



**JARAMOGI OGINGA ODINGA
UNIVERSITY OF SCIENCE AND TECHNOLOGY**

TENDER DOCUMENT

TENDER NO: JOOUST/ONT/B4/35/2019-2020

FOR

**TENDER FOR AIRCONDITIONING AND
MECHANICAL VENTILLATION INSTALLATION,KITCHEN
EQUIPMENT INSTALLATION FOR THE PROPOSED
CONSTRUCTION OF TUITION BLOCKS AT JARAMOGI
ODINGA OGINGA UNIVERSITY OF SCIENCE AND
TECHNOLOGY, AT ACHIEGO**

CLOSING DATE: 23RD JULY 2020

OPENING DATES: 5TH AUGUST 2020

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SECTION I: INVITATION TO TENDER

TENDER NO: JOOUST/ONT/B4/35/2019-202

TENDER NAME: TENDER FOR AIR CONDITIONING AND MECHANICAL VENTILATION INSTALLATION, KITCHEN EQUIPMENT INSTALLATION FOR THE PROPOSED TUITION COMPLEX AT ACHIEGO

- 1.1 **Jaramogi Oginga Odinga University of Science and Technology** invites sealed tenders from eligible tenderers for Air-conditioning and Mechanical Ventilation Installation, Kitchen Equipment Installation for the proposed Tuition Complex at Achiego Campus.
- 1.2 Tender documents containing detailed specifications can be downloaded free of charge at University website www.jooust.ac.ke and **Public Procurement Information Portal www.tenders.go.ke**. Tenderers who download the tender document and intend to submit a bid are required to submit their particulars to **JOOUST** through **Email: proc@jooust.ac.ke** for the purpose of receiving any further clarification and/or addendum
- 1.3 **THERE SHALL BE A MANDATORY SITE VISIT TO BE HELD ON 9TH JULY 2020 FROM 10.00AM AT THE TUITION BLOCK SITE AT ACHIEGO**
- 1.4 Prices quoted should be net inclusive of all taxes, and delivery costs, must be in Kenya Shillings and shall remain valid for (120) days from the closing date of the tender.
- 1.5 Dully filled tender documents are to be enclosed in plain sealed envelopes, marked with the tender number, tender description **and bearing no indication of the applicant**, clearly /marking each “**ORIGINAL TENDER**” and “**COPY OF TENDER**” should be deposited in the tender box at Jaramogi Oginga Odinga University of Science and Technology or be addressed to:-

The Vice Chancellor,
Jaramogi Oginga Odinga University of Science and Technology,
P.O. Box 210-40601
BONDO.

The tender documents should reach on or before **23nd July 2020**.

- 1.6 Due to Covid-19 the application documents will be opened on **5th August 2020** at the Assembly Hall, Main Campus in the presence of the candidates or their representatives who choose to attend

NB: Due to Ministry of Health Instructions on social distancing the number of bidders/Representatives will be limited.

- 1.7 **BIDDERS MUST SERIALIZE THE BID DOCUMENT.THE UNIVERSITY SHALL NOT BEAR RESPONSIBILITY FOR THE LOSS OF ANY DOCUMENT.**

FORM OF TENDER

TO: _____[Name of Employer] _____[Date]
 _____[Name of Contract]

Dear Sir,

1. In accordance with the Conditions of Contract, Specifications, Drawings 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 Project Manager'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 until _____[Insert date], and it 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 Employer]

[Address of Employer]

Witness; Name _____

Address _____

Signature _____

Date _____

FORM OF TENDER SECURITY

Whereas (Hereinafter called “the Tenderer”) has submitted his tender dated for the construction of
 (Name of Contract)

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 of20.....

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 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 up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the said date.

[Date] _____ [Signature of the Bank] _____

[Witness] _____ [Seal] _____

SECTION II: INSTRUCTIONS TO TENDERERS

1. *General/Eligibility/Qualifications/Joint venture/Cost of tendering*

- 1.1. The Employer as defined in the Appendix to Conditions of Sub-Contract invites tenders for Sub- contract Works as described in the tender documents. The successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.
- 1.2. All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and Sub-Contractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Sub-Contract. A firm that has been engaged by the Employer to provide consulting Services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.
- 1.3. All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 1.4. In the event that pre-qualification of potential tenderers has been undertaken, only tenders from pre-qualified tenderers will be considered for award of Sub-Contract. These qualified tenderers should submit with their tenders any information updating their original pre- qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.
- 1.5. Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders, unless otherwise stated:
 - (a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer:
 - (b) Total monetary value of construction work performed for the las three years:
 - (c) experience in works of similar nature and size for the last five years, and details of work under way or contractually committed; and names and addresses of clients who may be contacted for further information on these Sub-Contracts;
 - (d) Major items of construction equipment proposed to carry out the Sub-Contract and an undertaking that they will be available for the Sub-Contract.
 - (e) Qualifications and experience of key site management and technical personnel proposed for the Sub-Contract and an undertaking that they shall be available for the Sub-Contract.
 - (f) Reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;

- (g) Evidence of adequacy of working capital for this Sub-Contract (access to line(s) of credit and availability of other financial resources);
 - (h) Authority to seek references from the tenderer's bankers;
 - (i) information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and
 - (j) Proposals for Sub-Contracting components of the Works amounting to more than 10 percent of the Sub-Contract Price.
- 1.6. Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:
- (a) The tender shall include all the information listed in clause 1.5 above for each joint venture partner;
 - (b) The tender shall be signed so as to be legally binding on all partners;
 - (c) All partners shall be jointly and severally liable for the execution of the Sub-Contract in accordance with the Sub-Contract terms;
 - (d) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and
 - (e) The execution of the entire Sub-Contract, including payment, shall be done exclusively with the partner in charge.
- 1.7. To qualify for award of the Sub-Contract, tenderers shall meet the following minimum qualifying criteria;
- (a) Annual volume of construction work of at least 2.5 times the estimated annual cash flow for the Sub-Contract;
 - (b) Experience as a Sub-Contractor in the construction of at least Two works of similar nature and complexity to the proposed Works,
 - (c) Over the last 5 years (to comply with this requirement, works cited should be at least 70 percent complete);
 - (d) Proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;
 - (e) A Sub-Contract manager with at least five years' experience in works of an equivalent nature and volume, including no less than three years as Manager; and
 - (f) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Sub-Contract, of no less than 4 months of the estimated payment flow under this Sub-Contract.
- 1.8. The figures for each of the partners of a joint venture shall be added together to determine the tenderer's compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria.

