REPUBLIC OF KENYA

MINISTRY OF TRANSPORT, INFRASTRUCTURE, HOUSING AND URBAN DEVELOPMENT

(STATE DEPARTMENT OF PUBLIC WORKS)

PROPOSED ERECTION AND COMPLETION OF A WARD BLOCK AT MERU COUNTY LEVEL 5 HOSPITAL (PHASE 1)

W.P ITEM NO.D108/EN/MRU 1601 -JOB NO.0397F

SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING OF SANITARY FITINGS, INTERNAL PLUMBING, DRAINAGE & FIRE FIGHTING WORKS

PROJECT MANAGER
WORKS SECRETARY
STATE DEPARTMENT OF PUBLIC WORKS
P.O. Box 30743-00100
Nairobi

ARCHITECT
Chief Architect,
State Department of Public Works
P.O. Box 30743-00100
Nairobi

ELECTRICAL ENGINEER
Chief Engineer(Electrical),
State Department of Public Works,
P.O. Box 41191-00100
Nairobi

QUANTITY SURVEYOR
Chief Quantity Surveyor,
State Department of Public Works
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MECHANICAL ENGINEER
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State Department of Public Works
P.O. Box 41191-00100
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STRUCTURAL ENGINEER
Chief Engineer(Structural),
State Department of Public Works
P.O. Box 30743-00100
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CLIENT
Chief Officer, Health
County Government of Meru
P.O. Box 120-60200
Meru.

JULY, 2018

TABLE OF CONTENTS

CONTENTS PAGE

CONTENTS PAGE…….. (i)

DEFINITIONS……. (ii)

SPECIAL NOTES…….. (iii)

FORM OF TENDER…….. (iv)

FORM OF TENDER SECURITY

APPENDIX 1…… (v)

APPENDIX II…… (vi)

SECTION A: INSTRUCTIONS TO TENDERERS…… A-1 to A-17

SECTION B: CONDITIONS OF CONTRACT (SUB CONTRACT WORKS) B-1 to B-13

SUB-CONTRACT AGREEMENT FORM- KABCEC…….1 - 22

SECTION C: SUB CONTRACTS PRELIMINARIES AND GENERAL CONDITIONS……..…….C-1 to C-21

SECTION D: GENERAL MECHANICAL SPECIFICATION……..D-1 to D-5

SECTION E: PARTICULAR SPECIFICATIONS FOR INTERNAL PLUMBING, DRAINAGE AND FIRE FIGHTING WORKS ……..……..……...……..…...E-1 to E-16

SECTION F: BILLS OF QUANTITIES AND SCHEDULE OF UNITS RATES ……...…..…F-1 to F-45

SECTION G: TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED …….G-1 to G-2

SECTION H: SCHEDULE OF CONTRACT DRAWING…….H-1

SECTION M: STANDARD FORMS……...…… I-1 to J-12

DEFINITIONS

The following terms and expressions used in the contract document shall have the following meanings:

The Employer	The County Government of Meru Represented by: Chief Officer, Health County Government of Meru, P.O. Box 120-60200, Meru
Project Manager	Works Secretary State Department of Public Works P.O. Box 30743-00100, Nairobi
Architect	Chief Architect State Department of Public Works P.O. Box 30743-00100 NAIROBI
Mechanical Engineer	Chief Engineer Mechanical (BS) State Department of Public Works P.O. Box 41191-00100 NAIROBI
Electrical Engineer	Chief Engineer Electrical (BS) State Department of Public Works P.O. Box 41191-00100 NAIROBI
Quantity Surveyor	Chief Quantity Surveyor State Department of Public Works P.O. Box 30743-00100 NAIROBI
Structural Engineer	Chief Engineer (Structural) State Department of Public Works P.O. Box 30743-00100 NAIROBI
Employer's representative	This shall mean the Project Manager and shall be Project Manager State Department of Public Works P.O. Box 30743-00100 NAIROBI
Main contractor	The firm appointed to carry out the builders works.
Sub contractor	The firm appointed to carry out the supply, delivery, installation, testing and commissioning of sanitary fittings, internal plumbing, internal drainage, firefighting installations, external water reticulation

SPECIAL NOTES

1. These notes shall form part of the Instructions to Tenderers and Conditions of Contract.

2. The tenderer is required to check the number of pages in this document and should he find any missing, or in duplicate, or indistinct he should inform the Chief Engineer Mechanical (BS), State Department of Public Works, Ministry of Transport, Infrastructure, Housing and Urban Development.

3. Should the tenderer be in any doubt about the precise meaning of any item or figure, for any reason whatsoever, he must inform the Chief Engineer Mechanical (BS), State Department of Public Works, Ministry of Transport, Infrastructure, Housing and Urban Development, in order that the correct meaning may be decided before the date of submission of tender.

4. No liability will be admitted nor claim allowed, in respect of errors in the tender due to mistakes in the specification, which should have been rectified in the manner, described above.

5. All tenderers must make a declaration that they have not and will not make any payment to any person which can be perceived as an inducement to enable them to win this tender.

6. Any tenderer whose firm uses the titles "Engineer" and "Engineers" must produce evidence of registration of at least one of the directors by the Engineers Registration Board of Kenya to avoid disqualification.

FORM OF TENDER

To: Chief Officer, Health
County Government of Meru,
P.O. Box 120-60200,
Meru

Dear Sir/Madam,

Supply, Delivery, Installation, Testing and Commission of Sanitary fittings Internal Plumbing, Drainage, Fire fighting for the Proposed Erection and Completion of a Ward Block at Meru County Level 5 Hospital (Phase 1), Meru County

1. In accordance with the Instructions to Tenderers, Conditions of Contract, Specifications and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of:

   Kshs……..*[**Amount in figures]***

   Kenya Shillings……...
   ……..
   ……*[**Amount in words]***
2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Employer's Representative's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.

3. We agree to abide by this tender for **a period of 120 days from the date of tender opening** and shall remain binding upon us and may be accepted at any time before that date.

4. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us.

5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this …….. day of ……20…..

Signature …….in the capacity of …….

duly authorized to sign tenders for and on behalf of:

……..*[**Name of Tenderer**]*

of……..[***Address of Tenderer****]*

PIN No. ……..

VAT CERTIFICATE No. ……

Witness: Name …….

Address …….

Signature ……

Date ……

FORM OF TENDER SECURITY
Appendix I

To: Chief Officer, Health
County Government of Meru,
P.O. Box 120-60200,
Meru

WHEREAS …… (hereinafter called "the Tenderer") has submitted his tender dated ……. For **Supply, Delivery, Installation, Testing and Commission of sanitary fittings, Internal Plumbing, Drainage and Fire fighting works for the Proposed Erection and Completion of a Ward Block at Meru County Level 5 Hospital (Phase 1), Meru County**
KNOW ALL PEOPLE by these presents that WE ……....
Having our registered office at
……..…….
(hereinafter called "the Bank'), are bound unto
……..……
(hereinafter called "the Employer") in the sum of Kshs…….……
for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank this
……Day of …….20 ……

THE CONDITIONS of this obligation are:

1. If after tender opening the Tenderer withdraws his tender during the period of tender validity specified in the instructions to Tenderers
   Or
2. If the Tenderer, having been notified of the acceptance of his tender by the Employer during the period of tender validity:

   (a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or

   (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

   We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by his is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

   This guarantee will remain in force up to and including **one hundred and fifty (150) days** after the day of tender opening, and any demand in respect thereof should reach the Bank not later than the said date.

   …….. ……
   (date) ***(signature of the Bank)***

   …… ……..
   (witness) (seal)

FORM OF TENDER SECURITY

Appendix II

To: Chief Officer, Health
County Government of Meru,
P.O. Box 120-60200,
Meru

WHEREAS.....(hereinafter called "the Tenderer") has submitted his tender dated. ……. Supply, Delivery, Installation, Testing and Commission of Sanitary fittings, Internal Plumbing, Drainage and Fire Fighting Works for the Proposed Erection and Completion of a Ward Block at Meru County Level 5 Hospital (Phase 1), Meru County

KNOW ALL PEOPLE by these presents that
WE.....of…….……..(Name of Insurance Company)...having our registered office at .....(hereinafter called " the Guarantor"), are bound unto .....(hereinafter called "the Procuring Entity" in the sum of Kshs.....for which payment well and truly to be made to the said Procuring Entity , the Guarantor bind itself, its successors and assigns by these presents sealed with the Common Seal of the said Guarantor this .....Day of .....20.....

THE CONDITIONS of this obligation are:

1. If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers
   Or

2. If the tenderer, having been notified of the acceptance of this tender by the Employer during the period of tender validity:

   a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or

   b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force for a period of 150 days from the date of tender opening, and any demand in respect thereof should reach the Guarantor not later than the said date.

_____ _____
[date] [signature of the Guarantor]

_____ _____
[witness] [seal]

SECTION A:

INSTRUCTIONS TO TENDERERS.

INSTRUCTIONS TO TENDERERS

CONTENTS

CLAUSE NUMBERS	DESCRIPTION	PAGE
	GENERAL	
1.	Definitions ……	A-1
2.	Eligibility and Qualification Requirements ……..	A-1-A-2
3.	Cost of Tendering ……..	A-3
4.	Site Visit ……..	A-3
	TENDER DOCUMENTS	
5.	Tender Documents ……..	A-3-A-4
6.	Clarification of Tender Documents ……	A-4
7.	Amendments of Tender Documents …….	A-4
	PREPARATION OF TENDER	
8.	Language of Tender ……	A-5
9.	Documents Comprising the Tender ……..	A-5
10.	Tender Prices ……	A-5-A-6
11.	Currencies of Tender and Payment ……..	A-6
12.	Tender Validity …….	A-6
13.	Tender Surety ……..	A-7
14.	No Alternative Offers ……..	A-7
15.	Pre - tender meeting ……	A-8
16.	Format and Signing of Tenders ……	A-8
	SUBMISSION OF TENDERS	
17.	Sealing and Marking of Tenders ……	A-9
18.	Deadline and Submission of Tenders …….	A-9
19.	Modification and Withdrawal of Tenders ……	A-9-A-10
	TENDER OPENING AND EVALUATION	
20.	Tender Opening ……	A-10
21.	Process to be Confidential ……	A-11
22.	Clarification of Tenders ……	A-11

CLAUSE NUMBERS PAGE

23. Determination of Responsiveness …… A-11
24. Correction of Errors …… A-12
25. Conversion to Single Currency …….. A-12
26. Evaluation and Comparison of Tenders …….. A-12-A-13

AWARD OF CONTRACT

27. Award …… A-13
28. Notification of Award …….. A-13
29. Performance Guarantee ……. A-14
30. Advance Payment ……. A-14
31. Appendix to Instructions to Tenderers …….. A-15

INSTRUCTION TO TENDERERS

Note: The tenderer must comply with the following conditions and instructions and failure to do so is liable to result in rejection of the tender.

GENERAL

1. Definitions

(a) "**Tenderer"** means any person or persons partnership firm or company submitting a sum or sums in the Bills of Quantities in accordance with the Instructions to Tenderers, Conditions of Contract Parts I and II, Specifications, Drawings and Bills of Quantities for the work contemplated, acting directly or through a legally appointed representative.

(b) **"Approved tenderer**" means the tenderer who is approved by the Employer.

(c) Any noun or adjective derived from the word **"tender"** shall be read and construed to mean the corresponding form of the noun or adjective **"bid".** Any conjugation of the verb "tender" shall be read and construed to mean the corresponding form of the verb "bid."

(d) **"Employer"** means a Central Government Ministry, Local Authority, State Corporation or any other Public Institution.

2. Eligibility and Qualification Requirements

2.1 This invitation to tender is open to all tenderers who have been prequalified.

2.2 To be eligible for award of Contract, the tenderer shall provide evidence satisfactory to the Employer of their eligibility under Sub clause 2.1 above and of their capability and adequacy of resources to effectively carry out the subject Contract. To this end, the tenderer shall be required to update the following information already submitted during prequalification:-

(a) Details of experience and past performance of the tenderer on the works of a similar nature within the past five years and details of current work on hand and other contractual commitments.

(b) The qualifications and experience of key personnel proposed for administration and execution of the contract, both on and off site.

(c) Major items of construction plant and equipment proposed for use in carrying out the Contract. Only reliable plant in good working order and suitable for the work required of it shall be shown on this schedule. The tenderer will also indicate on this schedule when each item will be available on the Works. Included also should be a schedule of plant, equipment and material to be imported for the purpose of the Contract, giving details of make, type, origin and CIF value as appropriate.

(d) Details of subcontractors to whom it is proposed to sublet any portion of the Contract and for whom authority will be requested for such subletting in accordance with clause 4 of the Conditions of Contract.

(e) A draft Program of Works in the form of a bar chart and Schedule of Payment which shall form part of the Contract if the tender is accepted. Any change in the Program or Schedule shall be subjected to the approval of the Engineer.

(f) Details of any current litigation or arbitration proceedings in which the Tenderer is involved as one of the parties.

2.3 Joint Ventures

Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements:-

(a) The tender, and in case of a successful tender, the Form of Agreement, shall be signed so as to be legally binding on all partners.

(b) One of the partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners.

(c) The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture and the entire execution of the Contract including payment shall be done exclusively with the partner in charge.

(d) All partners of the joint venture shall be liable jointly and severally for the execution of the Contract in accordance with the Contract terms, and a relevant statement to this effect shall be included in the authorization mentioned under (b) above as well as in the Form of Tender and the Form of Agreement (in case of a successful tender).

(e) A copy of the agreement entered into by the joint venture partners shall be submitted with the tender.

3. Cost of Tendering

The tenderer shall bear all costs associated with the preparation and submission of his tender and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

4. Site Visit

4.1 The tenderer is advised to visit and examine the Site and its surroundings and obtain for himself on his own responsibility, all information that may be necessary for preparing the tender and entering into a contract. The costs of visiting the Site shall be the tenderer's own responsibility.

4.2 The tenderer and any of his personnel or agents will be granted permission by the Employer to enter upon premises and lands for the purpose of such inspection, but only upon the express condition that the tenderer, his personnel or agents, will release and indemnify the Employer from and against all liability in respect of, and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which but for the exercise of such permission, would not have arisen.

4.3 The Employer shall organize a site visit at a date to be notified. A representative of the Employer will be available to meet the intending tenderers at the Site.

Tenderers must provide their own transport. The representative will not be available at any other time for site inspection visits.

Each tenderer shall complete the Certificate of Tenderer's Visit to the Site, whether he in fact visits the Site at the time of the organized site visit or by himself at some other time.

TENDER DOCUMENTS

5. Tender Documents

5.1 The Tender documents comprise the documents listed herebelow and should be read together with any Addenda issued in accordance with Clause 7 of these instructions to tenderers.

a. Form of Invitation for Tenders
b. Instructions to Tenderers
c. Form of Tender
d. Appendix to Form of Tender
e. Form of Tender Surety
f. Statement of Foreign Currency Requirements
g. Form of Performance Security
h. Form of Agreement
i. Form of Advance payment Bank Guarantee
j. Schedules of Supplementary Information
k. General Conditions of Contract – Part I
l. Conditions of Particular Application – Part II
m. Specifications
n. Bills of Quantities
o. Drawings

5.2 The tenderer is expected to examine carefully all instructions, conditions, forms, terms, specifications and drawings in the tender documents. Failure to comply with the requirements for tender submission will be at the tenderer's own risk. Pursuant to clause 22 of Instructions to Tenderers, tenders which are not substantially responsive to the requirements of the tender documents will be rejected.

5.3 All recipients of the documents for the proposed Contract for the purpose of submitting a tender (whether they submit a tender or not) shall treat the details of the documents as "private and confidential".

6. Clarification of Tender Documents

6.1 A prospective tenderer requiring any clarification of the tender documents may notify the Employer in writing or by telex, cable or facsimile at the Employer's mailing address indicated in the Invitation to Tender. The Employer will respond in writing to any request for clarification which he receives earlier than 28 days prior to the deadline for the submission of tenders. Written copies of the Employer's response (including the query but without identifying the source of the inquiry) will be sent to all prospective tenderers who have purchased the tender documents.

7. Amendment of Tender Documents

7.1 At any time prior to the deadline for submission of tenders the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective tenderer, modify the tender documents by issuing Addenda.

7.2 Any Addendum will be notified in writing or by cable, telex or facsimile to all prospective tenderers who have purchased the tender documents and will be binding upon them.

7.3 If during the period of tendering, any circular letters (tender notices) shall be issued to tenderers by, or on behalf of, the Employer setting forth the interpretation to be paced on a part of the tender documents or to make any change in them, such circular letters will form part of the tender documents and it will be assumed that the tenderer has taken account of them in preparing his tender. The tenderer must promptly acknowledge any circular letters h may receive.

7.4 In order to allow prospective tenderers reasonable time in which to take the Addendum into account in preparing their tenders, the Employer may, at his discretion, extend the deadline for the submission of tenders.

PREPARATION OF TENDERS

8. Language of Tender

8.1 The tender and all correspondence and documents relating to the tender exchanged between the tenderer and the Employer shall be written in the English language. Supporting documents and printed literature furnished by the tenderer with the tender may be in another language provided they are accompanied by an appropriate translation of pertinent passages in the above stated language. For the purpose of interpretation of the tender, the English language shall prevail.

9. Documents Comprising the Tender

9.1 The tender to be prepared by the tenderer shall comprise: the Form of Tender and Appendix thereto, a Tender Surety, the Priced Bills of Quantities and Schedules, the information on eligibility and qualification, and any other materials required to be completed and submitted in accordance with the Instructions to Tenderers embodied in these tender documents. The Forms, Bills of Quantities and Schedules provided in the tender documents shall be used without exception (subject to extensions of the schedules in the same format and to the provisions of clause 13.2 regarding the alternative forms of Tender Surety].

10. Tender Prices

10.1 All the insertions made by the tenderer shall be made in INK and the tenderer shall clearly form the figures. The relevant space in the Form of Tender and Bills of Quantities shall be completed accordingly without interlineations or erasures except those necessary to correct errors made by the tenderer in which case the erasures and interlineations shall be initialed by the person or persons signing the tender.

10.2 A price or rate shall be inserted by the tenderer for every item in the Bills of Quantities whether the quantities are stated or not items against which no rate or price is entered by the tenderer will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bills of Quantities.

The prices and unit rates in the Bills of Quantities are to be the full [all-inclusive] value of the work described under the items, including all costs and expenses which may be necessary and all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based. All duties and taxes and other levies payable by the Contractor under the Contract or for any other cause as of the date 28 days prior to the deadline for the submission of tenders, shall be included in the rates and prices and the total tender prices submitted by the Tenderer.

Each price or unit rate inserted in the Bills of Quantities should be a realistic estimate for completing the activity or activities described under that particular item and the tenderer is advised against inserting a price or rate against any item contrary to this instruction.

Every rate entered in the Bills of Quantities, whether or not such rate be associated with a quantity, shall form part of the Contract. The Employer shall have the right to call for any item of work contained in the Bills of Quantities, and such items of work to be paid for at the rate entered by the tenderer and it is the intention of the Employer to take full advantage of unbalanced low rates.

10.3 Unless otherwise specified the tenderer must enter the amounts representing 10% of the sub-total of the summary of the Bills of Quantities for Contingencies and Variation of Prices [V.O.P.] payments in the summary sheet and add them to the sub-total to arrive at the tender amount.

10.4 The tenderer shall furnish with his tender written confirmation from his suppliers or manufacturers of unit rates for the supply of items listed in the Conditions of Contract clause 47 where appropriate.

10.5 The rates and prices quoted by the tenderer are subject to adjustment during the performance of the Contract only in accordance with the provisions of the Conditions of Contract. The tenderer shall complete the schedule of basic rates and shall submit with his tender such other supporting information as required under clause 47 of the Conditions of Contract Part II.

11. Currencies of Tender and Payment

11.1 Tenders shall be priced in Kenya Shillings and the tender sum shall be in Kenya Shillings.

11.2 Tenderers are required to indicate in the Statement of Foreign Currency Requirements, which forms part of the tender, the foreign currency required by them. Such currency should generally be the currency of the country of the tenderer's main office. However, if a substantial portion of the tenderer's expenditure under the Contract is expected to be in countries other than his country of origin, then he may state a corresponding portion of the contract price in the currency of those other countries. However, the foreign currency element is to be limited to two (2) different currencies and a maximum of 30% (thirty percent) of the Contract Price.

11.3 The rate of rates of exchange used for pricing the tender shall be selling rate or rates of the Central Bank ruling on the date thirty (30) days before the final date for the submission of tenders.

11.4 Tenderers must enclose with their tenders, a brief justification of the foreign currency requirements stated in their tenders.

12. Tender Validity

12.1 The tender shall remain valid and open for acceptance for a period of one hundred and twenty (120) days from the specified date of tender opening or from the extended date of tender opening (in accordance with clause 7.4 here above) whichever is the later.

12.2 In exceptional circumstances prior to expiry of the original tender validity period, the Employer may request the tenderer for a specified extension of the period of validity. The request and the responses thereto shall be made in writing or by cable, telex or facsimile. A tenderer may refuse the request without forfeiting his Tender Surety. A tenderer agreeing to the request will not be required nor permitted to modify his tender, but will be required to extend the validity of his Tender Surety correspondingly.

13. Tender Surety

13.1 The tenderer shall furnish as part of his tender, a Tender Surety in the amount stated in the Appendix to Instructions to Tenderers.

13.2 The unconditional Tender Surety shall be in Kenya Shillings and be in form of a certified cheque, a bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank approved by the Employer located in the Republic of Kenya.

The format of the Surety shall be in accordance with the sample form of Tender Surety included in these tender documents; other formats may be permitted subject to the prior approval of the Employer. The Tender Surety shall be valid for twenty eight (28) days beyond the tender validity period.

13.3 Any tender not accompanied by an acceptable Tender Surety will be rejected by the Employer as non-responsive.

13.4 The Tender Sureties of unsuccessful tenderers will be returned as promptly as possible but not later than twenty eight (28) days after concluding the Contract execution and after a Performance Security has been furnished by the successful tenderer. The Tender Surety of the successful tenderer will be returned upon the tenderer executing the Contract and furnishing the required Performance Security.

