
88	One towing point for electric single turnout internal lock close 43, 50kg/m, No. 9 and 12	No.	10	3,601.10	36,011.00
89	Hump signal all electric control system commissioning route controlling ≤20 groups switch	No.	10	108.98	1,089.80
90	III. Equipment Expense				
91	Electric point machine ZD7-C	No.	10	8,666.41	86,664.10
92	Hump Intelligent power supply panel	No.	1	137,919.98	137,919.98
93	All electric hump computer interlocking system	No.	1	975,001.79	975,001.79
94	(2) Retarder				
95	II. Installation Expense				
96	Excavating and filling in the cable pit (1-5 pieces) hard soil depth 0.8 m	m	1000	2.66	2,660.00
97	Lay signal cable PTYA23 (PTYAH23) type 12 cores	m	1500	12.52	18,780.00
98	Lay signal cable PTYA23 (PTYAH23) type 37 cores	m	600	22.14	13,284.00
99	Lay signal cable PTYA23 (PTYAH23) type 48 cores	m	1500	28.14	42,210.00
100	Steel tube protection passing one track cable	No.	16	117.30	1,876.80
101	Branching terminal box HF-7	No.	8	432.24	3,457.92
102	Electric power cable VV 0.6/1kV 3×35+1×16mm	m	500	35.20	17,600.00
103	Electric power cable VV 0.6/1kV 3×50+1×25mm	m	2500	48.62	121,550.00
104	The third retarder installation six sections	No.	12	38,290.82	459,489.84
105	III. Equipment Expense				
106	Electric retarder	No.	13	112,667.42	1,464,676.46
107	(3) Controllable stop system				
108	II. Installation Expense				
109	Excavating and filling in the cable pit (1-5 pieces) hard soil depth 0.8 m	m	2000	3.12	6,240.00
110	Lay signal cable PTYA23 (PTYAH23) type 12 cores	m	2000	13.54	27,080.00
111	Lay signal cable PTYA23 (PTYAH23) type 37 cores	m	600	24.92	14,952.00
112	Lay signal cable PTYA23 (PTYAH23) type 48 cores	m	1500	29.06	43,590.00
113	Steel tube protection passing one track cable	No.	16	129.82	2,077.12
114	Branching terminal box HF-7	No.	8	519.28	4,154.24
115	Electric power cable VV 0.6/1kV 3×4+1×2.5mm	m	500	6.24	3,120.00
116	Electric power cable VV 0.6/1kV 3×6+1×4mm	m	2500	10.78	26,950.00
117	System debugging automatically controlled by hump signal stop	No.	6	193.38	1,160.28
118	Hump signal outdoor equipment stopper	No.	12	1,080.62	12,967.44

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.23 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
32	One towing point for electric single turnout internal lock close 43, 50kg/m, No. 9 and 12	No.	5	3,415.82	17,079.10
33	Two towing points for electric single turnout internal lock close 50kg/m, No.12	No.	168	9,698.58	1,629,361.44
34	Switch shield	No.	341	1,809.70	617,107.70
35	ZPW-2000 track circuit compensation capacitor railroad tie type	No.	1581	320.42	506,584.02
36	Steel rail bond 25 m rail one plug one weld extrusion-welding	No.	177	5,554.02	981,950.74
37	ZPW-2000 coded transmit cabinet within the Station	No.	31	26,461.34	820,301.54
38	ZPW-2000 coded integrated cabinet	No.	31	12,439.72	385,631.32
39	Computer interlocking system is installed with 2x2-vote-2 type ≤ 50 groups switch	No.	31	894.08	27,716.48
40	Current-limiting resistor RJ-4.4/440 with fixed tap	No.	72	455.00	32,760.00
41	25-week lightning protection compensator FB-1	No.	140	299.32	41,904.80
42	25-week lightning protection compensator FB-2	No.	140	335.24	46,933.60
43	ZPW-2000 outdoor four-wire coded matching box HBP-R	No.	465	2,141.64	995,862.60
44	ZPW-2000 outdoor four-wire coded inductance capacitance box HBP-R	No.	775	1,059.94	821,453.50
45	ZPW-2000 indoor four-wire coded lightning protection and matching combination	No.	31	24,426.74	757,228.94
46	ZPW-2000 indoor four-wire coded resistance combination	No.	31	5,460.02	169,260.62
47	Alarm module for burnout of filaments	No.	992	191.56	190,027.52
48	Alarm host for burnout of filaments	No.	31	28,737.90	890,874.90
49	Signal lighting isolation transformer BXG-35	No.	476	359.24	170,998.24
50	Hydraulic breaker	No.	1500	239.48	359,220.00
51	Signal power lightning protection box	No.	31	23,947.48	742,371.88
52	Safe relay JWXC-1700	No.	403	312.24	125,832.72
53	III. Equipment Expense				
54	Non-insulated transmitting box ZPW. F	No.	279	7,488.41	2,089,266.39
55	25-week rail testing panel PG-26	No.	38	1,367.74	51,974.12
56	Computer interlocking equipment (2-5 groups)	No.	31	328,126.13	10,171,910.03
57	All electronic computer interlocking executing machine	No.	31	197,925.56	6,135,692.36
58	Microcomputer under the monitoring of all electronic computer interlocking	No.	31	70,434.20	2,183,460.20
59	Modular Intelligent power supply panel 15KVA with UPS	No.	31	229,200.31	7,105,209.61
60	Electric point machine ZD6-D	No.	5	8,016.67	40,083.35
61	Electric point machine ZD6-E	No.	200	8,450.74	1,690,148.00
62	Electric point machine ZD6-J	No.	200	8,016.67	1,603,334.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.23 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
63	6. Other signal equipment				
64	II. Installation Expense				
65	Lightning protection cabinet	No.	31	3,947.71	122,379.01
66	Signal microcomputer monitoring system debugging	No.	31	854.52	26,490.12
67	Signal microcomputer monitoring (station interlocking) station extension ≤25 groups switch installation	No.	31	4,710.00	146,010.00
68	Signal microcomputer monitoring (station interlocking) station extension ≤25 groups switch debugging	No.	31	2,770.96	85,899.76
69	III. Equipment Expense	No.			
70	Microcomputer detecting equipment	No.	31	63,117.78	1,956,651.18
71	Lightning protection junction box	No.	31	65,001.49	2,015,046.19
72	Signal equipment comprehensive lightning protection system	No.	31	47,665.93	1,477,643.83
73	Non-insulated transmitting box ZPW. F	No.	31	7,488.41	232,140.71
74	Electrical unit nodule	No.	248	6,111.10	1,515,552.80
75	ZPW-2000A compressive tester	No.	15	6,142.52	92,137.80
76	Station wagon	No.	10	35,575.00	355,750.00
77	Radio communication tool	No.	25	720.72	18,018.00
78	Electric point machine ZD6-D	No.	15	8,016.67	120,250.05
79	Electric point machine ZD6-E	No.	15	8,450.74	126,761.10
80	Electric point machine ZD6-J	No.	15	8,016.67	120,250.05
81	Microcomputer monitoring maintenance terminal	No.	5	22,750.06	113,750.30
TOTAL OF BILL					77,257,900.92



93

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Signal				
2	1. Block equipment in all directions				
3	(2) Block among automatic station				
4	II. Installation Expense				
5	Laying signal cable with type of PJZA23 12 core	m	3000	17.50	52,500.00
6	Axle counter equipment electric connecting box	No.	2	257.08	514.16
7	Axle counter equipment sensor	No.	2	128.18	256.36
8	block of station indoor equipment of axle counter	No.	1	1,076.06	1,076.06
9	Electrical concentration of 6502 station in electrified section and combination of semi-automatic block	No.	2	85,848.64	171,697.28
10	III. Equipment Expense				
11	Equipment cost of outdoor axle sensor	No.	1	4,063.17	4,063.17
12	Equipment cost of indoor axle counter control system	No.	1	59,583.56	59,583.56
13	2. Control system for train operation				
14	(2) Cab signaling equipment				
15	II. Installation Expense				
16	Cab signaling inspection and test equipment Subjective cab signaling Main engine test stand	No.	1	395.84	395.84
17	Cab signaling inspection and test equipment General-purpose cab signaling Code sending box for comprehensive detection	No.	4	612.54	2,450.16
18	Cab signaling inspection and test equipment Inspection and test stand	No.	1	200.20	200.20
19	Cab signaling inspection and test equipment Switch pillar	No.	10	277.54	2,775.40
20	Cab signaling inspection and test equipment Test loop line	m	1000	7.62	7,620.00
21	Cab signaling inspection and test equipment Test area	No.	20	4,206.10	84,122.00
22	III. Equipment Expense				
23	Portable and integrated code sending box for multi-information cab signaling test.	No.	5	4,504.52	22,522.60
24	Code sending box for cab signaling comprehensive test.	No.	2	11,005.35	22,010.70
25	Main engine test stand of integrated cab signaling	No.	1	76,781.48	76,781.48
26	Test stand for cab signaling	No.	2	68,250.20	136,500.40
27	Train running monitor and record device comprehensive test stand	No.	1	51,187.64	51,187.64
28	Pressure sensor test stand	No.	1	41,291.37	41,291.37
29	Test bench for velocity sensor	No.	1	40,950.11	40,950.11
30	(3) LEU and dot mode transponder equipment				
31	II. Installation Expense				

062

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84

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
32	Dot mode transponder, passive	No.	50	100.00	5,000.00
33	III. Equipment Expense				
34	Passive transponder	No.	50	4,603.47	230,173.50
35	3. Interlocking apparatus				
36	(2) Computer interlocking				
37	II. Installation Expense				
38	Station 6502 electric interlocking Group 20 switch in the electrification section	No.	1	634,158.06	634,158.06
39	Station 6502 electric interlocking Group 40 switch in the electrification section	No.	1	1,044,842.20	1,044,842.20
40	Station 6502 electric interlocking Group 60 switch in the electrification section	No.	1	1,596,765.60	1,596,765.60
41	Switch less 50 groups in microcomputer interlocking room than the increased part of electric interlocking	No.	2	8,311.74	16,623.48
42	Switch 51-100 groups in microcomputer interlocking room than the increased part of electric interlocking	No.	1	8,383.40	8,383.40
43	Foundation ground hardening of outdoor equipment for the purpose of one facility	No.	580	104.52	60,621.60
44	Foundation ground hardening of outdoor equipment for the purpose of adding one facility each time	No.	470	59.54	27,983.80
45	One towing point for electric single turnout internal lock close 43, 50kg/m, No. 9 and 12	No.	76	3,415.82	259,602.32
46	Two towing points for electric single turnout internal lock close 50kg/m, No.12	No.	22	9,698.58	213,368.76
47	Switch shield	No.	120	1,809.70	217,164.00
48	ZPW-2000 track circuit compensation capacitor railroad tie type	No.	92	320.42	29,478.64
49	Steel rail bond 25 m rail one plug one weld extrusion-welding	km	28	5,554.02	155,512.56
50	ZPW-2000 coded transmit cabinet within the Station	No.	2	26,461.34	52,922.68
51	ZPW-2000 coded integrated cabinet	No.	2	12,439.72	24,879.44
52	Computer interlocking system is installed with 2x2-vote-2 type ≤ 50 groups switch	No.	2	894.08	1,788.16
53	Computer interlocking system is installed with 2x2-vote-2 type ≤ 100 groups switch	No.	1	1,444.62	1,444.62
54	Single acting mechanical switch movement concrete foundation electric light	No.	20	2,487.72	49,754.40
55	Current-limiting resistor RJ-4.4/440 with fixed tap	No.	2	455.00	910.00
56	25-week lightning protection compensator FB-1	No.	43	299.32	12,870.76
57	25-week lightning protection compensator FB-2	No.	43	335.24	14,415.32
58	ZPW-2000 outdoor four-wire coded matching box HBP-R	No.	30	2,141.64	64,249.20
59	ZPW-2000 outdoor four-wire coded inductance capacitance box HBP-R	No.	40	1,059.94	42,397.60
60	ZPW-2000 indoor four-wire coded lightning protection and matching combination	No.	3	24,426.74	73,280.22
61	ZPW-2000 indoor four-wire coded resistance combination	No.	2	5,460.02	10,920.04
62	Alarm module for burnout of filaments	No.	68	191.56	13,026.08

063

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9

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
63	Alarm host for burnout of filaments	No.	1	28,737.90	28,737.90
64	Signal lighting isolation transformer BXG-35	No.	90	359.24	32,331.60
65	Hydraulic breaker	No.	600	239.48	143,688.00
66	Signal power lightning protection box	No.	3	23,947.48	71,842.44
67	Safe relay JWXC-1700	No.	22	312.24	6,869.28
68	III. Equipment Expense				
69	Non-insulated transmitting box ZPW. F	No.	20	7,488.41	149,768.20
70	25-week rail testing panel PG-26	No.	1	1,367.74	1,367.74
71	25-week rail testing panel PG-48	No.	4	1,559.52	6,238.08
72	Computer interlocking equipment (2-10 groups)	No.	1	477,751.36	477,751.36
73	Computer interlocking equipment (11-15 groups)	No.	1	546,001.54	546,001.54
74	Computer interlocking equipment (51-60 groups)	No.	1	1,037,402.94	1,037,402.94
75	All electronic computer interlocking executing machine	No.	11	197,925.56	2,177,181.16
76	Microcomputer under the monitoring of all electronic computer interlocking	No.	3	70,434.20	211,302.60
77	Modular Intelligent power supply panel 15KVA	No.	1	229,200.31	229,200.31
78	Modular Intelligent power supply panel 20KVA	No.	2	263,325.40	526,650.80
79	Electric point machine ZD6-D	No.	76	8,016.67	609,266.92
80	Electric point machine ZD6-E	No.	22	8,450.74	185,916.28
81	Electric point machine ZD6-J	No.	22	8,016.67	176,366.74
82	4. Hump signal				
83	(1) Hump control system				
84	II. Installation Expense				
85	Hump microcomputer automatic centralized 2 beams, 12 tracks and 20 groups switch	No.	1	314,030.50	314,030.50
86	Semi-automatic control 2 beams and 12 tracks (Only having the third part)	No.	1	172,691.20	172,691.20
87	Shunt uniport 2 beams and 12 tracks	No.	1	40,588.40	40,588.40
88	Shunt uniport adding one point	No.	3	7,425.62	22,276.86
89	One towing point for electric single turnout internal lock close 43, 50kg/m, No. 9 and 12	No.	11	3,601.10	39,612.10
90	Hump signal all electric control system commissioning route controlling ≤20 groups switch	No.	11	108.98	1,198.78
91	III. Equipment Expense				
92	Electric point machine ZD7-C	No.	11	8,666.41	95,330.51
93	Hump Intelligent power supply panel	No.	1	137,919.98	137,919.98

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
94	All electric hump computer interlocking system	No.	1	975,001.79	975,001.79
95	(2) Retarder				
96	II . Installation Expense				
97	Excavating and filling in the cable pit (1-5 pieces) hard soil depth 0.8 m	m	1000	2.66	2,660.00
98	Lay signal cable PTYA23 (PTYAH23) type 12 cores	m	1500	12.52	18,780.00
99	Lay signal cable PTYA23 (PTYAH23) type 37 cores	m	600	22.14	13,284.00
100	Lay signal cable PTYA23 (PTYAH23) type 48 cores	m	1500	28.14	42,210.00
101	Steel tube protection passing one track cable	No.	16	117.30	1,876.80
102	Branching terminal box HF-7	No.	8	432.24	3,457.92
103	Electric power cable VV 0.6/1kV 3×35+1×16mm	m	500	35.20	17,600.00
104	Electric power cable VV 0.6/1kV 3×50+1×25mm	m	2500	48.62	121,550.00
105	The third retarder installation six sections	No.	8	38,290.82	306,326.56
106	III. Equipment Expense				
107	Electric retarder	No.	9	112,667.42	1,014,006.78
108	(3) Controllable stop system				
109	II . Installation Expense				
110	Excavating and filling in the cable pit (1-5 pieces) hard soil depth 0.8 m	m	2000	3.12	6,240.00
111	Lay signal cable PTYA23 (PTYAH23) type 12 cores	m	2000	13.54	27,080.00
112	Lay signal cable PTYA23 (PTYAH23) type 37 cores	m	600	24.92	14,952.00
113	Lay signal cable PTYA23 (PTYAH23) type 48 cores	m	1500	29.06	43,590.00
114	Steel tube protection passing one track cable	No.	16	129.82	2,077.12
115	Branching terminal box HF-7	No.	8	519.28	4,154.24
116	Electric power cable VV 0.6/1kV 3×4+1×2.5mm	m	500	6.24	3,120.00
117	Electric power cable VV 0.6/1kV 3×6+1×4mm	m	2500	10.78	26,950.00
118	System debugging automatically controlled by hump signal stop	No.	4	193.38	773.52
119	Hump signal outdoor equipment stopper	No.	8	1,080.62	8,644.96
120	III. Equipment Expense				
121	Stopper	No.	9	32,760.08	294,840.72
122	Power supply panel with UPS	No.	1	221,010.29	221,010.29
123	Stopper computer control system	No.	1	273,000.78	273,000.78
124	(4) Remote control and signal of hump locomotive				

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
125	II . Installation Expense				
126	Hump radio locomotive signal	No.	1	157,215.97	157,215.97
127	Radio remote control of hump locomotive remote control	No.	1	104,647.93	104,647.93
128	III. Equipment Expense				
129	Radio locomotive remote control mobile unit	No.	2	573,301.62	1,146,603.24
130	(6) Other hump equipment				
131	III. Equipment Expense				
132	Hump maintenance machine tool	No.	1	39,863.16	39,863.16
133	Hump maintenance forklift	No.	1	45,582.23	45,582.23
134	Maintenance tool	No.	5	2,275.00	11,375.00
135	5. Signal maintenance and testing equipment				
136	II . Installation Expense				
137	Signal maintenance depot	No.	1	4,186.01	4,186.01
138	Locomotive signal maintenance and testing section	No.	1	10,021.40	10,021.40
139	Signal maintenance depot (including hump mechanical maintenance depot)	No.	1	46,049.55	46,049.55
140	III.Equipment Expense				
141	Instruments in signal testing section	No.	1	107,380.30	107,380.30
142	Instruments of locomotive signal testing section	No.	1	81,900.24	81,900.24
143	BT-01U/D type ZPW-2000A complete machine testing system	No.	1	67,340.19	67,340.19
144	Testing stand of point switch	No.	1	45,500.13	45,500.13
145	II . Installation Expense				
146	Thunder Proof Cabinet	No.	5	3,947.71	19,738.55
147	Signal microcomputer monitoring central exchange debugging	No.	1	461.83	461.83
148	Signal microcomputer monitoring system debugging	No.	1	743.92	743.92
149	Signal microcomputer monitoring (station interlocking) station extension ≤25 groups switch installation	No.	1	4,710.00	4,710.00
150	Signal microcomputer monitoring (station interlocking) station extension ≤25 groups switch debugging	No.	1	2,770.96	2,770.96
151	Signal microcomputer monitoring (station interlocking) station extension >25 groups switch installation	No.	2	19,396.72	38,793.44
152	Signal microcomputer monitoring (station interlocking) station extension >25 groups switch debugging	No.	2	3,325.30	6,650.60
153	III.Equipment Expense				
154	Microcomputer detecting equipment	No.	3	63,117.78	189,353.34
155	Thunder Proof Junction Cabinet	No.	5	65,001.49	325,007.45