Failure to comply with this requirement will result in rejection of the joint venture's tender. Sub-Contractors' experience and resources will not be taken into account in determining the tenderer's compliance with the qualifying criteria, unless otherwise stated.

- 1.9. Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. A tenderer who submits or participates in more than one tender (other than as a Sub-Contractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the tenderer's participation to be disqualified.
- 1.10. 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.
- 1.11. The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a Sub-Contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.
- 1.12. 1.12 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.

2. *Tender Documents*

- 2.1. The complete set of tender documents comprises the documents listed below and any addenda issued in accordance with Clause 2.4.
 - (a) Invitation to tender
 - (b) Form of tender
 - (c) Form of tender security
 - (d) Instructions to tenderer.
 - (e) Tender evaluation criteria.
 - (f) Conditions of subcontract.
 - (g) Specifications of materials and works
 - (h) Bill of quantities
 - (i) Standard Forms
- 2.2. The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer's risk and may result in rejection of his tender.
- 2.3. A prospective tenderer making an inquiry relating to the tender documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will only respond to

requests for clarification received earlier than seven days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.

- 2.4. Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all tenderers. Prospective tenderers shall acknowledge receipt of each addendum in writing to the Employer.
- 2.5. To give prospective tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders, in accordance with Clause 4.2 here below.

3. *Preparation of Tenders*

- 3.1. All documents relating to the tender and any correspondence shall be in English language.
- 3.2. The tender submitted by the tenderer shall comprise the following:
 - (a) These Instructions to Tenderers, Form of Tender, Conditions of Sub-Contract, Appendix to Conditions of Contract and Specifications.
 - (b) Tender Security;
 - (c) Priced Bill of Quantities;
 - (d) Qualification Information Form and Documents;
 - (e) Alternative offers where invited; and
 - (f) Any other materials required to be completed and submitted by the tenderers.
- 3.3. The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. All duties, taxes, and other levies payable by the Sub-Contractor under the Sub-Contract, or for any other cause relevant to the Sub-Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the tenderer.
- 3.4. The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Sub-Contract if provided for in the Appendix to Conditions of Sub-Contract and provisions made in the Conditions of Sub-Contract.
- 3.5. The unit rates and prices shall be in Kenya Shillings.
- 3.6. Tenders shall remain valid for a period of ninety (90) days from the date of submission. However, in exceptional circumstances, the Employer may request that the tenderers extend the period of validity for a specified

additional period. The request and the tenderers' responses shall be made in writing. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.

- 3.7. The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price
- 3.8. The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.
- 3.9. Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as "Tenderer" all joint venture partners and list them in the following manner: a joint venture consisting of",", ",", and ".....".
- 3.10. The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.
- 3.11. The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Sub-Contract Agreement and furnished the required Performance Security.
- 3.12. The Tender Security may be forfeited
 - (a) If the tenderer withdraws the tender after tender opening during the period of tender validity;
 - (b) If the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;
 - (c) In the case of a successful tenderer, if the tenderer fails within the specified time limit to
 - (i) Sign the Agreement, or
 - (ii) Furnish the required Performance Security.
- 3.13. Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical designs as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, tenderers wishing to offer technical alternatives to the requirements of the tendering documents must also submit a tender that complies with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications.

In addition to submitting the basic tender, the Tenderer shall provide all information necessary for a complete evaluation of the alternative, including design calculations, technical specifications, breakdown of prices, proposed

construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated tender conforming to the basic technical requirements shall be considered.

- 3.14. The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender, and clearly marked "ORIGINAL". In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as "COPIES OF ORIGINAL". In the event of discrepancy between them, the ORIGINAL shall prevail.
- 3.15. The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by a person or persons duly organized to sign on behalf of the tenderer, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialed by the person or persons signing the tender.
- 3.16. Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.
- 3.17. The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.
- 3.18. The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

4. *Submission of Tenders*

- 4.1. The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as "ORIGINAL" and "COPIES" of the original as appropriate. The inner and outer envelopes shall:
 - (a) be addressed to the Employer at the address provided in the invitation to tender;
 - (b) bear the name and identification number of the Sub-Contract as defined in the invitation to tender; and
 - (c) provide a warning not to open before the specified time and date for tender opening.
- 4.2. Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender. However, the Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Sub-Clause 2.5 in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline will then be subject to the new deadline.
- 4.3. Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.

- 4.4. Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked "**MODIFICATION**" and "**WITHDRAWAL**", as appropriate. No tender may be modified after the deadline for submission of tenders.
- 4.5. Withdrawal of a tender between the deadlines for submission of tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.
- 4.6. Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

5. *Tender Opening and Evaluation*

- 5.1. The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenderers' and Employer's representatives who are present during the opening shall sign a register evidencing their attendance.
- 5.2. The tenderers' names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted), any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.
- 5.3. Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of Sub-Contract shall not be disclosed to tenderers or any other persons not officially concerned with such process until the award to the successful tenderer has been announced. Any effort by a tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.
- 5.4. To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask any tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile 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 arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.
- 5.5. Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined in Clause 1.7; (b) has been

properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tendering documents, without material deviation or reservation.