13.5 The Tender Surety may be forfeited:

(a) if a tenderer withdraws his tender during the period of tender validity: or

(b) in the case of a successful tenderer, if he fails

(i) to sign the Agreement, or
(ii) to furnish the necessary Performance Security

(c) if a tenderer does not accept the correction of his tender price pursuant to clause 23.

14. No Alternative Offers

14.1 The tenderer shall submit an offer which complies fully with the requirements of the tender documents.

Only one tender may be submitted by each tenderer either by himself or as partner in a joint venture.

14.2 The tenderer shall not attach any conditions of his own to his tender. The tender price must be based on the tender documents. The tenderer is not required to present alternative construction options and he shall use without exception, the Bills of Quantities as provided, with the amendments as notified in tender notices, if any, for the calculation of his tender price.

Any tenderer who fails to comply with this clause will be disqualified.

15. Pre-Tender Meeting

15.1 The tenderer's designated representative is invited to attend a pre-tender meeting, which if convened, will take place at the venue and time stated in the Invitation to Tender. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

15.2 The tenderer is requested as far as possible to submit any questions in writing or by cable, to reach the Employer not later than seven days before the meeting. It may not be practicable at the meeting to answer questions received late, but questions and responses will be transmitted in accordance with the following:

(a) Minutes of the meeting, including the text of the questions raised and the responses given together with any responses prepared after the meeting, will be transmitted without delay to all purchasers of the tender documents. Any modification of the tender documents listed in --Clause 9 which may become necessary as a result of the pre-tender meeting shall be made by the Employer exclusively through the issue of a tender notice pursuant to Clause 7 and not through the minutes of the pre-tender meeting.

(b) Non-attendance at the pre-tender meeting will not be cause for disqualification of a bidder.

16. Format and Signing of Tenders

16.1 The tenderer shall prepare his tender as outlined in clause 9 above and mark appropriately one set "ORIGINAL" and the other "COPY".

16.2 The copy of the tender and Bills of Quantities shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer. Proof of authorization shall be furnished in the form of the written power of attorney which shall accompany the tender. All pages of the tender where amendments have been made shall be initialed by the person or persons signing the tender.

16.3 The complete tender shall be without alterations, interlineations or erasures, except as necessary to correct errors made by the tenderer, in which case such corrections shall be initialed by the person of persons signing the tender.

SUBMISSION OF TENDERS

17. Sealing and Marking of Tenders

17.1 The tenderer shall seal the original and copy of the tender in separated envelopes, duly marking the envelopes as "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer envelope.

17.2 The inner and outer envelopes shall be addressed to the Employer at the address stated in the Appendix to Instructions to Tenderers and bear the name and identification of the Contract stated in the said Appendix with a warning not to open before the date and time for opening of tenders stated in the said Appendix.

17.3 The inner envelopes shall each indicated the name and address of the tenderer to enable the tender to be returned unopened in case it is declared "late", while the outer envelope shall bear no mark indicating the identity of the tenderer.

17.4 If the outer envelope is not sealed and marked as instructed above, the Employer will assume no responsibility for the misplacement or premature opening of the tender. A tender opened prematurely for this cause will be rejected by the Employer and returned to the tenderer.

18 Deadline for Submission of Tenders

18.1 Tenders must be received by the Employer at the address specified in clause 17.2 and on the date and time specified in the Letter of Invitation, subject to the provisions of clause 7.4, 18.2 and 18.3.

Tenders delivered by hand must be placed in the "tender box" provided in the office of the Employer.

Proof of posting will not be accepted as proof of delivery and any tender delivered after the above stipulated time, from whatever cause arising will not be considered.

18.2 The Employer may, at his discretion, extend the deadline for the submission of tenders through the issue of an Addendum in accordance with clause 7, in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline shall thereafter be subject to the new deadline as extended.

18.3 Any tender received by the Employer after the prescribed deadline for submission of tender will be returned unopened to the tenderer.

19 Modification and Withdrawal of Tenders

19.1 The tenderer may modify or withdraw his tender after tender submission, provided that written notice of the modification or withdrawal is received by the Employer prior to prescribed deadline for submission of tenders.

19.2 The tenderer's modification or withdrawal notice shall be prepared, sealed, marked and dispatched in accordance with the provisions for

the submission of tenders, with the inner and outer envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.

19.3 No tender may be modified subsequent to the deadline for submission of tenders.

19.4 No tender may be withdrawn in the interval between the deadline for submission of tenders and the period of tender validity specified on the tender form. Withdrawal of a tender during this interval will result in the forfeiture of the Tender Surety.

19.5 Subsequent to the expiration of the period of tender validity prescribed by the Employer, and the tenderer having not been notified by the Employer of the award of the Contract or the tenderer does not intend to conform with the request of the Employer to extend the prior of tender validity, the tenderer may withdraw his tender without risk of forfeiture of the Tender Surety.

TENDER OPENING AND EVALUATION

20 Tender Opening

20.1 The Employer will open the tenders in the presence of the tenderers' representatives who choose to attend at the time and location indicated in the Letter of Invitation to Tender. The tenderers' representatives who are present shall sign a register evidencing their attendance.

20.2 Tenders for which an acceptable notice of withdrawal has been submitted, pursuant to clause 19, will not be opened. The Employer will examine the tenders to determine whether they are complete, whether the requisite Tender Sureties have been furnished, whether the documents have been properly signed and whether the tenders are generally in order.

20.3 At the tender opening, the Employer will announce the tenderer's names, total tender price, tender price modifications and tender withdrawals, if any, the presence of the requisite Tender Surety and such other details as the Employer, at his discretion, may consider appropriate. No tender shall be rejected at the tender opening except for late tenders.

20.4 The Employer shall prepare minutes of the tender opening including the information disclosed to those present.

20.5 Tenders not opened and read out a tender opening shall not be considered further for evaluation, irrespective of the circumstances.

21 Process to be Confidential

21.1 After the public opening of tenders, information relating to the examination, clarification, evaluation and comparisons of tenders and recommendations concerning the award of Contract shall not be disclosed to tenderers or other persons not officially concerned with such process until the award of Contract is announced.

21.2 Any effort by a tenderer to influence the Employer in the process of examination, evaluation and comparison of tenders and decisions concerning award of Contract may result in the rejection of the tenderer's tender.

22 Clarification of Tenders

22.1 To assist in the examination, evaluation and comparison of tenders, the Employer may ask tenderers individually for clarification of their tenders, including breakdown of unit prices. The request for clarification and the response shall be in writing or by cable, facsimile or telex, but no change in the price or substance of the tender shall be sought, offered or permitted except as required to confirm the correction of arithmetical errors discovered by the employer during the evaluation of the tenders in accordance with clause 24.

22.2 No Tenderer shall contact the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Employer, he shall do so in writing.

23 Determination of Responsiveness

23.1 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender is substantially responsive to the requirements of the tender documents.

23.2 For the purpose of this clause, a substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tender documents without material deviation or reservation and has a valid bank guarantee. A material deviation or reservation is one which affects in any substantial way the scope, quality, completion timing or administration of the Works to be undertaken by the tenderer under the Contract, or which limits in any substantial way, inconsistent with the tender documents, the Employer's rights or the tenderers obligations under the Contract and the rectification of which would affect unfairly the competitive position of other tenderers who have presented substantially responsive tenders.

23.3 Each price or unit rate inserted in the Bills of Quantities shall be a realistic estimate of the cost of completing the works described under the particular item including allowance for overheads, profits and the like. Should a tender be seriously unbalanced in relation to the Employer's estimate of the works to be performed under any item or groups of items, the tender shall be deemed not responsive.

23.4 A tender determined to be not substantially responsive will be rejected by the Employer and may not subsequently be made responsive by the tenderer by correction of the non-conforming deviation or reservation.

24 Correction of Errors

Tenders determined to be substantially responsive shall be checked by the Employer for any arithmetic errors in the computations and summations. Errors will be corrected by the Employer as follows:

(a) Where there is a discrepancy between the amount in figures and the amount in words, the amount in words will govern.

(b) Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer, there is an obvious typographical error, in which case adjustment will be made to the entry containing that error.

(c) The amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 13.

25 Conversion to Single Currency

25.1 For compensation of tenders, the tender price shall first be broken down into the respective amounts payable in various currencies by using the selling rate or rates of the Central Bank of Kenya ruling on the date twenty eight (28) days before the final date for the submission of tenders.

25.2 The Employer will convert the amounts in various currencies in which the tender is payable (excluding provisional sums but including Dayworks where priced competitively) to Kenya Shillings at the selling rates stated in clause 25.1.

26 Evaluation and Comparison of Tenders

26.1 The Employer will evaluate only tenders determined to be substantially responsive to the requirements of the tender documents in accordance with clause 23.

26.2 In evaluating tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:

(a) Making any correction for errors pursuant to clause 24.

(b) Excluding Provisional Sums and provision, if any, for Contingencies in the Bills of Quantities, but including Day works where priced competitively.

26.3 The Employer reserves the right to accept any variation, deviation or alternative offer. Variations, deviations, alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in tender evaluation.

26.4 Price adjustment provisions in the Conditions of Contract applied over the period of execution of the Contract shall not be taken into account in tender evaluation.

26.5 If the lowest evaluated tender is seriously unbalanced or front loaded in relation to the Employer's estimate of the items of work to be performed under the Contract, the Employer may require the tenderer to produce detailed price analyses for any or all items of the Bills of Quantities, to demonstrate the relationship between those prices, proposed construction methods and schedules. After evaluation of the price analyses, the Employer may require that the amount of the Performance Security set forth in clause 29 be increased at the expense of the successful tenderer to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful tenderer under the Contract.

26.6 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to a non-indigenous sub-contractor.

AWARD OF CONTRACT

27 Award

27.1 Subject to clause 27.2, the Employer will award the Contract to the tenderer whose tender is determined to be substantially responsive to the tender documents and who has offered the lowest evaluated tender price subject to possessing the capability and resources to effectively carry out the Contract Works.

27.2 The Employer reserves the right to accept or reject any tender, and to annual the tendering process and reject all tenders, at any time prior to award of Contract, without thereby incurring any liability to the affected tenderers or any obligation to inform the affected tenderers of the grounds for the Employer's action.

28 Notification of Award

28.1 Prior to the expiration of the period of tender validity prescribed by the Employer, the Employer will notify the successful tenderer by cable, telefax or telex and confirmed in writing by registered letter that his tender has been accepted. This letter (hereinafter and in all Contract documents called "Letter of Acceptance") shall name the sum (hereinafter and in all Contract documents called "the Contract Price") which the Employer will pay to the Contractor in consideration of the execution and completion of the Works as prescribed by the Contract.

28.2 Notification of award will constitute the formation of the Contract.

28.3 Upon the furnishing of a Performance Security by the successful tenderer, the unsuccessful tenderers will promptly be notified that their tenders have been unsuccessful.

28.4 Within twenty eight [28] days of receipt of the form of Contract Agreement from the Employer, the successful tenderer shall sign the form and return it to the Employer together with the required Performance Security.

29 Performance Guarantee

29.1 Within twenty eight [28] days of receipt of the notification of award from the Employer, the successful tenderer shall furnish the Employer with a Performance Security in an amount stated in the Appendix to Instructions to Tenderers.

29.2 The Performance Security to be provided by the successful tenderer shall be an unconditional Bank Guarantee issued at the tenderer's option by an established and a reputable Bank approved by the Employer and located in the Republic of Kenya and shall be divided into two
elements namely, a performance security payable in foreign currencies (based upon the exchange rates determined in accordance with clause 35.4 of the Conditions of Contract) and a performance security payable in Kenya Shillings. The value of the two securities shall be in the same proportions of foreign and local currencies as requested in the form of foreign currency requirements.

29.3 Failure of the successful tenderer to lodge the required Performance Security shall constitute a breach of Contract and sufficient grounds for the annulment of the award and forfeiture of the Tender Security and any other remedy under the Contract the Employer may award the Contract to the next ranked tenderer.

30 Advance Payment

An advance payment, if approved by the Employer, shall be made under the Contract, if requested by the Contractor, in accordance with clause 33.1 of the Conditions of Contract. The Advance Payment Guarantee shall be denominated in the proportion and currencies named in the form of foreign currency requirements. For each currency, a separate guarantee shall be issued. The guarantee shall be issued by a bank located in the Republic of Kenya, or a foreign bank through a correspondent bank located in the Republic of Kenya, in either case subject to the approval of the Employer.

APPENDIX TO INSTRUCTIONS TO TENDERERS
1.CLAUSE 2.1

Change to read "This invitation Tender is open to all tenderers in the category specified."

2. OMIT

Clauses 4.3, 5.1 (a), (d), (f),(h), (i), (j),10.4,11.2, 11.3,11.4,25,30

3. ADD TO CLAUSE 13.1

Amount of tender surety will be Kshs. 200,000.00 or as indicated in the tender advertisement notice

4. ADD TO CLAUSE 13.2

(i) The bid security shall be from a reputable Bank/Insurance Company.
(ii) Tender security to be valid for 150 day from the date of Tender opening.

5. ADD TO 29.1CLAUSE

Amount of performance security will be seven and a half per cent (5%)

6. AMEND CLAUSE 28.4 AND 29.1

Replace twenty eight (28) days with twenty one (21) days.

7. ADD TO CLAUSE 29.2

Performance security shall not be divided in two elements and shall be payable in Kenya Shillings Only.

8. ADD TO CLAUSE 24

(i) In the event of a discrepancy between the tender amount as stated in the form of tender and the corrected tender figure in the main summary of the bills of quantities the amount as stated in the form of tender shall prevail.

(ii) The correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected sub-contact works. (i.e. corrected tender sum less PC and provisional sums)

iii) The Error correction factor shall be applied to all sub-contract works (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

9. ADD EVALUATION CRITERIA - Page (A-16) to (vi)

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 3 stages, namely:

1. Determination of Responsiveness
2. Detailed Technical Examination
3. Combination of Technical and Tender Sums Comparison

STAGE 1- DETERMINATION OF RESPONSIVENESS

A) PRELIMINARY EXAMINATION

This stage of evaluation shall involve examination of the pre-qualification conditions as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions may include the following:

i) Category of Registration with the National Construction Authority (NCA) in the relevant trade.

ii) Class of Licenses with the relevant statutory bodies e.g. Energy Regulatory Commission, Local Authorities, Water Management Boards etc.

iii) Proof of payment for tender document

iv) Provision of Bid Security

v) Dully filled Form of Tender

vi) Any other conditions included in the advertisement notice/Invitation letter.

Note:

The bid security shall be in accordance with clauses 13 and 23.2 of Instruction to Tenderers which states as follows:

- **Clause 13.1** of Instruction to Tenderers,"the tenderers shall furnish as part of his tenders a tender surety in the amount stated in the tender document in the Appendix to Instructions to Tenderers".

- **Clause 13.2** of Instruction to Tenderers, "the unconditional Tender surety shall be in Kenya shillings and be in form of a certified cheque, bank draft, an irrevocable letter of credit or a guarantee from a reputable Bank/ Insurance approved by PPOA located in the Republic of Kenya. The format of the surety shall be in accordance with the sample form included in the tender documents and the tender surety shall be valid for **150 days** from the date of tender opening".

- **Clause 23.2** of Instruction to Tenderers: "For the purposes of this clause, a substantially responsive tender is one which conforms to all terms and condition and specifications of the tender document without material deviation or reservation and has a valid Bank/Insurance guarantee".

The employer may seek further clarification/confirmation if necessary to confirm authenticity/compliance of any condition of the tender.

The tenderers who do not satisfy any of the above requirements shall be considered Non-Responsive and their tenders will not be evaluated further.

B) COMPLETENESS OF TENDER DOCUMENT

The tender document shall be examined based on clause 2.2 of the Instruction to Tenderers which states as follows:

> In accordance with clause 2.2 of Instruction to Tenderers, the tenderers will be required to provide evidence for eligibility of the award of the tender by satisfying the employer of their eligibility under sub clause 2.1 of Instruction to Tenderers and adequacy of resources to effectively carry out the subject contract. The tenderers shall be required to fill the Standards Forms provided for the purposes of providing the required information. The tenderers may also attach the required information if they so desire.
>
> The award of points for the **STANDARD FORMS** considered in this section shall be as shown below

	PARAMETER	**MAXIMUM POINTS**
(i)	Statement of Compliance	3
(ii)	Tender Questionnaire	5
(iii)	Confidential Business Questionnaire	5
(iv)	Key personnel	15
(v)	Contract Completed in the last Five (5) years	15
(vi)	Schedules of on-going projects	10
(vii)	Schedules of contractors equipment	10
(viii)	Audited Financial Report for the last 3 years	10
(ix)	Evidence of Financial Resources	10
(x)	Name, Address and Telephone of Banks **(**Contractor to provide**)**	5
(xi)	Litigation History	2
(xii)	Sanctity of the tender document as in accordance with clause 5 of instruction to tenderer	10
	TOTAL	**100**

The detailed scoring plan shall be as shown in table 1 overleaf: -

TABLE 1

Item	Description	Point Scored	Max. Point	
i	**Statement of Compliance** Signed and stamped ---------- 3 Signed but not stamped or vice versa---------- 2 Not signed nor stamped---------- 0		**3**	
ii	**Tender Questionnaire Form** Completely filled---------- 5 Partially filled---------- 3 Not filled----------0		**5**	
iii	**Confidential Business Questionnaire Form**. Completely filled---------- 5 Partially filled---------- 3 Not filled---------- 0		**5**	
iv	**Key Personnel (Attach evidence)**			**15**
	Director of the firm o Holder of degree or diploma in relevant Engineering field--4 o Holder of certificate in relevant Engineering field------3 o Holder of trade test certificate in relevant Engineering field----------2 o No relevant certificate----------0		**4**	
	At least 1No. degree/diploma of key personnel in relevant Engineering field o With over 10 years relevant experience ----------4 o With over 5 years relevant experience ---------- 3 o With under 5 years relevant experience ---------- 1		**4**	
	At least 1No certificate holder of key personnel in relevant Engineering field o With over 10 years relevant experience ---------- 3 o With over 5 years relevant experience ---------- 2 o With under 5 years relevant experience ----------1		**3**	
	At least 2No artisan (trade test certificate in relevant Engineering field) o Artisan with over 10 years relevant experience-------- 2 o Artisan with under 10 years relevant experience ----- 1 o Non skilled worker with over 10 years relevant experience—1		**4**	

v	**Contract completed in the last five (5) years (Max of 5 No. Projects**) o Project of similar nature, complexity and magnitude ----3 o Project of similar nature but of lower value than the one in consideration---------- 2 o No completed project of similar nature ---------- 0		**15**	
vi	**On-going projects (Max of 5 No. Projects)** o Project of similar nature, complexity and magnitude ----2 o Project of similar nature but of lower value than the one in consideration ----------1 o No ongoing project of similar nature----------0		**10**	
vii	**Schedule of contractors equipment and transport (proof or evidence of ownership)** o Means of transport (Vehicle)---------- 4 o No means of transport ---------- 0		4	**10**
	For each specific equipment required in the installation of the Work being tendered for. (Maximum No. of equipment to be considered – 3 No.)----- 2		6	
viii	**Financial report** **Audited financial report (last three (3) years)** o Turn over greater or equal to 5 times the cost of the project ---------- 10 o Turn over greater or equal to 3 times the cost of the project ---------- 6 o Turn over greater or equal to cost of the project ------- 4 o Turn over below the cost of the project ---------- 2		**10**	
ix	**Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc)** o Has financial resources equal or above the cost of the project---------- 10 o Has financial resources below the cost of the project----5 o Has not indicated sources of financial resources --------0		**10**	
x	**Name, Address and Telephone of Banks (Contractor to provide)** o Provided ---------- 5 o Not provided---------- 0		**5**	
xi	**Litigation History** o Filled ----------2 o Not filled----------0		**2**	
xii	**Sanctity of the tender document** o Having the document intact (not tempered with in any way)----------10 o Having mutilated or modified the tender document-----0		**10**	
	TOTAL		**100**	

Any bidder who scores 60 points and above shall be considered for further evaluation

STAGE 2 - TECHNICAL EVALUATION

A) COMPLIANCE WITH TECHNICAL SPECIFICATIONS

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document.

The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

Where the Equipment proposed by the tenderer differs with the models specified in the tender document, it is mandatory that the brochures/catalogues of the same be submitted with the tender document highlighting the catalogues Numbers of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

a) Standards of manufacture

b) Performance ratings/characteristics

c) Material of manufacture

d) Electrical power ratings and

e) Any other necessary requirements (Specify)

Following the above analyses, where the proposed equipment are found not to satisfy the specifications, the tender will be deemed Non – Responsive and will not be evaluated further.

B) TECHNICAL EXAMINATION

In this section, the information provided in the Technical Schedule or Brochures attached will be analyzed for bidders who have qualified from **STAGE 2A** above and points awarded as shown below to a maximum of 70 points

TABLE 2

Item	Description	Score	Max. score
	Technical schedule/Brochures o Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied highlighted and meets specification (Where alternative are to supplied---------- 70 or o Completely filled Technical Schedule indicating Brand, Model/ Country of origin as per specification in the tender---------- 70 o Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied not highlighted but within range of those specified and meets specifications ---------- 55 or o Completely filled Technical Schedule indicating items as specified in the tender but less than 100% and above 75% of items in the technical provided ----------55 o Relevant Manufacturer Brochures for items in the technical schedule with equipments to be supplied but between 50%and 75% of items highlighted and within range of those specified and meets specifications ---------- 40 or o Completely filled Technical Schedule indicating items as specified in the tender but between 50%and 75% of items in the technical schedule provided----------40 o Relevant Manufacturer Brochures for between 25% and 50% of items in the technical schedule with equipments to be supplied highlighted and meets specifications---------- 25 or o for between 25% and 50%of Technical Schedule filled indicating Brand, Model/Country of origin for the items considered as specified in the tender ----------25 o Less than 25% provided or no technical data provided, either in form of brochures or filling of Technical Schedule. ---------- 0		**70**
	TOTAL		70

The Technical score will be carried forward to **STAGE 4**

STAGE 3 - FINANCIAL EVALUATION

The evaluation shall be in two sections
1. Preliminary examinations and
2. Tender sum Comparisons

A) PRELIMINARY EXAMINATIONS

The preliminary examination in the Financial Evaluation shall be in accordance with clause 26 of Instruction to Tenderers.