066

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82

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.24 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
156	Signal equipment comprehensive lightning protection system	Set	3	47,665.93	142,997.79
157	Non-insulated transmitting box ZPW. F (spare)	No.	1	7,488.41	7,488.41
158	Electrical unit nodule (spare)	No.	24	6,111.10	146,666.40
159	ZPW-2000A compressive tester	No.	4	6,142.52	24,570.08
160	Station wagon	No.	3	35,575.00	106,725.00
161	Radio communication tool	No.	15	720.72	10,810.80
162	Electric point machine ZD6-D	No.	1	8,016.67	8,016.67
163	Electric point machine ZD6-E	No.	1	8,450.74	8,450.74
164	Electric point machine ZD6-J	No.	1	8,016.67	8,016.67
165	Server of microcomputer monitoring and maintenance center	No.	1	2,166,943.64	2,166,943.64
TOTAL OF BILL					21,612,336.27



067
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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 1.3 : INFORMATION SYSTEM

1.31 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Information				
2	1. Public Foundation Platform				
3	II. Installation Expense				
4	Security Adjustable Information Equipment	No.	3	22,183.07	66,549.21
5	Buried Single-mode Optical Cable 8 cores	Km	10	17,434.27	172,616.70
6	Comprehensive Wiring	m2	800	52.25	41,800.00
7	III. Equipment Expense				
8	Black and White Laserjet Printers suitable for A3	No.	2	5,137.50	10,275.00
9	Router	No.	1	25,683.63	25,683.63
10	Double-layer Switcher	No.	1	4,037.50	4,037.50
11	Fire Wall	No.	2	32,105.98	64,211.96
12	Information System Lightning Protection	No.	1	51,369.18	51,369.18
13	UPS 5KVA	No.	1	35,958.62	35,958.62
14	Driving Video Monitoring	No.	1	95,421.98	95,421.98
15	Public Security Information System	No.	1	128,421.98	128,421.98
16	2. Application System				
17	Transportation and Production Organization				
18	III. Equipment Expense				
19	TMIS Subsystem Equipment	No.	1	96,316.00	96,316.00
TOTAL OF BILL					792,661.77




**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.32 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Information				
2	1. Public Foundation Platform				
3	II. Installation Expense				
4	Security Adjustable Information Equipment	No.	3	22,183.07	66,549.21
5	Passenger Station Broadcasting Equipment Medium	No.	1	63,682.72	63,682.72
6	Buried Single-mode Optical Cable 8 cores	Km	3	17,434.27	52,302.81
7	Comprehensive Wiring	m2	5000	52.25	261,250.00
8	III. Equipment Expense				
9	Station-yard Digital Centre Broadcast Control Equipment	No.	1	64,684.40	64,684.40
10	Station Broadcast Control Station	No.	1	11,557.92	11,557.92
11	Station-yard Wired Broadcasting Equipment 250W	No.	2	16,926.36	33,852.72
12	Station-yard Wired Broadcasting Power Amplifier Cabinet	No.	2	3,303.17	6,606.34
13	Station-yard Wired Broadcasting Loudspeaker	No.	8	288.95	2,311.60
14	Station-yard Level 2 Clock Synchronizer	No.	1	16,181.09	16,181.09
15	Station-yard Digital Slave Clock	No.	2	1,502.53	3,005.06
16	Station-yard Pointer Type Slave Clock	No.	2	2,427.16	4,854.32
17	Black and White Laserjet Printers suitable for A3	No.	3	5,137.50	15,412.50
18	Router	No.	3	25,683.63	77,050.89
19	Double-layer Switcher	No.	6	4,037.50	24,225.00
20	Fire Division Wall	No.	2	32,105.98	64,211.96
21	Information System Lightning Protection	No.	1	51,369.18	51,369.18
22	UPS 5KVA	No.	1	35,958.62	35,958.62
23	Information Maintain Equipment	No.	1	84,421.98	84,421.98
24	Public Security Information System	No.	1	128,421.98	128,421.98
25	Network wiring ark	No.	3	11,563.20	34,689.60
26	2. Application System				
27	(1) CTC System				
28	II. Installation Expense				
29	Station Terminal of CTC System	No.	2	11,773.30	23,546.60
30	III. Equipment Expense				

069

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.32 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
31	Station Terminal of CTC System	No.	2	687,761.91	1,375,523.82
32	(2) Transportation and Production Organization				
33	III. Equipment Expense				
34	Passenger Transport Ticketing System	No.	1	84,421.98	84,421.98
35	Passenger Transport Departure System	No.	1	193,453.98	193,453.98
36	Passenger Transport Guidance System	No.	1	389,106.03	389,106.03
37	Passenger Transport Security Inspection System	No.	2	146,842.03	293,684.06
38	Passenger Transport Luggage System (include security inspection, departure terminal)	No.	1	262,474.03	262,474.03
39	Driving Video Monitoring	No.	1	95,421.98	95,421.98
40	Passenger Transport Station Monitoring (Medium)	No.	1	140,632.80	140,632.80
41	TMIS Subsystem Equipment	No.	1	96,316.00	96,316.00
TOTAL OF BILL					4,057,181.18




**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.33 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Information				
2	1. Public Foundation Platform				
3	II. Installation Expense				
4	Security Adjustable Information Equipment	No.	77	22,183.07	1,708,096.3
5	Passenger Transport Broadcasting Equipment (Small)	No.	5	42,580.15	212,900.7
6	Buried Single-mode Optical Cable 8 cores	Km	36	17,434.27	627,633.7
7	Comprehensive Wiring	m2	30800	52.25	1,609,300.0
8	III. Equipment Expense				
9	Station-yard Digital Centre Broadcast Control Equipment	No.	5	64,684.40	323,422.0
10	Station Broadcast Control Station	No.	5	11,557.92	57,789.60
11	Station-yard Wired Broadcasting Equipment 250W	No.	5	16,926.36	84,631.8
12	Station-yard Wired Broadcasting Power Amplifier Cabinet	No.	5	3,303.17	16,515.85
13	Station-yard Wired Broadcasting Loudspeaker	No.	20	288.95	5,779.0
14	Station-yard Level 2 Clock Synchronizer	No.	5	16,181.09	80,905.45
15	Station-yard Digital Slave Clock	No.	10	1,502.53	15,025.3
16	Station-yard Pointer Type Slave Clock	No.	10	2,427.16	24,271.60
17	Black and White Laser Printers Biggest A3	No.	46	5,137.50	236,325.0
18	Router	No.	36	25,683.63	924,610.0
19	Double-layer Switcher	No.	36	4,037.50	145,350.00
20	Fire Division Wall	No.	41	32,105.98	1,316,345.7
21	Information System Lightning Protection	No.	31	51,369.18	1,592,444.58
22	UPS 5KVA	No.	31	35,958.62	1,114,717.4
23	Information Maintain Equipment	No.	1	84,421.98	84,421.98
24	Public Security Information System	No.	31	128,421.98	3,981,081.1
25	Network wiring ark	No.	31	11,563.20	358,459.20
26	2. Application System				
27	(1) CTC System				
28	II. Installation Expense				
29	Station Terminal of CTC System	No.	31	11,773.30	364,972.30
30	III. Equipment Expense				

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.33 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(US
31	Station Terminal of CTC System	No.	31	687,761.91	21,320,619
32	(2) Transportation and Production Organization				
33	III. Equipment Expense				
34	Passenger Transport Ticketing System	No.	5	84,421.98	422,109.
35	Passenger Transport Departure System	No.	5	193,453.98	967,269.
36	Passenger Transport Guidance System	No.	5	389,106.03	1,945,530.
37	Passenger Transport Security Inspection System	No.	2	146,842.03	293,684.0
38	Passenger Transport Luggage System (include security inspection, departure terminal)	No.	5	262,474.03	1,312,370.1
39	Driving Video Monitoring	No.	31	95,421.98	2,958,081.3
40	Passenger Transport Station Monitoring (Medium)	No.	5	140,632.80	703,164.0
41	TMIS Subsystem Equipment	No.	5	96,316.00	481,580.0
TOTAL OF BILL					45,289,407.7

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81

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.34 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Information				
2	1. Public Foundation Platform				
3	II. Installation Expense				
4	Security Adjustable Information Equipment	No.	3	22,183.07	66,549.21
5	Passenger Station Broadcasting Equipment Medium	No.	1	63,682.72	63,682.72
6	Buried Single-mode Optical Cable 8 cores	Km	3	17,434.27	52,302.81
7	Comprehensive Wiring	m2	8000	52.25	418,000.
8	III. Equipment Expense				
9	Station-yard Digital Centre Broadcast Control Equipment	No.	1	64,684.40	64,684.40
10	Station Broadcast Control Station	No.	1	11,557.92	11,557.92
11	Station-yard Wired Broadcasting Equipment 250W	No.	2	16,926.36	33,852.72
12	Station-yard Wired Broadcasting Power Amplifier Cabinet	No.	2	3,303.17	6,606.34
13	Station-yard Wired Broadcasting Loudspeaker	No.	12	288.95	3,467.40
14	Comprehensive Timing Supply Equipment BITS	No.	1	156,390.08	156,390.08
15	GPS Receiving Set	No.	1	7,157.92	7,157.92
16	Station-yard Central Clock Synchronizer	No.	1	16,181.09	16,181.09
17	Station-yard Digital Slave Clock	No.	4	1,502.53	6,010.12
18	Station-yard Pointer Type Slave Clock	No.	4	2,427.16	9,708.64
19	Black and White Laser Printers Biggest A3	No.	3	5,137.50	15,412.50
20	Router	No.	8	25,683.63	205,469.04
21	Double-layer Switcher	No.	11	4,037.50	44,412.50
22	Fire Division Wall	No.	2	32,105.98	64,211.96
23	Information System Lightning Protection	No.	1	51,369.18	51,369.18
24	UPS 5KVA	No.	1	35,958.62	35,958.62
25	Information Maintain Equipment	No.	1	84,421.98	84,421.98
26	Public Security Information System	No.	1	128,421.98	128,421.98
27	Network wiring ark	No.	3	11,563.20	34,689.60
28	2. Application System				
29	(1) CTC System				
30	II. Installation Expense				

073

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

1.34 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
31	Control Centre of CTC System	No.	1	13,973.30	13,973.30
32	LED Screen for Control Centre of CTC System	No.	1	9,288.84	9,288.84
33	Station Terminal of CTC System	No.	3	11,773.30	35,319.90
34	III. Equipment Expense				
35	Control Centre of CTC System	No.	1	10,235,238.10	10,235,238.10
36	LED Screen for Control Centre of CTC System	No.	1	115,500.00	115,500.00
37	Comprehensive power supply panel 30KVA	No.	1	159,500.00	159,500.00
38	Station Terminal of CTC System	No.	3	687,761.91	2,063,285.73
39	(2) Transportation and Production Organization				
40	III. Equipment Expense				
41	Passenger Transport System Server	No.	2	159,684.80	319,369.60
42	Passenger Transport Ticketing System	No.	1	84,421.98	84,421.98
43	Passenger Transport Departure System	No.	1	193,453.98	193,453.98
44	Passenger Transport Guidance System	No.	1	389,106.03	389,106.03
45	Passenger Transport Security Inspection System	No.	2	146,842.03	293,684.06
46	Passenger Transport Luggage System (include security inspection, departure terminal)	No.	1	262,474.03	262,474.03
47	Driving Video Monitoring	No.	1	95,421.98	95,421.98
48	Passenger Transport Station Monitoring (Medium)	No.	1	140,632.80	140,632.80
49	Video Monitoring Center Equipment	No.	1	95,421.98	95,421.98
50	Data Server Large	No.	1	269,684.80	269,684.80
51	TMIS Subsystem Equipment	No.	1	96,316.00	96,316.00
52	TMIS System Server	No.	1	267,445.20	267,445.20
TOTAL OF BILL					16,720,057.04




**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO : 2.1 ELECTRICITY SUPPLY SYSTEM

2.11 Mombasa Relief Line

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Power System of Mombasa Relief line	No.	1	7,281,939.00	7,281,939.00
TOTAL OF BILL					7,281,939.00

2.12 Mombasa station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Power budget list for Mombasa station				
2	1. Power supply line				
3	II. Installation Expense				
4	(1) High-voltage overhead line				
5	① High-voltage overhead line (connected)				
6	Iron cross arm of 33kv overhead line	Km	2	19,540.00	39,080.00
7	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-70	Km	6	4,822.87	28,937.22
8	② High-voltage overhead line (substation)				
9	Iron cross arm of 33kv overhead line	Km	5	19,540.00	97,700.00
10	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-50	Km	15	3,535.18	53,027.70
11	(5) High-voltage main cable line				
12	Underground direct burying section of 33kv cable is 95mm (for reference)	m	500	210.00	105,000.00
13	(6) Cable line of high-voltage station				
14	Underground direct burying section of 33kv cable is 70mm (for reference)	m	2000	193.20	386,400.00
15	(8) Low voltage cable line				
16	Underground direct burying of low-voltage copper conductor cable (4 core) is 185mm	m	2000	234.00	468,000.00
17	Underground direct burying of low-voltage copper conductor cable (4 core) is 150mm	m	3000	192.00	576,000.00
18	Underground direct burying of low-voltage copper conductor cable (4 core) is 70mm	m	5000	109.20	546,000.00
19	Underground direct burying of low-voltage copper conductor cable (4 core) is 35mm	m	5000	72.48	362,400.00
20	(9) Low voltage control cable line				
21	Laying control cable to under 30 core along rack pipe	m	6000	80.54	483,240.00
22	(10) Power circuit				
23	① Power overhead line				

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.12 Mombasa station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
24	Iron cross arm of 33kv overhead line	Km	15	19,540.00	293,100.00
25	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-120	Km	45	5,210.85	234,488.25
26	The second line power				
27	1. Power supply line				
28	II . Installation Expense				
29	(1) High-voltage overhead line				
30	① High-voltage overhead line (connected)				
31	Iron cross arm of 35k Voverhead line	Km	10	19,540.00	195,400.00
32	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-50	Km	30	3,535.18	106,055.40
33	② Cable line of power				
34	Underground direct burying section of 33kv cable is 150mm (for reference)	m	5000	192.00	960,000.00
35	2. Power-supply device				
36	II . Installation Expense				
37	Installation of distribution substation (for reference)	No.	1	149,999.24	149,999.24
38	Installation of pole-mounted transformer (for reference)	No.	1	9,367.07	9,367.07
39	Installation of box-type transformer substation (for reference)	No.	10	2,913.85	29,138.50
40	III. Equipment Expense				
41	High-voltage switch cabinet	No.	15	56,799.00	851,985.00
42	High-voltage condenser	No.	2	45,439.20	90,878.40
43	Voltage regulator	No.	1	56,799.00	56,799.00
44	Alternating current screen	No.	1	11,359.80	11,359.80
45	Direct current screen	No.	2	11,359.80	22,719.60
46	Protective screen	No.	2	45,439.20	90,878.40
47	Measurement panel	No.	1	11,467.60	11,467.60
48	Video cabinet	No.	1	11,467.60	11,467.60
49	Comprehensive automatic system for substation	No.	1	151,464.00	151,464.00
50	Transformer 33/0.4 10kVA	No.	1	4,543.92	4,543.92
51	Box-type transformer substation 33/0.4 125kVA	No.	1	181,756.80	181,756.80
52	Box-type transformer substation 33/0.4 160kVA	No.	2	181,756.80	363,513.60

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.12 Mombasa station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
53	Box-type transformer substation 33/0.4 160kVA	No.	3	181,756.80	545,270.4
54	Box-type transformer substation 33/0.4 250kVA	No.	1	204,476.40	204,476.4
55	Box-type transformer substation 33/0.4 400kVA	No.	1	204,476.40	204,476.4
56	Box-type transformer substation 33/0.4 500kVA	No.	1	249,915.60	249,915.60
57	Box-type transformer substation 33/0.4 1000kVA	No.	1	249,915.60	249,915.6
58	Distribution box on pole	No.	1	2,271.96	2,271.96
59	3. Other electricity				
60	II. Installation Expense				
61	Motivate wiring along the line	KW	2322	509.11	1,182,153.4
62	One step of truss lamp bridge of 42m	No.	4	122,465.39	489,861.56
63	Installation of project lamp for iron tower	No.	6	55,325.32	331,951.92
64	Each step increased by truss lamp bridge of 42mm	No.	4	87,369.70	349,478.8
65	III. Equipment Expense				
66	Electric engineer vehicle	No.	1	45,439.20	45,439.2
67	Interphone	No.	4	302.93	1,211.72
68	4. Automatic control of electricity				
69	III. Equipment Expense	No.			
70	Electric remote terminal	No.	1	136,317.60	136,317.6
71	Low voltage monitoring terminal of signal power	No.	1	45,439.20	45,439.20
72	Video monitoring system	No.	1	136,317.60	136,317.6
TOTAL OF BILL					11,146,664.4