A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the tendering documents, the Employer's rights or the tenderer's obligations under the Sub-Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

- 5.6. If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.
- 5.7. The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5.
- 5.8. The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in tender evaluation.
- 5.9. The tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Sub-Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Sub-Contract award may result in the rejection of the tender.
- 5.10. 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 Sub-Contract Price excluding Provisional Sums to a non-indigenous Sub-Contractor
- 5.11. Where Sub-Contract price variation is allowed, the valuation shall not exceed 15% of the original Sub-Contract price.
- 5.12. Price variation request shall be processed by the procuring entity within 30 days of receiving the request.
- 5.13. The procuring entity may at any time terminate procurement proceedings before Sub-Contract award and shall not be liable to any person for the termination.
- 5.14. The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.
- 5.15. A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a Sub-Contract after notification of

Sub-Contract award shall be considered for debarment from participating in future public procurement.

6. *Award of Sub-Contract*

- 6.1. Subject to Clause 6.2, the award of the Sub-Contract will be made to the tenderer whose tender has been determined to be substantially responsive to the tendering documents and who has offered the lowest evaluated tender price, provided that such tenderer has been determined to be (a) eligible in accordance with the provision of Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8
- 6.2. Notwithstanding clause 6.1 above, the Employer reserves the right to accept or reject any tender, and to cancel the tendering process and reject all tenders, at any time prior to the award of Sub-Contract, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for the action.
- 6.3. The tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Sub-Contract documents called the “Letter of Acceptance”) will state the sum (hereinafter and in all Sub-Contract documents called the “Sub-Contract Price”) that the Employer will pay the Sub-Contractor in consideration of the execution, completion, and maintenance of the Works by the Sub-Contractor as prescribed by the Sub-Contract. At the same time the other tenderers shall be informed that their tenders have not been successful.
- 6.4. The Sub-Contract shall be formed on the parties signing the Sub-Contract.
- 6.5. The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 days of receipt the successful tenderer will sign the Agreement and return it to the Employer.
- 6.6. Within 21 days after receipt of the Letter of Acceptance, the successful tenderer shall deliver to the Employer a Performance Security in the amount stipulated in the Appendix to Conditions of Sub-Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form
- 6.7. Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.
- 6.8. Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.
- 6.9. Preference where allowed in the evaluation of tenders shall not be allowed for Sub-Contracts not exceeding one year (12 months)
- 6.10. The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

- 6.11. The parties to the Sub-Contract shall have it signed within 30 days from the date of notification of Sub-Contract award unless there is an administrative review request.
- 6.12. Sub-Contract price variations shall not be allowed for Sub-Contracts not exceeding one year (12 months)
- 6.13. Where Sub-Contract price variation is allowed, the valuation shall not exceed 15% of the original Sub-Contract price.
- 6.14. Price variation request shall be processed by the procuring entity within 30 days of receiving the request.
- 6.15. The procuring entity may at any time terminate procurement proceedings before Sub-Contract award and shall not be liable to any person for the termination.
- 6.16. The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.
- 6.17. A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a Sub-Contract after notification of Sub-Contract award shall be considered for debarment from participating in future public procurement.

7. *Corrupt and Fraudulent practices*

- 7.1. The procuring entity requires that tenderers observe the highest standards of ethics during procurement process and execution of Sub-Contracts. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

SECTION III: APPENDIX TO INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERERS
1.1	The employer is the Vice Chancellor , Jaramogi Oginga Odinga University of Science and Technology.
1.7	Qualification criteria as set out in the tender evaluation criteria
1.8	N/A
1.9	Joint venture or individual tenderers only.
1.13	N/A
2.3	Or through email address: proc@jooust.ac.ke
3.2.(e)	N/A
3.4	N/A
3.6	Validity period of 90 days
3.8	Tender surety shall be valid for 30 days beyond the validity of tender from the date of tender opening.
3.12 (b)	N/A
3.14	One original and a copy of the original
3.18	Bid security of 2% OF THE TENDER SUM from a reputable bank recognized by the Central Bank of Kenya
5.2	Alternative bids not allowed
5.7	N/A: PPAD 2015 Applies
5.9	N/A
5.12	N/A
6.5	Successful tenderer to provide performance security of 10% of the Sub-Contract sum from reputable bank recognized by Central Bank of Kenya prior to Sub-Contract signing.
6.8	N/A
6.12	-The word “valuation” should read “variation” -Variation shall apply as prescribed by the Public Procurement and Asset Disposal Act, 2015
6.13	Shall be 60 days from the date of receipt of the request
8.0	Due diligence shall be conducted before award in accordance with the Public Procurement and Asset Disposal Act, 2015
9.0	Tenderer shall be required to provide litigation history which may be subjected to due diligence to ascertain the possibility of negatively affecting performance

SECTION IV: TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 4 stages, namely:

- (i) Mandatory evaluation,
- (ii) Technical Evaluation
- (iii) Financial Evaluation; and
- (iv) Due diligence

1. Preliminary evaluation

S/No	Mandatory requirement
1	Must provide National Construction Authority (NCA) Category 5 and above registration certificate under the category of mechanical installations. In the event of a joint venture, the certificate maybe submitted by any one of the members of the venture.
2	Must provide Copy of current annual contractors practicing license from National Construction Authority (NCA). In the event of a joint venture, the certificate will be submitted by the holder of the NCA registration certificate.
3	Must provide Detailed Company profile.
4	Must provide certified copy of Certificate of Incorporation. If joint venture, ALL member of the venture shall submit their respective certificates.
5	Must attach proof of certified Company Ownership (CR12).
6	Must attach certified copy of Single Business Permit for the year 2020
7	Must provide valid Certificate of Tax Compliance from Kenya Revenue Authority; (certified copy). If joint venture, ALL member of the venture shall submit their respective certificates.
8	Must Dully fill, sign and stamp the Form of Tender.
9	Must attach Certified Audited financial reports prepared by registered Auditors for the last three consecutive years for the years ended 2017, 2018 and 2019.
10	Must Dully fill, sign and stamp the Confidential Business Questionnaire
11	Must Provide Dully filled, signed and stamped Non-Debarment Declaration Form.
12	Must Provide Dully signed and signed/stamped Litigation Declaration Form.)
13	Site visit/ pre-tender conference is mandatory (as indicated in the advertisement)
14	Must provide a bid bond of 2% of the tender amount from a commercial bank recognized by CBK and must be valid for 120 days from the date of tender closing.
15	Must provide Manufacturers letter of Authority for the specified equipment
16	Must dully fill sign and stamp the Anti-corruption declaration form
17	Must Provide proof of Power of attorney of Tender Signatory in the event of a joint