The parameter to be considered under this section includes the following:
a) Arithmetic errors and comparison of rates

(1) Arithmetic Errors

The bid shall be checked for arithmetic errors based on the rates and the total sums indicated in the bills of quantities.

a) Confirmation shall be sought in writing from the tenderers whose tender sums will be determined to have a significant arithmetic error to their disadvantage, to confirm whether they stand by their tender sums. The error shall be treated as per **clause 24 of Instructions to Tenderers**.
Non compliance with the above shall lead to **automatic disqualification from further evaluation.**

Discount if any shall be treated as an error in pursuant to **clause 26.3** of Instructions to Tenderers

(2) Comparison of rates

The evaluation committee will compare rates from different bidders and note consistency of rates and front loading. The evaluation committee will judge and make an appropriate decision giving evidence.

B) TENDER SUMS COMPARISONS

In this section, tender sums will be compared to the average of all sums for bidders who have qualified from **STAGE 3A** and score awarded to a maximum score of 30 as shown below.

1 Preliminary Average

i. The tender sums of various binders, who qualify at **STAGE 3A** and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. The **average** of the adjusted tender sums so obtained shall be calculated.

ii. Any tenderer whose tender percentage deviation is 20% higher or lower than the average obtained above, will be deemed to be unreasonably high or low and shall not be included in determining the mean in table 3, However their bids will still be evaluated further. The Engineer's estimate will also be subjected to the same treatment.

2. Working mean

The detailed scoring plan shall be as shown in table 3 overleaf:

TABLE 3

Item	Description	Score	Max. score
I	Tender Sums: (The tender sums of binders, who qualify at STAGE 3A and the engineer's estimates, shall be reduced by omitting PC sums, provisional sums and contingency from the respectful amounts. The average of the adjusted tender sums so obtained shall be calculated. The deviation of the reduced amounts in respect of each bidder from the average shall then be worked out as a percentage of the average (Rounded off to one (1) decimal point) and scores allocated as follows :-) o Deviation of between 0% and 1% ---------- 30 o Deviation of between 1.1% and 2%---------- 28.5 o Deviation of between 2.1% and 3%---------- 27 o Deviation of between 3.1% and 4%---------- 25.5 o Deviation of between 4.1% and 5%---------- 24 o Deviation of between 5.1% and 6%---------- 22.5 o Deviation of between 6.1% and 7%---------- 21 o Deviation of between 7.1% and 8%---------- 19.5 o Deviation of between 8.1% and 9% ---------- 18 o Deviation of between 9.1% and 10%---------- 16.5 o Deviation of between 10.1% and 11%---------- 15 o Deviation of between 11.1% and 12%---------- 13.5 o Deviation of between 12.1% and 13%---------- 12 o Deviation of between 13.1% and 14%---------- 10.5 o Deviation of between 14.1% and 15%---------- 9 o Deviation of between 15.1% and 16%---------- 7.5 o Deviation of between 16.1% and 17% ---------- 6 o Deviation of between 17.1% and 18% ---------- 4.5 o Deviation of between 18.1% and 19%---------- 3 o Deviation of between 19.1% and 20%----------1.5 o Deviation of 20.1% and above---------- 0		30
	TOTAL		30

The Tender sum score will be carried forward to **STAGE 4**

STAGE 4 - <u>FINAL SCORE</u>

The total score will be combined sums of Technical, Tender Sums Comparison and Financial marks as below:

Technical (Ts) + Tender Sums Comparison (TSC) = Ts + TSC

<u>RECOMMENDATION</u>

The lowest responsive bidder who score 75% and above may be recommended for award.

SECTION B:

CONDITIONS OF CONTRACT (SUB CONTRACT WORKS)

CONDITIONS OF CONTRACT (SUB CONTRACT WORKS)

CONTENTS

CLAUSE No.		PAGE
1.	DEFINITIONS……	B-2
2.	CONTRACT DOCUMENTS……	B-3
3.	EMPLOYER'S REPRESENTATIVE'S DECISIONS……..	B-4
4.	WORKS, LANGUAGE AND LAW OF CONTRACT……	B-4
5.	SAFETY, TEMPORARY WORKS AND DISCOVERIES……	B-4
6.	WORK PROGRAMME AND SUB-CONTRACTING……	B-4
7.	THE SITE……..	B-4
8.	INSTRUCTIONS……..	B-5
9.	EXTENSION OF COMPLETION DATE……	B-5
10.	MANAGEMENT MEETINGS……	B-6
11.	DEFECTS……	B-6
12.	BILLS OF QUANTITIES/SCHEDULE OF RATES…….	B-7
13.	VARIATIONS……	B-7
14.	PAYMENT CERTIFICATES AND FINAL ACCOUNT ……	B-8
15.	INSURANCES ……	B-9
16.	LIQUIDATED DAMAGES……	B-9
17.	COMPLETION AND TAKING OVER…….	B-9
18.	TERMINATION……	B-9
19.	PAYMENT UPON TERMINATION……	B-10
20.	CORRUPT GIFTS AND PAYMENTS OF COMMISSION……	B-10
21.	SETTLEMENT OF DISPUTES……..	B-11
	APPENDIX TO CONDITIONS OF CONTRACT ……	B-12

CONDITIONS OF CONTRACT (SUB CONTRACT WORKS)

1. Definitions

1.1 In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

"Bills of Quantities" means the priced and completed Bill of Quantities forming part of the tender[where applicable].

"Schedule of Rates" means the priced Schedule of Rates forming part of the tender [where applicable].

"The Completion Date" means the date of completion of the Works as certified by the Employer's Representative.

"The Contract" means the agreement entered into by the Employer and the Contractor as recorded in the Agreement Form and signed by the parties.

"The Contractor" refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

"The Contractor's Tender" is the completed tendering document submitted by the Contractor to the Employer.

"The Contract Price" is the price stated in the Letter of Acceptance.

"Days" are calendar days; **"Months"** are calendar months.

"A Defect" is any part of the Works not completed in accordance with the Contract.

"The Defects Liability Certificate" is the certificate issued by Employer's Representative upon correction of defects by the Contractor.

"The Defects Liability Period" is the period named in the Appendix to Conditions of Contract and calculated from the Completion Date.

"Drawings" include calculations and other information provided or approved by the Employer's Representative for the execution of the Contract.

"Employer" includes Central or Local Government administration, Universities, Public Institutions and Corporations and is the party who employs the Contractor to carry out the Works.

"Equipment" is the Contractor's machinery and vehicles brought temporarily to the Site for the execution of the Works.

"Site" means the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

"Materials" are all supplies, including consumables, used by the Contractor for incorporation in the Works.

"Employer's Representative" is the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

"Specification" means the Specification of the Works included in the Contract.

"Start Date" is the date when the Contractor shall commence execution of the Works.

"A Sub-contractor" is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

"Temporary works" are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

" A Variation" is an instruction given by the Employer's Representative which varies the Works.

"The Works" are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

2. Contract Documents

2.1 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;

(1) Agreement,
(2) Letter of Acceptance,
(3) Contractor's Tender,
(4) Conditions of Contract,
(5) Specifications,
(6) Drawings,
(7) Bills of Quantities or Schedule of Rates [whichever is applicable)

3. Employer's Representative's Decisions

3.1 Except where otherwise specifically stated, the Employer's Representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

4. Works, Language and Law of Contract

4.1 The Contractor shall construct and install the Works in accordance with the Contract documents. The Works may commence on the Start Date and shall be carried out in accordance with the Programme submitted by the Contractor, as updated with the approval of the Employer's Representative, and complete them by the Intended Completion Date.

4.2 The ruling language of the Contract shall be English language and the law governing the Contract shall be the law of the Republic of Kenya.

5. Safety, Temporary works and Discoveries

5.1 The Contractor shall be responsible for design of temporary works and shall obtain approval of third parties to the design of the temporary works where required.

5.2 The Contractor shall be responsible for the safety of all activities on the Site.

5.3 Any thing of historical or other interest or significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Employer's Representative of such discoveries and carry out the Employer's Representative's instructions for dealing with them.

6. Work Programme and Sub-contracting

6.1 Within seven days after Site possession date, the Contractor shall submit to the Employer's Representative for approval a programme showing the general methods, arrangements, order and timing for all the activities in the Works.

6.2 The Contractor may sub-contract the Works (but only to a maximum of 25 percent of the Contract Price) with the approval of the Employer's Representative. However, he shall not assign the Contract without the approval of the Employer in writing. Sub-contracting shall not alter the Contractor's obligations.

7. The site

7.1 The Employer shall give possession of all parts of the Site to the Contractor.

7.2 The Contractor shall allow the Employer's Representative and any other person authorised by the Employer's Representative, access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

8. Instructions

8.1 The Contractor shall carry out all instructions of the Employer's Representative which are in accordance with the Contract.

9. Extension of Completion Date

9.1 The Employer's Representative shall extend the Completion Date if an occurrence arises which makes it impossible for completion to be achieved by the Intended Completion Date. The Employer's Representative shall decide whether and by how much to extend the Completion Date.

9.2 For the purposes of this Clause, the following occurrences shall be valid for consideration;

Delay by:-

(a) force majeure, or

(b) reason of any exceptionally adverse weather conditions, or

(c) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works, or

(d) reason of the Employer's Representative's instructions issued under these Conditions, or

(e) reason of the contractor not having received in due time necessary instructions, drawings, details or levels from the Employer's Representative for which he specifically applied in writing on a date which having regard to the date for Completion stated in the appendix to these Conditions or to any extension of time then fixed under this Clause was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive the same, or

(f) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract, or

(g) reason of delay by statutory or other services providers or similar bodies engaged directly by the Employer, or

(h) reason of opening up for inspection of any Work covered up or of the testing or any of the Work, materials or goods in accordance with these conditions unless the inspection or test showed that the Work, materials or goods were not in accordance with this Contract, or

(i) reason of delay in appointing a replacement Employer's Representative, or

(j) reason of delay caused by the late supply of goods or materials or in executing Work for which the Employer or his agents are contractually obliged to supply or to execute as the case may be, or

(k) Delay in receiving possession of or access to the Site.

10. Management Meetings

10.1 A Contract management meeting shall be held regularly and attended by the Employer's Representative and the Contractor. Its business shall be to review the plans for the remaining Work. The Employer's Representative shall record the business of management meetings and provide copies of the record to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Employer's Representative either at the management meeting or after the management meeting and stated in writing to all who attend the meeting.

10.2 Communication between parties shall be effective only when in writing.

11. Defects

11.1 The Employer's Representative shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Employer's Representative may instruct the Contractor to search for a defect and to uncover and test any Work that the Employer's Representative considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor. However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.

11.2 The Employer's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract.

11.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Employer's Representative's notice. If the Contractor has not corrected a defect within the time specified in the Employer's Representative's notice, the Employer's Representative will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

12. Bills of Quantities/Schedule of Rates

12.1 The Bills of Quantities/Schedule of Rates shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rates in the Bills of Quantities/Schedule of Rates for each item. Items against which no rate is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the rates for other items in the Bills of Quantities/Schedule of Rates.

12.2 Where Bills of Quantities do not form part of the Contract, the Contract Price shall be a lump sum (which shall be deemed to have been based on the rates in the Schedule of Rates forming part of the tender) and shall be subject to re-measurement after each stage.

13. Variations

13.1 The Contractor shall provide the Employer's Representative with a quotation for carrying out the variations when requested to do so. The Employer's Representative shall assess the quotation and shall obtain the necessary authority from the Employer before the variation is ordered.

13.2 If the Work in the variation corresponds with an item description in the Bill of Quantities/Schedule of Rates, the rate in the Bill of Quantities/Schedule of Rates shall be used to calculate the value of the variation. If the nature of the Work in the variation does not correspond with items in the Bill of Quantities/Schedule of Rates, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.

13.3 If the Contractor's quotation is unreasonable, the Employer's Representative may order the variation and make a change to the Contract Price, which shall be based on the Employer's Representative's own forecast of the effects of the variation on the Contractor's costs.

14. Payment Certificates and Final Account

14.1 The Contractor shall be paid after each of the following stages of Work listed herebelow (subject to re-measurement by the Employer's Representative of the Work done in each stage before payment is made). In case of lump-sum Contracts, the valuation for each stage shall be based on the quantities so obtained in the re-measurement and the rates in the Schedule of Rates.

(i) Advance payment [after Contract execution] **NIL** (*percent of Contract Price, to be inserted by the Employer).*

(ii) First stage (*define stage)* ***AS PER PROGRESS***

(iii) Second stage *(define stage*) ***AS PER PROGRESS***

(iv) Third stage (*define stage)* ***AS PER PROGRESS***

(v) After defects liability period.

14.2 Upon deciding that Works included in a particular stage are complete, the Contractor shall submit to the Employer's Representative his application for payment. The Employer's Representative shall check, adjust if necessary and certify the amount to be paid to the Contractor within 21 days of receipt of the Contractor's application .The Employer shall pay the Contractor the amounts so certified within 30 days of the date of issue of each Interim Certificate.

14.3 The Contractor shall supply the Employer's Representative with a detailed final account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer's Representative shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Employer's Representative shall issue within 21 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Employer's Representative shall decide on the amount payable to the Contractor and issue a Final Payment Certificate. The Employer shall pay the Contractor the amount so certified within 60 days of the issue of the Final Payment Certificate.

14.4 If the period laid down for payment to the Contractor upon each of the Employer's Representative's Certificate by the Employer has been exceeded, the Contractor shall be entitled to claim simple interest calculated pro-rata on the basis of the number of days delayed at the

Central Bank of Kenya's average base lending rate prevailing on the first day the payment becomes overdue. The Contractor will be required to notify the Employer within 15 days of receipt of delayed payments of his intentions to claim interest.

15. Insurance

15.1 The Contractor shall be responsible for and shall take out appropriate cover against, among other risks, personal injury; loss of or damage to the Works, materials and plant; and loss of or damage to property.

16. Liquidated Damages

16.1 The Contractor shall pay liquidated damages to the Employer at the rate 0.001 per cent of the Contract price per day for each day that the actual Completion Date is later than the Intended Completion Date except in the case of any of the occurrences listed under Clause 9.2. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

17. Completion and Taking Over

17.1 Upon deciding that the Work is complete the Contractor shall request the Employer's Representative to issue a Certificate of Completion of the Works, upon deciding that the Work is completed.

The Employer shall take over the Site and the Works within seven days of the Employer's Representative issuing a Certificate of Completion.

18. Termination

18.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;

(a) the Contractor stops Work for 30 days continuously without reasonable cause or authority from the Employer's Representative;

(b) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(c) a payment certified by the Employer's Representative is not paid by the Employer to the Contractor within 30 days after the expiry of the payment periods stated in Sub-Clauses 14.2 and 14.3 here above.

(d) the Employer's Representative gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time.

18.2 If the Contract is terminated, the Contractor shall stop Work immediately, and leave the Site as soon as reasonably possible. The Employer's Representative shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials, goods, equipment and temporary buildings on Site.

19. Payment Upon Termination

19.1 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the Works and use all materials on Site, plant, equipment and temporary works.

19.2 The Contractor shall, during the execution or after the completion of the Works under this Clause, remove from the Site as and when required within such reasonable time as the Employer's Representative may in writing specify, any temporary buildings, plant,
machinery, appliances, goods or materials belonging to him, and in default thereof , the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.

19.3 Until after completion of the Works under this Clause, the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefor the Employer's Representative shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract, the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

20. Corrupt Gifts and Payments of Commission

20.1 The Contractor shall not:

(a) Offer or give or agree to give to any person in the service of the Employer any gifts or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract with the Employer.

(b) Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the Laws of Kenya.

21. Settlement of Disputes

21.1 Any dispute arising out of the Contract which cannot be amicably settled between the parties shall be referred by either party to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the chairman of the Chartered Institute of Arbitrators, Kenya branch, on the request of the applying party.

APPENDIX TO CONDITIONS OF CONTRACT

THE EMPLOYER IS

The County Government of Meru
Represented by:
The Chief Officer, Health
County Government of Meru,
P.O. Box 120-60200,
Meru

Name of Employer's Representative:
Works Secretary,
State Department of Publics works in the Ministry of Transport, Infrastructure, Housing & Urban Development
Address: **P.O. Box 30743 - 00100, NAIROBI**
Info:info@publicworks.go.ke
The name (and identification number) of the Contract is **Proposed Erection and Completion of a Ward Block at Meru County Level 5 Hospital (Phase 1), Meru County.**

W.P ITEM NO.D108/EN/MRU 1601 -JOB NO.0397F

The Works consist of **Supply, Delivery, Installation, Testing and Commission of sanitary fittings, Internal Plumbing, Drainage and Fire Fighting Installations Works**

The Start date shall be **as agreed with the project manager**

The Intended contract period for the whole of the Works shall be **120 weeks from the date of commencement**

The following documents also form part of the Contract: **(Only as listed in Clause 2)**

The Site Possession Date shall be **as stated in the letter of acceptance**.

The Sites is **located in Meru County**

The Defects Liability Period is **180 days**

Amount of Tender Security is **Kshs. 200,000**

The name and Address of the Employer's representative for the purposes of submission of tenders is **Works Secretary,** Ministry of Transport, Infrastructure, Housing & Urban Development, **P.O. Box 30743-30100, Nairobi.**

The tender opening date and time is **as stated in the invitation to tender.**

The amount of performance security is **5 percent** bank guarantee of the Contract Price.

Period of final measurement	:	**3 months from practical completion**
Liquidated and Ascertained damages:		**At the rate of Kshs. 50,000.00 per week or part thereof**
Prime cost sums for which the Contractor desires to tender	:	**Nil**
Period of honouring certificate:		**45 days**
Percentage of certified value retained:		**10%**
Limit of retention fund		**5%**

SECTION C

SUB-CONTRACT PRELIMINARIES

AND

GENERAL CONDITIONS

CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

CLAUSE	DESCRIPTION	PAGE
1.01	Examination of Tender Documents	C-1
1.02	Discrepancies	C-1
1.03	Conditions of Contract Agreement	C-1
1.04	Payments	C-2
1.05	Definition of Terms	C-2
1.06	Site Location	C-3
1.07	Duration of contract	C-4
1.08	Scope of contract Works	C-4
1.09	Extent of the Contractor's Duties	C-4
1.10	Execution of the Works	C-4
1.11	Validity of Tender	C-5
1.12	Firm – Price Contract	C-5
1.13	Variation	C-5
1.14	Prime Cost and Provisional Sums	C-6
1.15	Bond	C-6
1.16	Government Legislation and Regulations	C-6
1.17	Import Duty and Value Added Tax	C-6
1.18	Insurance Company Fees	C-7
1.19	Provision of Services by the Main Contractor	C-7
1.20	Suppliers	C-8
1.21	Samples and Materials Generally	C-8
1.22	Administrative Procedure and Contractual Responsibility	C-8
1.23	Bills of Quantities	C-8
1.24	Contractor's Office in Kenya	C-9

1.25	Builders Work	C-9
1.26	Structural Provision for the Works	C-9
1.27	Position of Services, Plant, Equipment, Fittings and Apparatus	C-10
1.28	Checking of Work	C-10
1.29	Setting to Work and Regulating System	C-10
1.30	Identification of Plant and Components	C-11
1.31	Contract Drawings	C-11
1.32	Working Drawings	C-11
1.33	Record Drawings (As Installed) and Instructions	C-13
1.34	Maintenance Manual	C-14
1.35	Hand – Over	C-15
1.36	Painting	C-15
1.37	Spares	C-16
1.38	Testing and Inspection – Manufactured Plant	C-16
1.39	Testing and Inspection – Installation	C-16
1.40	Labour Camps	C-17
1.41	Storage of Materials	C-17
1.42	Initial Maintenance	C-17
1.43	Maintenance and Servicing after Completion of the Initial Maintenance	C-17
1.44	Trade Names	C-18
1.45	Water and Electricity for the Works	C-18
1.46	Protection	C-18
1.47	Defects After Completion	C-18
1.48	Damages for Delay	C-18
1.49	Clear Away on Completion	C-18

1.50	Final Account	C-19
1.51	Fair Wages	C-19
1.52	Supervision	C-19
1.53	Test Certificates	C-20
1.54	Labour	C-20
1.55	Discount to the Main Contractor	C-20
1.56	Guarantee	C-20
1.57	Direct Contracts	C-20
1.58	Attendance Upon the Tradesmen	C-20
1.59	Trade Union	C-20
1.60	Local and other Authorities notices and fees	C-21
1.61	Assignment or Subletting	C-21
1.62	Partial Completion	C-21
1.63	Temporary Works	C-22
1.64	Patent Rights	C-21
1.65	Mobilization And Demobilization	C-22
1.66	Extended Preliminaries	C-22
1.67	Supervision by Engineer and Site Meetings	C-23
1.68	Amendment to Scope of Contract Works	C-23
1.69	Contractors Obligation and Employers Obligation	C-23
1.70	Appendix to Sub-Contract preliminaries and General conditions	C-24

SECTION C

SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

Examination of Tender Documents

The tenderer is required to check the number of pages of this document and should he find any missing or indistinct, he must inform the Engineer at once and have the same rectified.

All tenderers shall be deemed to have carefully examined the following:

Work detailed in the Specification and in the Contract Drawings.

The Republic of Kenya Document "General Conditions of Contract for Electrical and Mechanical Works".

Other documents to which reference is made.

He shall also be deemed to have included for any expenditure which may be incurred in conforming with the above items (a), (b), (c) and observe this expense as being attached to the contract placed for the whole or any part of the work.

The tenderer shall ensure that all ambiguities, doubts or obscure points of detail, are clarified with the Engineer before submission of his tender, as no claims for alleged deficiencies in the information given shall be considered after this date.

Discrepancies

The Contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.

Should the drawing and the specification appear to conflict, the Sub-contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded.

Conditions of Contract Agreement

The Contractor shall be required to enter into a Sub-contract with the Main Contractor.

The Conditions of the Contract between the Main Contractor and any Sub-contractor as hereinafter defined shall be the latest edition of the Agreement and Schedule of Conditions of Kenya Association of Building and Civil Engineering Contractors as particularly modified and amended hereinafter.

For the purpose of this contract the Agreement and Schedule of Conditions and any such modifications and amendments shall read and construed together. In any event of discrepancy the modifications and amendments shall prevail.

1.04 Payment

Payment will be made through certificates to the Main Contractor, All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site.