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.13 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Budget list of section electricity				
2	1. Power supply line				
3	II. Installation Expense				
4	(1) High-voltage overhead line				
5	Iron cross arm of 33kvoverhead line	Km	460	19,540.00	8,988,400.00
6	Erection LGJ-70 with wire of 33kv	Km	1380	4,822.87	6,655,560.60
7	(5) High-voltage main cable line				
8	Underground direct burying section of 33kv cable is 95mm	m	20000	210.00	4,200,000.00
9	(6) Cable line of high-voltage station				
10	Underground direct burying section of 33kv cable is 70mm	m	12000	193.20	2,318,400.00
11	(7) Cable line of high voltage bridge tunnel				
12	Underground direct burying section of 33kv cable is 95mm	m	35000	210.00	7,350,000.00
13	(8) Low voltage cable line				
14	Underground direct burying of low-voltage copper conductor cable (4 core) is 70mm	m	76000	109.20	8,299,200.00
15	Underground direct burying of low-voltage copper conductor cable (4 core) is 35mm	m	76000	72.48	5,508,480.00
16	(9) Low voltage control cable line				
17	Laying control cable to under 30 core along rack pipe	m	76000	80.54	6,121,040.00
18	(10) Power circuit				
19	① Power overhead line				
20	Power supply of distribution substation				
21	Iron cross arm of 33kvoverhead line	Km	315	19,540.00	6,155,100.00
22	Wire erection (mountain area) of 33kv with overhead ground wire LGJ-120	Km	945	5,210.85	4,924,253.25
23	The second power supply of communication signal		1		
24	Iron cross arm of 33kvoverhead line	Km	240	19,540.00	4,689,600.00
25	Wire erection (mountain area) of 33kv with overhead ground wire LGJ-50	Km	720	3,535.18	2,545,329.60
26	② Cable line of power				
27	Underground direct burying section of 33kv cable is 150mm	m	35000	192.00	6,720,000.00
28	2. Power-supply device				
29	II. Installation Expense				

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.13 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Installation of distribution substation (for reference)	No.	7	149,999.24	1,049,994.1
31	Installation of pole-mounted transformer (for reference)	No.	91	9,367.07	852,403.3
32	Installation of box-type transformer substation (for reference)	No.	65	2,913.85	189,400.7
33	III. Equipment Expense				
34	High-voltage switch cabinet	No.	98	56,799.00	5,566,302.
35	High-voltage condenser	No.	14	45,439.20	636,148.8
36	Voltage regulator	No.	7	56,799.00	397,593.
37	Alternating current screen	No.	7	11,359.80	79,518.6
38	Direct current screen	No.	14	11,359.80	159,037.
39	Protective screen	No.	14	45,439.20	636,148.80
40	Measurement panel	No.	7	11,467.60	80,273.
41	Video cabinet	No.	7	11,467.60	80,273.22
42	Comprehensive automatic system for substation	No.	7	151,464.00	1,060,248.0
43	Transformer of 33/0.4 5kVA	No.	28	3,029.28	84,819.
44	Transformer of 33/0.4 20kVA	No.	4	5,301.24	21,204.96
45	Transformer of 33/0.4 63kVA	No.	49	9,087.84	445,304.
46	Transformer of 33/0.4 80kVA	No.	3	12,117.12	36,351.36
47	Transformer of 33/0.4 100kVA	No.	7	15,146.40	106,024.
48	Box-type transformer substation 33/0.4 30kVA	No.	62	151,464.00	9,390,768.00
49	Box-type transformer substation 33/0.4 125kVA	No.	1	181,756.80	181,756.
50	Box-type transformer substation 33/0.4 160kVA	No.	2	181,756.80	363,513.60
51	Distribution box on pole	No.	91	2,271.96	206,748.
52	3. Other electricity				
53	II. Installation Expense				
54	Motivate wiring along the line	KW	4051	509.11	2,062,404.
55	Installation material of project lamp for iron tower is 28m	No.	95	55,325.32	5,255,905.40
56	III. Equipment Expense				
57	Electric engineer vehicle	No.	7	45,439.20	318,074.40
58	Interphone	No.	28	302.93	8,482.

079

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8

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.13 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
59	4. Automatic control of electricity				
60	III. Equipment Expense				
61	Electric remote terminal	No.	7	136,317.60	954,223.20
62	Low voltage monitoring terminal of signal power	No.	24	45,439.20	1,090,540.80
63	Video monitoring system	No.	7	136,317.60	954,223.20
64	Sectional switch remote terminal of connecting line	No.	31	46,553.23	1,443,150.13
65	Sectional switch	No.	31	30,292.80	939,076.80
TOTAL OF BILL					109,125,277.01

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.14 Nairobi station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Budget estimate list of Nairobi station				
2	1. Power supply line				
3	II . Installation Expense				
4	(1) High-voltage overhead line				
5	①. High-voltage overhead line (connecting)				
6	Iron cross arm of 33kvoverhead line	Km	2	19,540.00	39,080.00
7	Erection LGJ-70 with wire of 33kv	Km	6	4,822.87	28,937.22
8	②High-voltage overhead line (substation)				
9	Iron cross arm of 33kvoverhead line	Km	8	19,540.00	156,320.00
10	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-50	Km	24	3,535.18	84,844.32
11	(5) High-voltage main cable line				
12	Underground direct burying section of 33kv cable is 95mm	m	500	210.00	105,000.00
13	(6) Cable line of high-voltage station	Km			
14	Underground direct burying section of 33kv cable is 70mm	m	2000	193.20	386,400.00
15	(8) Low voltage cable line				
16	Underground direct burying of low-voltage copper conductor cable (4 core) is 185mm	m	3000	234.00	702,000.00
17	Underground direct burying of low-voltage copper conductor cable (4 core) is 150mm	m	5000	192.00	960,000.00
18	Underground direct burying of low-voltage copper conductor cable (4 core) is 70mm	m	5000	109.20	546,000.00
19	Underground direct burying of low-voltage copper conductor cable (4 core) is 35mm	m	7000	72.48	507,360.00
20	(9) Low voltage control cable line				
21	Laying control cable to under 30 core along rack pipe	m	8000	80.54	644,320.00
22	(10) Power circuit				
23	① Power overhead line				
24	Iron cross arm of 33kvoverhead line	Km	15	19,540.00	293,100.00
25	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-185 (for reference)	Km	45	7,015.05	315,677.25
26	The second line power				
27	Iron cross arm of 33kvoverhead line	Km	10	19,540.00	195,400.00
28	Wire erection (plain everglade) of 33kv without overhead ground wire LGJ-50	Km	30	3,535.18	106,055.40
29	② Cable line of power				

081

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.14 Nairobi station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Underground direct burying section of 33kv cable is 240mm	m	5000	310.00	1,550,000.00
31	2. Power-supply device				
32	II. Installation Expense				
33	Installation of distribution substation (for reference)	No.	1	149,999.24	149,999.24
34	Installation of pole-mounted transformer (for reference)	No.	1	9,367.07	9,367.07
35	Installation of box-type transformer substation (for reference)	No.	28	2,913.85	81,587.80
36	III. Equipment Expense				
37	High-voltage switch cabinet	No.	15	56,799.00	851,985.00
38	High-voltage condenser	No.	2	45,439.20	90,878.40
39	Voltage regulator	No.	1	56,799.00	56,799.00
40	Alternating current screen	No.	1	11,359.80	11,359.80
41	Direct current screen	No.	2	11,359.80	22,719.60
42	Protective screen	No.	2	45,439.20	90,878.40
43	Measurement panel	No.	1	11,467.60	11,467.60
44	Video cabinet	No.	1	11,467.60	11,467.60
45	Comprehensive automatic system for substation	No.	1	151,464.00	151,464.00
46	Transformer 33/0.4 10kVA	No.	1	4,543.92	4,543.92
47	Box-type transformer substation of 33/0.4 50kVA	No.	2	151,464.00	302,928.00
48	Box-type transformer substation of 33/0.4 63kVA	No.	2	151,464.00	302,928.00
49	Box-type transformer substation 33/0.4 125kVA	No.	4	181,756.80	727,027.20
50	Box-type transformer substation 33/0.4 160kVA	No.	3	181,756.80	545,270.40
51	Box-type transformer substation 33/0.4 250kVA	No.	1	204,476.40	204,476.40
52	Box-type transformer substation of 33/0.4 315kVA	No.	1	204,476.40	204,476.40
53	Box-type transformer substation 33/0.4 400kVA	No.	1	204,476.40	204,476.40
54	Box-type transformer substation of 33/0.4 630kVA	No.	1	204,476.40	204,476.40
55	Box-type transformer substation 33/0.4 1000kVA	No.	13	249,915.60	3,248,902.80
56	Distribution box on pole	No.	1	2,271.96	2,271.96
57	3. Other electricity				
58	II. Installation Expense				

082

NON - BINDING B.O.Q

85

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

2.14 Nairobi station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
59	Motivate wiring along the line	KW	13591	509.11	6,919,314
60	One step of truss lamp bridge of 42m	No.	4	122,465.39	489,861.
61	Installation of project lamp for iron tower	No.	8	55,325.23	442,601
62	Each step increased by truss lamp bridge of 42mm	No.	4	87,369.70	349,478.8
63	III. Equipment Expense	No.			
64	Electric engineer vehicle	No.	2	45,439.20	90,878.4
65	Interphone	No.	8	302.93	2,423
66	4. Automatic control of electricity				
67	III. Equipment Expense				
68	Electric remote terminal	No.	1	136,317.60	136,317.60
69	Low voltage monitoring terminal of signal power	No.	4	45,439.20	181,756.
70	Video monitoring system	No.	1	136,317.60	136,317.60
71	Electric power dispatching center	No.	1	757,320.00	757,320.00
TOTAL OF BILL					23,618,515.1

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 3.1 : WATER SUPPLY AND DRAINAGE

3.11 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Water supply and drainage				
2	1. Water supply				
3	II. Installation Expense				
4	Water source				
5	Bore Hole with 300m	No.	1	53,623.66	53,623.66
6	Pipeline				
7	Iron pipe with DN150 mm	m	555	198.99	110,439.45
8	Iron pipe with DN100 mm	m	2960	144.45	427,572.00
9	Iron pipe with DN75 mm	m	185	136.98	25,341.30
10	Reservoir				
11	RC Rectangular reservoir with 300m ³ capacity	No.	1	71,970.79	71,970.79
12	Other buildings				
13	Outdoor fire hydrant and DN 1200mm inner diameter with 1.5m deep	No.	15	2,186.77	32,801.55
14	Exhaust valve and DN 1200mm inner diameter well with 2.0m deep	No.	13	2,275.32	29,579.16
15	Exhaust valve and DN 1200mm inner diameter well with 1.5m deep	No.	15	2,474.20	37,113.00
16	Water Gauge and DN50mm well with 2.9m deep	No.	1	4,973.19	4,973.19
17	Formwork	m ²	1000	27.98	27,980.00
18	Water Gauge and DN80mm well with 2.9m deep	No.	5	3,862.86	19,314.30
19	Installation of deep well pump	No.	1	724.90	724.90
20	Installation of fire pump	No.	2	292.14	584.28
21	Installation of manual monorail car and electric hoist	No.	4	121.00	484.00
22	Installation of centralized control equipment	No.	1	3,865.40	3,865.40
23	Installation of Clo ₂ disinfection equipment (40g/L)	No.	1	2,719.31	2,719.31
24	Installation of inverter water supply equipment	No.	1	4,925.84	4,925.84
25	Installation of feed-water pump	No.	2	816.73	1,633.46
26	Installation of fiberglass tank	No.	1	408.36	408.36
27	III. Equipment Expense				
28	Deep well pump	No.	1	7,247.90	7,247.90

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.11 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
29	Feed-water centralized control equipment	No.	1	38,654.00	38,654.
30	Clo2 disinfection equipment (40g/L)	No.	1	6,794.56	6,794.
31	Inverter water supply equipment	No.	1	49,258.45	49,258.
32	Fire pump	No.	2	8,153.29	16,306.
33	Manual monorail car and electric hoist	No.	4	1,208.90	4,835.
34	Exhaust valve	No.	13	340.62	4,428.6
35	Fire nozzles	No.	3	271.93	815.
36	Fire hose	No.	6	510.44	3,062.6
37	Leak detector of Feed-water pipeline	No.	1	227.70	227.
38	Feed-water pump	No.	2	2,039.02	4,078.0
39	Fiberglass tank	No.	1	4,083.64	4,083.
40	2. Drainage				
41	II. Installation Expense				
42	Pipeline				
43	Reinforced Concrete DN110 mm with cement mortar interface in groundwater area	m	150	172.70	25,905.00
44	Concrete foundation of pipeline nominal diameter ≤ 150	m	150	28.36	4,254
45	Reinforced Concrete DN200 mm with cement mortar interface in groundwater area	m	2400	238.79	573,096.00
46	Concrete foundation of pipeline nominal diameter ≤ 200	m	2400	35.84	86,016
47	Reinforced Concrete DN300 mm with cement mortar interface in groundwater area	m	450	303.60	136,620.00
48	Concrete foundation of pipeline nominal diameter ≤ 300	m	450	43.02	19,359
49	Other buildings				
50	DN500mm door type with 2.0m deep for Drain pipe outlet	No.	1	1,742.40	1,742
51	Formwork	m²	500	27.98	13,990
52	Reinforced concrete-No.1 for Rectangular septic tank	No.	5	8,026.00	40,130.00
53	Reinforced concrete-No.5 for Rectangular septic tank	No.	2	22,416.13	44,832
54	Reinforced concrete-No.1 for Boiler sewage and cooling pool (overflow)	No.	1	11,673.20	11,673.20
55	Reinforced concrete Q=50m for Advection oil separation tank	No.	1	100,066.25	100,066
56	Installation of submersible sewage pump	No.	2	482.90	965.80
57	Installation of manual monorail car and electric hoist	No.	1	121.00	121

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.11 Mombasa Relief Line					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
58	Installation of SBR sewage treatment equipment	No.	1	4,832.30	4,832.3
59	Installation of disinfection equipment	No.	1	845.90	845.9
60	III. Equipment Expense				
61	Submersible sewage pump	No.	2	4,829.00	9,658.0
62	Manual monorail car and electric hoist	No.	1	1,208.90	1,208.9
63	SBR sewage treatment equipment	No.	1	48,323.00	48,323.0
64	Disinfection equipment	No.	1	8,455.70	8,455.7
TOTAL OF BILL					2,127,941.6

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.12 Mombasa station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Water supply and drainage				
2	1. Water supply				
3	II. Installation Expense				
4	Water source				
5	Bore Hole with 300m	No.	4	53,623.66	214,494.
6	Pipeline				
7	Iron pipe with DN300 mm	m	2500	343.20	858,000.
8	Iron pipe with DN200 mm	m	5000	198.99	994,950.00
9	Iron pipe with DN100 mm	m	16250	144.45	2,347,312.
10	Iron pipe with DN75 mm	m	1250	136.98	171,225.00
11	Buildings				
12	Water tower				
13	RC Water tower with capacity 400m3 and 28m height	No.	1	260,450.52	260,450.52
14	Reservoir				
15	RC Rectangular reservoir with 1000m3 capacity	No.	1	173,328.36	173,328.36
16	Other buildings				
17	Outdoor fire hydrant and DN 1200mm inner diameter with 1.5m deep	No.	15	2,186.77	32,801.55
18	Exhaust valve and DN 1200mm inner diameter well with 2.0m deep	No.	13	2,275.32	29,579
19	Exhaust valve and DN 1200mm inner diameter well with 1.5m deep	No.	15	2,474.20	37,113.00
20	Water Gauge and DN80mm well with 2.9m deep	No.	6	3,862.86	23,177
21	Water Gauge and DN100mm well with 2.9m deep	No.	3	3,976.89	11,930.67
22	Water Gauge and DN50mm well with 2.9m deep	No.	10	3,254.91	32,549
23	Formwork	m²	2000	27.98	55,960
24	Installation of Clo2 disinfection equipment (20g/L)	No.	2	2,719.31	5,438.62
25	Installation of manual monorail car and electric hoist	No.	2	121.00	242
26	Installation of exhaust valve	No.	4	77.34	309.36
27	Installation of fire nozzle	No.	8	61.88	495
28	Installation of fire hose	No.	16	116.01	1,856.16
29	Installation of centrifugal pump	No.	4	292.14	1,168.

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.12 Mombasa station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Installation of fire pump	No.	6	292.14	1,752.84
31	Installation of (oil depot)foam fire extinguishing system	No.	1	6,442.70	6,442.70
32	Installation of air-foam nozzle	No.	1	77.34	77.34
33	Installation of pc8 air-foam producer	No.	1	81.40	81.40
34	Installation of (feed-water) pipeline leak detector	No.	1	77.34	77.34
35	Installation of (horizontal)grinding wheel cutting machine	No.	1	301.63	301.63
36	Installation of bench drill press	No.	1	662.20	662.20
37	Installation of floor-type grinding wheel machine	No.	1	177.10	177.10
38	Installation of arc welding machine	No.	1	121.00	121.00
39	Installation of drilling machine	No.	1	563.20	563.20
40	Installation of pipe cutting machine	No.	1	661.10	661.10
41	Installation of pipe detector	No.	1	900.46	900.46
42	Installation of submersible pump of the working surface	No.	1	450.23	450.23
43	Installation of potable motor pump	No.	2	696.07	1,392.14
44	Feed-water centralized control equipment	No.	1	3,865.40	3,865.40
45	III. Equipment Expense				
46	Metal tracer wire	m	25000	0.55	13,750.00
47	Clo2 disinfection equipment (20g/L)	No.	2	6,794.56	13,589.12
48	Manual monorail car and electric hoist	No.	2	1,208.90	2,417.80
49	Exhaust valve	No.	4	340.62	1,362.48
50	Fire nozzles	No.	8	271.93	2,175.44
51	Fire hose	No.	16	510.44	8,167.04
52	Centrifugal pump	No.	4	2,899.60	11,598.40
53	Fire pump	No.	6	8,153.29	48,919.74
54	(Oil depot)foam fire extinguishing system	No.	1	64,422.60	64,422.60
55	Air-foam nozzle	No.	1	161.70	161.70
56	pc8 air-foam producer	No.	1	806.30	806.30
57	Leak detector of Feed-water pipeline	No.	1	227.70	227.70
58	(Horizontal)grinding wheel cutting machine	No.	1	629.20	629.20

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.12 Mombasa station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
88	Formwork	m ²	1500	27.98	41,970.00
89	Installation of submersible sewage pump	No.	12	482.90	5,794.80
90	Installation of manual monorail car and electric hoist	No.	5	121.00	605.00
91	Installation of fluid gas DAF pump and air-handling pump	No.	2	242.00	484.00
92	Installation of sewage-disinfection equipment	No.	5	845.90	4,229.50
93	Installation of SBR sewage treatment equipment	No.	3	4,832.30	14,496.90
94	Installation of the non-powered sewage treatment equipment	No.	5	2,416.70	12,083.50
95	III. Equipment Expense			-	
96	Submersible sewage pump	No.	12	4,832.30	57,987.60
97	Manual monorail car and electric hoist	No.	5	1,208.90	6,044.50
98	Fluid gas DAF pump and air-handling pump	No.	2	2,415.60	4,831.20
99	Sewage-disinfection equipment	No.	5	8,455.70	42,278.50
100	Install SBR sewage-disinfection equipment	No.	3	48,323.00	144,969.00
101	non-powered sewage treatment equipment	No.	5	24,167.00	120,835.00
TOTAL OF BILL					12,445,691.22