Tender Document submitted without **ANY** of the above-mentioned Mandatory documents shall be rejected by the Jaramogi Oginga Odinga University of Science and Technology's Tender Evaluation Committee and will therefore not proceed to the technical and financial Evaluation.

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

2. Technical evaluation

Award of points for the Technical Evaluation shall be as shown in Table 1 below:

Item	Description	Points Scored	Max Points	Total Points
1.	Key Personnel (Attach evidence)			25
	a) Project Engineer's qualification <ul style="list-style-type: none"> Holder of Degree ----- 5 marks Holder of Diploma ----- 3marks Holder of Certificate ----- 0 marks 		5	
	b) Project Engineer's experience <ul style="list-style-type: none"> Over ten (10) year relevant experience -- 5 marks Five (5) to ten (10) years relevant experience ----- 4 marks Under five (5) years relevant experience ---- 2 marks No experience ----- 0 marks 		5	
	c) Works Inspector's Qualification <ul style="list-style-type: none"> Holder of Degree in relevant Mechanical engineering --- ----- 5 marks Holder of Diploma in Mechanical engineering ----- 3 marks Holder of Certificate in relevant engineering ----- 1 mark No Qualification ----- 0 marks 		5	
	d) Works Inspector's Experience <ul style="list-style-type: none"> Over 10 years' relevant experience----- 5 marks Five (5) to ten (10) years' relevant experience ----- -- 3 marks Under 5 years' relevant experience ----- 1 marks No experience -----0 marks 		5	
	e) Experience of Technicians with minimum of certificate qualification in relevant Engineering field <ul style="list-style-type: none"> Over 10 years' relevant experience ----- 5 marks Five (5) to ten (10) relevant experience ----- 3 marks Under 5 years' relevant experience ----- 1mark No relevant experience ----- 0 marks 		5	

Item	Description	Points Scored	Max Points	Total Points
2.	<p>Contracts completed in the last five (5) years; a max of 5 No. projects (Attach evidence in form of completion certificates or letters from clients/consultants.)</p> <ul style="list-style-type: none"> Project of similar nature, complexity and magnitude of equal or higher value. ----- 5 marks each Project of similar nature and complexity but of lower magnitude than the one in consideration ----- 3 marks each No completed project of similar nature ---- 0 marks 		25	25
3	<p>On-going projects (A max of 2 No. projects) (Attach evidence; Letters of Award/ Interim certificates/ Contracts)</p> <ul style="list-style-type: none"> Project of similar nature, complexity and magnitude ----- 5 marks each Project of similar nature, but of lower value than the one in consideration ----- 2.5 marks each No ongoing project of similar nature ----- 0 marks 		10	10
5.	Evidence of business physical address. (Offices/Workshops). Provide copies of ownership or lease agreement documents.		5	5
6.	<p>Financial report Audited financial report (last three [3] years) - 2017-2019</p> <ul style="list-style-type: none"> Average Annual Turnover equal or higher than to Kshs. 40.0 Million ----- 15 Marks Average Annual Turnover between Kshs. 20 Million and Kshs 39.9 Million ----- 10 Marks Average Annual Turnover between Kshs. 10 Million and Kshs 19.9 Million ----- 5 Marks Average Annual Turnover below Kshs 10 Million ----- 0 Marks 		15	15
7.	<p>Evidence of financial resources (cash in hand, lines of credit, overdraft facility etc.)</p> <ul style="list-style-type: none"> Amount equivalent to or above 25% of submitted tender sum ----- 20 Marks Amount equivalent to 20% but below 25% of submitted tender sum ----- 15 Marks Amount equivalent to 15% but below 20% of submitted tender sum ----- 10 Marks Amount equivalent to 10% but below 15% of submitted tender sum ----- 5 Marks Amount below 10% of submitted tender sum ----- 0 Mark 		20	20

Item	Description	Points Scored	Max Points	Total Points
	TOTAL			100

Any tenderer who scores 70 points and above in this Technical Evaluation shall be considered for further evaluation.

3. Financial Evaluation

Only tenderer's who score 70% and above of the overall marks on the technical evaluation shall qualify for financial evaluation.

This will be carried out only for those tenders that have passed BOTH mandatory requirements and Technical evaluation. The client will;

1. Undertake price comparison and ranking of prices.
2. The prices shall be compared and checked for completeness including all local taxes.

4. Due Diligence and Recommendation for Award

Particulars of post – qualification if applicable. The Client may inspect the premises due diligence to seek further clarification/confirmation if necessary, to confirm authenticity/compliance of any condition of the tender/qualifications of the tenderer in line with Section 83 of the Public Procurement and Asset Disposal Act, 2015.

The tenderer shall not be awarded the Sub-Contract if they fail to pass the compliance test. The second lowest tenderer shall be considered for due diligence.

Award Criteria: The firm achieving the lowest evaluated price will be awarded the Sub-Contract in line with Section 86 of the Public Procurement and Disposal Act, 2015

Particulars of performance security; 5% of Sub-Contract sum

SECTION V: CONDITIONS OF SUB-CONTRACT

1. Definitions

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

“**Bill of Quantities**” means the priced and completed Bill of Quantities forming part of the tender.