1.05 Definition of Terms

Throughout these contract documents units of measurements, terms and expressions are abbreviated and wherever used hereinafter and in all other documents they shall be interpreted as follows:

i) **Employer:** The term **"Employer"** shall mean **The Government of The Republic of Kenya Represented by: The chancellor, Moi University**

ii) **Architect:** The term **"Architect"** shall mean **The Chief Architect, Ministry of Transport, Infrastructure, Housing & Urban Development**

iii) **Quantity Surveyor**: The term **"Quantity Surveyor"** shall mean **The Chief Quantity Surveyor, Ministry of Transport, Infrastructure, Housing & Urban Development**

iv) **Civil/Structural Engineers**: The term **"Civil/Structural Engineers"** shall mean **The Chief Engineer (Structural), Ministry of Transport, Infrastructure, Housing & Urban Development**

v) **Engineer**: The term **"Engineer"** shall mean **Chief Engineer Mechanical (BS), Ministry of Transport, Infrastructure, Housing & Urban Development**

vi) **Main Contractor:** The term **"Main Contractor"** shall mean the firm or company appointed to carry out the Building Works and shall include his or their heir, executors, assigns, administrators, successors, and duly appointed representatives.

Sub-contractor: The term **"Sub-contractor"** shall mean the persons or person, firm or Company whose tender for this work has been accepted, and who has entered into a contract agreement with the Contractor for the execution of the Sub-contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.

viii) **Sub-contract Works:** The term **"Sub-contract Works"** shall mean all or any portion of the work, materials and articles, whether the same are being manufactured or prepared, which are to be used in the execution of this Sub-contract and whether the same may be on site or not.

Contract Drawings: The term **"Contract Drawings"** shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.

Working Drawings: The term **"Working Drawings"** shall mean those drawings required to be prepared by the Sub-contractor as hereinafter described.

xi) **Record Drawings:** The term **"Record Drawings"** shall mean those drawings required to be prepared by the Sub-contractor showing "as installed" and other records for the Sub-contract Works.

xii) **Abbreviations:**

CM shall mean **Cubic Metre**
SM shall mean **Square Metre**
LM shall mean **Linear Metre**
LS shall mean **Lump Sum**
mm shall mean **Millimetres**
No. Shall mean **Number**
Kg. shall mean **Kilogramme**
KEBS or KS shall mean **Kenya Bureau of Standards**
BS shall mean. **Current standard British Standard Specification published by the British Standard Institution, 2 Park Street, London W1, England**

"Ditto" shall mean the whole of the preceding description in which it occurs. Where it occurs in description of succeeding item it shall mean the same as in the first description of the series in which it occurs except as qualified in the description concerned. Where it occurs in brackets it shall mean the whole of the preceding description which is contained within the appropriate brackets.

1.06 **Site Location**

The site of the Contract Works is situated at **Meru County**.
The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the sub-contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect.

1.07 **Duration of Sub-Contract**

The Contractor shall be required to phase his work in accordance with the Main contractor's programme (or its revision).

1.08 **Scope of Contract Works**

The contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.

The contractor shall supply all accessories, whether of items or equipment supplied by the Sub-Contractor but to be fixed and commissioned under this contract.

1.09 **Extent of the Sub-contractor's Duties**

At the commencement of the works, the contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer. Failure to do so shall in no way relieve the contractor from supplying the specified materials and equipment in time.

Materials supplied by others for installation and/or connection by the Contractor shall be carefully examined in the presence of the supplier Before installation and connection. Any defects noted shall immediately be Reported to the Engineer.

The contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.

The Contractor shall mark accurately on one set of drawings and Indicate all alterations and/or modifications carried out to the designed System during the construction period. This information must be made available on site for inspection by the Engineer.

1.10 **Execution of the Works**

The works shall be carried out strictly in accordance with:

a) All relevant Kenya Bureau of Standards Specifications.

b) All relevant British Standard Specifications and Codes Of Practice (hereinafter referred to B.S. and C.P. respectively).

c) General specifications of materials and works Section D of this document

d) The Contract Drawings.

e) The Bye-laws of the Local Authority.

f) The Architect's and/or Engineer's Instructions.

The Contract Drawings and Specifications are to be read and construed together.

1.11 **Validity of Tender**

The tender shall remain valid for acceptance within 120 days from the final date of submission of the tender, and this has to be confirmed by signing the Tender Bond. The tenderer shall be exempted from this Bond if the tender was previously withdrawn in writing to the Employer before the official opening.

1.12 **Firm – Price Contract**

Unless specifically stated in the documents or the invitation to tender, this is a firm-price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials, which may arise as a result of currency fluctuation during the contract period.

1.13 **Variation**

No alteration to the Contract Works shall be carried out until receipt by the Contractor of written instructions from the Project Manager.

Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.

Where the Architect requires additional work to be performed, the Sub-contractor, if he considers it necessary, will give notice within seven (7) days to the Main Contractor of the length of time he (the Sub-contractor) requires over and above that allotted for completion of the Contract.

If the Sub-contractor fails to give such notice he will be deemed responsible for the claims arising from the delay occasioned by reason of such extension of time.

1.14 **Prime Cost and Provisional Sums**

A specialist Sub-contractor may be nominated by the Project Manager to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Contract documents.

The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Project Manager.

The whole or any part of these sums utilised by the Contractor shall be deducted from the value of the Contract price when calculating the final account.

1.15 **Bond**

The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 7½ % of the Contract amount as Clause 28 of the Conditions of Contract.

1.16 **Government Legislation and Regulations**

The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.

The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.

The Contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements.

1.17 **Import Duty and Value Added Tax**

The Sub-contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.

1.18 **Insurance Company Fees**

Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.

No allowance shall be made to the contractor with respect to fees should these have been omitted by the tenderer due to his negligence in this respect.

1.19 **Provision of Services by the Main Contractor**

In accordance with Clause 1.08 of this Specification the Contractor shall make the following facilities available to the Sub-contractor:

a) Attendance on the Sub-Contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise.

b) The provision of temporary water, lighting and power: the Contractor pay for all these services utilized.

c) Fixing of anchorage and pipe supports in the shuttering, shall be supplied by the Contractor who shall also supply the Project Manager with fully dimensioned drawings detailing the exact locations.

d) i)Provision of scaffolding, cranes, etc. It shall be the Contractor's responsibility to liaise with the Project Manager to ensure that there is maximum co-operation with other nominated Sub-contractors in the use of scaffolding, cranes, etc.

ii)Any specialist scaffolding, cranes, etc. by the Contractor for his own exclusive use shall be paid for by the Sub-contractor.

1.20 **Suppliers**

The Contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval. Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question.

1.21 **Samples and Materials Generally**

The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.

1.22 **Administrative Procedure and Contractual Responsibility**

Wherever within the Specification it is mentioned or implied that the Contractor shall deal direct with the Employer or Engineer, it shall mean "through the Project Manager who is responsible to the Employer for the whole of the works including the Sub-contract Works.

1.23 **Bills of Quantities**

The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Contractor but the value thereof shall be deducted from the Contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Contract.

All work liable to adjustment under this Contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Contractor shall make default in these respects he shall, if the Engineer so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.

1.24 **Contractor's Office in Kenya**

The Contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Contract Works.

The Engineer Manager and his staff shall be empowered by the Contractor to represent him at meetings and in discussions with the Project Manager, the Engineer and other parties who may be concerned and any liaison with the Contractor's Head Office on matters relating to the design, execution and completion of the Contract Works shall be effected through his office in Kenya.

It shall be the Contractor's responsibility to procure work permits, entry permits, licences, registration, etc., in respect of all expatriate staff.

The Contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the Sub-contractor's Head Office is remote from his office in Nairobi or the site of the Contract Works or otherwise.

1.25 **Builder's Work**

All chasing, cutting away and making good will be done by the Contractor. The Contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.

The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.

Any purpose made fixing brackets shall be provided and installed by the Contractor.

1.26 **Structural Provision for the Works**

Preliminary major structural provision has been made for the Contract Works based on outline information ascertained during the preparation of the Specification.

The preliminary major structural provision made will be deemed as adequate unless the Contractor stated otherwise when submitting his tender.

Any major structural provision or alteration to major structural provisions required by the Contractor shall be shown on Working Drawings to be submitted to the Engineer within 30 days of being appointed.

No requests for alterations to preliminary major structural provisions will be approved except where they are considered unavoidable by the Engineer. In no case will they be approved if building work is so far advanced as to cause additional costs or delays in the works.

1.27 **Position of Services, Plant, Equipment, Fittings and Apparatus**

The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact sitting of appliances, pipework, etc., may vary from that indicated.

The routes of services and positions of apparatus shall be determined by the approved dimensions detailed in the Working Drawings or on site by the Engineer in consultation with the Contractor.

Services through the ducts shall be arranged to allow maximum access along the ducts and the services shall be readily accessible for maintenance. Any work, which has to be re-done due to negligence in this respect shall be the Sub-contractor's responsibility.

The Sub-contractor shall be deemed to have allowed in his Contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings. Within these limits no variations in the Contract Sum will be made unless the work has already been executed in accordance with previously approved Working Drawings and with the approval of the Engineer.

1.28 **Checking of Work**

The Contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Contract agreement and equipment supplied under other contracts before it is put into operation. Details of operation, working pressures, temperatures, voltages, phases, power rating, etc., shall be confirmed to others and confirmation received before the system is first operated.

1.29 **Setting to Work and Regulating System**

The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary.

No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted).

It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.

The Contractor shall commission the Contract Works and provide attendance during the commissioning of all services, plant and apparatus connected under the Contract Agreement or other Sub-contract Agreements, related to the project.

Each system shall be properly balanced, graded and regulated to ensure that correct distribution is achieved and where existing installations are affected, the Contractor shall also regulate these systems to ensure that their performance is maintained.

The proving of any system of plant or equipment as to compliance with the Specification shall not be approved by the Engineer, except at his discretion, until tests have been carried out under operating conditions pertaining to the most onerous conditions specified except where the time taken to obtain such conditions is unreasonable or exceeds 12 months after practical completion of the Contract Works.

1.30 **Identification of Plant Components**

The Contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment.

Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture.

1.31 **Contract Drawings**

The Contract Drawings when read in conjunction with the text of the Specification, have been completed in such detail as was considered necessary to enable competitive tenders to be obtained for the execution and completion of the Contract works.

The Contract Drawings are not intended to be Working Drawings and shall not be used unless exceptionally they are released for this purpose.

1.32 **Working Drawings**

The Contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works.

If the Contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected.

The Engineer, in giving his approval to the Working Drawings, will presume that any necessary action has been, or shall be taken by the Contractor to ensure that the installations shown on the Working Drawings have been cleared with the Project Manager and any other Sub-contractors whose installations and works might be affected.

If the Contractor submits his Working Drawings to the Engineer without first liaising and obtaining clearance for his installations from the Project Manager and other Sub-contractors whose installations and works might be affected, then he shall be liable to pay for any alterations or modification to his own, or other Sub-contractor's installations and works, which are incurred, notwithstanding any technical or other approval received from the Engineer.

Working Drawings to be prepared by the Contractor shall include but not be restricted to the following:

Any drawings required by the Engineer to enable structural provisions to be made including Builder's Working Drawings or Schedules and those for the detailing of holes, fixings, foundations, cables and paperwork ducting below or above ground or in or outside or below buildings.

General Arrangement Drawings of all plant, control boards, fittings and apparatus or any part thereof and of installation layout arrangement of such plant and apparatus.

Schematic Layout Drawings of services and of control equipment.

Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.

Complete circuit drawings of the equipment, together with associated circuit description.

Such other drawings as are called for in the text of the Specification or Schedules or as the Engineer may reasonably require.

Three copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Contractor indicating approval or amendment therein.

Six copies of the approved Working Drawings shall be given to the Project Manager by the Sub-contractor for information and distribution to other Sub-contractors carrying out work associated with or in close proximity to or which might be affected by the Sub-contract Works.

Approved Working Drawings shall not be departed from except as may be approved or directed by the Engineer.

Approval by the Engineer of Working Drawings shall neither relieve the Contractor of any of his obligations under the Sub-contract nor relieve him from correcting any errors found subsequently in the Approved Working Drawings or other Working Drawings and in the Sub-contract Works on site or elsewhere associated therewith.
The Contractor shall ensure that the Working Drawings are submitted to the Engineer for approval at a time not unreasonably close to the date when such approval is required. Late submission of his Working Drawings will not relieve the Contractor of his obligation to complete the Contract Works within the agreed Contract Period and in a manner that would receive the approval of the Engineer.

1.33 **Record Drawings (As Installed) and Instructions**

During the execution of the Contract Works the Contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking.

Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Contractor as a correct record of the installation of the Contract Works.

They shall include but not restricted to the following drawings or information: Working Drawings amended as necessary but titled "Record Drawings" and certified as a true record of the "As Installed" Sub-contract Works. Subject to the approval of the Engineer such Working Drawings as may be inappropriate may be omitted.

Fully dimensioned drawings of all plant and apparatus.

General arrangement drawings of equipment, other areas containing plant forming part of the Contract Works and the like, indicating the accurate size and location of the plant and apparatus suitability cross-referenced to the drawings mentioned in (b) above and hereinafter.

Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.

Relay adjustment charts and manuals.

Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
Grading Charts.
Valve schedules and locations suitability cross-referenced.

Wiring and piping diagrams of plant and apparatus.
Schematic diagrams of individual plant, apparatus and switch and control boards. These diagrams to include those peculiar to individual plant or apparatus and also those applicable to system operation as a whole.

Operating Instruction
Schematic and wiring diagrams shall not be manufacturer's multipurpose general issue drawings. They shall be prepared specially for the Contract Works and shall contain no spurious or irrelevant information.

Marked-up drawings of the installation of the Contract Works shall be kept to date and completed by the date of practical or section completion. Two copies of the Record Drawings of Contract Works and two sets of the relay adjustment and grading charts and schematic diagrams on stiff backing shall be provided not later than one month later.

The Contractor shall supply for fixing in sub-stations, switch-rooms, boiler houses, plant rooms, pump houses, the office of the Maintenance Engineer and other places, suitable valve and instructions charts, schematic diagrams of instrumentation and of the electrical reticulation as may be requested by the Engineer providing that the charts, diagrams, etc., relate to installations forming part of the Contract Works. All such charts and diagrams shall be of suitable plastic material on a stiff backing and must be approved by the Engineer before final printing.

Notwithstanding the Contractor's obligations referred to above, if the Contractor fails to produce to the Engineer's approval, either:-

The Marked-up Drawings during the execution of the Contract Works or

The Record Drawings, etc., within one month of the Section or Practical Completion

The Engineer shall have these drawings produced by others. The cost of obtaining the necessary information and preparing such drawings, etc., will be recovered from the Contractor.

1.34 **Maintenance Manual**

Upon Practical Completion of the Contract Works, the Contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works.

The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.

There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Contract Works.

The manual shall contain full operating and maintenance instructions for each item of equipment, plant and apparatus set out in a form dealing systematically with each system. It shall include as may be applicable to the Contract Works the following and any other items listed in the text of the Specifications:
System Description.

Plant

Valve Operation

Switch Operation

Procedure of Fault Finding

Emergency Procedures

Lubrication Requirements

Maintenance and Servicing Periods and Procedures

Colour Coding Legend for all Services

Schematic and Writing Diagrams of Plant and Apparatus

Record Drawings, true to scale, folded to International A4 size

Lists of Primary and Secondary Spares.

The manual is to be specially prepared for the Contract Works and manufacturer's standard descriptive literature and plant operating instruction cards will not be accepted for inclusion unless exceptionally approved by the Engineer. The Contractor shall, however, affix such cards, if suitable, adjacent to plant and apparatus. One spare set of all such cards shall be furnished to the Engineer.

1.35 **Hand-over**

The Contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer.

The procedure to be followed will be as follows:

On the completion of the Contract Works to the satisfaction of the Engineer and the Employer, the Contractor shall request the Engineer, at site to arrange for handing over.

The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.

The Contractor shall arrange with the Engineer and Employer for a complete demonstration of each and every service to be carried out and for instruction to be given to the relevant operation staff and other representatives of the Employer.

In the presence of the Employer and the Engineer, Hand-over will take place, subject to Agreement of the Hand-over Certificates and associated check lists.

1.36 **Painting**

It will be deemed that the Contractor allowed for all protective and finish painting in the Contract Sum for the Contract Works, including colour coding of service pipework to the approval of the Engineer. Any special requirements are described in the text of the Specifications.

1.37 **Spares**

The Contractor shall supply and deliver such spares suitably protected and boxed to the Engineer's approval as are called for in the Specifications or in the Price Schedules.

1.38 **Testing and Inspection – Manufactured Plant**

The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials.

The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer.

The Contractor shall give two week's notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.

Six copies of all test certificates and performance curves shall be submitted as soon as possible after the completion of such tests, to the Engineer for his approval.

Plant or equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Contractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the Contractor's expense.

The foregoing provisions relate to tests at manufacturer's works and as appropriate to those carried out at site.

1.39 **Testing and Inspection -Installation**

Allow for testing each section of the Contract Works installation as described hereinafter to the satisfaction of the Engineer.

1.40 **Labour Camps**

The Contractor shall provide the necessary temporary workshop and mess-room in position to be approved by the Architect.

The work people employed by the Contractor shall occupy or be about only that part of the site necessary for the performance of the work and the Contractor shall instruct his employees accordingly.

If practicable, W.C. accommodation shall be allocated for the sole use of the Contractor's workmen and the Sub-contractor will be required to keep the same clean and disinfected, to make good any damage thereto and leave in good condition.

1.41 **Storage of Materials**

The Contractor shall provide storerooms and workshop where required. He shall also provide space for storage to nominated sub-contractors who shall be responsible for these lock-up shades or stores provided.

Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Project manager.

1.42 **Initial Maintenance**

The Contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer.

The Contractor shall also provide a 24 -hour break-down service to attend to faults on or malfunctioning of the installation between the routine visits of inspection.

The Contractor shall allow in the contract Sum of the initial maintenance, inspection and break-down service and shall provide for all tools, instruments, plant and scaffolding and the transportation thereof, as required for the correct and full execution of these obligations and the provision, use or installation of all materials as oils, greases, sandpaper, etc., or parts which are periodically renewed such as brake linings etc., or parts which are faulty for any reason whatsoever excepting always Acts of God such as storm, tempest, flood, earthquake and civil revolt, acts of war and vandalism.

1.43 **Maintenance and Servicing After Completion of the Initial Maintenance**

The Contractor shall, if required, enter into a maintenance and service agreement with the employer for the installation for a period of up to five years from the day following the last day of the liability for Defects Period which offers the same facilities as specified in Clause 1.41 (Initial Maintenance).

The terms of any such agreement shall not be less beneficial to the employer than the terms of Agreements for either similar installation.

The Contractor shall submit with his tender for the works, where called upon a firm quotation for the maintenance and service of the installation as specified herein, which shall be based upon the present day costs and may be varied only to take into account increases in material and labour unit rate costs between the time of tendering and the signing of the formal maintenance and service agreement and which shall remain valid and open for acceptance by the Employer to and including the last day of the fifth complete calendar month following the end of the liability for Defects Period.

1.44 **Trade Names**

Where trade names of manufacturer's catalogue numbers are mentioned in the Specification or the Bills of Quantities, the reference is intended as a guide to the type of article or quality of material required. Alternate brands of equal and approved quality will be acceptable.

1.45 **Water and Electricity for the Works**

These will be made available by the Contractor who shall be liable for the cost of any water or electric current used and for any installation provided especially for his own use.

1.46 **Protection**

The Contractor shall adequately cover up and protect his own work to prevent injury and also to cover up and protect from damage all parts of the building or premises where work is performed by him under the Contract.

1.47 **Defects After Completion**

The defects liability period will be 6 months from the date of practical completion of the Works in the Contract and certified by the Engineer.

1.48 **Damages for Delay**

Liquidated and Ascertained damages as stated in the Contract Agreement will be claimed against the Contract for any unauthorized delay in completion. The Contractor shall be held liable for the whole or a portion of these damages should he cause delay in completion.

1.49 **Clear Away on Completion**

The Contractor shall, upon completion of the works, at his own expense, remove and clear away all plant, equipment, rubbish and unused materials, and shall leave the whole of the works in a clean and tidy state, to the satisfaction of the Engineer. On completion, the whole of the works shall be delivered up clean, complete and perfect in every respect to the satisfaction of the Engineer.

1.50 **Final Account**

On completion of the works the Contractor shall agree with the Engineer the value of any variations outstanding and as soon as possible thereafter submit to the Engineer his final statement of account showing the total sum claimed sub-divided as follows:

Statement A - detailing the tender amounts less the Prime Cost and Provisional Sums, included therein.

Statement B - detailing all the variation orders issued on the contract.

Statement C - Summarizing statement A and B giving the net grand total due to the Contractor for the execution of the Contract.

1.51 **Fair Wages**

The Contractor shall in respect of all persons employed anywhere by him in the execution of the contract, in every factory, workshop or place occupied or used by him for execution of the Contract, observe and fulfil the following conditions:

The Contractor shall pay rates of the wages and observe hours and conditions of labour not less favourable than those established for the trade or industry in the district where work is carried out.

In the absence of any rates of wages, hours or conditions of labour so established the Contractor shall pay rates and observe hours and conditions of labour are not less favourable than the general level of wages, hours and conditions observed by other employers whose general circumstances in the trade or industry in which the Contractor is engaged are similar.

1.52 **Supervision**

During the progress of the works, the Contractor shall provide and keep constantly available for consultation on site an experienced English - speaking Supervisor and shall provide reasonable office facilities, attendance, etc., for the Supervisor.

In addition, during the whole of the time the works are under construction, the Contractor shall maintain on site one experienced foreman or charge-hand and an adequate number of fitters, etc., for the work covered by the Specification. The number of this staff shall not be reduced without the prior written approval of the Project manager or Engineer.

Any instructions given to the Supervisor on site shall be deemed to have been given to the sub-contractor.

One copy of this Specification and one copy of each of the Contract Drawings (latest issue) must be retained on site at all times, and available for reference by the Engineer or sub-contractor.

1.53 **Test Certificates**

The Contractor shall provide the Engineer with three copies of all test reports or certificates that are or may be required by this Specification.

1.54 **Labour**

The Contractor shall provide skilled and unskilled labour as may be necessary for completion of the contract.