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.13 Intermediate Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Water supply and drainage				
2	1. Water supply				
3	II. Installation Expense				
4	Water source				
5	Bore Hole with 300m	No.	31	53,623.66	1,662,333.46
6	Pipeline				
7	Iron pipe with DN200 mm	m	17250	198.99	3,432,577.50
8	Iron pipe with DN100 mm	m	92000	144.45	13,289,400.00
9	Iron pipe with DN75 mm	m	5750	136.98	787,635.00
10	Buildings				
11	Water tower				
12	RC Water tower with capacity 200m3 and 16m height	No.	3	140,637.46	421,912.38
13	RC Water tower with capacity 100m3 and 16m height	No.	28	96,201.58	2,693,644.24
14	Reservoir				
15	RC Rectangular reservoir with 100m3 capacity	No.	28	37,831.64	1,059,285.92
16	RC Rectangular reservoir with 300m3 capacity	No.	3	71,970.79	215,912.37
17	Other buildings				
18	Outdoor fire hydrant and DN 1200mm inner diameter with 1.5m deep	No.	75	2,186.77	164,007.75
19	Exhaust valve and DN 1200mm inner diameter well with 2.0m deep	No.	93	2,275.32	211,604.76
20	Exhaust valve and DN 1200mm inner diameter well with 1.5m deep	No.	93	2,474.20	230,100.60
21	Water Gauge and DN80mm well with 2.9m deep	No.	63	3,862.86	243,360.18
22	Formwork	m²	8250	16.98	140,085.00
23	Installation of ultraviolet disinfection equipment	No.	31	844.80	26,188.80
24	Installation of manual monorail car and electric hoist	No.	62	121.00	7,502.00
25	Installation of deep well pump	No.	31	724.90	22,471.90
26	Installation of fire pump	No.	62	292.14	18,112.68
27	Feed-water centralized control equipment	No.	31	3,865.40	119,827.40
28	III. Equipment Expense				
29	Metal tracer wire	m	115000	0.55	63,250.00

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.13 Intermediate Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Ultraviolet disinfection equipment	No.	31	8,455.70	262,126.
31	Manual monorail car and electric hoist	No.	62	1,208.90	74,951.8
32	Fire nozzles	No.	62	271.93	16,859.
33	Fire hose	No.	124	510.44	63,294.5
34	Deep well pump	No.	31	7,247.90	224,684.
35	Fire pump	No.	62	8,153.29	505,503.9
36	Feed-water centralized control equipment	No.	31	38,654.00	1,198,274.
37	Drainage				
38	II. Installation Expense				
39	Pipeline				
40	Reinforced Concrete DN110 mm with cement mortar interface in groundwater area	m	4650	172.70	803,055.00
41	Reinforced Concrete DN200 mm with cement mortar interface in groundwater area	m	74400	238.79	17,765,976.
42	Reinforced Concrete DN300 mm with cement mortar interface in groundwater area	m	13950	303.60	4,235,220.00
43	Concrete foundation of pipeline nominal diameter ≤150	m	4650	28.36	131,874.
44	Concrete foundation of pipeline nominal diameter ≤200	m	74400	35.84	2,666,496.00
45	Concrete foundation of pipeline nominal diameter ≤300	m	13950	43.02	600,129.
46	Other buildings				
47	Reinforced concrete-No.1 for Rectangular septic tank	No.	31	8,026.00	248,806.
48	Reinforced concrete-No.3 for Rectangular septic tank	No.	31	15,290.00	473,990.00
49	DN3000 Sewage pump station with 1.7m deep	No.	33	34,684.45	1,144,586.00
50	Reinforced concrete-No.3 for Boiler sewage and cooling pool (overflow)	No.	33	11,673.20	385,215.00
51	Reinforced concrete-No.3 for Rectangular septic tank	No.	9	11,050.60	99,455.40
52	Reinforced concrete Q=50m for Advection oil separation tank	No.	33	100,066.25	3,302,186.00
53	Formwork	m²	5000	16.98	84,900.00
54	Installation of submersible sewage pump	No.	124	482.90	59,879.00
55	Installation of manual monorail car and electric hoist	No.	62	121.00	7,502.00
56	Installation of decentralized sewage treatment equipment	No.	31	4,831.20	149,767.00
57	III. Equipment Expense				
58	Submersible sewage pump	No.	124	4,832.30	599,205.00

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092

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.14 Nairobi station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Water supply and drainage				
2	1. Water supply				
3	II. Installation Expense				
4	Water source				
5	Bore Hole with 300m	No.	4	53,623.66	214,494.64
6	Pipeline				
7	Iron pipe with DN300 mm	m	2500	343.20	858,000.00
8	Iron pipe with DN200 mm	m	5000	198.99	994,950.00
9	Iron pipe with DN100 mm	m	17250	144.45	2,491,762.50
10	Iron pipe with DN75 mm	m	1250	136.98	171,225.00
11	(3) .Buildings				
12	Water tower				
13	RC Water tower with capacity 400m3 and 28m heihgt	No.	1	260,450.52	260,450.52
14	Reservoir	No.	1		
15	RC Rectangular reservoir with 1000m3 capacity	No.	1	173,328.36	173,328.36
16	Other buildings				
17	Outdoor fire hydrant and DN 1200mm inner diameter with 1.5m deep	No.	15	2,186.77	32,801.55
18	Exhaust valve and DN 1200mm inner diameterwell with 2.0m deep	No.	13	2,275.32	29,579.16
19	Exhaust valve and DN 1200mm inner diameterwell with 1.5m deep	No.	15	2,474.20	37,113.00
20	Water Gauge and DN80mm well with 2.9m deep	No.	6	3,862.86	23,177.16
21	Water Gauge and DN100mm well with 2.9m deep	No.	3	3,976.89	11,930.67
22	Water Gauge and DN50mm well with 2.9m deep	No.	10	3,254.91	32,549.10
23	Wooden retaining plate of single-side support of basic pit closed support wooden support	m²	2000	27.98	55,960.00
24	Install (water supply) centralized control equipment	No.	1	3,865.40	3,865.40
25	Install deep well pump	No.	3	724.90	2,174.70
26	Install Clo2 disinfection equipment (40g/L)	No.	2	2,719.31	5,438.62
27	Install inverter water supply equipment	No.	2	4,925.84	9,851.68
28	Install fire pump	No.	4	292.14	1,168.56
29	Install manual monorail car and electric hoist	No.	4	121.00	484.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.14 Nairobi station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Install feed-water pump	No.	4	816.73	3,266.9
31	Install fiberglass tank	No.	2	408.36	816.7
32	III. Equipment Expense				
33	Feed-water centralized control equipment	No.	1	38,654.00	38,654.0
34	Deep well pump	No.	3	7,247.90	21,743.
35	Clo2 disinfection equipment (40g/L)	No.	2	6,794.56	13,589.12
36	Fire pump	No.	4	8,153.29	32,613.
37	Manual monorail car and electric hoist	No.	4	1,208.90	4,835.60
38	Exhaust valve	No.	13	340.62	4,428.
39	Fire nozzles	No.	10	271.93	2,719.30
40	Fire hose	No.	20	510.44	10,208.80
41	Leak detector of Feed-water pipeline	No.	1	227.70	227.
42	Feed-water pump	No.	4	2,039.02	8,156.08
43	Fiberglass tank	No.	2	4,083.64	8,167.
44	2. Drainage				
45	II. Installation Expense				
46	Pipeline				
47	Reinforced Concrete DN110 mm with cement mortar interface in groundwater area	m	1000	172.70	172,700.
48	Reinforced Concrete DN200 mm with cement mortar interface in groundwater area	m	14000	238.79	3,343,060.00
49	Reinforced Concrete DN300 mm with cement mortar interface in groundwater area	m	5000	303.60	1,518,000.
50	Reinforced Concrete DN400 mm with cement mortar interface in groundwater area	m	2000	363.00	726,000.
51	Concrete foundation of pipeline nominal diameter \leq 150	m	1000	28.36	28,360.00
52	Concrete foundation of pipeline nominal diameter \leq 200	m	14000	35.84	501,760.
53	Concrete foundation of pipeline nominal diameter \leq 300	m	3000	43.02	129,060.00
54	Concrete foundation of pipeline nominal diameter \leq 400	m	2000	50.88	101,760.
55	Other buildings				
56	Reinforced concrete-No.1 for Rectangular septic tank	No.	5	8,026.00	40,130.
57	Reinforced concrete-No.2 for Rectangular septic tank	No.	10	11,050.60	110,506.00
58	Reinforced concrete-No.5 for Rectangular septic tank	No.	4	22,416.13	89,664.

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.14 Nairobi station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
59	Reinforced concrete-No.7 for Rectangular septic tank	No.	1	36,404.50	36,404.50
60	Reinforced concrete-No.3 for Boiler sewage and cooling pool (overflow)	No.	1	17,629.70	17,629.70
61	DN500mm door type with 2.0m deep for Drain pipe outlet	No.	1	1,742.40	1,742.40
62	Reinforced concrete Q=100m for Advection oil separation tank	No.	1	173,046.50	173,046.50
63	Formwork	m ²	1500	27.98	41,970.00
64	Installation of sump pump	No.	2	34,684.45	69,368.90
65	Installation of SBR sewage treatment equipment	No.	3	4,832.30	14,496.90
66	Installation of disinfection equipment	No.	5	845.90	4,229.50
67	Installation of submersible sewage pump	No.	10	482.90	4,829.00
68	Installation of the non-powered sewage treatment equipment	No.	5	2,396.90	11,984.50
69	Installation of manual monorail car and electric hoist	No.	5	121.00	605.00
70	III. Equipment Expense				
71	SBR sewage treatment equipment	No.	3	48,323.00	144,969.00
72	Disinfection equipment	No.	5	8,455.70	42,278.50
73	Submersible sewage pump	No.	12	4,832.30	57,987.60
74	non-powered sewage treatment equipment	No.	5	24,167.00	120,835.00
75	Manual monorail car and electric hoist	No.	5	1,208.90	6,044.50
TOTAL OF BILL					13,069,153.08

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 3.2 : MACHINERY SERVICE - PART 1

3.21 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Engineering				
2	Back-turning section and that of stationed locomotive				
3	II. Installation Expense				
4	Installation of three bench for internal combustion service equipment preparation site	No.	1	6,954.00	6,954.00
5	Installation of diesel oil reservoir 3×1000m of internal combustion service equipment	No.	1	961,521.60	961,521.60
6	Installation of engine oil reservoir 2×60m of internal combustion service equipment	No.	1	96,310.00	96,310.00
7	Installation of 8 crane pipe on two side of oil discharging bench of internal combustion service equipment	No.	1	15,780.00	15,780.00
8	Installation of fuel pump workshop with oil consumption of 40~80t per day of internal combustion service	No.	1	7,346.00	7,346.00
9	Installation of cooling water preparation workshop with water consumption of 70m per day of internal combustion service	No.	1	74,806.00	74,806.00
10	Installation of three bench for internal combustion service equipment preparation sit - Type 2	No.	1	8,298.00	8,298.00
11	Installation of diesel oil reservoir 3×1000m of internal combustion service equipment - Type 2	No.	1	337,447.50	337,447.50
12	Installation of engine oil reservoir 3×60m of internal combustion service equipment - Type 2	No.	1	31,964.00	31,964.00
13	Installation of 8 crane pipe on two side of oil discharging bench of internal combustion service equipment - Type 2	No.	1	25,438.00	25,438.00
14	Installation of fuel pump workshop with oil consumption of 40~80t per day of internal combustion service - Type 2	No.	1	33,826.00	33,826.00
15	Installation of cooling water preparation workshop with water consumption of 70m per day of internal combustion service - Type 2	No.	1	31,418.00	31,418.00
16	III. Equipment Expense				
17	Comprehensive discharging column for oil and water	No.	4	49,523.76	198,095.04
18	Manual dolly for sand transport	No.	2	75.84	151.68
19	Dynamic detector for wheel tread	No.	1	228,571.20	228,571.20
20	Cleaning machine for outer part of internal combustion locomotive	No.	1	457,142.40	457,142.40
21	Sand storage box on preparation site	No.	6	1,866.60	11,199.60
22	Management system for operation information	No.	1	502,856.64	502,856.64
23	Tool kit	No.	5	380.40	1,902.00
24	2 MB IC card	No.	100	75.60	7,560.00
25	Quality analysis microcomputer and printer	No.	1	4,761.60	4,761.60
26	Memory transfer box	No.	10	3,237.60	32,376.00
27	Ground card reader	No.	10	760.80	7,608.00
28	General tester for monitoring apparatus	No.	2	6,399.60	12,799.20
29	Adjustable DC stabilized power supply	No.	2	1,142.40	2,284.80

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.21 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Test bench for pressure sensor	No.	1	5,713.20	5,713.20
31	Test bench for velocity sensor	No.	1	8,761.20	8,761.20
32	Universal programming unit	No.	1	1,814.40	1,814.40
33	EPROM ultraviolet eraser	No.	1	151.20	151.20
34	AC arc welding machine	No.	1	1,828.08	1,828.08
35	Dust-removing grinder	No.	1	959.76	959.76
36	Bench drilling machine	No.	1	776.88	776.88
37	Bench drilling machine	No.	1	502.56	502.56
38	Bench drilling machine	No.	1	113.76	113.76
39	Shelf for parts	No.	1	380.40	380.40
40	Tool kit	No.	1	380.40	380.40
41	Insulation tester	No.	1	1,904.40	1,904.40
42	Contact resistance tester	No.	1	1,904.40	1,904.40
43	Brush pressure tester	No.	1	1,904.40	1,904.40
44	Circuit tester	No.	1	1,904.40	1,904.40
45	Tester for main circuit of portable internal combustion locomotive	No.	1	1,904.40	1,904.40
46	Tester for momentary grounding failure for main circuit	No.	1	1,904.40	1,904.40
47	Tester for failure of fuel system for diesel engine	No.	1	1,904.40	1,904.40
48	Tester for cylinder pressure of diesel engine	No.	1	1,904.40	1,904.40
49	Tester for pressure wave of fuel system	No.	1	1,904.40	1,904.40
50	Tester for instantaneous grounding	No.	1	1,904.40	1,904.40
51	Battery capacity tester	No.	1	1,904.40	1,904.40
52	Tester for boost pressure of booster	No.	1	1,904.40	1,904.40
53	Thermal current sand drying equipment	No.	1	190,666.32	190,666.32
54	Oil discharging device of microcomputer	No.	1	47,999.52	47,999.52
55	Anti-explosion single-beam under-hung crane	No.	1	45,714.24	45,714.24
56	Motor-driven oil tank pump	No.	3	379.20	1,137.60
57	Oil tank	No.	5	50.00	250.00
58	Counter scale	No.	1	75.60	75.60
59	Platform scale	No.	1	342.00	342.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.21 Mombasa Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
60	Dolly for oil tank transport	No.	1	75.60	75.60
61	Cooling water preparation device	No.	1	38,095.20	38,095.20
62	Screw pump 2LB—100	No.	4	21,713.76	86,855.04
63	Screw pump 2LB—35	No.	4	14,856.48	59,425.92
64	Filter 2LB—500	No.	4	1,028.16	4,112.64
65	Filter 2LB—350	No.	4	913.68	3,654.72
66	Automatic control bench for fuel oil discharging	No.	1	310,514.26	310,514.26
67	Roots oil pump	No.	2	14,856.48	29,712.96
68	Vertical oil tank (1,000 cube)	No.	3	137,142.72	411,428.16
69	Accessory of oil tank	No.	3	22,857.12	68,571.36
70	Horizontal oil tank	No.	2	45,714.24	91,428.48
71	Accessory of oil tank	No.	2	9,142.56	18,285.12
72	Oil drain platform for parking place 8 on two sides	No.	1	76,190.40	76,190.40
73	Facility for engine oil discharging	No.	1	19,047.60	19,047.60
74	Tester for oil and water in internal combustion locomotive	No.	1	395,199.48	395,199.48
75	Rescue train device				
76	II. Installation Expense				
77	Installation of rescue train No. 1, 2 and 3	No.	1	64,040.00	64,040.00
78	III. Equipment Expense				
79	Rescue train of special grade	No.	1	4,937,142.85	4,937,142.85
80	Dust-removing Abrasive wheel	No.	1	959.76	959.76
81	Bench drilling machine	No.	1	776.88	776.88
82	AC arc welding machine	No.	1	1,828.08	1,828.08
83	Welding platform	No.	1	418.80	418.80
84	silicon rectifier charger	No.	1	114,286.32	114,286.32
85	Sectional material bench	No.	1	571.20	571.20
86	Bench for single person	No.	2	228.48	456.96
TOTAL OF BILL					10,161,914.9

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Engineering				
2	Locomotive terminal				
3	(I) Service equipment				
4	II. Installation Expense				
5	Installation of three bench for internal combustion service equipment preparation site	No.	1	6,954.00	6,954.00
6	Installation of diesel oil reservoir 3×1000m of internal combustion service equipment	No.	1	961,521.60	961,521.60
7	Installation of engine oil reservoir 2×60m of internal combustion service equipment	No.	1	96,310.00	96,310.00
8	Installation of 8 crane pipe on two side of oil discharging bench of internal combustion service equipment	No.	1	15,780.00	15,780.00
9	Installation of fuel pump workshop with oil consumption of 40~80t per day of internal combustion service	No.	1	7,346.00	7,346.00
10	Installation of cooling water preparation workshop with water consumption of 70m per day of internal combustion service	No.	1	74,806.00	74,806.00
11	Installation of three bench for internal combustion service equipment preparation sit - Type 2	No.	1	8,298.00	8,298.00
12	Installation of diesel oil reservoir 3×1000m of internal combustion service equipment - Type 2	No.	1	337,447.50	337,447.50
13	Installation of engine oil reservoir 2×60m of internal combustion service equipment - Type 2	No.	1	31,964.00	31,964.00
14	Installation of 8 crane pipe on two side of oil discharging bench of internal combustion service equipment - Type 2	No.	1	25,438.00	25,438.00
15	Installation of fuel pump workshop with oil consumption of 40~80t per day of internal combustion service - Type 2	No.	1	33,826.00	33,826.00
16	Installation of cooling water preparation workshop with water consumption of 70m per day of internal combustion service - Type 2	No.	1	31,418.00	31,418.00
17	III. Equipment Expense				
18	Comprehensive discharging column for oil and water	No.	4	49,523.76	198,095.04
19	Manual dolly for sand transport	No.	2	75.84	151.68
20	Dynamic detector for wheel tread	No.	1	228,571.20	228,571.20
21	Cleaning machine for outer part of internal combustion locomotive	No.	1	457,142.40	457,142.40
22	Sand storage box on preparation site	No.	6	1,866.60	11,199.60
23	Management system for operation information	No.	1	502,856.64	502,856.64
24	Tool kit	No.	5	380.40	1,902.00
25	2 MB IC card	No.	100	75.60	7,560.00
26	Quality analysis microcomputer and printer	No.	1	4,761.60	4,761.60
27	Memory transfer box	No.	10	3,237.60	32,376.00
28	Ground card reader	No.	10	760.80	7,608.00
29	General tester for monitoring apparatus	No.	2	6,399.60	12,799.20
30	Adjustable DC stabilized power supply	No.	2	1,142.40	2,284.80