“**Compensation Events**” are those defined in Clause 24 hereunder.

“**Completion Date**” means the date of completion of the Works as certified by the Project Manager, in accordance with Clause 31.

“**Days**” are calendar days; “**Months**” are calendar months.

“**Defect**” is any part of the Works not completed in accordance with the Sub-Contract.

“**Defects Liability Certificate**” is the certificate issued by Project Manager upon correction of defects by the Sub-Contractor.

“**Defects Liability Period**” is the period named in the Sub-Contract Data and calculated from the Completion Date.

“**Drawings**” include calculations and other information provided or approved by the Project Manager for the execution of the Sub-Contract.

“**Day works**” are Work inputs subject to payment on a time basis for labour and the associated materials and plant.

“**Employer**”, or the “**Procuring entity**” as defined in the Public Procurement Regulations (i.e. Central or Local Government administration, Universities, Public Institutions and Corporations, etc.) is the party who employs the Sub-Contractor to carry out the Works.

“**Equipment**” is the Sub-Contractor’s machinery and vehicles brought temporarily to the Site for the execution of the Works.

“**Intended Completion Date**” is the date on which it is intended that the Sub-Contractor shall complete the Works. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

“**Materials**” are all supplies, including consumables, used by the Sub-Contractor for incorporation in the Works.

“**Plant**” is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

“**Project Manager**” is the person named in the Appendix to Conditions of Sub-Contract (or any other competent person appointed by the Employer and

notified to the contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Sub-Contract and shall be an “Architect” or a “Quantity Surveyor” registered under the Architects and Quantity Surveyors Act Cap 525 or an “Engineer” registered under Engineers Registration Act Cap 530.

“**Site**” is the area defined as such in the Appendix to Condition of Sub-Contract.

“**Site Investigation Reports**” are those reports that may be included in the tendering documents which are factual and interpretative about the surface and subsurface conditions at the Site.

“**Specifications**” means the Specifications of the Works included in the Sub-Contract and any modification or addition made or approved by the Project Manager.

“**Start Date**” is the latest date when the Sub-Contractor shall commence execution of the Works. It does not necessarily coincide with the Site possession date(s).

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

“**Sub-Contract**” means the agreement entered into between the Employer and the Sub-Contractor as recorded in the Agreement Form and signed by the parties including all attachments and appendices thereto and all documents incorporated by reference therein to execute, complete, and maintain the Works,

“**Sub-Contractor’s Tender**” is the completed tendering document submitted by the Sub-Contractor to the Employer.

“**Sub-Contract Price**” is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Sub-Contract.

2. Interpretation

- 2.1. In interpreting these Conditions of Sub-Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Sub-Contract.
- 2.2. If sectional completion is specified in the Appendix to Conditions of Sub-Contract, reference in the Conditions of Sub-Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).

2.3. The following documents shall constitute the Sub-Contract documents and shall be interpreted in the following order of priority;

- (1) Agreement,
- (2) Letter of Acceptance,
- (3) Sub-Contractor's Tender,
- (4) Appendix to Conditions of Sub-Contract,
- (5) Conditions of Sub-Contract,
- (6) Specifications,
- (7) Drawings,
- (8) Bill of Quantities,
- (9) Any other documents listed in the Appendix to Conditions of Sub-Contract as forming part of the Sub-Contract.

Immediately after the execution of the Sub-Contract, the Project Manager shall furnish both the Employer and the Sub-Contractor with two copies each of all the Sub-Contract documents. Further, as and when necessary the Project Manager shall furnish the Sub-Contractor [always with a copy to the Employer] with three [3] copies of such further drawings or details or descriptive schedules as are reasonably necessary either to explain or amplify the Sub-Contract drawings or to enable the Sub-Contractor to carry out and complete the Works in accordance with these Conditions.

3. Language and Law

3.1. Language of the Sub-Contract and the law governing the Sub-Contract shall be English language and the Laws of Kenya respectively unless otherwise stated.

4. Project Manager's Decisions

4.1. Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Employer and the Sub-Contractor in the role representing the Employer.

5. Delegation

5.1. The Project Manager may delegate any of his duties and responsibilities to others after notifying the Sub-Contractor.

6. Communications

6.1. Communication between parties shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Sub-Contracting

- 7.1. The Sub-Contractor may Sub-Contract with the approval of the Project Manager, but may not assign the Sub-Contract without the approval of the Employer in writing. Sub-Contracting shall not alter the Sub-Contractor's obligations.

8. Other Sub-Contractors

- 8.1. The Sub-Contractor shall cooperate and share the Site with other Sub-Contractors, public authorities, utilities etc. as listed in the Appendix to Conditions of Sub-Contract and also with the Employer, as per the directions of the Project Manager. The Sub-Contractor shall also provide facilities and services for them. The Employer may modify the said List of Other Sub-Contractors etc., and shall notify the Sub-Contractor of any such modification.

9. Personnel

- 9.1. The Sub-Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said Information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Qualification Information. If the Project Manager asks the Sub-Contractor to remove a person who is a member of the Sub-Contractor's staff or work force, stating the reasons, the Sub-Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Work in the Sub-Contract.

10. Works

- 10.1. The Sub-Contractor shall construct and install the Works in accordance with the Specifications and Drawings. The Works may commence on the Start Date and shall be carried out in accordance with the Program submitted by the Sub-Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

11. Safety and Temporary Works

- 11.1. The Sub-Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.
- 11.2. The Project Manager's approval shall not alter the Sub-Contractor's responsibility for design of the Temporary works and all drawings prepared by the Sub-Contractor for the execution of the temporary or permanent Works, shall be subject to prior approval by the Project Manager before they can be used.
- 11.3. The Sub-Contractor shall be responsible for the safety of all activities on the Site.