1.55 **Discount to the Main Contractor**

No discount to any Sub-Contractor will be included in the tender for this installation.

1.56 **Guarantee**

The whole of the work will be guaranteed for a period of six months from the date of the Engineer's certification of completion and under such guarantee the Sub-contractor shall remedy at his expense all defects in materials and apparatus due to faulty design, construction or workmanship which may develop in that period.

1.57 **Direct Contracts**

Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C Sum in the Bills of Quantities and to pay for the same direct. In any such instance, profit relative to the P.C Sum in the priced Bills of Quantities will be adjusted as deserved for P.C Sum allowed.

1.58 **Attendance Upon the Tradesmen etc**

The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this contract every facility for carrying out their work and also for the use of ordinary scaffolding. The contractor however, shall not be required to erect any special scaffolding for them.

1.59 **Trade Unions**

The contractor shall recognize the freedom of his work people to be members of trade unions.

1.60. Local and other Authorities notices and fees

The contractor shall comply with and give all notices required by any Regulations, Act or by Law of any Local Authority or of any Public Service, Company or Authority who have any jurisdiction with regard to the works or with those systems the same are or will be connected and he shall pay and indemnify the Government against any fees or charges legally demandable under any regulation or by-law in respect of the works; provided that the said fees and charges if not expressly included in the contract sum or stated by way of provisional sum shall be added to the contract sum.

The contractor before making any variation from the contract drawings or specification necessitated by such compliance shall give the Project Manager written notice specifying and giving the reason for such variation and applying for instructions in reference thereto.

If the contractor within seven days of having applied for the same does not receive such instructions, he shall proceed with the works in conforming to the provision regulation or by-law in question and any variation thereby necessitated shall be deemed to be a variation in accordance to the conditions of contract.

1.61. Assignment or subletting

The contractor shall not without the written consent of the Project Manager assign this contract or sublet any portion of the works, provided that such consent shall not be unreasonably withheld to the prejudice of the contractor.

1.62 Partial Completion

If the Government shall take over any part or parts works, apparatus, equipment etc. then within seven days from the date on which the Government shall have taken possession of the relevant part, the Project Manager shall issue a Certificate stating his estimate of the approximate total value of the works which shall be the total value of that part and practical completion of the relevant part shall be deemed to have occurred, and the Defects Liability Period in respect of the relevant part be deemed to have commenced on the date Government shall have taken possession thereof.

The contractor shall make good any defects or other faults in the relevant part that had been deemed complete.

The contractor shall reduce the value of insurance by the full value of the relevant part

The contractor shall be paid for the part of works taken possession by the Government

1.63 Temporary Works

Where temporal works shall be deemed necessary, such as Temporary lighting, the contractor shall take precaution to prevent damage to such works.

The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. For temporary lighting, electricity shall be metered and paid for by the contract

1.64. Patent Rights

The contractor shall fully indemnify the Government of Kenya; against any action, claim or proceeding relating to infringement of any patent or design rights, and pay any royalties which may be payable in respect of any article or any part thereof, which shall have been supplied by the contractor to the Project Manager. In like manner the Government of Kenya shall fully indemnify the contractor against any such action, claim or proceedings for infringement under the works, the design thereof of which shall have been supplied by the Project Manager to the contractor, but this indemnify shall apply to the works only, and any permission or request to manufacture to the order of the Project Manager shall not relieve the contractor from liability should he manufacture for supply to other buyers.

1.65 Mobilization and Demobilization

The contractor shall mobilize labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment. Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.

1.66 Extended Preliminaries

Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the total Contractor works. Where called upon in the Appendix to these Preliminaries the Contractor shall insert his percentage per month for extended preliminaries that shall form basis for compensation.

Lack of inserting the percentage shall mean that the sub-contractor has provided for this requirement elsewhere in the Bills of Quantities.

1.67 Supervision by Engineer and Site Meetings

A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing.

The project engineer and (or) the Engineer shall attend management meetings arranged by the Project Manager and for which the Contractor or his representative shall also attend. For the purpose of supervising the project, provisional sums are provided to cover for transport and allowances. The Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the contractor.

1.68 Amendment to Scope of Contract Works

No amendment to scope of sub-contract works is expected and in case of amendment or modification to scope of work, these shall be communicated to all tenderers in sufficient time before the deadline of the tender submission. However during the contract period and as the works progress the Project Manager may vary the works as per conditions of contract by issuing site instructions.

No claims shall be entertained on account of variation to scope of works either to increase the works (pre-financing) or reduction of works (loss of profit-see clause 1.70)

1.69 Contractor Obligation and Employers Obligation

The sub-contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works. No interest shall be payable to the Contractor, except as relates to late payment as in the conditions of contract clause 23.3. The contractor shall where called upon, insert his price to compensate for any of the occurrence stated here (premature termination, reduction or increase of works),as a percentage of the contract sum in the Appendix to this section.

1.70 APPENDIX TO SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1 ADD TO CLAUSE 1.40

There are no labour camps.

2 ADD TO CLAUSE 1.17

Prices quoted shall include 16% VAT. In accordance with Government policy, 3% Withholding Tax shall be deducted from all payments made to the sub-contractor, and the same shall subsequently be forwarded to the Kenya Revenue Authority (KRA).

3. ADD TO CLAUSE 1.66

The amount or percentage that may be inserted in the bills of quantities for this item should not exceed the anticipated Liquidated damages amount for the same period.

SECTION D

GENERAL MECHANICAL SPECIFICATIONS

SECTION D

GENERAL MECHANICAL SPECIFICATION

CLAUSE	DESCRIPTION	PAGE
2.01	GENERAL	D-1
2.02	QUALITY OF MATERIALS	D-1
2.03	REGULATIONS AND STANDARDS	D-1
2.04	ELECTRICAL REQUIREMENTS	D-2
2.05	TRANSPORT AND STORAGE	D-2
2.06	SITE SUPERVISION	D-3
2.07	INSTALLATION	D-3
2.08	TESTING	D-3
2.09	COLOUR CODING	D-4
2.10	WELDING	D-5

SECTION D

GENERAL MECHANICAL SPECIFICATION

2.01 **General**

This section specifies the general requirement for plant, equipment and materials forming part of the Sub-contract Works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

2.02 **Quality of Materials**

All plant, equipment and materials supplied as part of the Sub-contract Works shall be new and of first class commercial quality, shall be free from defects and imperfections and where indicated shall be of grades and classifications designated herein.

All products or materials not manufactured by the Sub-contractor shall be products of reputable manufacturers and so far as the provisions of the Specification is concerned shall be as if they had been manufactured by the Sub-contractor.

Materials and apparatus required for the complete installation as called for by the Specification and Contract Drawings shall be supplied by the Sub-contractor unless mention is made otherwise.

Materials and apparatus supplied by others for installation and connection by the Sub-contractor shall be carefully examined on receipt. Should any defects be noted, the Sub-contractor shall immediately notify the Engineer.

Defective equipment or that damaged in the course of installation or tests shall be replaced as required to the approval of the Engineer.

2.03 **Regulations and Standards**

The Sub-contract Works shall comply with the current editions of the following:

a) The Kenya Government Regulations.

b) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.

a) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.

d) British Standard and Codes of Practice as published by the British Standards Institution (BSI)

e) The Local Council By-laws.

f) The Electricity Supply Authority By-laws.

g) Local Authority By-laws.

h) The Kenya Building Code Regulations.

i) The Kenya Bureau of Standards

2.04 Electrical Requirements

Plant and equipment supplied under this Sub-contract shall be complete with all necessary motor starters, control boards, and other control apparatus. Where control panels incorporating several starters are supplied they shall be complete with a main isolator.

The supply power up to and including local isolators shall be provided and installed by the Electrical Sub-contractor. All other wiring and connections to equipment shall form part of this Sub-contract and be the responsibility of the Sub-contractor.

The Sub-contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval.

The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power and Lighting Company (KPLC) By-laws.

All electrical plant and equipment supplied by the Sub-contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1-phase.

Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

2.05 Transport and Storage

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimise the possibility of damage and to prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

Adequate measures shall be taken by the Sub-contractor to ensure that plant and equipment do not suffer any deterioration during storage.

Prior to installation all piping and equipment shall be thoroughly cleaned.

If, in the opinion of the Engineer any equipment has deteriorated or been damaged to such an extent that it is not suitable for installation, the Sub-contractor shall replace this equipment at his own cost.

2.06 **Site Supervision**

The Sub-contractor shall ensure that there is an English-speaking supervisor on the site at all times during normal working hours.

2.07 **Installation**

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 **Testing**

2.08.1 General

The Sub-contractor's attention is drawn to Part 'C' Clause 1.38 of the "Preliminaries and General Conditions".

2.08.2 Material Tests

All material for plant and equipment to be installed under this Sub-contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned.

For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

The Sub-contractor shall prepare specimens and performance tests and analyses to demonstrate conformance of the various materials with the applicable standards.

If stock material, which has not been specially manufactured for the plant and equipment specified is used, then the Sub-contractor shall submit satisfactory evidence to the Engineer that such materials conform to the requirements stated herein in which case tests of material may be partially or completely waived.

Certified mill test reports of plates, piping and other materials shall be deemed acceptable.

2.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer.

The Sub-contractor shall give two week's notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Sub-contractor.

Six copies of all test and inspection certificates and performance graphs shall be submitted to the Engineer for his approval as soon as possible after the completion of such tests and inspections.

Plant and equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Sub-contractor's own risk and should the test and inspection certificates not be approved, new tests may be ordered by the Engineer at the Sub-contractor's expense.

2.08.4 Pressure Testing

All pipework installations shall be pressure tested in accordance with the requirements of the various sections of this Specification. The installations may be tested in sections to suit the progress of the works but all tests must be carried out before the work is buried or concealed behind building finishes. All tests must be witnessed by the Engineer or his representative and the Sub-contractor shall give 48 hours notice to the Engineer of his intention to carry out such tests.

Any pipework that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Sub-contractor and the specified tests shall then be applied.

The Sub-contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

2.09 **Colour Coding**

Unless stated otherwise in the Particular Specification all pipework shall be colour coded in accordance with the latest edition of B.S 1710 and to the approval of the Engineer or Architect.

2.10 **Welding**

2.10.1 Preparation

Joints to be made by welding shall be accurately cut to size with edges sheared, flame cut or machined to suit the required type of joint. The prepared surface shall be free from all visible defects such as lamination, surface imperfection due to shearing or flame cutting operation, etc., and shall be free from rust scale, grease and other foreign matter.

2.10.2 Method

All welding shall be carried out by the electric arc processing using covered electrodes in accordance with B.S. 639.

Gas welding may be employed in certain circumstances provided that prior approval is obtained from the Engineer.

2.10.3 Welding Code and Construction

All welded joints shall be carried out in accordance with the following Specifications:

a) Pipe Welding

All pipe welds shall be carried out in accordance with the requirements of B.S.806.

b) General Welding

All welding of mild steel components other than pipework shall comply with the general requirements of B.S. 1856.

2.10.4 Welders Qualifications

Any welder employed on this Sub-contractor shall have passed the trade tests as laid down by the Government of Kenya.

The Engineer may require to see the appropriate to see the appropriate certificate obtained by any welder and should it be proved that the welder does not have the necessary qualifications the Engineer may instruct the Sub- contractor to replace him by a qualified welder.

SECTION E

PARTICULAR SPECIFICATIONS
FOR
PARTICULAR PLUMBING AND DRAINAGE AND FIRE FIGHTING SPECIFICATIONS

SECTION E

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

CLAUSE No.	DESCRIPTION	PAGE
3.1	General…….	E-1
3.2	Materials and standards…….	E-1
3.2.1	Pipework and Fittings……...	E-1
3.2.2	Valves…….....	E-3
3.2.3	Waste Fitment Traps……	E-4
3.2.4	Pipe Supports……...	E-4
3.2.5	Sanitary Appliances……...	E-6
3.2.6	Pipe Sleeves……..	E-6
3.3	Installation…….....	E-6
3.3.1	General……	E-6
3.3.2	Above Ground Installation……...	E-6
3.4	Testing Inspection……	E-8
3.4.1	Site Tests – Pipework Systems……..	E-8
3.4.2	Site Test – Performance……	E-8
3.5	Sterilisation of Hot and Cold Water System……..	E-9

3.1 GENERAL

This section specifies the general requirements for plant, equipment and materials forming part of the plumbing and drainage installations.

3.2 MATERIALS AND STANDARDS

3.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

a) Galvanized Steel Pipework

Galvanized steel pipe work up to 65mm nominal bore shall be manufactured in accordance with B.S. 1387 Medium Grade, with tapered pipe threads in accordance with B.S. 21. All fittings shall be malleable iron and manufactured in accordance with B.S. 143.

Pipe joints shall be screwed and socketed and sufficient coupling unions shall be allowed so that fittings can be disconnected without cutting the pipe. Running nipples and long screws shall not be permitted unless exceptionally approved by the Engineer.

Galvanized steel pipe work, 80mm nominal bore up to 150mm nominal bore shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant. All flanges shall comply with the requirements of B.S. 10 to the relevant classifications contained hereinafter under Section 'C' of the Specification.

Galvanizing shall be carried out in accordance with the requirements of B.S. 1387 and B.S. 143 respectively.

b) Copper Tubing

All copper tubing shall be manufactured in accordance with B.S. 2871 from C.160 'Phosphorous De-oxidized Non-Arsenical Copper' in accordance with B.S. 1172.

Pipe joints shall be made with soldered capillary fittings and connections to equipment shall be with compression fittings manufactured in accordance with B.S. 864.

Short copper connection tubes between galvanized pipe work and sanitary fitments shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between the galvanized pipe and the copper tube in order to prevent direct contact.

c) **P.V.C. (Hard) Pressure Pipes and Fittings**

All P.V.C. pipes and fittings shall be manufactured in accordance with B.S. 3505: 1968.

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturer's approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion.

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

d) **A.B.S. Waste System**

Where indicated on the Drawings and Schedules, the Sub-contractor shall supply and fix A.B.S. waste pipes and fittings.

The pipes, traps and fittings shall be in accordance with the relevant British Standards, including B.S. 3943, and fixed generally in accordance with manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.

Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this impracticable the Sub-contractor shall provide purpose made supports, centers of which shall not exceed one meter.

Expansion joints shall be provided as indicated. Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) **PVC Soil System**

The Sub-contractor shall supply and fix PVC soil pipes and fittings as indicated on the Drawings and Schedules.

Pipes and fittings shall be in accordance with relevant British Standards, including B.S. 4514 and fixed to the manufacturer's instructions and B.S. 5572.

The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to.

Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet.

Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres.

The Sub-contractor shall be responsible for the joint into the Gully Trap on Drain as indicated on the Drawings.

3.2.2 **Valves**

a) Draw-off Taps and Stop Valves (Up to 50mm Nominal Bore)

Draw-off taps and valves up to 50mm nominal bore, unless otherwise stated or specified for attachment or connection to sanitary fitment shall be manufactured in accordance with the requirements of B.S.1010.

b) Gate Valves

All gate valves 80mm nominal bore and above, other than those required for fitting to buried water mains shall be of cast iron construction, in accordance with the requirements of B.S. 3464. All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952.

The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

c) Globe Valves

All globe valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S.3061.

The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the site of works.

3.2.3 **Waste Fitment Traps**

a) Standard and Deep Seal P & S Traps

Where standard or deep seal traps are specified they shall be manufactured in suitable non-ferrous materials in accordance with the full requirements of B.S. 1184.

In certain circumstances, cast iron traps may be required for cast iron baths and in these instances bath traps shall be provided which are manufactured in accordance with the full requirements of B.S.1291.

b) Anti-Syphon Traps

Where anti-syphon traps are specified, these shall be similar or equal to the range of traps manufactured by Greenwood and Hughes Limited, Deacon Works Littleshampton, Sussex, England.

The trade name for traps manufactured by this company is 'Grevak'.

3.2.4 **Pipe Supports**

a) General

This sub-clause deals with pipe supports securing pipes to the structure of buildings for above ground application.

The variety and type of support shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixings to metal, concrete, masonry or wood.

Consideration shall be given, when designing supports, to the maintenance of desired pipe falls and the restraining of pipe movements to a longitudinal axial direction only.

The Sub-contractor shall supply and install all steelwork forming part of the pipe support assemblies and shall be responsible for making good damage to builders work associated with the pipe support installation.

The Sub-contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

b) Steel and Copper Pipes and Tubes

Pipe runs shall be secured by clips connected to pipe angers, wall brackets, or trapeze type supports. 'U' bolts shall not be used as a substitute for pipe clips without the prior approval of the Engineer.

An approximate guide to the maximum permissible supports spacing in metres for steel and copper pipe and tube is given in the following table for horizontal runs.

Size Nominal Bores	Copper Tube to B.S. 659	Steel Tube to B.S. 1387
15mm	1.25m	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	3.0m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

The support spacing for vertical runs shall not exceed one and a half times the distances given for horizontal runs.

c) Expansion Joints and Anchors

Where practicable, cold pipework systems shall be arranged with sufficient bends and changes of direction to absorb pipe expansion providing that the pipe stresses are contained within the working limits prescribed in the relevant B.S. specification.

Where piping anchors are supplied, they shall be fixed to the main structure only. Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.

The Sub-contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.

The Sub-contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

3.2.5 Sanitary Appliances

All sanitary appliances supplied and installed as part of the Sub-contract works shall comply with the general requirements of B.S. Code of Practice 305 and the particular requirements of the latest B.S. Specifications.

3.2.6 Pipe Sleeves

Main runs of pipework are to be fitted with sleeves where they pass through walls and floors. Generally the sleeves shall be of P.V.C. except where they pass through the structure, where they shall be mild steel. The sleeves shall have 6mm – 12mm clearance all around the pipe or for insulated pipework all around the installation. The sleeve will then be packed with slag wool or similar.

3.3 INSTALLATION

3.3.1 General

Installation of all pipework, valves, fittings and equipment shall be carried out under adequate supervision from skilled staff to the relevant codes and standards as specified herein. The Sub-contractor shall be responsible to the Main Contractor for ensuring that all builders work associated with his piping installation is carried out in a satisfactory manner to the approval of the Engineer.

3.3.2 Above Ground Installation

a) Water Services

Before any joint is made, the pipes shall be hung in their supports and adjusted to ensure that the joining faces are parallel and any falls which shall be required are achieved without springing the pipe.

Where falls are not shown on the Contract Drawings or stated elsewhere in the Specification, pipework shall be installed parallel to the lines of the buildings and as close to the walls, ceilings, columns, etc., as is practicable.

All water systems shall be provided with sufficient drain points and automatic air vents to enable them to function correctly.

Valves and other user equipment shall be installed with adequate access for operation and maintenance. Where valves and other operational equipment are unavoidably installed beyond normal reach or in such position as to be difficult to reach from a small step ladder, extension spindles with floor or wall pedestals shall be provided.

Screwed piping shall be installed with sufficient number of unions to facilitate easy removal of valves and fittings, and to enable alterations of pipework to be carried out without the need to cut the pipe.

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant.
All screwed joints to piping and fittings shall be made with P.T.F.E. tape.
The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

b) Sanitary Services

Soil, waste and vent pipe system shall be installed in accordance with the best standard of modern practice as described in B.S. 5572 to the approval of the Engineer.

The Sub-contractor shall be responsible for ensuring that all ground waste fittings are discharged to a gully trap before passing to the sewer via a manhole.

The Sub-contractor shall provide all necessary rodding and inspection facilities within the draining system in positions where easy accessibility is available.

Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

The vent stacks shall terminate above roof level and where stack passes through roof, a weather skirt shall be provided. The Sub-contractor shall be responsible for sealing the roof after installation of the stacks.

The open end of each stack shall be fitted with a plastic coated or galvanised steel wire guard.

Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

All sanitary appliances associated with the Sub-contract works shall be installed in accordance with the best standard of modern practice as described in C.P. 305 to the approval of the Engineer.

1.1. TESTING AND INSPECTION

3.4.1 Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure.

If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer.
During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.

The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

b) Above Ground Soil Waste and Ventilation System

All soil, waste and ventilating pipe system forming part of the above ground installation, shall be given appropriate test procedures as described in B.S. 5572, 1972.

Smoke tests on above ground soil, waste and ventilating pipe system shall not be permitted.

Pressure tests shall be carried out before any work which is to be concealed is finally enclosed.

In all respects, tests shall comply with the requirements of B.S. 5572.

3.4.2 Site Test – Performance

Following satisfactory pressure test on the pipework system operational tests shall be carried out in accordance with the relevant B. S. Code of practice on the systems as a whole to establish that special valves, gauges, control, fittings, equipment and plant are functioning correctly to the satisfaction of the Engineer.

All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than normal with the result that pipe "sweating", due
to condensation will cause nuisance.

All lagged pipes which run in a visible position after erection shall be given a canvas cover and prepared for painting as follows:

i) Apply a coating of suitable filler until the canvas weave disappears and allow to dry.

ii) Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts and above false ceiling which after erection are not visible from the corridors of rooms, shall be covered with a reinforced aluminium foil finish banded in colours to be approved by the Engineer.

In all respects, unless otherwise stated, the hot and cold water installation shall be carried out in accordance with the best standard of modern practice and described in C.P.342 and C.P.310 respectively to the approval of the Engineer.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precautions shall be taken to ensure that the required pressure is not exceeded.

Pressure gauges should be recalibrated before the tests.

The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

The test pressure shall be one and a half times the maximum working pressure except where a pipe is manufactured from a material for which the relevant B.S. specification designates a maximum test pressure.

3.5 STERILISATION OF COLD WATER SYSTEM

All water distribution system shall be thoroughly sterilised and flushed out after the completion of all tests and before being fully commissioned for handover.

The sterilisation procedures shall be carried out by the Sub-contractor in accordance with the requirements of B.S. Code of Practice 301, Clause 409 and to the approval of the Engineer.

PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER AND HOSE REEL INSTALLATIONS

6.1 GENERAL

The particular specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers and Boosted Hose Reel System. The Sub-contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the contract drawings but which are necessary for the completion and satisfactory functioning of the works.

If in the opinion of the Sub-contractor there is a difference between the requirements of the Specifications and the Contract Drawings, he shall clarify these differences with the Engineer before tendering.