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
31	Test bench for pressure sensor	No.	1	5,713.20	5,713.20
32	Test bench for velocity sensor	No.	1	8,761.20	8,761.20
33	Universal programming unit	No.	1	1,814.40	1,814.40
34	EPROM ultraviolet eraser	No.	1	151.20	151.20
35	AC arc welding machine	No.	1	1,828.08	1,828.08
36	Dust-removing grinder	No.	1	959.76	959.76
37	Bench drilling machine	No.	1	776.88	776.88
38	Bench drilling machine	No.	1	502.56	502.56
39	Bench drilling machine	No.	1	113.76	113.76
40	Shelf for parts	No.	1	380.40	380.40
41	Tool kit	No.	1	380.40	380.40
42	Insulation tester	No.	1	1,904.40	1,904.40
43	Contact resistance tester	No.	1	1,904.40	1,904.40
44	Brush pressure tester	No.	1	1,904.40	1,904.40
45	Circuit tester	No.	1	1,904.40	1,904.40
46	Tester for main circuit of portable internal combustion locomotive	No.	1	1,904.40	1,904.40
47	Tester for momentary grounding failure for main circuit	No.	1	1,904.40	1,904.40
48	Tester for failure of fuel system for diesel engine	No.	1	1,904.40	1,904.40
49	Tester for cylinder pressure of diesel engine	No.	1	1,904.40	1,904.40
50	Tester for pressure wave of fuel system	No.	1	1,904.40	1,904.40
51	Tester for instantaneous grounding	No.	1	1,904.40	1,904.40
52	Battery capacity tester	No.	1	1,904.40	1,904.40
53	Tester for boost pressure of booster	No.	1	1,904.40	1,904.40
54	Thermal current sand drying equipment	No.	1	190,666.32	190,666.32
55	Oil discharging device of microcomputer	No.	1	47,999.52	47,999.52
56	Anti-explosion single-beam under-hung crane	No.	1	45,714.24	45,714.24
57	Motor-driven oil tank pump	No.	3	379.20	1,137.60
58	Oil tank	No.	5	50.00	250.00
59	Counter scale	No.	1	75.60	75.60
60	Platform scale	No.	1	342.00	342.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
61	Dolly for oil tank transport	No.	1	75.60	75.6
62	Cooling water preparation device	No.	1	38,095.20	38,095.2
63	Screw pump 2LB—100	No.	4	21,713.76	86,855.0
64	Screw pump 2LB—35	No.	4	14,856.48	59,425.9
65	Filter 2LB—500	No.	4	1,028.16	4,112.6
66	Filter 2LB—350	No.	4	913.68	3,654.7
67	Automatic control bench for fuel oil discharging	No.	1	310,514.26	310,514.26
68	Roots oil pump	No.	2	14,856.48	29,712.96
69	Vertical oil tank (1,000 cube)	No.	3	137,142.72	411,428.16
70	Accessory of oil tank	No.	3	22,857.12	68,571.36
71	Horizontal oil tank	No.	2	45,714.24	91,428.48
72	Accessory of oil tank	No.	2	9,142.56	18,285.12
73	Oil drain platform for parking place 8 on two sides	No.	1	76,190.40	76,190.40
74	Facility for engine oil discharging	No.	1	19,047.60	19,047.60
75	Tester for oil and water in internal combustion locomotive	No.	1	395,199.48	395,199.48
76	(2) Equipment overhaul				
77	II. Installation Expense				
78	Installation of intermediate repair depot (two benches) for overhauling internal combustion locomotive	No.	1	45,058.00	45,058.00
79	Installation of periodical repair depot (six benches) for overhauling internal combustion locomotive	No.	1	41,846.00	41,846.00
80	Installation of intermediate repair section in diesel engine workshop for overhauling internal combustion locomotive	No.	1	101,744.00	101,744.00
81	Installation of intermediate repair section in motor-wheel workshop for overhauling internal combustion locomotive	No.	1	42,872.00	42,872.00
82	Installation of water-resistance test station (one bench) for overhauling internal combustion locomotive	No.	1	10,124.00	10,124.00
83	Installation of intermediate repair depot (two benches) for overhauling internal combustion locomotive - Type 2	No.	1	27,860.00	27,860.00
84	Installation of periodical repair depot (six benches) for overhauling internal combustion locomotive - Type 2	No.	1	35,558.00	35,558.00
85	Installation of intermediate repair section in diesel engine workshop for overhauling internal combustion locomotive - Type 2	No.	1	64,154.00	64,154.00
86	Installation of intermediate repair section in motor-wheel workshop for overhauling internal combustion locomotive - Type 2	No.	1	54,980.00	54,980.00
87	Installation of water-resistance test station (one bench) for overhauling internal combustion locomotive - Type 2	No.	1	3,060.00	3,060.00
88	III. Equipment Expense				
89	Water-resistance test equipment	No.	1	182,856.96	182,856.96
90	Electric double-beam bridge crane	No.	1	91,428.48	91,428.48

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
91	Electric wheel drop engine	No.	1	58,970.88	58,970.
92	Equipment for leading locomotive to storage	No.	2	28,570.80	57,141.
93	Automatic constant current charger	No.	2	38,095.20	76,190.
94	Electric lifting Locomotive	No.	2	86,856.48	173,712.9
95	Dust-removing Abrasive wheel	No.	2	480.00	960.
96	Changer of coupler buffer device	No.	1	57,142.80	57,142.8
97	Single storage racks for cooler	No.	1	4,571.28	4,571
98	Storage rack of cylinder end	No.	2	4,571.28	9,142.5
99	Electric turning engine	No.	2	11,428.56	22,857
100	Battery portal	No.	1	22,857.12	22,857.12
101	Battery forklift	No.	1	13,713.84	13,713.
102	Hydraulic jacks	No.	4	456.48	1,825.92
103	Storage racks of piston rod	No.	2	4,571.28	9,142.
104	AC welder	No.	1	2,285.28	2,285.28
105	Bench drilling machine	No.	1	776.88	776.
106	Electric hook gantry crane	No.	1	68,571.36	68,571.36
107	High-temperature cleaning machine	No.	2	44,799.84	89,599.
108	Oil ground purification device	No.	2	22,857.12	45,714.24
109	Automatic hydraulic locking machine	No.	2	22,857.12	45,714.24
110	Tools and hanger for overhaul	No.	1	45,714.24	45,714.
111	Explosion pressure gauge	No.	4	2,285.28	9,141.12
112	Automatic scrubber	No.	2	31,085.28	62,170.
113	Dust-free cleaning suction vehicles	No.	1	22,399.92	22,399.92
114	NC under-floor wheel and wheel lathe	No.	1	1,371,427.92	1,371,427.
115	Battery electric flat carriage	No.	1	38,399.76	38,399.76
116	Electric double-beam bridge crane	No.	1	91,428.48	91,428.
117	Electric hook gantry crane	No.	1	68,571.36	68,571.36
118	Overhaul equipment for pump supercharger	No.	1	457,142.40	457,142.
119	Overhaul equipment for transmission case	No.	2	457,142.40	914,284.80
120	Overhaul equipment for cylinder end and sleeve	No.	2	457,142.40	914,284.

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
121	Overhaul equipment for piston rod	No.	1	457,142.40	457,142.40
122	Magnetic flaw detector	No.	1	28,571.04	28,571.04
123	Ultrasonic flaw detector	No.	1	11,428.56	11,428.56
124	Electromagnetic flaw detector	No.	2	18,285.12	36,570.24
125	Fluorescent flaw detector	No.	1	34,285.68	34,285.68
126	Eddy current flaw detector	No.	1	6,856.56	6,856.56
127	Tire heating equipment	No.	1	91,428.48	91,428.48
128	Motor overhaul equipment	No.	2	182,856.96	365,713.92
129	Disassembly and assembly equipment for motor wheel pair	No.	2	228,571.20	457,142.40
130	Overhaul equipment for bearing and bearing box	No.	2	274,285.44	548,570.88
131	Overhaul equipment for cooler and heat exchanger workshop	No.	1	457,142.40	457,142.40
132	Fusion welding platform	No.	1	380.40	380.40
133	AC welder	No.	1	3,046.80	3,046.80
134	Silicon rectifier arc welder	No.	1	3,046.80	3,046.80
135	Oxygen cylinder car	No.	1	189.60	189.60
136	Acetylene cylinder car	No.	1	189.60	189.60
137	Acetylene cylinder	No.	5	380.40	1,902.00
138	Oxygen cylinder	No.	5	380.40	1,902.00
139	Storage rack for oxygen cylinder	No.	2	380.40	760.80
140	Overhaul operation line for burning system standardization	No.	1	48,533.16	48,533.16
141	"K" size analyzer	No.	1	4,525.20	4,525.20
142	"B" size draftomter	No.	1	4,525.20	4,525.20
143	Pressure wave detector of injection tube of diesel engine	No.	1	1,142.64	1,142.64
144	Overhaul operation line for electric standardization	No.	1	22,399.92	22,399.92
145	Overhaul operation line for instrument standardization	No.	1	22,399.92	22,399.92
146	Rim injector tester	No.	1	1,142.64	1,142.64
147	Portable detector for locomotive circuit	No.	1	1,142.64	1,142.64
148	Test platform for air valve grinding of air compressor	No.	1	28,571.04	28,571.04
149	Distributing valve grinding machine	No.	1	194,285.52	194,285.52
150	Brake valve grinding machine	No.	1	194,285.52	194,285.52




**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
151	Brake hose wind-water pressure test bench	No.	1	6,856.56	6,856
152	Hose changer	No.	1	2,239.92	2,239.9
153	Mobile air compressor	No.	1	41,142.24	41,142
154	Comprehensive experiment table of brake	No.	1	33,142.32	33,142.3
155	Grinding plate	No.	1	14,856.48	14,856
156	Motor-driven single beam suspending crane	No.	4	68,571.36	274,285.4
157	Electric hoist	No.	1	22,857.12	22,857
158	Common lathe	No.	1	73,142.64	73,142.6
159	Shaper	No.	1	41,142.24	41,142
160	Universal lifting milling machine	No.	1	45,714.24	45,714.24
161	Radial drilling machine	No.	1	22,857.12	22,857
162	Bench drilling machine	No.	1	959.76	959.76
163	Dust-removing Abrasive wheel	No.	2	776.88	1,553
164	Battery charge and discharge equipment	No.	1	54,856.80	54,856.80
165	Bearing test line	No.	1	548,570.88	548,570
166	Screw air compressor	No.	1	19,428.48	19,428.48
167	Efficient oil-water separator	No.	1	1,142.64	1,142.6
168	Non-heated regeneration dryer	No.	1	1,142.64	1,142.6
169	Waste oil tank	No.	1	227.52	227.52
170	Compressed air distributor	No.	1	228.24	228
171	Gas storage tank	No.	1	227.52	227.52
172	Electric double-beam bridge crane (32t)	No.	1	182,856.96	182,856
173	Electric hook gantry crane	No.	1	68,571.36	68,571.36
174	Washing machine for body parts of diesel engine	No.	1	114,285.60	114,285
175	Washing machine for wheel pair of diesel engine bogie	No.	1	1,828,571.04	1,828,571.04
176	Operating area of cooler and heat exchanger	No.	1	457,142.40	457,142
177	Operating area of diesel engine	No.	1	914,284.80	914,284.80
178	Overhaul operating platform of air compressor	No.	1	22,857.12	22,857
179	Test platform of air compressor	No.	1	760.80	760.80
180	Air reservoir	No.	1	11,428.56	11,428

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
181	LX mode electric suspending crane	No.	1	13,713.84	13,713.84
182	Bench drilling machine	No.	1	959.76	959.76
183	Electric double-beam bridge crane	No.	1	68,571.36	68,571.36
184	Electric hook gantry crane	No.	1	45,714.24	45,714.24
185	Battery electric flat carriage	No.	1	63,999.60	63,999.60
186	Experimental stand of exciter of auxiliary motor	No.	1	76,190.40	76,190.40
187	Load test platform of traction motor	No.	1	114,285.60	114,285.60
188	Mobile pressure test platform	No.	1	22,856.40	22,856.40
189	Running-in test rack of axle suspension bush of traction motor	No.	1	1,904.40	1,904.40
190	Motor insulation detector	No.	1	1,904.40	1,904.40
191	Contact resistance detector	No.	1	1,904.40	1,904.40
192	Motor turn-to-turn voltage tester	No.	1	1,904.40	1,904.40
193	Electric double-beam bridge crane	No.	2	182,856.96	365,713.92
194	Spring pressure test platform	No.	1	7,618.80	7,618.80
195	Changer of coupler buffer device	No.	1	57,142.80	57,142.80
196	Dust-removing Abrasive wheel	No.	2	959.76	1,919.52
197	Bench drilling machine	No.	2	776.88	1,553.76
198	Equipment for leading locomotive to storage	No.	1	28,570.80	28,570.80
199	Test platform of oil-pressure damper	No.	1	22,856.40	22,856.40
200	Battery electric flat carriage	No.	1	61,256.88	61,256.88
201	Battery portal	No.	1	15,542.64	15,542.64
202	Electric turning engine	No.	1	11,428.56	11,428.56
203	Storage racks of Dongfeng 4 locomotive	No.	1	4,571.28	4,571.28
204	Bogie sling	No.	1	7,618.80	7,618.80
205	Hanger of main diesel engine generator	No.	1	7,618.80	7,618.80
206	Intermediate repair platform	No.	1	19,047.60	19,047.60
207	Electrical pressure test pump	No.	1	379.20	379.20
208	Storage rack of cooler group	No.	1	4,571.28	4,571.28
209	Separate hydraulic jacks	No.	1	456.48	456.48
210	Top pick of pump supercharger	No.	1	456.48	456.48

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.22 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
211	Electric lifting Locomotive	No.	1	86,856.48	86,856.
212	Electric double-beam bridge crane	No.	2	68,571.36	137,142.7
213	Battery electric flat carriage	No.	1	61,256.88	61,256.
214	Work section of pump supercharger	No.	1	457,142.40	457,142.4
215	Work section of transmission device	No.	1	411,428.16	411,428.
216	Assembly section	No.	1	502,856.64	502,856.6
217	Work section of crankshaft and camshaft	No.	1	453,928.22	453,928.
218	Painting device of locomotive	No.	1	1,028,857.02	1,028,857.0
219	(3) Outdoor process pipelines				
220	II . Installation Expense				
221	Process pipelines installation outside the internal combustion room	No.	1	1,274,000.00	1,274,000.
222	Rescue train device				
223	II . Installation Expense				
224	Installation of rescue train No. 1, 2 and 3	No.	1	64,040.00	64,040.00
225	III. Equipment Expense				
226	Rescue train of special grade	No.	1	4,937,142.85	4,937,142.85
227	Dust-removing Abrasive wheel	No.	1	959.76	959.
228	Bench drilling machine	No.	1	776.88	776.
229	AC arc welding machine	No.	1	1,828.08	1,828.08
230	Welding platform	No.	1	418.80	418.
231	silicon rectifier charger	No.	1	114,286.32	114,286.32
232	Sectional material bench	No.	1	571.20	571.
233	Bench for single person	No.	2	228.48	456.96
TOTAL OF BILL					28,901,570.9

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 3.3: MACHINERY SERVICE - PART 2