12. Discoveries

- 12.1. Anything of historical or other interest or of significant value unexpectedly discovered on Site shall be the property of the Employer. The contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

13. Work Program

- 13.1. Within the time stated in the Appendix to Conditions of Sub-Contract, the Sub-Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Work, including any changes to the sequence of the activities.
- 13.2. The Sub-Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Sub-Contract. If the Sub-Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the Sub-Contractor's obligations.
- 13.3. The Sub-Contractor may revise the program and submit it to the Project Manager again at any time. A revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

- 14.1. The Employer shall give possession of all parts of the Site to the Sub-Sub-Contractor. If possession of a part is not given by the date stated in the Appendix to Conditions of Sub-Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.

15. Access to Site

- 15.1. The Sub-Contractor shall allow the Project Manager and any other person authorized by the Project Manager, access to the Site and to any place where work in connection with the Sub-Contract is being carried out or is intended to be carried out.

16. Instructions

- 16.1. The Sub-Contractor shall carry out all instructions of the Project Manager which are in accordance with the Sub-Contract.

17. Extension or Acceleration of Completion Date

- 17.1. The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Sub-Contractor taking steps to accelerate the remaining Work, which would cause the Sub-Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Sub-Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Sub-Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay caused by such failure shall not be considered in assessing the new (extended) Completion Date.
- 17.2. No bonus for early completion of the Works shall be paid to the Sub-Contractor by the Employer.

18. Management Meetings

- 18.1. A Sub-Contract management meeting shall be held monthly and attended by the Project Manager and the Sub-Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project Manager shall record the minutes of management meetings and provide copies of the same to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

19. Early Warning

- 19.1. The Sub-Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work, increase the Sub-Contract Price or delay the execution of the Works. The Project Manager may require the Sub-Contractor to provide an estimate of the expected effect of the future event or circumstance on the Sub-Contract Price and Completion Date. The estimate shall be provided by the Sub-Contractor as soon as reasonably possible.
- 19.2. The Sub-Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instructions of the Project Manager.

20. Defects

- 20.1. The Project Manager shall inspect the Sub-Contractor's work and notify the Sub-Contractor of any defects that are found. Such inspection shall not affect the

Sub-Contractor's responsibilities. The Project Manager may instruct the Sub-Contractor to search for a defect and to uncover and test any Work that the Project Manager considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Sub-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 Sub-Contract Price.

- 20.2. The Project Manager shall give notice to the Sub-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 Sub-Contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.
- 20.3. Every time notice of a defect is given, the Sub-Contractor shall correct the notified defect within the length of time specified by the Project Manager's notice. If the Sub-Contractor has not corrected a defect within the time specified in the Project Manager's notice, the Project Manager 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 Sub-Contract Price.

21. Bills of Quantities

- 21.1. The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Sub-Contractor. The Sub-Contractor will be paid for the quantity of the Work done at the rate in the Bills of Quantities for each item.
- 21.2. If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Sub-Contract price, the Project Manager shall adjust the rate to allow for the change.
- 21.3. If requested by the Project Manager, the Sub-Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

- 22.1. All variations shall be included in updated programs produced by the Sub-Contractor.
- 22.2. The Sub-Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered
- 22.3. If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of

quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the Sub-Contractor shall be in the form of new rates for the relevant items of Work.

- 22.4. If the Sub-Contractor's quotation is unreasonable, the Project Manager may order the variation and make a change to the Sub-Contract price, which shall be based on the Project Manager's own forecast of the effects of the variation on the Sub-Contractor's costs.
- 22.5. If the Project Manager decides that the urgency of varying the Work would prevent a quotation being given and considered without delaying the Work, no quotation shall be given and the variation shall be treated as a Compensation Event.
- 22.6. The Sub-Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 22.7. When the Program is updated, the Sub-Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

- 23.1. The Sub-Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Sub-Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Sub-Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.
- 23.2. The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed, materials delivered on Site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Sub-Contractor for their value . Thereafter, they shall not be removed from Site without the Project Manager's instructions except for use upon the Works.
- 23.3. Payments shall be adjusted for deductions for retention. The Employer shall pay the Sub-Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Sub-Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.
- 23.4. If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Sub-Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

23.5. Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Sub-Contract.

23.6. The Sub-Contract Price shall be stated in Kenya Shillings. All payments to the Sub-Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Sub-Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Sub-Contract.

If the Sub-Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services

The Employer and the Project Manager shall be notified promptly by the Sub-Contractor of an changes in the expected foreign currency requirements of the Sub-Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Sub-Contract Price shall then be amended by agreement between Employer and the Sub-Contractor in order to reflect appropriately such changes.

23.7. In the event that an advance payment is granted, the following:

- (a) On signature of the Sub-Contract, the Sub-Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Sub-Contract. The advance shall not be subject to retention money.
- (b) No advance payment may be made before the Sub-Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.
- (c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Sub-Contractor. Reimbursement shall begin when the amount of the sums due under the Sub-Contract reaches 20% of the original amount of the Sub-Contract. It shall have been completed by the time 80% of this amount is reached.

The amount to be repaid by way of successive deductions shall be calculated by means of the formula:

$$R = \frac{A(X^1 - X^{11})}{80 - 20}$$

Where:

X^1 = the amount of proposed cumulative payments as a percentage of the original amount of the Sub-Contract. This figure will exceed 20% but not exceed 80%.

X^{11} = the amount of the previous cumulative payments as a percentage of the original amount of the Sub-Contract. This figure will be below 80% but not less than 20%.

- (d) With each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24. Compensation Events

24.1. The following issues shall constitute Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Appendix to Conditions of Sub-Contract.
- (b) The Employer modifies the List of Other Sub-Contractors, etc., in a way that affects the Work of the Sub-Sub-Contractor under the Sub-Contract.
- (c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Sub-Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.
- (e) The Project Manager unreasonably does not approve a Sub-Contract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the Site investigation reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.
- (h) Other Sub-Contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Sub-Contract, and they cause delay or extra cost to the Sub-Contractor.