6.2 SCOPE OF WORKS

The Sub-contractor shall supply, deliver, erect, test and commission all the portable fire extinguishers and Hose Reel which are called for in these Specifications and as shown on the Contract Drawings.

6.3 WATER/CO2 EXTINGUISHERS

These shall be 9-litre water filled CO2 cartridge operated portable fire extinguishers and shall comply with B.S. 1382: 1948 and to the requirements of B.S.4523: 1977. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

a) Method of operation.

b) The words 'WATER TYPE' (GAS PRESSURE) in prominent letters.

c) Name and address of the manufacturer or responsible vendor.

d) The nominal charge of the liquid in imperial gallons and litres.

e) The liquid level to which the extinguisher is to be charged.

f) The year of manufacture.

g) A declaration to the effect that the extinguisher has been tested to a pressure of 24.1 bar (350 psi.).

h) The number of British Standard 'B.S' 1382 or B.S. 5423: 1977.

6.4 PORTABLE CARBON DIOXIDE FIRE EXTINGUISHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with B.S. 3326: 1960 and B.S. 5423: 1977.

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the following British Standards; B.S. 401 or B.S. 1288.

The filling ratio shall comply with B.S. 5355 with valves fittings for compressed gas cylinders to B.S.341. Where a hose is fitted it shall be flexible and have a minimum working pressure of
206.85 bar (3000 p.s.i.). The hose is not to be under internal pressure until the extinguisher is operated.

The nozzle shall be manufactured of brass gunmetal, aluminium or stainless steel and may be fitted with a suitable valve for temporarily stopping the discharge if such means are not incorporated in the operating head.

The discharge horn shall be designed and constructed so as to direct the discharge and limit the entrainment of air. It shall be constructed of electrically non-conductive material.

The following markings shall be applied to the extinguishers:-

a) The words "Carbon Dioxide Fire Extinguisher" and to include the appropriate nominal gas content.

b) Method of operation.

c) The words "Re-charge immediately after use".

d) Instructions for periodic checking.

e) The number of the British Standard B.S. 3326: 1960 or B.S. 5423.

f) The manufacturers name or identification markings

DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS3465: 1962 and BS 5423. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470 : 1972 and shall be suitably protected against corrosion.

The dry powder charge shall be not-toxic and retain it s free flowing properties under normal storage conditions. Any pressurizing agent used as an expellant shall be in dry state; in particular compressed air.

The discharge tube and gas tube if either is fitted shall be made of steel, brass, copper or other not less suitable material. Where a hose is provided it shall not exceed 1,060mm and shall be acid and alkali resistant. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information

a) The word "Dry Powder Fire Extinguisher"

b) Method of operation in prominent letters.

c) The working pressure and the weight of the powder charge in Kilogramme.

d) Manufacturers name or identification mark

e) The words "RECHARGE AFTER USE" if rechargeable type.

f) Instructions to regularly check the weight of the pressure container (gas Cartridge) or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.

g) The year of manufacture.

h) The Pressure to which the extinguisher was tested.

i) The number of this British Standard BS 3465 or BS 5423: 1977.

j) When appropriate complete instructions for charging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

6.6 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. 5423 with the following specifications:-

Cylinder: to B.S. 1449

Necking: to be 76mm outside diameter steel EN 3A $2^3/_4$ X 8TPI female thread**.**

Head cap: to be plastic moulding acetyl resin.

CO_2 Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

External finish: to be phosphated - One coat primer paint and one coat stove enamel B.S. 381 C.

6.7 FIRE BLANKET

The fire blanket shall be made from cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm and shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket.

6.8 BOOSTED HOSE REEL SYSTEM

6.8.1 General

The Particular Specification details the requirements for the supply, installation and commissioning of the hose reel installation. The hose reel installation shall comply in all respects to the requirements set out in C.O.P 5306 Part 1: 1976, B.S 5041 and B.S 5274. The System shall comprise of a pumped system.

6.8.2 Hose Reel Pumps

The fire hose reel pumps shall consist of a duplicate set of multi-line centrifugal pumps from approved manufacturers. The pumps shall be capable of delivering 2.1 lit/sec at a running pressure of 2 bars.

The pump casing shall be of cast iron construction with the impeller shaft of stainless steel with mechanical seal.

6.8.3 Control Panel

The control panel shall be constructed of mild steel 1.0mm thick sheet, be moisture, insect and rodent proof and shall be provided complete with circuit breakers and a wiring diagram enclosed in plastic laminate.

The pump shall be controlled by a flow switch therefore, the control panel shall include the following facilities:

(a) 'On' push button for setting the control panel to live.

(b) Green indicator light for indicating control panel live.

(c) Duty / Stand-by pump auto change over.

(d) Duty pump run green indicator light.

(e) Stand-by pump run green indicator light.

(f) Duty pump fail red indicator light.

(g) Stand-by pump fail red indicator light.

(h) Low water condition pump cut-out with red indicator light.

The pumps are to be protected by a low level cut-out switch to prevent dry pump run when low level water conditions occur in the water storage tank.

6.8.4 Hose Reel

The hose reel to the installation shall consist of a recessed, swing-type hose reel as Angus Fire Armour Model III or from other approved manufacturers.

The hose reel shall comply with B.S. 5274: 1975 and B.S 3161: 1970 and is to be installed to the requirements of C.P. 5306 Part 1: 1976.

The hose reel shall be supplied and installed complete with a first-aid Non-kinking hose 30 meters long with a nylon spray / jet / shut-off nozzle fitted. A screw down chrome - plated globe valve to B.S 1010 to the inlet to the reel is to be supplied.

The orifice to the nozzle is to be not less than 4.8mm to maintain a minimum flow of 0.4 lit / sec to jet.

The hose reels shall be installed complete with electro-galvanised cabinet recessed on the wall.

The hose reels shall be installed at 1.5 metres centre above the finished floor level in locations shown in the contract drawings.

6.8.5 Pipe Work

The pipe work for the hose reel installation shall be galvanised wrought steel tubing heavy grade Class C to B.S 1387: 1967 with pipe threads to B.S 21. The pipe work and all associated fittings shall be in approved colour for fire fittings.

6.8.6 Pipe Fittings

The pipe fittings shall be wrought steel pipe fittings, welded or seamless fittings conforming to B.S. 1740 or malleable iron fittings to B.S 143.
All changes in direction will be with standard bends or long radius fittings. No elbows will be provided.

6.8.7 Non-return Valves

The non-return valves up to and including 80mm diameter shall be to B.S. 5153: 1974. The valves shall be of cast iron construction with gunmetal seat and bronze hinge pin.

6.8.8 Gate Valves

The gate valves up to and including 80mm diameter shall be non-rising stem and wedge disc to B.S 5154: 1974 with screwed threads to B.S. 21 tapes thread

6.8.9 Sleeves

Where pipe work passes through walls, floors or ceilings, a sleeve shall be provided one diameter larger than the diameter of the pipe, the space between them to be packed with mineral wool, to the Engineer's approval.

6.8.10 Earthing

The hose reel installation shall be electrically earthed by a direct earth connection. The installation of the earthing shall be carried out by the Electrical Sub- contractor.

6.8.11 Finish Painting

Upon completion of testing and commissioning the hose reel installation, the pipework shall be primed and finish painted with 2 No. coats of paints to the Engineer's requirements.

6.8.12 Testing and Commissioning

The hose reel installation shall be flushed out before testing to ensure that no builder's debris has entered the system. The installation is to be then tested to one and half times the working pressure of the installation to the approval of the Engineer. Simulated fault conditions of the pumping equipment are to be carried out before acceptance of the System by the Engineer.

6.8.13 Instruction Period

The Sub-contractor shall allow in his contract sum for instructing of the use of the equipment to the Client's maintenance staff. The period of instruction may be within the contract period but may also be required after the contract period has expired.

The period of time required shall be stipulated by the Client but will not exceed two days in which time the Client's staff shall be instructed on the operation and maintenance of the equipment.

6.8.14 <u>Signage-Fire Instruction /Fire Exit</u>

6.8.14.1Fire Instruction Notice

Print fire instruction on the Perspex plates with White Colour
Background measuring 510mm length x 380mm width x 4mm thick as follows;

FIRE INSTRUCTION NOTICE

In the event of fire;

1. Raise the alarm by actuating the nearest alarm system point, Sound Siren /gong or **Shout Fire**
2. Attack fire using the nearest available equipment
3. Call nearest fire Brigade or Police 999 and inform your switchboard (PABX) Operator
4. Ensure that all personnel not involved in fire fighting evacuation to safety outside the building.
5. Close but **DO NOT LOCK** doors behind as you leave.
6. Evacuate the building using stairs or fire escapes. Do not use Lifts/escalators. Walk calmly. Avoid panic. Do not stop or return for personal belongings.
7. Assemble as per floor outside the building for roll call.

6.8.14.2 Fire Exit Sign

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **FIRE EXIT** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

6.8.14.3 Hose Reel Label

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **HOSE REEL** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

SECTION F

BILLS OF QUANTITIES

AND

SCHEDULE OF UNIT RATES

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

CLAUSE No.		PAGE NO
1.	GENERAL NOTES TO TENDERERS……	F-1
2.	STATEMENT OF COMPLIANCE……	F-2
3.	BILLS OF QUANTITIES ……	F-3 to F-81
4.	SUMMARY PAGE……	F-82
5.	SCHEDULE OF UNIT RATES……	F-83

GENERAL NOTES TO TENDERERS

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 16% VAT**).

   In accordance with Government policy, the 3% Withholding Tax **shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA).**

3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part there of.

4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

   Should the sub-contractor install any material not specified here in before receiving **written approva**l from the Project Manager, the sub-contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.

1. Statement of Compliance

a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.

b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed: ……*for and on behalf of the Tenderer*

Date: ……..

Official Rubber Stamp: ……

BILLS No. 1

A) PRICING OF PRELIMINARIES ITEMS.

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:-

Preliminaries – Bill 1

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor. The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer have been limited to tangible items such as site office, temporary works and others. However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.
Installation Items – Other Bills
The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.
The unit of measurements and observations are as per those described in clause 1.05 of the section C.

(c) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contract shall insert his totals and enter his grand total tender sum in the space provided below the summary. This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

BILL No. 1
PRELIMINARIES AND GENERAL CONDITIONS

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
1	Discrepancies clause 1.02				
2	Conditions of sub-contract Agreement clause 1.03				
3	Payments clause1.04				
4	Site location clause 1.06				
5	Scope of Contract Works clause 1.08				
6	Extent of the Contractor's Duties clause 1.09				
7	Firm price contract clause 1.12				
8	Variation clause 1.13				
9	Prime cost and provisional sum clause 1.14 (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond clause 1.15				
11	Government Legislation and Regulations clause 1.16				
12	Import Duty and Value Added Tax clause 1.17(Note this clause applies for materials supplied only. VAT will also be paid by the sub-contractor as allowed in the summary page)				
13	Insurance company Fees clause 1.18				
14	Provision of services by the Main contractor clause 1.19				
15	Samples and Materials Generally clause 1.21				
	SUB-TOTAL CARRIED TO PAGE F -5				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
18	Contractor's Office in Kenya clause 1.24				
19	Builder's Work clause 1.25				
20	Setting to work and Regulating system clause 1.29				
21	Identification of plant components clause 1.30				
22	Working Drawings clause 1.32				
23	Record Drawings (As Installed) and Instructions clause 1.33				
24	Maintenance Manual clause 1.34				
25	Hand over clause 1.35				
26	Painting clause 1.36				
27	Testing and Inspection – manufactured plant clause 1.38				
28	Testing and Inspection – Installation clause 1.39				
29	Storage of Materials clause 1.41				
30	Initial Maintenance clause 1.42				
	SUB-TOTAL CARRIED TO PAGE F-6				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
31	Attendance Upon Tradesmen, etc. (Insert percentage only) clause 1.58				
32	Local and other Authorities notices and fees clause 1.60				
33	Temporary Works clause 1.63				
34	Patent Rights clause 1.64				
35	Mobilization and Demobilization Clause 1.65				
36	Extended Preliminaries Clause 1.66(see appendix on page C- 24)				
37	Supervision by Engineer and Site Meetings Clause 1.67	1	ITEM	**250,000**	**250,000**
38	Allow for profit and Attendance for the above				
39	Amendment to Scope of Sub-contract Works Clause 1.68				
40	Contractor Obligation and Employers Obligation clause 1.69(see appendix page C- 24)				
41	Any other preliminaries;				
	Subtotal above Subtotal brought forward from page F-4 Subtotal brought forward from page F-5				
	TOTAL FOR SCHEDULE NO. 1- PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE				

BILL OF QUANTITIES FOR PLUMBING,DRAINAGE AND FIRE FIGHTING WORKS FOR PROPOSED ERECTION AND COMPLETION OF A WARD BLOCK AT MERU COUNTY LEVEL 5 HOSPITAL(PHASE 1)

BILL NO.1 - LOWER GROUND FLOOR

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	SANITARY FITTINGS Supply, deliver, install and fix the following sanitary fittings including all materials and jointing to supply, waste/soil and overflow pipes.Twyfords Ltd products are specified only as an indication of quality. Equal and approved appliances may be supplied. Where trade names are mentioned, the Ref. No. is intended only as a guide to the type and quality of fittings				
A	**Water Closet** Close-coupled WC suite with 'P'-trap in approved colour complete with horizontal outlet to BS 3402 with 7.5 litre valveless low level ceramic cistern and fittings including siphon, 15mm diameter side inlet ball valve, 20mm diameter side overflow, plastic flush bend, dual flush system, inlet connection, chrome-plated flush button and heavy plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as Duravit D-Code (Horizontal outlet) CAT No. 2111090000 water closet or equal and approved.	No	6		
B	**Squatting Water Closet** Squatting water closet suite in vitreous china comprising of water closet bowl with top plate and integral foot threads, S-trap connector, complete with flush valave. All to be as "Twyfords Oriental" or approved equivalent.	No	2		
C	**Pedestal wash hand basin** size 575 x 500mm with two tap hole, 32mm diameter chrome plated chain waste, chain stay hole, mixer tap to ensure mixing of cold and hot water and heavy duty chrome plated bottle trap (32mm 'P' trap) with 75mm seal. To be of ideal Ceramic or equal and approved.	No	9		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate	Amount
	Total b/d from previous page				
A	**Bath Tub** Supply and install a 1800x750mm bath tub manufactured from minimum 5mm acrylic sheet reinforced with glass fibre and supported on wooden frame with steel cradle. The tub shall be complete with Chrome plated 32mm bath mixer with shower on cradle. A 40mm chrome plated chain waste overflow and trap and chrome plated grips. The bath tub shall be as 'TWYFORDS' or an approved equivalent with colour to match wall tiles.	No	2		
B	**Hand Driers** Automatic Hand Drier in white colour, operating on an infra-red automatic sensing system with safety cut-out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 1.8 kw and to be of size 270 x 64 x 143mm deep as HEATRAE SADIA "Handi Dri" or approved equivalent.	No	2		
C	**Cleaners Sink** Heavy duty sink size 455 x 380 x 230mm deep in fireclay complete with hardwood pad on the front edge and fitted bucket aluminium alloy grating and 20mm chrome plated wall mounted inclined bricon tap, chrome plate chain and rubber stopper and heavy gauge 11/2" bottle trap and stainless steel legs. All as "Armitage Shanks Birch" or approved equivalent.	No	1		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate	Amount
	Total b/d from previous page				
A	**Medical Wash Hand Basin** Counter top Twyfords "SOLA L.B.G/L" wash hand basin with no tap holes and chain stay hole cat. No. WB 1520WH, wall brackets cat no. SR 1315 xx complete with "lever action mixer fitting, 1/2 with swivel nozzle and divided flow" wall mounted mixer cat. no. SF 1099 CP, chrome grid waste 11/4" cat no. WF 4341 CP and white plastic bottle trap 11/4" P-trap cat. no.WF 8482 xx or approved equivalent.	No	2		
B	**Toilet roll holder** Toilet roll holder in vitreous china to BS 3402 in white colour of size 165x165mm and recessed into wall. Toilet roll holder to be as Twyfords "SEMI RECESSED & ORNAMENTAL' accessories Ref. No. VC 9808 WH	No	8		
C	**Soap Dispenser** Soap Dispenser, capacity 1.136 litres complete with plastic rawl plugs, fixing screws, lock and key complete with initial fill of soap gel. The soap dispenser to be as ZALPON'S MARK 7 model, size 125 x 100 x 290mm high or approved equivalent	No	2		
D	15mm diameter x 300mm long **flexible connectors** complete with integral chrome plated angle valve as Cobra or equal and approved.	No	38		
E	**Towel Rail** 20mm Dia. X 800mm long approved towel rail, CP, plugged and screwed into the wall	No	8		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate	Amount
	Total b/d from previous page				
A	**Shower Fittings** Concealed shower fitting consisting of 15mm chrome plated riser pipe to connect the water to a swivel/ adjustable shower rose, chrome plated handles and stop corks to mix the hot and cold water and other necessary fittings & accessories. All to be as **Bricon/aztec** or equal and approved.	No	8		
B	**Mirrors** 6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back nest.	No	12		
C	**Robe hook** Robe hook in vitreous china and in white colour mounted unto a concealed screw to wall wedges, to be as Twyfords OC 6858 1998 or approved equivalent.	No	8		
D	High quality chrome plated 1500mm long **curtain rail** complete with 2No. wall plate, hooks and rollers and approved medium quality 1200 x 1000mm shower curtains.	No	8		
E	Wall mounted **toilet brush holder and brush** of approved colour as Ideal Standard or approved equivalent.	No	8		
	Total for Sanitary Fittings carried to Collection Page F16				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Internal Plumbing Works Supply, deliver and install pipes, tubing and fittings as described and shown on the drawings. The pipes shall be PN 25 PPR pipes where exposed to adverse weather condition and all conforming to the current European standards for PPR installations and to the Engineers approval, pipe jointing shall be by polyfusion or use of electric coupling. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	PPR Pipes				
A	20mm diameter pipework	Lm	36		
B	25mm diameter pipework	Lm	66		
C	32mm diameter pipework	Lm	48		
D	40mm diameter pipework	Lm	24		
E	50mm diameter pipework	Lm	18		
	Bends				
F	20mm diameter bends	No.	20		
G	25mm diameter bends	No.	28		
H	32mm diameter bends	No.	7		
I	40mm diameter bends	No.	6		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
	Tees				
A	25mm equal Tees	No.	5		
B	32mm equal Tees	No.	35		
C	40mm equal Tees	No.	6		
	Reducers				
D	25 x 20mm diameter reducer	No.	5		
E	32 x 20mm diameter	No.	15		
F	32 x 25mm diameter	No.	16		
G	40 x 20mm diameter	No.	3		
H	40 x 25mm diameter	No.	3		
I	40 x 32mm diameter	No.	6		
	Unions				
J	20mm diameter pipe unions	No.	2		
K	25mm diameter pipe unions	No.	3		
L	32mm diameter pipe unions	No.	4		
M	40mm diameter pipe unions	No.	2		
	Threaded Fittings				
N	20mm male/female threaded 90° bend/Elbow	No.	16		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
A	25mm male/female threaded 90° bend/Elbow	No.	25		
B	32mm male/female threaded 90° bend/Elbow	No.	5		
C	40mm male/female threaded 90° bend/Elbow	No.	4		
	Plugs				
D	40mm diameter pipe threaded plug	No.	5		
	Valves				
E	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.	No.	5		
F	32mm ditto	No.	2		
G	40mm ditto	No.	3		
H	50mm ditto	No.	4		
I	32mm non-return valve	No.	2		
J	32mm medium pressure ball valve	No.	1		
	Pipe Sleeves				
K	65mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	Lm	45		
	Total carried to collection page F16				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	INTERNAL FOUL WATER DRAINAGE Supply, deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.				
	MuPVC and uPVC Waste and Soil pipework				
A	200mm diameter heavy gauge golden brown UPVC pipe	276	Lm		
B	100mm diameter heavy gauge golden brown UPVC pipe	168	Lm		
C	100mm diameter heavy gauge grey mUPVC pipe	30	Lm		
D	75mm diameter heavy gauge grey mUPVC pipe	24	Lm		
E	50mm diameter waste pipe	78	Lm		
F	40mm diameter waste pipe	24	Lm		
G	32mm diameter waste pipe	18	Lm		
	Bends				
H	100mm diameter bend with access	5	No.		
I	100mm diameter long radius bend	5	No.		
J	75mm diameter long radius bend	6	No.		
K	100mm diameter sweep bend	4	No.		
L	50mm diameter sweep bend	6	No.		
M	40mm diameter sweep bend	7	No.		
N	32mm diameter sweep bend	8	No.		
	Total c/f to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total b/d from previous page				
	Tees				
A	50mm diameter sweep tee	15	No.		
B	40mm diameter sweep tee	4	No.		
C	32mm diameter sweep tee	3	No.		
	Access Caps				
D	100mm diameter access cap	6	No.		
E	50mm diameter access cap	9	No.		
F	40mm diameter access cap	8	No.		
G	32mm diameter access cap	6	No.		
	Boss Connectors				
H	75 x 40mm diameter boss connector	2	No.		
	Reducing Sockets				
I	100 x 75 reducing socket	3	No.		
J	100 x 50 reducing socket	2	No.		
K	50 x 32 reducing socket	2	No.		
L	40 x 32 reducing socket	2	No.		
	WC Connectors				
M	100mm diameter WC connector	8	No.		
	Traps				
N	100 x 50mm diameter floor trap and grating	18	No.		
O	100 x 100mm diameter floor drain and grating	1	No.		
P	Standard 300 x 300 x 450mm masonry gully trap complete with 125mm thick reinforced concrete cover.	9	No.		
	Weathering Slates and Vent Cowls				
Q	100mm diameter weathering slate and apron.	5	No.		
R	100mm diameter vent cowl	5	No.		
S	75mm diameter weathering slate and apron.	2	No.		
T	75mm diameter vent cowl	2	No.		
	Total carried to collection page F16				

COLLECTION PAGE FOR LOWER GROUND FLOOR PLUMBING AND DRAINAGE WORKS

Item	Description	Amount (Kshs)
1	Total for sanitary fittings carried forward from page F10 ……	
2	Total for internal Plumbing carried forward from page F13 ……	
3	Total for internal Drainage carried forward from page F15 ……	
Total Plumbing and Drainage Works for Lower ground floor Carried to Summary Page F45		