3.31 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Maintenance and repair section				
2	II. Installation Expense				
3	Machine workshop Installation-Type 1	No.	1	8,152.00	8,152.00
4	Internal combustion workshop Installation-Type 1	No.	1	4,284.00	4,284.00
5	Benchwork workshop Installation-Type 1	No.	1	1,122.00	1,122.00
6	Fusion welding workshop installation-Type 1	No.	1	14,850.00	14,850.00
7	Benchwork 2 workshop intallation-Type 1	No.	1	7,910.00	7,910.00
8	Machine workshop Installation-Type 2	No.	1	7,560.00	7,560.00
9	Internal combustion workshop Installation-Type 2	No.	1	574.00	574.00
10	Benchwork workshop Installation-Type 2	No.	1	826.00	826.00
11	Fusion welding workshop installation-Type 2	No.	1	40,984.00	40,984.00
12	Benchwork 2 workshop intallation-Type 2	No.	1	81,316.00	81,316.00
13	III.Equipment Expense				
14	Fusion welding workshop				
15	Hack saw machine	No.	1	37,800.00	37,800.00
16	Bench	No.	2	1,800.00	3,600.00
17	Water tank	No.	1	360.00	360.00
18	AC arc welding machine	No.	1	4,320.00	4,320.00
19	Silicon rectifier arc welder	No.	1	4,200.00	4,200.00
20	Tool kit	No.	1	1,800.00	1,800.00
21	Vehicle	No.	1	43,800.00	43,800.00
22	Electric single-beam bridge crane	No.	1	70,800.00	70,800.00
23	Welding fume dirt catcher	No.	1	7,800.00	7,800.00
24	Hand-held grinder	No.	1	2,580.00	2,580.00
25	Oxygen acetylene welding	No.	1	9,180.00	9,180.00
26	Electric hoist	No.	1	3,240.00	3,240.00
27	Internal combustion workshop				
28	Bench	No.	4	1,800.00	7,200.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.31 Mombasa Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
29	Tool kit	No.	2	1,800.00	3,600.00
30	Storage rack	No.	2	1,800.00	3,600.00
31	Electric single-beam bridge crane	No.	1	70,800.00	70,800.00
32	Abrasive wheel workshop	-	1		
33	Bench drilling machine	No.	1	4,200.00	4,200.00
34	Dust-removing Abrasive wheel	No.	1	4,320.00	4,320.00
35	Valve grinding machine	No.	1	6,960.00	6,960.00
36	Lounge				
37	Locker	No.	4	1,800.00	7,200.00
38	Charging room				
39	Automatic constant current charger	No.	1	50,400.00	50,400.00
40	Bench	No.	1	1,800.00	1,800.00
41	Blacksmith workshop				
42	Air hammer	No.	1	2,880.00	2,880.00
43	Air hammer	No.	1	3,120.00	3,120.00
44	Dust-removing Abrasive wheel	No.	1	3,840.00	3,840.00
45	Water tank	No.	2	360.00	720.00
46	Tool kit	No.	2	1,800.00	3,600.00
47	Storage rack	No.	3	1,800.00	5,400.00
48	Anvil	No.	2	780.00	1,560.00
49	Silencer	No.	2	4,200.00	8,400.00
50	Forge hearth	No.	2	27,600.00	55,200.00
51	Machine tool workshop				
52	Gap-bed lathe	No.	1	87,600.00	87,600.00
53	Common lathe	No.	1	62,400.00	62,400.00
54	Shaper	No.	1	33,600.00	33,600.00
55	Universal knee-type milling machine	No.	1	31,200.00	31,200.00
56	Tool kit	No.	3	1,800.00	5,400.00
57	Storage rack	No.	2	1,800.00	3,600.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.31 Mombasa Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
58	Benchwork workshop				
59	Cylindrical vertical drilling machine	No.	1	37,200.00	37,200.00
60	Tool kit	No.	3	1,800.00	5,400.00
61	Bench	No.	3	1,800.00	5,400.00
62	Laying-out platform	No.	1	2,400.00	2,400.00
63	Storage rack	No.	2	1,800.00	3,600.00
64	Abrasive wheel workshop				
65	Dust-removing Abrasive wheel	No.	1	1,680.00	1,680.00
66	Bench drilling machine	No.	1	1,620.00	1,620.00
67	Electrician workshop				
68	Electrician bench	No.	2	4,200.00	8,400.00
69	Storage rack	No.	2	1,800.00	3,600.00
70	Tool kit	No.	2	1,800.00	3,600.00
71	Bench	No.	1	1,800.00	1,800.00
72	Electrothermal blowing dry box	No.	1	4,320.00	4,320.00
73	Measuring room				
74	Testing bench	No.	1	1,800.00	1,800.00
75	Railway offset gauge detector	No.	1	3,300.00	3,300.00
76	Railway offset gauge detector	No.	1	4,320.00	4,320.00
TOTAL OF BILL					914,098.00




**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.32 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Maintenance and repair section				
2	II. Installation Expense				
3	Machine workshop Installation-Type 1	No.	1	8,152.00	8,152.00
4	Internal combustion workshop Installation-Type 1	No.	1	4,284.00	4,284.00
5	Benchwork workshop Installation-Type 1	No.	1	1,122.00	1,122.00
6	Fusion welding workshop installation-Type 1	No.	1	14,850.00	14,850.00
7	Benchwork 2 workshop intallation-Type 1	No.	1	7,910.00	7,910.00
8	Machine workshop Installation-Type 2	No.	1	7,560.00	7,560.00
9	Internal combustion workshop Installation-Type 2	No.	1	574.00	574.00
10	Benchwork workshop Installation-Type 2	No.	1	826.00	826.00
11	Fusion welding workshop installation-Type 2	No.	1	40,984.00	40,984.00
12	Benchwork 2 workshop intallation-Type 2	No.	1	81,316.00	81,316.00
13	III.Equipment Expense				
14	Fusion welding workshop				
15	Hack saw machine	No.	1	37,800.00	37,800.00
16	Bench	No.	2	1,800.00	3,600.00
17	Water tank	No.	1	360.00	360.00
18	AC arc welding machine	No.	1	4,320.00	4,320.00
19	Silicon rectifier arc welder	No.	1	4,200.00	4,200.00
20	Tool kit	No.	1	1,800.00	1,800.00
21	Vehicle	No.	1	43,800.00	43,800.00
22	Electric single-beam bridge crane	No.	1	70,800.00	70,800.00
23	Welding fume dirt catcher	No.	1	7,800.00	7,800.00
24	Hand-held grinder	No.	1	2,580.00	2,580.00
25	Oxygen acetylene welding	No.	1	9,180.00	9,180.00
26	Electric hoist	No.	1	3,240.00	3,240.00
27	Internal combustion workshop				
28	Bench	No.	4	1,800.00	7,200.00
29	Tool kit	No.	2	1,800.00	3,600.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.32 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Storage rack	No.	2	1,800.00	3,600.00
31	Electric single-beam bridge crane	No.	1	70,800.00	70,800.00
32	Abrasive wheel workshop				
33	Bench drilling machine	No.	1	4,200.00	4,200.00
34	Dust-removing Abrasive wheel	No.	1	4,320.00	4,320.00
35	Valve grinding machine	No.	1	6,960.00	6,960.00
36	Lounge				
37	Locker	No.	4	1,800.00	7,200.00
38	Charging room				
39	Automatic constant current charger	No.	1	50,400.00	50,400.00
40	Bench	No.	1	1,800.00	1,800.00
41	Blacksmith workshop				
42	Air hammer	No.	1	2,880.00	2,880.00
43	Air hammer	No.	1	3,120.00	3,120.00
44	Dust-removing Abrasive wheel	No.	1	3,840.00	3,840.00
45	Water tank	No.	2	360.00	720.00
46	Tool kit	No.	2	1,800.00	3,600.00
47	Storage rack	No.	3	1,800.00	5,400.00
48	Anvil	No.	2	780.00	1,560.00
49	Silencer	No.	2	4,200.00	8,400.00
50	Forge hearth	No.	2	27,600.00	55,200.00
51	Machine tool workshop				
52	Gap-bed lathe	No.	1	87,600.00	87,600.00
53	Common lathe	No.	1	62,400.00	62,400.00
54	Shaper	No.	1	33,600.00	33,600.00
55	Universal knee-type milling machine	No.	1	31,200.00	31,200.00
56	Tool kit	No.	3	1,800.00	5,400.00
57	Storage rack	No.	2	1,800.00	3,600.00
58	Benchwork workshop				

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.42 Intermediate Stations					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Vehicles				
2	Other vehicle equipment				
3	II. Installation Expense				
4	Installation of truck performance detection system	No.	5	18,820.00	94,100.00
5	Installation of infrared axle temperature detector	No.	22	18,822.00	414,084.00
6	III. Equipment Expense				
7	Truck Performance Detection System	No.	5	994,285.20	4,971,426.00
8	Two-way infrared detector	No.	22	381,600.00	8,395,200.00
TOTAL OF BILL					13,874,810.00

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
1	Freight train section				
2	II. Installation Expense				
3	Installation of repair depot	No.	1	99,894.00	99,894.00
4	Installation of bogie workshop	No.	1	28,954.00	28,954.00
5	Installation of bogie washing shed	No.	1	13,356.00	13,356.00
6	Installation of axle workshop	No.	1	45,710.00	45,710.00
7	Installation of antifriction bearing workshop	No.	1	10,134.00	10,134.00
8	Installation of accessory repair workshop	No.	1	14,400.00	14,400.00
9	Installation of repair depot for coupler buffer device	No.	1	20,630.00	20,630.00
10	Installation of brake workshop	No.	1	7,192.00	7,192.00
11	Installation of repair workshop for infrared monitoring facility	No.	1	650.00	650.00
12	Installation equipment repair workshop	No.	1	13,888.00	13,888.00
13	Installation of wheel storage site	No.	1	3,050.00	3,050.00
14	Installation of laboratory and material shed (warehouse)	No.	1	508.00	508.00
15	Installation of measuring room	No.	1	1,100.00	1,100.00
16	Installation of repair shed	No.	1	8,382.00	8,382.00
17	Installation repair depot - Type 2	No.	1	172,466.00	172,466.00
18	Installation of bogie workshop - Type 2	No.	1	63,150.00	63,150.00
19	Installation of bogie washing shed - Type 2	No.	1	40,178.00	40,178.00
20	Installation of axle workshop - Type 2	No.	1	76,644.00	76,644.00
21	Installation of antifriction bearing workshop - Type 2	No.	1	6,692.00	6,692.00
22	Installation of accessory repair workshop - Type 2	No.	1	12,838.00	12,838.00
23	Installation of repair depot for coupler buffer device - Type 2	No.	1	23,338.00	23,338.00
24	Installation of brake workshop - Type 2	No.	1	17,460.00	17,460.00
25	Installation of repair workshop for infrared monitoring facility - Type 2	No.	1	286.00	286.00
26	Installation of equipment repair workshop - Type 2	No.	1	11,284.00	11,284.00
27	Installation of external process pipe - Type 2	No.	1	258,494.00	258,494.00
28	Installation of laboratory and material shed (warehouse) - Type 2	No.	1	286.00	286.00
29	Installation of measuring room - Type 2	No.	1	526.00	526.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
30	Installation of external process pipe - Type 2	No.	1	44,822.00	44,822.00
31	III. Equipment Expense				
32	Repair shop				
33	electric double-beam bridge crane Gn=10t S=22.5m	No.	2	148,572.00	297,144.00
34	air operated LDP single coupler	No.	60	11,142.72	668,563.20
35	Assembling and disassembling device for the complete draft gears	No.	3	22,331.52	66,994.56
36	DC-AC arc welder ZX7-500	No.	6	4,428.72	26,572.32
37	Mobile rivet	No.	3	23,809.20	71,427.60
38	Diesel fork lift truck Q=2t	No.	2	25,714.08	51,428.16
39	Repository concentration pressure testing system	No.	1	240,000.48	240,000.48
40	Compressed air drying cleaning cartridge 3m3	No.	1	5,857.20	5,857.20
41	Tool kit	No.	6	1,142.64	6,855.84
42	Storage rack	No.	6	856.80	5,140.80
43	Battery cart Q=1t	No.	2	10,952.40	21,904.80
44	Mobile trolley air-powered trigger	No.	4	11,428.80	45,715.20
45	Diesel fork lift truck Q=3t	No.	3	34,285.68	102,857.04
46	Top center plate hydraulic riveter	No.	2	78,857.28	157,714.56
47	Bogie sling	No.	2	2,857.20	5,714.40
48	Bogie to bogie				
49	Large decomposition sling	No.	1	30,952.80	30,952.80
50	Bogie electric turntable	No.	1	38,571.12	38,571.12
51	Axle artificial turntable	No.	3	16,571.52	49,714.56
52	Large assembly dedicated sling	No.	1	35,714.40	35,714.40
53	Frame cleaning transmission line 48m	No.	1	948,571.20	948,571.20
54	Frame cleaner	No.	2	210,286.08	420,572.16
55	Mud scraper	No.	1	54,856.80	54,856.80
56	Bogie sling	No.	1	37,143.36	37,143.36
57	Bogie maintenance line 47.2 m	No.	1	401,713.92	401,713.92
58	Crossing pole lifting mechanism	No.	2	8,570.88	17,141.76

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
59	Side frame swing bolster turnover inspection machine	No.	1	82,857.60	82,857.60
60	Side frame sizer	No.	2	42,857.28	85,714.56
61	Side frame maintenance line 23 m	m	2	262,857.60	525,715.20
62	Swing bolster turnover tooling	No.	2	42,857.28	85,714.56
63	Side frame entire moving tooling	No.	1	71,428.32	71,428.32
64	Side frame post wear plate riveting tooling	No.	2	25,714.08	51,428.16
65	Torque wrench ZZB-800D	No.	2	102,857.76	205,715.52
66	Crossing pole assembly jig	No.	1	200,000.16	200,000.16
67	Balance hanger	No.	4	20,342.88	81,371.52
68	Bearing- saddle slide wedge inspection line 12m	m	1	41,142.24	41,142.24
69	Bearing- saddle automatic measuring machine CZA- II	No.	1	135,999.36	135,999.36
70	Three small items double deck transmission line 36m	m	1	124,571.52	124,571.52
71	Automatic inspection matching machine of bolster spring	No.	1	72,000.00	72,000.00
72	Electric double-beam bridge crane Gn=5t S=25.5m	No.	1	62,857.44	62,857.44
73	DC-AC arc welder ZX7-400	No.	4	14,857.20	59,428.80
74	Hydraulic pressure station	No.	1	208,582.56	208,582.56
75	Tool kit	No.	6	1,142.88	6,857.28
76	Storage rack	No.	10	857.16	8,571.60
77	Bogie hauling machine	No.	2	34,095.60	68,191.20
78	Engine block special magnetic detection machines	No.	1	3,904.80	3,904.80
79	Truck center plate dismantling and fitting tooling	No.	1	11,905.20	11,905.20
80	Intelligent combination automatic trigger	No.	1	180,000.00	180,000.00
81	Air-powered trigger	No.	4	12,571.20	50,284.80
82	Mobile rivet	No.	2	34,286.11	68,572.22
83	Brake beam to beam				
84	Brake beam transmission line 11m	m	1	25,142.40	25,142.40
85	Brake beam gasket decomposer	No.	1	14,286.24	14,286.24
86	Complete brake beam automatic sizing, rust removal and detection equipment CCJ-J	No.	1	248,571.36	248,571.36
87	Brake beam bush fitting machine	No.	1	14,286.24	14,286.24

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
88	Brake beam block holder online detection machine FXJ- II	No.	1	111,428.64	111,428.6
89	Brake beam maintenance line (long line) 33 m	m	1	132,000.48	132,000.4
90	Brake beam tensile strength tester	No.	1	77,142.24	77,142.2
91	Brake beam maintenance line (short line) 15 m	m	1	60,000.48	60,000.48
92	Brake beam double deck transmission line	m	1	73,143.36	73,143.3
93	Electric single-beam bridge crane Gn=1t S=19.5m	No.	1	28,000.08	28,000.08
94	Balance hanger	No.	3	15,256.80	45,770.4
95	DC-AC arc welder ZX7-400	No.	3	11,142.72	33,428.16
96	micro control brake beam detection machines	No.	1	129,999.60	129,999.6
97	Vertical core plate integrated drilling machine	No.	2	317,714.40	635,428.8
98	Balance hanger PJ010 R=2500mm	No.	3	15,256.80	45,770.40
99	Core plate maintenance transmission line 15m	No.	1	35,714.40	35,714.4
100	Core plate CO2 shielded welding HXP- II	No.	4	238,095.60	952,382.40
101	Balance hanger PJ010 R=1500m	No.	2	9,028.80	18,057.6
102	Bogie-hearth resistance furnace RT2-90-10	No.	1	23,668.56	23,668.56
103	Four-column universal hydraulic press Y32-100	No.	1	17,085.60	17,085.6
104	Single-column adjusting press-assembly hydraulic press Y41-63	No.	1	12,571.20	12,571.20
105	Pillar type vertical drilling machine Z5140	No.	1	10,000.08	10,000.0
106	Tool kit	No.	5	5,714.64	28,573.2
107	Equipment maintenance area				
108	Plain lathe C630A φ615×3000	No.	1	37,142.64	37,142.6
109	Plain lathe C6140 φ400×1000	No.	1	18,205.92	18,205.92
110	Plain lathe C620-1 φ400×1000	No.	1	12,857.04	12,857.0
111	Universal knee-and-column milling machine X6132 320×1320	No.	1	18,571.68	18,571.68
112	Squaring machine BC60100	No.	1	20,286.00	20,286.0
113	Radial drilling machine Z3050×16 φ50	No.	1	19,428.48	19,428.48
114	Punching shearing machine Q34-16	No.	1	14,260.32	14,260.3
115	Desktop drill machine Z512A φ12	No.	1	1,142.64	1,142.64
116	Bench	No.	1	856.80	856.8

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
117	Grinder with dust collector MC3030	No.	1	1,000.08	1,000.08
118	Tool kit	No.	7	7,428.24	51,997.68
119	Face plate 1500×1000	No.	1	11,428.56	11,428.56
120	Maintenance storage rack for coupler	No.	1	17,143.20	17,143.20
121	Complete decomposer for coupler	No.	1	64,285.20	64,285.20
122	Stepping line of buffer 18 m	m	1	34,285.20	34,285.20
123	Coupler yoke	No.	1	111,428.40	111,428.40
124	Storage bin for coupler knuckle and accessories	No.	1	1,904.40	1,904.40
125	Buffer turnover machine	No.	1	7,142.40	7,142.40
126	Magnetic detection machines CJW-2000 for coupler yoke	No.	1	165,713.76	165,713.76
127	Turnover welding tooling of yoke	No.	2	62,857.44	125,714.88
128	Stepping line of yoke 21 m	m	1	47,999.52	47,999.52
129	Between the Coupler				
130	Buffer underground transmission lines 20m	m	1	68,571.36	68,571.36
131	Hook-head overhaul line 42m	m	1	288,000.00	288,000.00
132	Coupler knuckle transmission lines 12m	m	1	41,142.24	41,142.24
133	Buffer lifter	No.	2	45,714.24	91,428.48
134	Yoke dipping drying line	m	1	240,000.48	240,000.48
135	Yoke stepper line (crawled line) 6m	No.	1	17,143.20	17,143.20
136	Coupler assembly machine (270T)	No.	1	77,142.24	77,142.24
137	Power-driven single-beam crane hoisted Gn=1t S=13.5m	No.	2	34,285.68	68,571.36
138	DC-AC arc welder ZX7-500	No.	4	17,714.16	70,856.64
139	Diesel fork lift truck Q=2t	No.	2	45,714.24	91,428.48
140	Tool kit	No.	6	6,857.28	41,143.68
141	Lifting lug inlayed machine	No.	1	35,714.40	35,714.40
142	Grinder with dust collector MC3030	No.	1	1,666.80	1,666.80
143	Coupler knuckle and accessories shot blasting machine Q378E	No.	1	89,523.60	89,523.60
144	Coupler knuckle inspection machine GS-III	No.	1	98,095.20	98,095.20
145	DC-AC arc welder ZX7-400	No.	2	7,428.24	14,856.48