- (i) The effects on the Sub-Contractor of any of the Employer's risks.
 - (j) The Project Manager unreasonably delays issuing a Certificate of Completion.
 - (k) Other compensation events described in the Sub-Contract or determined by the Project Manager shall apply.
- 24.2. If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the Sub-Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Sub-Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.
- 24.3. As soon as information demonstrating the effect of each compensation event upon the Sub-Contractor's forecast cost has been provided by the Sub-Contractor, it shall be assessed by the Project Manager, and the Sub-Contract Price shall be adjusted accordingly. If the Sub-Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Sub-Contract Price based on the Project Manager's own forecast. The Project Manager will assume that the Sub-Contractor will react competently and promptly to the event.
- 24.4. The Sub-Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Sub-Contractor not having given early warning or not having co-operated with the Project Manager.
- 24.5. Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Sub-Contract.
- 24.6. The Sub-Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.
- 24.7. Provided always that should the event giving rise to the claim of continuing effect, the Sub-Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

25. Price Adjustment

- 25.1. The Project Manager shall adjust the Sub-Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Sub-Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Sub-Contractor.
- 25.2. The Sub-Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Sub-Contractor of materials to be specifically imported (by express provisions in the Sub-Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Sub-Contract, if at any time during the period of

the Sub-Contract exchange rates shall be varied and this shall affect the cost to the Sub-Sub-Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Sub-Contract price.

- 25.3. Unless otherwise stated in the Sub-Contract, the Sub-Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;
- (i) The prices contained in the Sub-Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (JBC) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Sub-Contractor in his pricing shall be attached in the Appendix to Conditions of Sub-Contract.
 - (ii) Upon JBC determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Sub-Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the JBC and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.
 - (iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.
- 25.4. The prices contained in the Sub-Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the Works as determined by the JBC and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Sub-Contractor in his pricing shall be attached in the Appendix to Conditions of Sub-Contract.
- 25.5. Upon the JBC determining that any of the said basic prices are increased or decreased then the Sub-Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the JBC and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.

- 25.6. No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.
- 25.7. The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rates.

26. Retention

- 26.1. The Employer shall retain from each payment due to the Sub-Contractor the proportion stated in the Appendix to Conditions of Sub-Contract until Completion of the whole of the Works. On Completion of the whole of the Works, half the total amount retained shall be repaid to the Sub-Contractor and the remaining half when the Defects Liability Period has passed and the Project Manager has certified that all defects notified to the Sub-Contractor before the end of this period have been corrected.

27. Liquidated Damages

- 27.1. The Sub-Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Sub-Contract for each day that the actual Completion Date is later than the Intended Completion
- 27.2. Date. The Employer may deduct liquidated damages from payments due to the Sub-Contractor. Payment of liquidated damages shall not alter the Sub-Contractor's liabilities.
- 27.3. If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Sub-Contractor by adjusting the next payment certificate. The Sub-Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rate specified in Clause 23.30

28. Securities

- 28.1. The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya Shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Dayworks

- 29.1. If applicable, the Dayworks rates in the Sub-Contractor's tender shall be used for small additional amounts of Work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.
- 29.2. All work to be paid for as Dayworks shall be recorded by the Sub-Contractor on Forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the Work being done.

- 29.3. The Sub-Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

30. Liability and Insurance

- 30.1. From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:
- (a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;
 - (i) Use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
 - (ii) Negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or Sub-Contracted to him except the Sub-Sub-Contractor.
 - (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.
- 30.2. From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer's risk except loss or damage due to;
- (a) A defect which existed on or before the Completion Date.
 - (b) An event occurring before the Completion Date, which was not itself, the Employer's risk
 - (c) The activities of the Sub-Contractor on the Site after the Completion Date.
- 30.3. From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Sub-contractor's risks.

The Sub-Contractor shall provide, in the joint names of the Employer and the Sub-Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Sub-Contract for the following events;

- (a) Loss of or damage to the Works, Plant, and Materials;
 - (b) Loss of or damage to Equipment;
 - (c) Loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Sub-Contract, and
 - (d) Personal injury or death.
- 30.4. Policies and certificates for insurance shall be delivered by the Sub-Sub-Contractor to the Project Manager for the Project Manager's approval before the

Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.

- 30.5. If the Sub-Contractor does not provide any of the policies and certificates required, the Employer may affect the insurance which the Sub-Contractor should have provided and recover the premiums from payments otherwise due to the Sub-Contractor or, if no payment is due, the payment of the premiums shall be a debt due.
- 30.6. Alterations to the terms of insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. Completion and taking over

- 31.1. Upon deciding that the Works are complete, the Sub-Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the Works. The Employer shall take over the Site and the Works within seven [7] days of the Project Manager are issuing a Certificate of Completion.

32. Final Account

- 32.1. The Sub-Contractor shall issue the Project Manager with a detailed account of the total amount that the Sub-Contractor considers payable to him by the Employer under the Sub-Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Sub-Contractor within 30 days of receiving the Sub-Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 30 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 Project Manager shall decide on the amount payable to the Sub-Contractor and issue a Payment Certificate. The Employer shall pay the Sub-Contractor the amount due in the Final Certificate within 60 days.

33. Termination

- 33.1. The Employer or the Sub-Contractor may terminate the Sub-Contract if the other party causes a fundamental breach of the Sub-Contract. These fundamental breaches of Sub-Contract shall include, but shall not be limited to, the following;
 - (a) The Sub-Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorized by the Project Manager;
 - (b) The Project Manager instructs the Sub-Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
 - (c) The Sub-Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

- (d) A payment certified by the Project Manager is not paid by the Employer to the Sub-Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.
 - (e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Sub-Contract and the Sub-Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
 - (f) The Sub-Contractor does not maintain a security, which is required.
- 33.2. When either party to the Sub-Contract gives notice of a breach of Sub-Contract to the Project Manager for a cause other than those listed under Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.
- 33.3. Notwithstanding the above, the Employer may terminate the Sub-Contract for convenience.
- 33.4. If the Sub-Contract is terminated, the Sub-Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible. The Project Manager 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.