BILL NO.2 - GROUND FLOOR

Item	Description	Unit	Qty	Rate	Amount
A	Close-coupled WC suite with 'P'-trap in approved colour complete with horizontal outlet to BS 3402 with 7.5 litre valveless low level ceramic cistern and fittings including siphon, 15mm diameter side inlet ball valve, 20mm diameter side overflow, plastic flush bend, dual flush system, inlet connection, chrome-plated flush button and heavy plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as Duravit D-Code (Horizontal outlet) CAT No. 2111090000 water closet or equal and approved.	No	7		
B	**Squatting Water Closet** Squatting water closet suite in vitreous china comprising of water closet bowl with top plate and integral foot threads, S-trap connector, complete with flush valave. All to be as "Twyfords Oriental" or approved equivalent.	No	2		
C	**Pedestal wash hand basin** size 575 x 500mm with two tap hole, 32mm diameter chrome plated chain waste, chain stay hole, mixer tap to ensure mixing of cold and hot water and heavy duty chrome plated bottle trap (32mm 'P' trap) with 75mm seal. To be of ideal Ceramic or equal and approved.	No	5		
D	**Countertop wash hand basin** size 545 x 425mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, chrome plated non-conculsive time delay press action pillar tap as Cobra model and heavy duty chrome plated bottle trap (32mm 'P' trap) with 75mm seal. To be of Duravit D-Code CAT No. 0337540000 countertops washhand basin or equal and approved.	No	3		
E	**Shower Fittings** Concealed shower fitting consisting of 15mm chrome plated riser pipe to connect the water to a swivel/ adjustable shower rose, chrome plated handles and stop corks to mix the hot and cold water and other necessary fittings & accessories. All to be as **Bricon/aztec** or equal and approved.	No	6		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total c/f to next Page				
A	**Soap Dispenser** Soap Dispenser, capacity 1.136 litres complete with plastic rawl plugs, fixing screws, lock and key complete with initial fill of soap gel. The soap dispenser to be as ZALPON'S MARK 7 model, size 125 x 100 x 290mm high or approved equivalent	No	4		
B	**Hand Driers** Automatic Hand Drier in white colour, operating on an infra-red automatic sensing system with safety cut-out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 1.8 kw and to be of size 270 x 64 x 143mm deep as HEATRAE SADIA "Handi Dri" or approved equivalent.	No	4		
C	**Urinal** One range urinal bowl in white vitreous china comprising 1No. bowl complete with bowl/divisions support, chrome plated bottle trap, chrome plated flushpipe and spreader ref SS 6071SS with all connections, wall hangers/supports. To be as Twyfords 'Camden' or approved equivalent.	No	4		
D	**Urinal flush valves AS Geberit or equal and approved**	No	4		
E	**Medical Wash Hand Basin** Counter top Twyfords "SOLA L.B.G/L" wash hand basin with no tap holes and chain stay hole cat. No. WB 1520WH, wall brackets cat no. SR 1315 xx complete with "lever action mixer fitting, 1/2 with swivel nozzle and divided flow" wall mounted mixer cat. no. SF 1099 CP, chrome grid waste 11/4" cat no. WF 4341 CP and white plastic bottle trap 11/4" P-trap cat. no.WF 8482 xx or approved equivalent.	No	11		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate	Amount
	Total b/d from previous page				
A	**Assisted Bath** Assisted bath for the elderly and disabled with overflow blanking disc and grips 2No. tap holes cat No. BS 1172CP complete with chain waste fitting 11/2" cat No. WF 5344CP, supplementary leg sets for steel bath to BS 1390:1990 cat no. BG 1390xx, chrome plated chain waste 11/2" and overflow cat. no. WF 5650 CP, S-trap bath tub trap and chrome plated bath tub mixer with a telephone shower as "manhattan" 3/4" bath/shower mixer fitting cat. no.MH 5265CP and 3No. 600 x 35mm dia grab rails stainless steel. All as Twyfords Avalon Bath" or approved equivalent.Also include close-coupled water closet with grab rails to be installed in the same room	No	2		
B	**Toilet roll holder** Toilet roll holder in vitreous china to BS 3402 in white colour of size 165x165mm and recessed into wall. Toilet roll holder to be as Twyfords "SEMI RECESSED & ORNAMENTAL' accessories Ref. No. VC 9808 WH	No	9		
C	**Soap Dispenser** Soap Dispenser, capacity 1.136 litres complete with plastic rawl plugs, fixing screws, lock and key complete with initial fill of soap gel. The soap dispenser to be as ZALPON'S MARK 7 model, size 125 x 100 x 290mm high or approved equivalent	No	4		
D	15mm diameter x 300mm long **flexible connectors** complete with integral chrome plated angle valve as Cobra or equal and approved.	No	60		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate	Amount
	Total b/d from previous page				
A	**Mirrors** 6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back nest.	No	22		
B	Mirror of size 1800 x 610mm, plugged and screwed to wall with 6No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam.	No	2		
C	**Sluice Unit** Twyfords "Grafton B.P.S." hopper cat.no. FC4076WH loose-trap FC44612WH complete with Vitreous china high level cistern 7.5 Litre capacity with valveless fittings and reversible chain pull CX7610WH, cistern supporting brackets SR1300XX stainless steel flushpipe with spreader and clips SS6020SS Combine bedpan and urinal bottle jet with 1/2" lever handle taps, SF6504CP legs and bearers for hopper SR3053XX sinks 760mm x 455mm FC1350WH chain and waste 11/2" chrome plated WF4338CP waste pipe for the hopper WF9685WH legs and bearers for sink SR3043XX drain with anti-drip stip FC9684WH legs and bearers for drain SR3052XX chrome plated extended bib tap 1/2" SF5204CP Chrome plated Lever action mixer tap flexible hose and handspray SF7053CP.	No	2		
D	**Kitchen Sink** Double bowl, double drainer stainless steel kitchen sink of size 1800 x 600mm as manufactured by **ASL.** The bowl size to be 430 x 420 x 200mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, 1No. 15mm diameter chrome plated sink mixer with over-arm swivel spout as **Cobra model 166/04** with carina handles, chrome plated bottle trap with 75mm deep seal and chain waste fitting.	No	1		
	Total c/f to next page				

Item	Description	Unit	Qty		
	Total b/d from previous page				
A	**Robe hook** Robe hook in vitreous china and in white colour mounted unto a concealed screw to wall wedges, to be as Twyfords OC 6858 1998 or approved equivalent.	No	12		
B	**Ambulant Disabled Water Closet suite** Low level wash down water closet suite for the elderly and disabled in white complete with horizontal outlet AND BOTTOM SUPPLY AND OVERFLOW WITH CLOSE COUPLING SIDE LEVER TREATMENT, 7.5 litre cistern, raised heavy duty toilet seat and cover and S-trap outlet and 600 x 35mm stainless steel grab rails (4No.) in stainless steel.The set to be complete with wash hand basin, 6mm thick mirror, toilet roll holder and robe hook. All to be as "Twyfords Avalon BTW" or approved equivalent.	No	1		
	Total for sanitary fittings carried to Collection Page F27				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Internal Plumbing Works Supply, deliver and install pipes, tubing and fittings as described and shown on the drawings. The pipes shall be PN 25 PPR pipes where exposed to adverse weather condition and all conforming to the current European standards for PPR installations and to the Engineers approval, pipe jointing shall be by polyfusion or use of electric coupling. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	PPR Pipes				
A	20mm diameter pipework	Lm	30		
B	25mm diameter pipework	Lm	84		
C	32mm diameter pipework	Lm	36		
D	40mm diameter pipework	Lm	42		
E	50mm diameter pipework	Lm	30		
F	65mm diameter pipework	Lm	30		
G	75mm diameter pipework	Lm	12		
	Bends				
H	20mm diameter bends	No.	12		
I	25mm diameter bends	No.	75		
J	32mm diameter bends	No.	10		
K	40mm diameter bends	No.	5		
L	50mm diameter bends	No.	6		
M	65mm diameter bends	No.	4		
N	75mm diameter bends	No.	3		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
	Tees				
A	25mm equal Tees	No.	13		
B	32mm equal Tees	No.	10		
C	40mm equal Tees	No.	18		
D	50mm equal Tees	No.	24		
E	65mm equal Tees	No.	7		
F	50mm equal Tees	No.	6		
	Reducers				
G	25 x 20mm diameter reducer	No.	15		
H	32 x 20mm diameter	No.	9		
I	32 x 25mm diameter	No.	11		
J	40 x 20mm diameter	No.	4		
K	40 x 25mm diameter	No.	9		
L	40 x 32mm diameter	No.	8		
M	50 x 25mm diameter	No.	10		
N	50 x 32mm diameter	No.	7		
O	50 x 40mm diameter	No.	9		
	Unions				
P	20mm diameter pipe unions	No.	15		
Q	25mm diameter pipe unions	No.	36		
R	32mm diameter pipe unions	No.	28		
S	40mm diameter pipe unions	No.	22		
T	50mm diameter pipe unions	No.	18		
U	65mm diameter pipe unions	No.	3		
	Threaded Fittings				
V	20mm male/female threaded 90° bend/Elbow	No.	22		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
A	25mm male/female threaded 90° bend/Elbow	No.	35		
B	32mm male/female threaded 90° bend/Elbow	No.	26		
C	40mm male/female threaded 90° bend/Elbow	No.	20		
D	40mm diameter pipe threaded plug	No.	5		
E	50mm ditto	No.	4		
	Valves				
F	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.	No.	18		
G	32mm ditto	No.	14		
H	40mm ditto	No.	11		
I	50mm ditto	No.	9		
J	32mm non-return valve	No.	6		
K	32mm medium pressure ball valve	No.	1		
	Pipe Sleeves				
L	65mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	Lm	12		
	OXYSTABLE PPR PIPES for Hot Water				
M	20mm diameter pipework	Lm	120		
N	25mm diameter pipework	Lm	150		
O	32mm diameter pipework	Lm	120		
P	40mm diameter pipework	Lm	150		
Q	50mm diameter pipework	Lm	180		
	Bends				
R	20mm diameter bends	No.	35		
S	25mm diameter bends	No.	15		
T	32mm diameter bends	No.	18		
	Tees				
U	25mm equal Tees	No.	15		
V	32mm equal Tees	No.	40		
	Reducers				
W	25 x 20mm diameter reducer	No.	36		
X	32 x 20mm diameter	No.	10		
Y	32 x 25mm diameter	No.	18		
	Unions				
Z	20mm diameter pipe unions	No.	20		
Z1	25mm diameter pipe unions	No.	25		
Z2	32mm diameter pipe unions	No.	34		
	Threaded Fittings				
Z3	20mm male/female threaded 90° bend/Elbow	No.	36		
Z4	25mm male/female threaded 90° bend/Elbow	No.	20		
Z5	32mm male/female threaded 90° bend/Elbow	No.	32		
	Total carried to collection page 27				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	INTERNAL FOUL WATER DRAINAGE				
	Supply, deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge golden brown UPVC pipe	30	Lm		
B	100mm diameter heavy gauge grey mUPVC pipe	102	Lm		
C	75mm diameter heavy gauge grey mUPVC pipe	30	Lm		
D	50mm diameter waste pipe	90	Lm		
E	40mm diameter waste pipe	24	Lm		
F	32mm diameter waste pipe	24	Lm		
	Bends				
G	100mm diameter bend with access	16	No.		
H	100mm diameter long radius bend	5	No.		
I	75mm diameter long radius bend	4	No.		
J	100mm diameter sweep bend	15	No.		
K	50mm diameter sweep bend	40	No.		
L	40mm diameter sweep bend	9	No.		
M	32mm diameter sweep bend	15	No.		
	Total c/f to next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	Total b/d from previous page				
	Tees				
A	50mm diameter sweep tee	30	No.		
B	40mm diameter sweep tee	5	No.		
C	32mm diameter sweep tee	6	No.		
	Access Caps				
D	100mm diameter access cap	15	No.		
E	50mm diameter access cap	25	No.		
F	40mm diameter access cap	7	No.		
G	32mm diameter access cap	20	No.		
	Boss Connectors				
H	75 x 40mm diameter boss connector	18	No.		
	Reducing Sockets				
I	100 x 75 reducing socket	2	No.		
J	100 x 50 reducing socket	2	No.		
K	50 x 32 reducing socket	5	No.		
L	40 x 32 reducing socket	6	No.		
	WC Connectors				
M	100mm diameter WC connector	9	No.		
	Traps				
N	100 x 50mm diameter floor trap and grating	19	No.		
O	100 x 100mm diameter floor drain and grating	2	No.		
P	Standard 300 x 300 x 450mm masonry gully trap complete with 125mm thick reinforced concrete cover.	1	No.		
	Weathering Slates and Vent Cowls				
Q	100mm diameter weathering slate and apron.	5	No.		
R	100mm diameter vent cowl	5	No.		
	Total carried to collection page 27				

COLLECTION PAGE FOR GROUND FLOOR PLUMBING AND DRAINAGE WORKS

Item	Description		Amount (Kshs)
1	Total for sanitary fittings carried forward from page F21	……	
2	Total for internal Plumbing c/forward from page F24	……	
3	Total for internal Drainage carried forward from page F26	……	
Total Plumbing and Drainage Works for Ground floor Carried to Summary Page F45			

BILL NO.3 - FIRST TO THIRD FLOOR & ROOF SPACE

Item	Description	Unit	Qty	Rate	Amount
	SANITARY FITTINGS				
A	Close-coupled WC suite with 'P'-trap in approved colour complete with horizontal outlet to BS 3402 with 7.5 litre valveless low level ceramic cistern and fittings including siphon, 15mm diameter side inlet ball valve, 20mm diameter side overflow, plastic flush bend, dual flush system, inlet connection, chrome-plated flush button and heavy plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as Duravit D-Code (Horizontal outlet) CAT No. 2111090000 water closet or equal and approved.	No	32		
B	**Squatting Water Closet** Squatting water closet suite in vitreous china comprising of water closet bowl with top plate and integral foot threads, S-trap connector, complete with flush valve. All to be as "Twyfords Oriental" or approved equivalent.	No	10		
C	**Pedestal wash hand basin** size 575 x 500mm with two tap hole, 32mm diameter chrome plated chain waste, chain stay hole, mixer tap to ensure mixing of cold and hot water and heavy duty chrome plated bottle trap (32mm 'P' trap) with 75mm seal. To be of ideal Ceramic or equal and approved.	No	32		
D	**Countertop wash hand basin** size 545 x 425mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole, chrome plated non-conculsive time delay press action pillar tap as Cobra model and heavy duty chrome plated bottle trap (32mm 'P' trap) with 75mm seal. To be of Duravit D-Code CAT No. 0337540000 countertops washhand basin or equal and approved.	No	6		
E	**Shower Fittings** Concealed shower fitting consisting of 15mm chrome plated riser pipe to connect the water to a swivel/ adjustable shower rose, chrome plated handles and stop corks to mix the hot and cold water and other necessary fittings & accessories. All to be as **Bricon/aztec** or equal and approved.	No	18		
F	**Soap Dispenser** Soap Dispenser, capacity 1.136 litres complete with plastic rawl plugs, fixing screws, lock and key complete with initial fill of soap gel. The soap dispenser to be as ZALPON'S MARK 7 model, size 125 x 100 x 290mm high or approved equivalent	No	6		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total c/f from previous Page				
A	**Hand Driers** Automatic Hand Drier in white colour, operating on an infra-red automatic sensing system with safety cut-out complete with plastic rawl plugs and fixing screws. The hand drier to have a heating capacity of 1.8 kw and to be of size 270 x 64 x 143mm deep as HEATRAE SADIA "Handi Dri" or approved equivalent.	No	6		
B	**Urinal** Two range urinal bowl in white vitreous china comprising 2No. bowls with 1No. division complete with bowl/divisions support complete with 7.5 litres automatic ceramic cistern ref CX 8611 WH, and fittings including siphon ball valve, cistern supports and drip tap in brass, chrome plated bottle trap, chrome plated flushpipe and spreader ref SS 6071SS with all connections, wall hangers/supports. To be as Twyfords 'Camden' or approved equivalent.	No	18		
C	**Urinal flash valve as Geberit or approved equivalent**	No	18		
D	**Medical Wash Hand Basin** Counter top Twyfords "SOLA L.B.G/L" wash hand basin with no tap holes and chain stay hole cat. No. WB 1520WH, wall brackets cat no. SR 1315 xx complete with "lever action mixer fitting, 1/2 with swivel nozzle and divided flow" wall mounted mixer cat. no. SF 1099 CP, chrome grid waste 11/4" cat no. WF 4341 CP and white plastic bottle trap 11/4" P-trap cat. no.WF 8482 xx or approved equivalent.	No	39		
E	**Assisted Bath** Assisted bath for the elderly and disabled with overflow blanking disc and grips 2No. tap holes cat No. BS 1172CP complete with chain waste fitting 11/2" cat No. WF 5344CP, supplementary leg sets for steel bath to BS 1390:1990 cat no. BG 1390xx, chrome plated chain waste 11/2" and overflow cat. no. WF 5650 CP, S-trap bath tub trap and chrome plated bath tub mixer with a telephone shower as "manhattan" 3/4" bath/shower mixer fitting cat. no.MH 5265CP and 3No. 600 x 35mm dia grab rails stainless steel. All as Twyfords Avalon Bath" or approved equivalent.Also include close-coupled water closet with grab rails to be installed in the same room	No	3		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total c/f from previous Page				
A	**Toilet roll holder** Toilet roll holder in vitreous china to BS 3402 in white colour of size 165x165mm and recessed into wall. Toilet roll holder to be as Twyfords "SEMI RECESSED & ORNAMENTAL' accessories Ref. No. VC 9808 WH	No	42		
B	**Soap Dispenser** Soap Dispenser, capacity 1.136 litres complete with plastic rawl plugs, fixing screws, lock and key complete with initial fill of soap gel. The soap dispenser to be as ZALPON'S MARK 7 model, size 125 x 100 x 290mm high or approved equivalent	No	6		
C	15mm diameter x 300mm long **flexible connectors** complete with integral chrome plated angle valve as Cobra or equal and approved.	No	246		
D	**Mirrors** 6mm thick polished plate glass, silver backed mirror with beveled edges, size 610x497mm plugged and screwed to wall with 4No. Chrome plated chrome capped screws and 5mm thick foam back nest.	No	81		
E	Mirror of size 1800 x 610mm, plugged and screwed to wall with 6No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam.	No	6		
	Total c/f to next Page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total c/f from previous Page				
A	**Sluice Unit** Twyfords "Grafton B.P.S." hopper cat.no. FC4076WH loose-trap FC44612WH complete with Vitreous china high level cistern 7.5 Litre capacity with valveless fittings and reversible chain pull CX7610WH, cistern supporting brackets SR1300XX stainless steel flushpipe with spreader and clips SS6020SS Combine bedpan and urinal bottle jet with 1/2" lever handle taps, SF6504CP legs and bearers for hopper SR3053XX sinks 760mm x 455mm FC1350WH chain and waste 11/2" chrome plated WF4338CP waste pipe for the hopper WF9685WH legs and bearers for sink SR3043XX drain with anti-drip stip FC9684WH legs and bearers for drain SR3052XX chrome plated extended bib tap 1/2" SF5204CP Chrome plated Lever action mixer tap flexible hose and handspray SF7053CP.	No	6		
B	**Kitchen Sink** Double bowl, double drainer stainless steel kitchen sink of size 1800 x 600mm as manufactured by **ASL.** The bowl size to be 430 x 420 x 200mm deep complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, 1No. 15mm diameter chrome plated sink mixer with over-arm swivel spout as **Cobra model 166/04** with carina handles, chrome plated bottle trap with 75mm deep seal and chain waste fitting.	No	3		
C	**Robe hook** Robe hook in vitreous china and in white colour mounted unto a concealed screw to wall wedges, to be as Twyfords OC 6858 1998 or approved equivalent.	No	42		
D	**Cleaners Sink** Heavy duty sink size 455 x 380 x 230mm deep in fireclay complete with hardwood pad on the front edge and fitted bucket aluminium alloy grating and 20mm chrome plated wall mounted inclined bricon tap, chrome plate chain and rubber stopper and heavy gauge 11/2" bottle trap and stainless steel legs. All as "Armitage Shanks Birch" or approved equivalent.	No	6		
	Total c/f to next page				

Item	Description	Unit	Qty		
	Total b/d from previous page				
A	**Ambulant Disabled Water Closet suite** Low level wash down water closet suite for the elderly and disabled in white complete with horizontal outlet AND BOTTOM SUPPLY AND OVERFLOW WITH CLOSE COUPLING SIDE LEVER TREATMENT, 7.5 litre cistern, raised heavy duty toilet seat and cover and S-trap outlet and 600 x 35mm stainless steel grab rails (4No.) in stainless steel.The set to be complete with wash hand basin, 6mm thick mirror, toilet roll holder and robe hook. All to be as "Twyfords Avalon BTW" or approved equivalent.	No	6		
B	**Sterilization Sink** Hospital sterilization sink in stainless steel, size 600 x 600mm x 450mm deep with two tap holes, stainless steel cantilever brackets(pair) , front leg supports in stainless steel and unslotted chain waste fitting complete with lever action mixer tap for hot and cold water. All as Twyfords Hospital Sink or approved equivalent.	No	4		
	Total for sanitay fittings carried forward to the collection page F38				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Internal Plumbing Works				
	Supply, deliver and install pipes, tubing and fittings as described and shown on the drawings. The pipes shall be PN 25 PPR pipes where exposed to adverse weather condition and all conforming to the current European standards for PPR installations and to the Engineers approval, pipe jointing shall be by polyfusion or use of electric coupling. Rates must allow for all Metal/plastic threaded adaptors where required for the connection of sanitary fixtures, valves, sockets, sliding and fixed joints, support raceways, isolating sheaths, elastic materials, expansion arms and bends, crossovers, couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system. The pipes will be pressure tested before the plastering of wall commences and as per the manufacturers recommended testing pressures.				
	PPR Pipes				
A	20mm diameter pipework	Lm	102		
B	25mm diameter pipework	Lm	426		
C	32mm diameter pipework	Lm	366		
D	40mm diameter pipework	Lm	246		
E	50mm diameter pipework	Lm	630		
F	65mm diameter pipework	Lm	402		
	Bends				
G	20mm diameter bends	No.	90		
H	25mm diameter bends	No.	185		
I	32mm diameter bends	No.	68		
J	40mm diameter bends	No.	23		
K	50mm diameter bends	No.	105		
L	65mm diameter bends	No.	32		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
	Tees				
A	25mm equal Tees	No.	76		
B	32mm equal Tees	No.	68		
C	40mm equal Tees	No.	81		
D	50mm equal Tees	No.	145		
E	65mm equal Tees	No.	54		
	Reducers				
F	25 x 20mm diameter reducer	No.	19		
G	32 x 20mm diameter	No.	19		
H	32 x 25mm diameter	No.	24		
I	40 x 20mm diameter	No.	7		
J	40 x 25mm diameter	No.	22		
K	40 x 32mm diameter	No.	41		
L	50 x 20mm diameter	No.	24		
M	50 x 25mm diameter	No.	32		
N	50 x 32mm diameter	No.	4		
O	50 x 40mm diameter	No.	33		
P	65 x 50mm diameter	No.	15		
Q	65 x 32mm diameter	No.	20		
R	65 x 25mm diameter	No.	83		
	Unions				
S	20mm diameter pipe unions	No.	16		
T	25mm diameter pipe unions	No.	170		
U	32mm diameter pipe unions	No.	162		
V	40mm diameter pipe unions	No.	14		
W	50mm diameter pipe unions	No.	60		
X	65mm diameter pipe unions	No.	10		
	Threaded Fittings				
Y	20mm male/female threaded 90° bend/Elbow	No.	69		
Z	25mm male/female threaded 90° bend/Elbow	No.	85		
Z1	32mm male/female threaded 90° bend/Elbow	No.	38		
Z2	40mm male/female threaded 90° bend/Elbow	No.	9		
Z3	50mm male/female threaded 90° bend/Elbow	No.	15		
Z4	65mm male/female threaded 90° bend/Elbow	No.	25		
	Total c/f to next page				