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
146	DC-AC arc welder ZX7-500	No.	1	4,428.72	4,428.7
147	Coupler knuckle automatic submerged arc welding machine HS-1000	No.	2	140,952.00	281,904.0
148	Balance hanger PJ010 R=2500mm	No.	3	15,256.80	45,770.4
149	Welding repair platform	No.	4	4,571.28	18,285.1
150	Four-column universal hydraulic press Y32-100	No.	1	17,085.60	17,085.6
151	Coupler knuckle painted line 27m	m	1	38,571.60	38,571.60
152	Coupler knuckle reaming inlayed machine XLK-A	No.	1	94,285.20	94,285.2
153	Lorry joint milling machine LHX-A	No.	2	351,999.36	703,998.72
154	Coupler cavity milling machine XQ-B	No.	1	284,571.36	284,571.3
155	Coupler four-hole milling machine XK-B	No.	1	193,142.88	193,142.8
156	Balance hanger	No.	3	16,560.00	49,680.0
157	Tool kit	No.	7	8,640.00	60,480.0
158	Fluorescent magnetic particle inspection machine of microcontroller the round flat pin	No.	1	82,200.00	82,200.00
159	Braking room				
160	Three-way valve external cleaning machine	No.	1	72,000.00	72,000.00
161	Three-way valve decomposition bench	No.	2	18,144.00	36,288.0
162	Ultrasonic cleaning machine	No.	2	297,216.00	594,432.00
163	Three-way valve accessories cleaning bench	No.	3	47,376.00	142,128.0
164	Three-way valve overhaul bench	No.	2	13,824.00	27,648.0
165	Accessories inspection and replacement bench	No.	2	13,824.00	27,648.0
166	Sub-transmission lines	m	1	112,608.00	112,608.0
167	Rubber ring and parts checked maintenance bench	No.	2	13,824.00	27,648.00
168	Three-way valve grinding calibration bench	No.	2	17,280.00	34,560.0
169	Assembly bench	No.	3	27,360.00	82,080.00
170	The main transmission lines	m	1	168,480.00	168,480.0
171	Proportional valve test bed	No.	1	112,320.00	112,320.00
172	Bench drilling machine	No.	1	1,368.00	1,368.0
173	Automatic solid storage	No.	1	411,552.00	411,552.00
174	Proportional valve sensing valve decomposition assembly bench	No.	2	18,720.00	37,440.0



**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
175	Multi-valve test bench (with microcontroller)	No.	1	36,000.00	36,000.00
176	Angle cock test bench(with microcontroller)	No.	1	43,200.00	43,200.00
177	Brake hose wind-water pressure test bench	No.	2	97,200.00	194,400.00
178	120 Valve test bench	No.	3	445,824.00	1,337,472.00
179	Three-way valve cache bench	No.	4	22,752.00	91,008.00
180	Three-way valve transport car	No.	8	28,600.00	228,799.97
181	Storage rack 2000×600×1800mm	No.	2	1,728.00	3,456.00
182	Lockers 800×600×1100mm	No.	14	8,640.00	120,960.00
183	Double fitter bench	No.	1	1,152.00	1,152.00
184	Sensing valve test bench	No.	1	92,400.00	92,400.00
185	Axle room				
186	Bearing retreat unloading machine	No.	2	188,640.00	377,280.00
187	Wheel set flushing machine	No.	2	273,600.00	547,200.00
188	Wheel set size detection system	No.	2	649,008.00	1,298,016.00
189	3000 Wheel set inspection machine	No.	2	432,000.00	864,000.00
190	Axle microcomputer control automatic ultrasonic inspection machine	No.	2	460,800.00	921,600.00
191	All-digital intelligent ultrasonic flaw detector	No.	8	319,999.68	2,559,997.44
192	Wheel device	No.	5	25,776.00	128,880.00
193	Power-driven single-beam crane hoisted Gn=3t S=19.5m	No.	1	31,392.00	31,392.00
194	Tool kit	No.	7	7,488.00	52,416.00
195	Axle artificial turntable	No.	3	49,716.00	149,148.00
196	Single wheel bearing running-in machine	No.	2	325,728.00	651,456.00
197	Intelligent trigger	No.	3	373,824.00	1,121,472.00
198	Signs marking machine	No.	2	108,571.68	217,143.36
199	Bearing pressure installed capacity	No.	2	331,200.00	662,400.00
200	Ground storage system	No.	1	354,240.00	354,240.00
201	Journal online measurement system	No.	1	800,640.00	800,640.00
202	Power-driven single-beam crane hoisted Gn=2t S=16.5m	No.	4	28,008.00	112,032.00
203	Tool kit	No.	5	4,572.00	22,860.00



45

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station

S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
204	CNC Wheel Lathe	No.	1	788,572.80	788,572.8
205	Power-driven single-beam crane hoisted Gn=2t S=22.5m	No.	1	31,464.00	31,464.0
206	Tool kit	No.	2	2,289.60	4,579.2
207	Axle artificial turntable	No.	12	165,744.00	1,988,928.00
208	Two-wheeled running-in machine	No.	1	214,286.40	214,286.4
209	Grinder with dust collector MC3030	No.	1	1,008.00	1,008.00
210	Rolling bearing room				
211	Sealed cover demolition machine	No.	1	35,712.00	35,712.00
212	Parts cleaning machine	No.	1	71,520.00	71,520.0
213	Tool kit	No.	1	1,152.00	1,152.00
214	Storage rack	No.	18	25,800.00	464,400.00
215	Bearing inner diameter intelligent detection system	No.	1	180,000.00	180,000.0
216	Bearing three-dimensional storage shelf	No.	1	262,857.60	262,857.60
217	Stacker	No.	2	629,280.00	1,258,560.0
218	Tool kit	No.	1	1,152.00	1,152.00
219	Bearing ultrasonic cleaning machine	No.	1	21,384.00	21,384.0
220	Bearing poacher	No.	1	27,624.00	27,624.00
221	Bearing dryer	No.	1	27,600.00	27,600.0
222	Bearing seal cover assembly machine	No.	1	32,280.00	32,280.00
223	Sealed cover torque test machine	No.	1	42,360.00	42,360.0
224	Smart oiling and fat-liquoring machines	No.	1	56,400.00	56,400.0
225	Tool kit	No.	2	3,840.00	7,680.00
226	Bearing parts transmitting slide	No.	1	5,880.00	5,880.0
227	Measuring instrument of outer diameter of bearing outer circle	No.	1	2,760.00	2,760.00
228	Measuring instrument of bent mouth diameter of bearing outside circle	No.	1	1,092.00	1,092.00
229	Measuring instrument of inner diameter of bearing inside circle	No.	1	2,076.00	2,076.00
230	Measuring instrument of outer diameter of bearing sealing seat	No.	1	1,608.00	1,608.00
231	Measuring instrument of inner diameter of bearing sealing seat	No.	1	900.00	900.00
232	Measuring instrument of bent mouth diameter of bearing sealing seat	No.	1	864.00	864.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
233	Measuring instrument of bearing sealing seat width	No.	1	691.20	691.20
234	Measuring instrument of large surface wear of bearing inner circle	No.	1	1,848.00	1,848.00
235	Measuring instrument of wearing depth of sealing seat	No.	1	1,303.20	1,303.20
236	Measuring instrument for side-clearance of holding support	No.	1	2,160.00	2,160.00
237	Measuring instrument for lip (sealed by oil) wear of outer diameter surface of sealing seat	No.	1	1,800.00	1,800.00
238	High -automatic measuring instrument of moving clearance assembly of bearing axis	No.	1	18,960.00	18,960.00
239	High detection (large sub-machine) of moving clearance assembly of bearing axis	No.	1	11,952.00	11,952.00
240	6000 circular magnetic particle inspection machine	No.	1	102,840.00	102,840.00
241	Tool kit	No.	1	1,142.64	1,142.64
242	Backstop microcomputer matching machine	No.	1	23,100.00	23,100.00
243	Electronic scale	No.	1	576.00	576.00
244	microcomputer	No.	1	2,880.00	2,880.00
245	The spare parts room				
246	Tool kit	No.	4	1,142.64	4,570.56
247	Storage rack	No.	2	864.00	1,728.00
248	Wheel-hiding shed				
249	Power-driven single-beam crane hoisted Gn=3t S=22.5m	No.	2	31,680.00	63,360.00
250	Air compressor room				
251	Screw air compressor GA132-10	No.	2	78,624.00	157,248.00
252	Heatless regenerative dryers WZG-20/8	No.	1	15,840.00	15,840.00
253	Compressed air distributor	No.	1	1,152.00	1,152.00
254	Gas tank C-4/0.8	No.	2	6,048.00	12,096.00
255	Dust fine filter FL-20/8	No.	1	568.80	568.80
256	Internal combustion hangar				
257	Power-driven single-beam crane hoisted Gn=2t S=7.5m	No.	1	15,004.80	15,004.80
258	Internal combustion adjuster JY-600	No.	1	960,480.00	960,480.00
259	Plate-frame type pressing oil filter BAY-100	No.	1	3,360.00	3,360.00
260	Bench	No.	1	864.00	864.00
261	Bench drilling machine Z4012	No.	1	1,008.00	1,008.00

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**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
262	Grinder with dust collector MC3030	No.	1	1,008.00	1,008.00
263	Storage rack 2000×600×1800m	No.	1	720.00	720.00
264	Storage cabinet 1100×500×1800m	No.	1	864.00	864.00
265	Constant-current charger HGCZ172-65/150	No.	1	32,280.00	32,280.00
266	Pure water storage tank φ800×1000m	No.	2	288.00	576.00
267	Material warehouse and shed				
268	Power-driven single-beam crane hoisted Gn=2t S=13.5m	No.	1	17,856.00	17,856.00
269	Storage rack	No.	168	864.00	145,152.00
270	Diesel forklift Q=5t	No.	1	53,280.00	53,280.00
271	Garage				
272	Bench drilling machine Z4012	No.	1	1,008.00	1,008.00
273	Bench	No.	1	864.00	864.00
274	Grinder with dust collector MC3030	No.	1	993.60	993.60
275	Tool kit	No.	1	1,152.00	1,152.00
276	Storage rack	No.	1	864.00	864.00
277	Constant current charging machine HGCZ103-50/72	No.	1	3,960.00	3,960.00
278	Medium-sized truck 5t	No.	3	50,040.00	150,120.00
279	Mimi-vehicle 1.5t, with double-cab seats	No.	2	35,100.00	70,200.00
280	Large bus with 45 seats	No.	1	257,184.00	257,184.00
281	Medium bus with 12 seats	No.	2	120,960.00	241,920.00
282	Laboratory measurement room				
283	Laboratory equipment	No.	1	181,440.00	181,440.00
284	Measurement laboratory equipment	No.	1	96,480.00	96,480.00
285	Electric switch control device	No.	1	268,272.00	268,272.00
286	Manual derailer	No.	10	3,840.00	38,400.00
287	Office building				
288	microcomputer	No.	18	2,880.00	51,840.00
289	Station repair depot				
290	Electric double-beam bridge crane	No.	1	74,304.00	74,304.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
291	All-in-one machine of hot riveting	No.	1	115,200.00	115,200.00
292	Silicon rectifier welding machine	No.	1	780.00	780.00
293	Silicon rectifier welding machine	No.	1	900.00	900.00
294	Inverter DC welding machine	No.	3	1,440.00	4,320.00
295	DC welding machine	No.	1	600.00	600.00
296	Gas shielded arc welding of carbon dioxide	No.	1	744.00	744.00
297	Electric platform porter	No.	1	1,560.00	1,560.00
298	Electric lifting Locomotive	No.	16	2,760.00	44,160.00
299	25t Electric lifting Locomotive	No.	2	9,360.00	18,720.00
300	Micro-control tester	No.	3	1,224.00	3,672.00
301	Welding fume dirt catcher	No.	1	360.00	360.00
302	Buffer handling car	No.	2	756.00	1,512.00
303	Bus service workshop				
304	II . Installation Expense				
305	(2) Production workshop				
306	Installation of bus service equipment	No.	1	301,626.00	301,626.00
307	Installation of bus service equipment - Tpye 2	No.	1	532,750.80	532,750.80
308	III. Equipment Expense				
309	Bus service equipment	No.	1	1,424,025.60	1,424,025.60
310	Train repair section				
311	II . Installation Expense				
312	Benchwork workshop Installation	No.	1	1,948.00	1,948.00
313	Rechargeable lighting fixture repair workshop Installation	No.	1	1,014.00	1,014.00
314	Manual Installation for derailer	No.	5	592.00	2,960.00
315	Installation of infrared axle temperature detector (second generation)	No.	2	18,822.00	37,644.00
316	Installation of infrared bearing-temperature repeater	No.	1	6,548.00	6,548.00
317	Installation of infrared central host	No.	2	6,546.00	13,092.00
318	Commissioning cost on infrared bearing temperature detector system	No.	1	10,060.00	10,060.00
319	Outdoor process pipelines Installation	No.	1	180,664.00	180,664.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

3.43 Nairobi Station					
S.N	DESCRIPTION	UNIT	QUANTITY	RATE(USD)	AMOUNT(USD)
320	III. Equipment Expense				
321	Manual derailer	No.	5	6,960.00	34,800.00
322	Dust-removing Abrasive wheel	No.	1	864.00	864.00
323	Bench drilling machine	No.	1	2,304.00	2,304.00
324	Bench	No.	1	500.40	500.40
325	Washing machine	No.	1	1,584.00	1,584.00
326	Platform scale	No.	1	1,080.00	1,080.00
327	Oil jack	No.	2	626.40	1,252.80
328	Storage rack	No.	2	324.00	648.00
329	Tool kit	No.	2	453.60	907.20
330	Charger	No.	1	9,000.00	9,000.00
331	One-way infrared detector	No.	2	248,040.00	496,080.00
332	Infrared repeater	No.	2	132,600.00	265,200.00
333	Infrared central host	No.	2	411,840.00	823,680.00
334	Infrared repair equipment	No.	1	40,560.00	40,560.00
335	Flushing tank car station				
336	II. Installation Expense				
337	Installation of tank washing shed	No.	1	10,020.00	10,020.00
338	Installation of engine oil reservoir 3x60m of internal combustion service equipment	No.	1	144,456.00	144,456.00
339	Installation of engine oil reservoir 3x60m of internal combustion service equipment	No.	1	45,144.00	45,144.00
340	Installation of tank washing shed - Type 2	No.	1	110,870.00	110,870.00
341	III. Equipment Expense				
342	Water storage tank 60m3	No.	3	48,000.00	144,000.00
343	Overhaul platform	No.	1	300,000.00	300,000.00
344	Exhaust equipment	No.	2	10,200.00	20,400.00
345	Rail car 290	No.	1	324,000.00	324,000.00
TOTAL OF BILL					43,086,306.19



**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 3.5 : STATION PLATFORM

3.51 Nairobi Station					
S.N	Description	Unit	Quantity	Rate(USD)	Amount(USD)
1	Station Equipment				
2	II. Installation Expense				
3	Installation of gantry crane	No.	1	79,803.60	79,803.60
4	Installation of Operation Station for Hump System	L.sum	1	345,000.00	345,000.00
5	III. Equipment Expense				
6	Reach stacker for freight containers	No.	10	576,000.00	5,760,000.00
7	Loader	No.	3	132,000.00	396,000.00
8	Gantry crane	No.	1	536,131.20	536,131.20
9	Equipment for Hump System	L.sum	1	200,500.00	200,500.00
TOTAL OF BILL					7,317,434.80

3.52 Intermediate Stations and Mombasa Station					
S.N	Description	Unit	Quantity	Rate(USD)	Amount(USD)
1	Station Equipment				
2	II. Installation Expense				
3	Installation of Operation Station for Hump System	L.sum	1	345,000.00	345,000.00
4	III. Equipment Expense				
5	Reach stacker for freight containers	No.	8	576,000.00	4,608,000.00
6	Loader	No.	8	132,000.00	1,056,000.00
7	Equipment for Hump System	L.sum	1	200,500.00	200,500.00
TOTAL OF BILL					6,209,500.00

**SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCKS
FOR THE MOMBASA - NAIROBI STANDARD GAUGE RAILWAY PROJECT**

BILL NO. 3.6: AIR CONDITIONING AND VENTILATION SYSTEM

3.61 Mombasa Station					
S.N	Description	Unit	Quantity	Rate(USD)	Amount(USD)
1	Split air conditioner	No.	0	1,000.00	
2	Air conditioner in computer room	No.	30	19,808.00	594,240
3	Fire protection, ventilation and smoke control system	L.Sum	1	678,684.00	678,684
TOTAL OF BILL					1,272,924

3.62 Intermediate Station					
S.N	Description	Unit	Quantity	Rate(USD)	Amount(USD)
1	Split air conditioner	No.	0	1,000.00	
2	Fire protection, ventilation and smoke control system	L.Sum	1	1,229,119.00	1,229,119.0
TOTAL OF BILL					1,229,119

3.63 Nairobi Station					
S.N	Description	Unit	Quantity	Rate(USD)	Amount(USD)
1	Split air conditioner	No.	0	1,000.00	
2	Air conditioner in computer room	No.	50	19,808.00	990,400
3	Fire protection, ventilation and smoke control system	L.Sum	1	1,045,167.00	1,045,167.00
TOTAL OF BILL					2,035,567

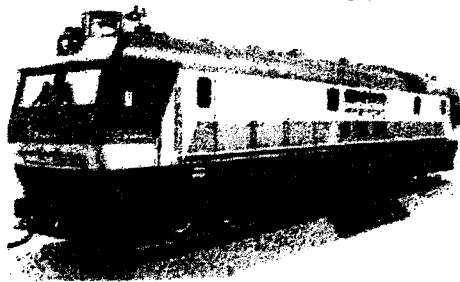
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Appendix B: Technical parameter of Major Commodities

1. Locomotives

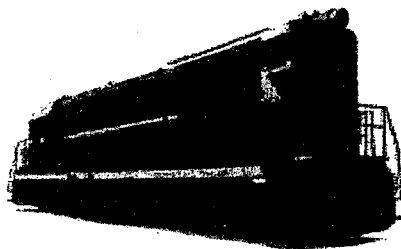
1) DF_{8B}



DF_{8B}

Model	DF8B
Gauge	1435 mm
Length	22000 mm
Width	3304 mm
Height	4736 mm
Engine type	16V280ZJA
Cylinders	16
Cylinder size	280 x 285 mm
Transmission	electric (AC-DC)
Top speed	100 km/h
Power output	3680 kW
Tractive effort	480 kN starting
	340 kN continuous

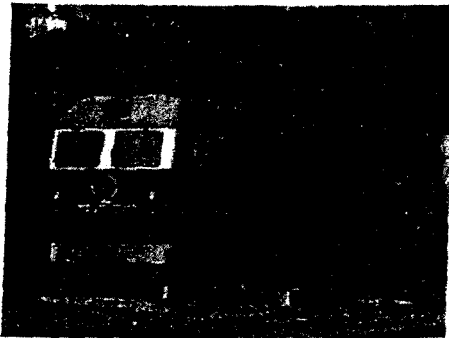
2) DF₇



DF7

Model	DF7
Gauge	1435 mm
Length	18800 mm
Width	3344 mm
Height	4750 mm
Engine type	12V240ZJ
Power output	1470 kW
Tractive effort	428 kN starting

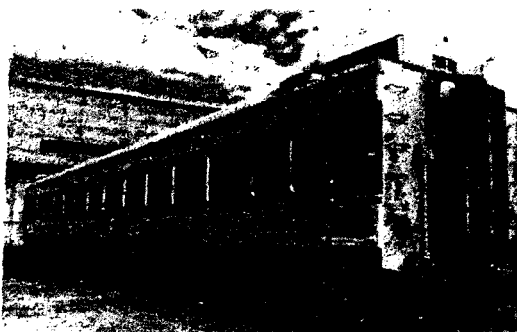
3) DF_{4D}



DF_{4D}

Model	DF4D
Gauge	1,435 mm
Length	21,100 mm
Width	3,309 mm
Height	4,755 mm
Engine type	16V240ZJB
Transmission	electric (AC-DC)
Top speed	Passenger: 120 km/h Freight: 100 km/h
Power output	2,430 kW
Tractive effort	Passenger: 327.500 KN starting, 243 KN continuous Freight: 435 KN starting, 324 KN continuous

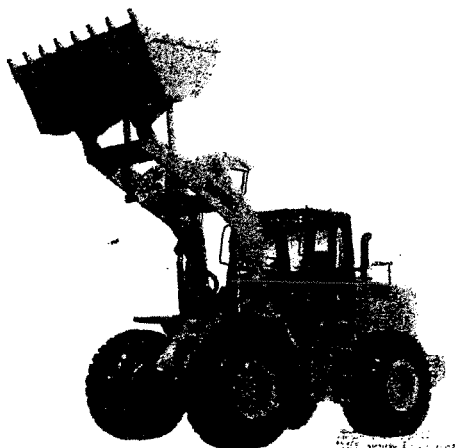
2. Rolling Stocks for Passenger



25G

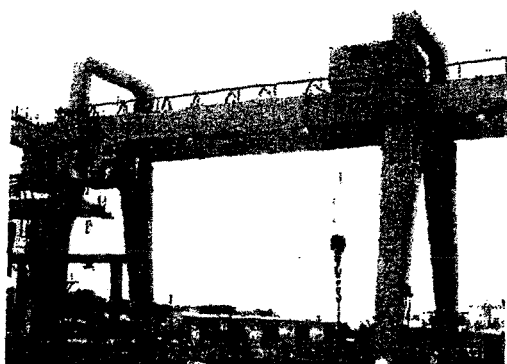
Seats	Hard Seats 118 Soft Seats 72 Dining Car 48
Gauge	1,435 mm
Length	Ordinary 25,500 mm AC Generator Car 23,580mm
Width	3,105 mm
Height	4,433 mm
Electric Supply	AC Generator Car AC380V
Top speed	120 km/h

4. Loaders



Pocket Capacity	5 m ³
Max. Height of load	≥3,100 mm
Length	≤8,700 mm
Height	≤3,500 mm
Dead Load	≤22 t
Rated Power	≥175 KW
Range of Speed	5-40 km/h

5. Gantry Crane



Rated Weight	40 t
Hoisting Speed (full load)	≥30m/min
Carts Speed (full load)	≥75m/min
Working Speed (full load)	≥60m/min
Unilateral stroke	≥60m/min

6. Reach Stackers for Freight Containers



Gross Weight	103 t
Hydraulic system displacement	210mr/r
Hydraulic system pressure	290bra

23

3. Rolling Stocks for Freight

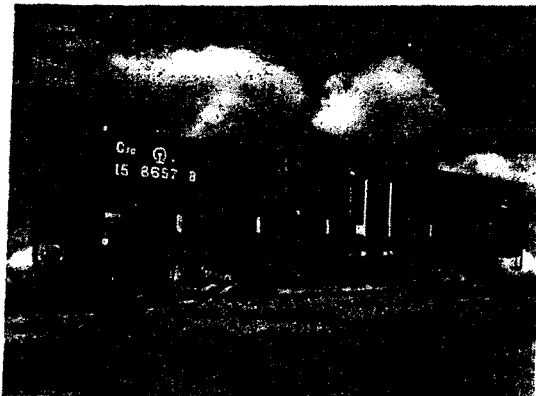
1) Fuel tank Wagon



G60K

Gauge	1,435 mm
Length	10,430 mm
Width	2,912 mm
Height	4,477 mm
Empty Capacity	2 m ³
Effective Capacity	60 m ³
Gross Capacity	62 m ³
Dead Load	20.4 t
Carrying Capacity	53 t
Top speed	100 km/h

2) Common Freight Wagon



C70

Gauge	1,435 mm
Length	13,976 mm
Width	3,242 mm
Height	3,143 mm
Gross Capacity	77 m ³
Dead Load	23.6 t
Carrying Capacity	70 t
Top speed	120 km/h

3) Container Flat Wagon



X2X

Gauge	1,435 mm
Length	19,466 mm
Width	3,140 mm
Height	290 mm
Dead Load	22 t
Carrying Capacity	78 t
Top speed	120 km/h

CIVIL ENGINEERING COST INDEX - 2012

Material Specification	Dec '72	Dec 2011	Apr	May	Jun
SAND	100	9872.746	9993.031	10087.8	10231.89
AGGREGATE	100	10413.29	10540.16	10640.12	10792.1
CEMENT	100	5975.745	6048.552	6105.914	6193.13
HYDRATED LIME	100	6245.61	6321.705	6381.658	6472.812
TIMBER	100	8548.522	8652.674	8734.734	8859.499
Concrete Pipes	100	6794.879	6877.665	6942.891	7042.062
Concrete Precast	100	6393.344	6471.238	6532.61	6625.92
CONCRETE PRODUCTS	100	6734.693	6816.746	6881.394	6979.686
EXPLOSIVES	100	5195.574	5258.875	5308.749	5384.578
Fuels	100	14610.04	14788.05	14928.3	15141.53
Bitumen	100	17098.65	17836.72	18005.88	18263.07
Lubricants	100	10940.57	11073.86	11178.89	11338.56
FUEL, BITUMEN & LUBRICANTS	100	14340.23	14615.55	14754.16	14964.91
RMS Rods	100	7186.134	7273.687	7342.669	7447.55
Structural Steel	100	2715.07	2748.15	2774.212	2813.839
Corrugated Steel Pipes	100	340.1948	344.3397	347.6053	352.5704
Guard Rails 12 GAUGE thick	100	543.946	550.5733	555.7948	563.7336
Gabion Mesh 2m	100	863.4629	873.9831	882.2717	894.8739
STEEL PRODUCTS	100	1636.5	1656.439	1672.148	1696.033
HARDWARE	100	4522.536	4577.637	4621.05	4687.056
ALL MATERIALS	100	5492.247	5563.659	5616.423	5696.646
Unskilled Labour	100	6743.636	7243.636	7243.636	7243.636
Semi-skilled Labour	100	6987.671	7538.836	7538.836	7538.836
Skilled Labour	100	4876.667	5280.333	5280.333	5280.333
LABOUR	100	6022.558	6497.649	6497.649	6497.649
TOTAL (LABOUR & ALL MATERIALS)	100	5741.431	6002.524	6030.495	6073.023

Source: Kenya National Bureau of Statistics:

CEMAC 中国经济景气监测中心

NATIONAL BUREAU OF STATISTICS

CHINA ECONOMIC MONITORING & ANALYSIS CENTER

57 Yuetan Nanjie, Sanlihe, Beijing, China 100826 Tel:010-63375680 Fax:010-63375679

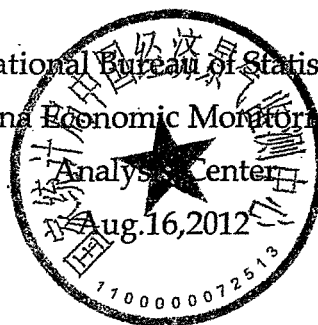
No: CEMAC2012-306

PRICE INDEX IN CHINA

(Jul.2011=100)

Item	Index	Time
Rail transportation equipment	99.4	Jul.2012
Wires, cables, fiber optic cable and electrical equipment	92.1	Jul.2012
Communications equipment	96.3	Jul.2012

National Bureau of Statistics
China Economic Monitoring &
Analysis Center



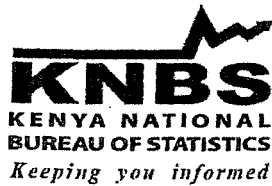
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Appendix C: Table of Adjustment Data for Changes in Cost

Item	Description	Source of Index	Base Value	Base Date	Proposed Weighting
a	Fixed Coefficient	-	-	-	0.10
b	Fuels	KNBS-CECI	15,141.53	June.2012	0.08
c	Cement	KNBS-CECI	6,193.13	June.2012	0.08
d	Labour	KNBS-CECI	6,497.65	June.2012	0.08
e	Steel Products	KNBS-CECI	1696.03	June.2012	0.05
f	Rail Transport Equipment	CEMAC	99.4	July.2012	0.30
g	Wires, Cables, Fiber Optic Cable and Electrical Equipment	CEMAC	92.1	July.2012	0.11
h	Communications Equipment	CEMAC	96.3	July.2012	0.20
					1.00

Note: Considering most of the equipments shall be imported from china, we choose the PRICE INDEX from CHINA ECONOMIC MONITORING & ANALYSIS CENTER (CEMAC)
The Source of index, Base Value and Base Date are attached below.

KENYA NATIONAL BUREAU OF STATISTICS



P. O. BOX 30266
00100 Nairobi GPO, Kenya
Telephone: Nairobi 317586/8, 317612/22,
317623, 317651

Fax: 254-020-315977

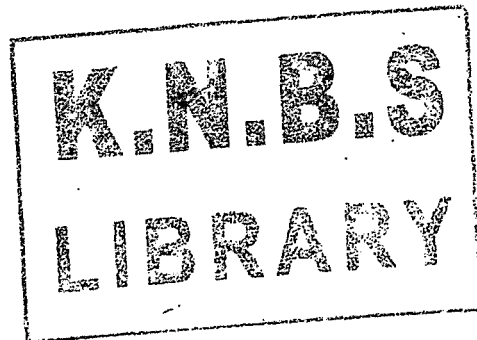
Email: director@knbs.go.ke

Website: www.knbs.go.ke

OUR REF KNBS/39/13/010

17.08.2012

To
Project Manager
All Project Managers
China Road and Bridge
P. O. Box 39037 - 00623
NAIROBI



RE: CONFIRMATION OF CONSTRUCTION PRICE INDEX

I hereby confirm that the Building, Civil Engineering and Overall Construction indices are the true publications from Kenya National Bureau of Statistics.

Therefore, please contact the undersigned in case of any queries

Thanks for your corporation.

Yours sincerely,

A handwritten signature in dark ink, appearing to read 'Dominic O. Oduge'.

DOMINIC O. ODUGE
FOR: DIRECTOR GENERAL

Appendix D: MINUTES OF NEGOTIATION

COMMERCIAL CONTRACT FOR THE SUPPLY AND INSTALLATION OF THE FACILITIES, LOCOMOTIVES AND ROLLING STOCK FOR THE MOMBASA – NAIROBI STANDARD GAUGE RAILWAY PROJECT

MINUTES OF THE NEGOTIATIONS BETWEEN KENYA RAILWAYS (KR) AND CHINA ROAD AND BRIDGE CORPORATION (CRBC) FROM 27-06-12 TO 30-08-12

1. Negotiating Teams

1.1 Kenya Railways

Name	Designation
Solomon Ouna	PM (SGR&CS) - Chairing
Alfred Matheka	GM (F)
Maxwell Mengich	IM
Lucy Njoroge	PLM
Marianne Kitany	ICTM
Stanley Gitari	Ag. CS
David Mwadali	ERSM

1.2 China Road and Bridge Corporation

Name	Designation
Li Qiang	GM Kenya Office
Xiong Shiling	DGM Kenya Office
Yang Jie	AGM Kenya Office
Zhou Yihua	Engineer Kenya Office
Peng Dapeng	GM Marketing Department HQ
Li Changgui	DGM Marketing Department HQ
Li Ming	Design Engineer HQ
Gao Mingzhi	Design Engineer HQ

2. Draft Agreement

The draft Agreement was tabled and discussed. It was noted that the legal sections had been examined by the KR Legal Section and subsequently forwarded to the Permanent Secretary Ministry of Transport (MoT) requesting him to seek legal opinion of the Attorney General. Reply is awaited from MoT.

3. Negotiations

SECTION 1: Contract Agreement and Sellers Power or Attorney

Agreed

SECTION 2: Letters of award and Acceptance

Agreed

SECTION 3: The scope or the contract

Under Paragraph 3.3, add item (7) for the supply of a wide range of spares covering items listed under items (1) to (6), refer to the Bill NO.5 in the Bill of Quantities.

SECTION 4: The price of contract

4.3 The variation indices are provided in the document on page 30, Appendix C: Table of Adjustment Data for Changes in Cost.

4.5 KR to consult Ministry of Finance on issues regarding waiver of taxes for procured items

SECTION 5: The schedules of payment

Agreed as follows:

REF	CERTIFICATE DESCRIPTION	PERCENTAGE OF CONTRACT PRICE	CONDITIONS OF SUBMISSION
1	First installment	40% 20% for locomotives and rolling stock 20% for facilities	Within one month from the date of the effectiveness of the contract and confirmation by both the financial institutions of china and the ministry of finance of Kenya regarding such effectiveness and acceptance by the buyer of the first installment guarantee
2	Second installment	20%	Within one month from the completion of supply and installation of 30% of the total quantity of facilities (in line km of railway including stations and depots in the section), except locomotives and rolling stock
3	Third installment	10%	Within one month from the completion of supply and installation of 60% of the total quantity of facilities (in line km of railway including stations and depots in the section), except locomotives and rolling stock
4	Fourth installment	10%	Within one month from the completion of supply and installation of 100% of the total quantity of facilities (in line km of railway including stations and depots in the section), except locomotives and rolling stock
5	Fifth installment	10%	Within one month from the date the locomotives and rolling stock are ready for delivery at the Chinese main port
6	Sixth installment	10%	Within one month from the date the locomotives and facilities are tested and commissioned
	total	100%	

SECTION 6: The Delivery of Commodities

Agreed

SECTION 7: The Inspection and Approvals

- 7.2 Inspections will be done by qualified technical appointees of the Seller and the Buyer

SECTION 8: Training and technical assistance

- 8.2 Training outfit to include provision of tools, training material, documents and one simulator for training locomotive drivers and technicians.
- 8.4 To include controllers (traffic, power and signaling/communications) and revenue collectors.
- 8.6, 8.7 All the costs related to Technical Assistance Team locally to be provided for in the contract sum.

SECTION 9: The technical documentation & after sales services

- 9.3 The Seller shall provide two (2) years of running spares for locomotives, rolling stock and other equipment within the contract sum, refer to the Bill No. 5.01 in the bill of quantities. Spares requirement shall be decided jointly by both parties.

The Seller shall provide spare major assemblies of locomotives, rolling stock and other equipment within the contract sum, refer to the Bill NO.5.02 in the Bill of Quantities. The actual numbers and types shall be decided jointly by both parties.

SECTION 10: The trials and technical performances

- 10.3 Any cost incurred by the Buyer as a result of such postponement shall be borne by the Seller.

SECTION 11: Conditions of contract

Amendments

Insert "in writing" between the words "parties" and "and".

Document upon delivery

Add the following items to the clause:

- 4) Calibration documents
- 5) Calibration certificates
- 6) Master gauges (Master Calibrators) to help in calibrations

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Variation of price

Add the following paragraph to be the last paragraph

Whereas the non – binding Bill of Quantities is based on the Feasibility Study and Preliminary Design, both parties agree that the quantity of items shall be adjusted according to detailed design within the Contract Price. During the execution of this contract, if the market price fluctuates and substantially affects either party, both parties shall negotiate a new unit price and adjust the quantity of items within the Contract Price. Above mentioned adjustments shall meet the requirements of the function.

The Bill of Quantities

This is a Non-Binding Bill of Quantities prepared based on the Feasibility Study and Preliminary Design.

1. Communication systems

The system to include built in redundancy in the form of a ring circuit for fibre optic cable and VHF coverage for the entire line

2. Electricity Supply Systems

Mains power supply will be by a 33 KV overhead line running within the railway corridor for the whole length of the Railway (from Embakasi to Mombasa) and supplied from the National Grid connecting Mombasa to Nairobi. Step down facilities to be provided at every station. The 33 KV line will be supplied from several points to guarantee uninterrupted power supply.

3. Water supply and Drainage

Agreed

4. Machinery service




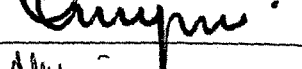


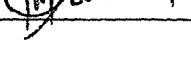
Two (2) rescue trains equipped as per Chinese Standards to be provided (one to be based in Mombasa, the other in Nairobi)

- 9.4 Taking into account the Feasibility Study and Preliminary design, the Contract Price was negotiated to **US\$ 1,146,791,008.75 (United States Dollars One billion, one hundred forty six million, seven hundred ninety one thousand, and eight, Cents seventy five)** from the original proposal of **US\$ 1,204,612,404.15 (United States Dollars One billion, two hundred four million, six hundred twelve thousand, four hundred four, Cents fifteen).**



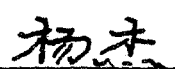



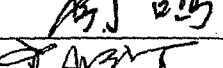
10. Signatures

Signed on this 29th day of August, 2012 on behalf of:

Kenya Railways

Name	Designation	Signature
Solomon Ouna	PM (SGR&CS) – Chairing	
Alfred Matheka	GM (F)	
Maxwell Mengich	IM	
Lucy Njoroge	PLM	
Marianne Kitany	ICTM	
Stanley Gitari	Ag. CS	
David Mwadali	ERSM	

China Road and Bridge Corporation

Name	Designation	Signature
Li Qiang	GM Kenya Office	
Xiong Shiling	DGM Kenya Office	
Yang Jie	AGM Kenya Office	
Zhou Yihua	Engineer Kenya Office	
Peng Dapeng	GM Marketing Department HQ	
Li Changgui	DGM Marketing Department HQ	
Li Ming	Design Engineer HQ	
Gao Mingzhi	Design Engineer HQ	