Item	Description	Unit	Qty	Rate (Kshs)	Amount
	Total b/d from previous page				
	Valves				
A	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 5154 PN 20 for series B rating, with wheel and head joints to steel tubing and complete with round male threaded transition fittings. The gate valve to be as PEGLER or approved equivalent.	No.	94		
B	32mm ditto	No.	89		
C	40mm ditto	No.	7		
D	50mm ditto	No.	30		
E	65mm ditto	No.	4		
F	32mm non-return valve	No.	0		
G	32mm medium pressure ball valve	No.	0		
	Pipe Sleeves				
H	65mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	Lm	24		
	ROOF TANK				
I	Supply, deliver and assemble a water tank, made of pressed steel sectional tank plates 6mm thick plates. The capacity of tank to be 32,000 litres (7039 Gallons) and of preferred dimensions 3660mm x 3660mm x 2440mm. The plate dimensions to be 1220mmX1220mm and of thickness 6mm.The tank to come complete with tank cover, mosquito proof inspection vent, internal stays, jointing material, internal and external ladders,bolts and nuts including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminum paint on the outside. The tank shall be complete with the following pipe connections Ø100mm overflow and Ø100mm wash out pipes.	1	No.		
	Total carried to collection page F38				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	INTERNAL FOUL WATER DRAINAGE				
	Supply, deliver and install the following UPVC, MUPVC, soil and waste systems respectively to B.S 5255 with fittings fixed to Manufactures Printed instructions and manufactured by reputable manufacturers. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. as required in the running lengths of pipework and also where necessary, for pipe fixing clips, holder bats plugged and screwed for the proper and satisfactory functioning of the system.				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge golden brown mUPVC pipe	72	Lm		
B	100mm diameter heavy gauge grey mUPVC pipe	576	Lm		
C	50mm diameter waste pipe	420	Lm		
D	40mm diameter waste pipe	84	Lm		
E	32mm diameter waste pipe	42	Lm		
	Bends				
F	100mm diameter bend with access	28	No.		
G	100mm diameter sweep bend	28	No.		
H	50mm diameter sweep bend	70	No.		
I	40mm diameter sweep bend	24	No.		
J	32mm diameter sweep bend	15	No.		
	Tees				
K	100mm diameter sweep tee	70	No.		
L	50mm diameter sweep tee	96	No.		
M	40mm diameter sweep tee	12	No.		
N	32mm diameter sweep tee	11	No.		
	Total c/f to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	Total b/d from previous page				
	Access Caps				
A	100mm diameter access cap	37	No.		
B	50mm diameter access cap	70	No.		
C	40mm diameter access cap	20	No.		
D	32mm diameter access cap	18	No.		
	Boss Connectors				
E	100 x 50mm diameter boss connector	63	No.		
F	100 x 40mm diameter boss connector	10	No.		
G	100 x 32mm diameter boss connector	5	No.		
	Reducing Sockets				
H	50 x 40 reducing socket	10	No.		
I	40 x 32 reducing socket	12	No.		
	WC Connectors				
J	100mm diameter WC connector	42	No.		
	Traps				
K	100 x 50mm diameter floor trap and grating	63	No.		
L	100 x 100mm diameter floor drain and grating	15	No.		
M	100mm diameter single branch	26	No.		
N	100mm double branch	15	No.		
	Total carried to collection page F38				

COLLECTION PAGE FOR 1-2 & ROOF SPACE FLOOR PLUMBING AND DRAINAGE WORKS

Item	Description	Amount (Kshs)
1	Total for sanitary fittings carried forward from page F32 ……	
2	Total for internal Plumbing c/forward from page F35 ……	
3	Total for internal Drainage carried forward from page 37 ……	
Total Plumbing and Drainage Works 1st-3rd floor &Roof Space Carried to Summary Page F45		

FIRE FIGHTING

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Fire Protection Supply, deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed by the Engineer. Supply and install the following fire fighting installation and equipment as described and shown on the drawings. Tenderers should allow for all fittings, jointings couplings including unions and clamps where necessary for the proper functioning of the installation when pricing.				
	Hosereel Installation				
	Hosereel				
A	20mm diameter 30m long swinging type hose reel complete with delivery valve, mild steel feed pipe, isolation valve, guide and all other accessories as "Angus Fire Armour" or equal and approved.	10	No.		
	GMS Pipework, Class B				
B	20mm diameter pipework	15	Lm		
C	25mm diameter pipework	96	Lm		
D	50mm diameter pipework	150	Lm		
	Extra Over Pipework				
	Bends				
E	20mm diameter bends	15	No.		
F	25mm diameter bends	22	No.		
G	50mm diameter bends	13	No.		
	Tees				
H	50mm diameter equal Tees	20	No.		
I	25mm diameter equal Tees	17	No.		
	Valves				
J	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as PEGLER or approved equivalent.	17	No.		
K	50mm diameter ditto	7	No.		
	Reducers				
L	50 x 25 mm diameter reducer	10	No.		
M	25 x 20 mm diameter reducer	12	No.		
	Total c/f to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	Total b/d from previous page				
	Unions				
A	25mm diameter pipe unions	24	No.		
B	50mm diameter pipe unions	14	No.		
	Hosereel Pumpset				
C	Hosereel pumpset, one duty, the other standby mounted on a frame with a mild steel base plate. Each pump shall have a duty $5m^3$/hr. against 50m head as Grundfos model CH 4 - 40 or approved equivalent. In addition, there shall be a 60 litres diaphragm pressure vessel (as Varem or approved equivalent), pressure switches, a switch to protect dry run, 65mm foot valve and strainer, tank connections, gate valves and non-return valves. Control shall be effected via a pressure switch through a pre-wired control panel which shall give automatic change-over from duty to standby pump within 5 seconds should the duty pump fail to deliver for any reason. The pumpset shall include all non-returns valves, timer, isolating valves and pipe connections.	1	Set		
	Control and Control Panel				
D	Control panel for the above pumps with contactors, over voltage and under voltage protection relays, MCBs, start/stop push buttons and indicators lights. All this shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet that is oven powder coated. The controls shall also include a float switch or flow switch for prevention against dry running complete with its cable.	1	Item		
	Fire Hose Cabinet				
E	Surface mounted fire hose cabinet manufactured from electro galvanised steel sheet with folded edges and curled hose plate edges and painted with electro static powder coating, 180^oC baked. The cabinet size shall be capable of housing hosereel and 3No. portable extinguishers as described in the next page and should conform to BS EN 671-1. To be as Germania or equal and approved.	10	No.		
	Painting				
F	Allow for painting of the hosereel installation with 2 coats of super gloss paint on a primer coat to the approval of the Project Engineer.	1	Item		
	Standard Printed Lable				
G	Standard printed lables for the fire cupboards.	10	No.		
	Total for Hose Reel System Carried to Collection Page F42				

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	Portable Fire Extinguishers				
	Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.				
	Water/Carbon Dioxide Gas Fire Extinguisher				
A	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	10	No		
	Carbon Dioxide Gas Fire Extinguisher				
B	5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	10	No		
	Dry Chemical Powder Fire Extinguisher				
C	9kg dry chemical podwer portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	10	No		
	Manual Alarm Bell				
D	9" (225mm) manual operated alarm bell (Gong)	10	No		
	Fire Blanket				
E	Fire blanket made of cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm. It shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket to BS 1721.	5	No		
	Fire Notices				
F	Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.	10	No		
	Stationery				
G	Laptop Computer Intel corei 7 sixth generation processor /2.7GHz Quad-core/8GB System RAM/1TB SSD/ win10/HD15.6" Screen/carry case and preinstalled with MS Office 16 and an antivirus as 'Hp Envy Ultrabook'.	3	No.		
H	Ream white photocopying paper A/4 80g/m2	20	Ream		
I	HP Laserjet Print Cartridge serial 5A No. CE505A	10	No		
J	2 Terabit External portable harddrive as seagate or approved equivalent	3	No		
	Total for portable fire extinguishers Carried to Collection Page 42				

COLLECTION PAGE FOR FIRE PROTECTION SERVICES

Item	Description	Amount (Kshs)
1	Total for Hose Reel System c/forward from page F40 ……	
2	Total for portable extinguishers c/f forward from page F41 ……	
	Total for Fire Fighting Works Carried to Summary Page F45	

Item	Description	Qty	Unit	Rate (Kshs)	Amount
	External Plumbing Works within Building Compound Supply, deliver and install the following plumbing fittings in positions indicated on the contract drawings or as shall be instructed by the Engineer. Tenderers should allow for all fittings, jointings couplings including unions and clamps where necessary for the proper functioning of the installation when pricing.				
	Excavations				
A	Excavate trench in hard soil/murram 600mm wide and depth not exceeding 1000mm deep and average 750mm deep, prepare bed with red soil/marram of particle size not more than 20 mm to a depth of 750mm. Bed shall be approved by Engineer before laying of pipes. Fill with same material as above and compact in layers of 75 mm. Cart away surplus soil.	200	Lm		
	Stand Pipe				
B	15mm diameter bib tap suitable for connecting hose pipe complete with threaded adaptors. The tap to be complete with 5meter long 20mm diameter pipe, bends etc. The chrome plated bib tap to be as Cobra ref.107EC taps or equal and approved.	4	No		
	Pipe work-GMS class B				
C	20mm diameter GMS pipe	20	Lm		
D	25mm diameter GMS pipe	42	Lm		
E	50mm diameter GMS pipe	96	Lm		
	Bends				
F	20mm diameter bends	8	No		
G	25mm diameter bends	4	No		
H	50mm diameter bends	20	No		
	Tees				
I	25mm diameter tee	8	No		
J	50mm diameter tee	9	No		
	Reducers				
K	25 x 20mm diameter reducer	3	No		
L	50 x 25mm diameter reducer	1	No		
M	50 x 20mm diameter reducer	1	No		
	Valves				
N	20mm diameter gate valve	4	No		
O	50mm diameter gate valve	5	No		
P	50mm diameter sluice valve	1	No		
	Subtotal carried forward to the next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Subtotal brought forward from previous page				
	Unions				
A	20mm diameter pipe union	4	No		
B	50mm diameter pipe union	6	No		
	Brass Adaptor				
C	20mm diameter brass adaptor	8	No		
D	25mm diameter brass adaptor	4	No		
E	50mm diameter brass adaptor	12	No		
	Water Supply Connection from existing mains				
F	100mm diameter GMS pipe	150	Lm		
G	100mm diameter high pressure gate valve	1	No		
H	50mm diameter -ditto-	1	No		
I	50mm dia Air Releasing valve as Glenfield or approved equivalent.	3	No		
J	50mm diameter water meter	1	No		
	Fire Hydrants				
K	100mm diameter fire hydrant	2	No		
	Indicator Plates				
L	Standard precast concrete Sluice valve marker post marked 'SV' set in concrete (1:3:6) base, including formwork, excavations backfilling and disposal. The plate to be painted with blue gloss oil paint.	7	No		
	Water Line Markers				
M	Standard precast concrete water line marker, post marked 'WL' set in concrete (1:3:6) base, including formwork, excavations backfilling and disposal. The plate to be painted with blue gloss oil paint.	4	No		
	Valve Chamber				
N	Valve chamber size 750x750x600mm deep with 100mm concrete (1: 3: 6) base 100mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	7	No		
	Pipe Sleeves				
O	100mm diameter heavy duty PVC (class 41, 2.5mm thick) pipe sleeves for crossing over pathways and driveways. The sleeves will be encased in 150mm concrete sorround.	30	Lm		
P	Allow for the micro tunneling across the tarmacked road, fix the 50mm Gms class "B: pipe then make good to the satisfaction of the Project Engineer.	24	Lm		
	Sterilization				
Q	Allow for flushing out and sterilizing the whole system with chlorine to the satisfaction of the engineer	1	Sum		
	Testing and Commissioning				
R	Allow for setting to work, testing and commissioning of the plumbing and drainage works to the satisfaction of the Engineer.	1	Item		
	Total for external plumbing works carried to summary page F45				

SUMMARY PAGE

Item	Description		Amount (Kshs)
1	Total costs for lower ground from page -F16	……	
2	Total costs for ground floor from page -F27	……	
3	Total costs for Typical 1st - 3rd floors and Roof Space from page -F38	……	
4	Total for Fire Fighting from page - F42	……	
5	Total for external plumbing works within building compound from page - F44	……..	
6	All for contingency to be used at the discretion of the engineer	……	1,000,000.00
Total for Sanitary Fittings, Plumbing, Drainage and Fire Protection Works			

Amount in words……...
……

Tenderer's name and Stamp
……

Sub- Contract period: ……. Weeks

Signature …….. Date

PIN NO. ……. VAT CERTIFICATE NO:
(Provide copy)

Witness Address:
…….

Date: ……..

SECTION G:

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

CONTENTS

CLAUSE No.		PAGE
1.	GENERAL NOTES TO THE TENDERER…….	G-1
2.	TECHNICAL SCHEDULE…….	G-2
3.	TECHNICAL DATA …….	G-3 to G-4

TECHNICAL SCHEDULE

1. General Notes to the Tenderer

1.1 The tenderer shall submit technical schedules for all materials and equipment upon which he has based his tender sum.

1.2 The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings described in the technical schedules. Manufacturer's literature shall be accepted. Failure to comply with this may have his tender disqualified.

1.3 Completion of the technical schedule shall not relieve the Contractor from complying with the requirements of the specifications except as may be approved by the Engineer.

TECHNICAL SCHEDULE

The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule (fill forms attached).

ITEM	DESCRIPTION	MANUFACTURER	COUNTRY OF ORIGIN	REMARKS (Catalogue No. etc.)
1.	Water Closet			
2.	Kitchen sink			
3.	Toilet roll holder			
4.	shower fitting			
5.	Robe hook			
6.	Mirrors			
7.	Towel rail			
8.	Towel bar			
9.	Water/CO2 extinguisher			
10.	CO2 fire extinguisher			
11.	DCP ditto			
12.	GMS pipe			
13.	Gate Valves			
14.	Fire hydrant			
15.	GMS Pipes and fittings			
16.	100mm Sluice valves			
17.	Shower fittings			

The tenderer shall also submit separate comprehensive descriptive and performance details for all plant apparatus and fittings, as described in the technical schedule.

SECTION H:

DRAWING SCHEDULE

CONTENTS

CLAUSE No.		PAGE
1.	DRAWING SCHEDULE…….	H-1

DRAWING SCHEDULE:

As shall be provided during project implementation.

SECTION I:

STANDARD FORMS

NOTE:

ALL FORMS IN THIS SECTION MUST BE FILLED AS THEY SHALL BE PART OF THE EVALUATION CRITERIA

STANDARD FORMS

CONTENTS

FORM		**PAGE**
1.	PERFORMANCE BANK GUARANTEE……..	I-1
2.	TENDER QUESTIONNAIRE……	I-2
3.	CONFIDENTIAL BUSINESS QUESTIONNAIRE……	I-3 toI-4
4.	KEY PERSONNEL……	I-5
5.	CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS..	I-6
6	SCHEDULE OF ON-GOING PROJECTS……..	I-7
7	FINANCIAL REPORTS FOR THE LAST FIVE YEARS ….	I-8
8	EVIDENCE OF FINANCIAL RESOURCES……..	I-9
9	NAME OF THE BANKERS……..	I-10
10	DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS ……	I-11
11	SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS……	I-12

PERFORMANCE BANK GUARANTEE

To:

Chief Officer, Health
County Government of Meru,
P.O. Box 120-60200,
Meru.

WHEREAS …….(hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. …… dated …… to execute …… (hereinafter called "the Works");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of:
Kshs. ……. (*amount of Guarantee in figures*)
Kenya Shillings
……
…….(*amount of Guarantee in words*),
and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings ……..
…….. (*amount of Guarantee in words*) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR …….

Name of Bank …….

Address ……

Date ……

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of Tenderer:

   ……

2. Full address of Tenderer to which tender correspondence is to be sent (unless an agent has been appointed below):

   ……

3. Telephone number (s) of Tenderer:

   ……

4. Telex/Fax Address of Tenderer:
   ……

5. Name of Tenderer's representative to be contacted on matters of the tender during the tender period:
   ……

6. Details of Tenderer's nominated agent (if any) to receive tender notices. This is essential if the Tenderer does not have his registered address in Kenya (name, address, telephone, telex):

   ……

   ……

_____
Signature of Tenderer

CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a), 2 (b) or 2(c) and (2d) whichever applies to your type of business.

You are advised that it is a serious offence to give false information on this Form.

Part 1 – General

Business Name ……

Location of business premises: Country/Town…….

Plot No…… Street/Road ……

Postal Address…… Tel No……..

Nature of Business……..

Current Trade Licence No…… Expiring date……

Maximum value of business which you can handle at any time:
Kenya Shillings……

Name of your bankers……

Branch……

Part 2 (a) – Sole Proprietor

Your name in full…… Age……

Nationality…… Country of Origin……

Citizenship details ……

Part 2 (b) – Partnership

Give details of partners as follows:

	Name in full	*Nationality*	*Citizenship Details*	*Shares*
1.	……	…….	……..	……..
2.	……	…….	……..	……
3.	……	……	……	……
4.	……	……	……	……

Part 2(c) – Registered Company

Private or Public ……

State the nominal and issued capita of the company:

Nominal KShs. ……..

Issued KShs. ……..

Give details of all directors as follows:

	Name in full	*Nationality*	*Citizenship Details**	*Shares*
1.	……..	……	……..	……..
2.	……..	……	……..	……..
3.	……..	……	……..	……..
4.	……..	……	……..	……..

Part 2(d) Interest in the Firm:

Is there any person/persons in the employment of the Government of Kenya WHO has interest in this firm? Yes/No ……. (Delete as necessary)

I certify that the above information is correct.

…….. …….
…….
Title Signature Date

* *Attach proof of citizenship*

KEY PERSONNEL

Qualifications and experience of key personnel proposed for administration and execution of the Contract.

POSITION	NAME	YEARS OF EXPERIENCE (GENERAL)	YEARS OF EXPERIENCE IN PROPOSED POSITION
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

I certify that the above information is correct.

…….. ……... ……. ……...……

Title Signature Date

CONTRACTS COMPLETED IN THE LAST FIVE (5) YEARS

Work performed on works of a similar nature and volume over the last five years.

PROJECT NAME	NAME OF CLIENT	TYPE OF WORK AND YEAR OF COMPLETION	VALUE OF CONTRACT (Kshs.)

I certify that the above works were successfully carried out and completed by ourselves.

……. ……. …….

Title Signature Date

SCHEDULE OF ON-GOING PROJECTS

Details of on-going or committed projects, including expected completion date.

PROJECT **NAME**	NAME OF CLIENT	**CONTRACT SUM**	**% COMPLETE**	**COMPLETION DATE**

I certify that the above works are currently being carried out by ourselves.

……. …… …….

Title Signature Date

FINANCIAL REPORTS FOR THE LAST FIVE YEARS
(Balance sheets, Profits and Loss Statements, Auditor's reports, etc.
List below and attach copies)

1. ._____.

2. ._____.

3. ._____.

4. ._____.

5. ._____.

6. ._____.

7. ._____.

8. ._____.

9. ._____.

10 ._____.

EVIDENCE OF FINANCIAL RESOURCES TO MEET QUALIFICATION REQUIREMENTS
(Cash in Hand, Lines of credit, e.t.c. List below and attach copies of supportive documents.)

1. ._____.

2. ._____.

3. ._____.

4. ._____.

5. ._____.

6. ._____.

7. ._____.

8. ._____.

9. ._____.

10 ._____.

NAME, ADDRESS AND TELEPHONE, TELEX AND FACSIMILE OF BANKS
(This should be for banks that may provide reference if contacted by the employer)

NAME	ADDRESS	TELEPHONE	TELEX	FACSIMILE

DETAILS OF LITIGATIONS OR ARBITRATION PROCEEDINGS IN WHICH THE TENDERER IS INVOLVED AS ONE OF THE PARTIES

1. ._____.

2. ._____

3. ._____.

4. ._____.

5. ._____.

6. ._____.

7. ._____.

8. ._____.

9. ._____.

10 ._____.

SCHEDULE OF MAJOR ITEMS OF CONTRACTOR'S EQUIPMENT PROPOSED FOR CARRYING OUT THE WORKS

ITEM OF EQUIPMENT	DESCRIPTION, MAKE AND AGE (Years)	CONDITION (New, good, poor) and number available	OWNED, LEASED (From whom?), or to be purchased (From whom?)