34. Payment upon Termination

- 34.1. If the Sub-Contract is terminated because of a fundamental breach of Sub-Contract by the Sub-Contractor, the Project Manager shall issue a certificate for the value of the Work done and materials ordered and delivered to Site up to the date of the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Sub-Contractor, the difference shall be a debt payable by the Sub-Contractor.
- 34.2. If the Sub-Contract is terminated for the Employer's convenience or because of a fundamental breach of Sub-Contract by the Employer, the Project Manager shall issue a certificate for the value of the Work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Sub-Contractor's personnel employed solely on the Works, and the Sub-Contractor's costs of protecting and securing the Works.
- 34.3. 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 the Site, plant, equipment and temporary works.
- 34.4. The Sub-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 Project Manager may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss

or damage) remove and sell any such property of the Sub-Contractor, holding the proceeds less all costs incurred to the credit of the Sub-Contractor.

Until after completion of the Works under this clause the Employer shall not be bound by any other provision of this Sub-Contract to make any payment to the Sub-Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Sub-Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Sub-Contract the difference shall be a debt payable to the Employer by the Sub-Sub-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 Sub-Contractor.

35. Release from Performance

- 35.1. If the Sub-Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Sub-Contractor, the Project Manager shall certify that the Sub-Contract has been frustrated. The Sub-Contractor shall make the Site safe and stop Work as quickly as possible after receiving this certificate and shall be paid for all Work carried out before receiving it.

36. Corrupt gifts and payments of commission

- 36.1. The Sub-Contractor shall not;

- (a) Offer or give or agree to give to any person in the service of the
- (b) Employer any gift 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 Sub-Contract for the Employer or for showing or forbearing to show favor or disfavor to any person in relation to this or any other Sub-Contract for the Employer.
- (c) Enter into this or any other Sub-Contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Sub-Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

Any breach of this Condition by the Sub-Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Sub-Contractor) shall be an offence under the provisions of the Public Procurement Regulations issued under The Exchequer and Audit Act Cap 412 of the Laws of Kenya.

37. Settlement of Disputes

37.1. In case any dispute or difference shall arise between the Employer or the Project Manager on his behalf and the Sub-Contractor, either during the progress or after the completion or termination of the Works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred 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 or Vice Chairman of any of the following professional institutions:

- (i) Architectural Association of Kenya
- (ii) Institute of Quantity Surveyors of Kenya
- (iii) Association of Consulting Engineers of Kenya
- (iv) Chartered Institute of Arbitrators (Kenya Branch)
- (v) Institution of Engineers of Kenya

The institution written to first by the aggrieved party shall take precedence over all other institutions.

37.2. The arbitration may be on the construction of this Sub-Contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith, including any matter or thing left by this Sub-Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Sub-Contractor may claim to be entitled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Sub-Contract.

37.3. Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.

37.4. Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties. Proof of such attempt shall be required.

37.5. Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Works or abandonment of the Works or termination of the Sub-Contract by either party:

- (a) The appointment of a replacement Project Manager upon the said person ceasing to act.
- (b) Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions

- (c) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
 - (d) Any dispute or difference arising in respect of war risks or war damage.
- 37.6. All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Sub-Contract, unless the Employer and the Sub-Contractor agree otherwise in writing.
- 37.7. The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 37.8. The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.
- 37.9. The award of such Arbitrator shall be final and binding upon the parties.
- 38. Alternative Dispute Resolution**
- 38.1. Pursuant to clause 37 of these Conditions of Sub-Contract, it shall be a condition that no dispute shall be referred to arbitration unless and until the matter has been dealt with through Alternative Dispute Resolution (ADR) mechanism.
- 38.2. The person or persons to conduct the Alternative Resolution shall be agreed upon between the parties
- 38.3. The Alternative Dispute Resolution shall involve Reconciliation, Mediation or Adjudication.

SECTION VI – APPENDIX TO CONDITIONS OF SUB-CONTRACT

<p>THE PROJECT MANAGER IS</p> <p>Name:</p> <p>Address:</p> <p>Telephone:</p> <p>Facsimile:</p>	
<p>The name (and identification number) of the Sub-Contract PROPOSED CONSTRUCTION OF TUITION COMPLEX AT ACHIEGO CAMPUS</p> <p>The Works consist of: AIR CONDITIONING AND MECHANICAL VENTILATION INSTALATION,KITCHEN EQUIPMENT INSTALLATION FOR TUITION COMPLEX AT JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY , ACHIEGO CAMPUS</p> <p>TENDER No.</p>	
<p>Other Sub-Contractors, utilities etc. to be engaged by the Employer on the site include those for the execution of;</p> <p>NONE</p>	Clause 8.1
<p>The Start Date shall be AGREED WITH THE CLIENT</p> <p>The Intended Completion Date for the whole of the Works shall be AGREED WITH THE CLIENT</p> <p>The Sub-Contractor shall submit a program for the Works within 14 days of delivery of the Letter of Acceptance.</p>	Clause 10
<p>The period between Program updates is 14 days.</p> <p>The amount to be withheld for late submission of an updated Program is</p> <p>WHOLE CERTIFICATE</p>	Clause 13
<p>The Site Possession Date shall be AGREED WITH THE CLIENT</p> <p>The Site is located at JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY, ACHIEGO CAMPUS</p>	Clause 14
<p>The Defects Liability period is 6 Months.</p>	Clause 20
<p>Variations shall be in accordance with the Public Procurement and Asset Disposal Act (2015)</p>	Clause 22
<p>The payments shall be settled within 45 days from the date of receipt of the interim certificates by the Client</p>	Clause 23.1
<p>There shall be no payment on delayed payments</p>	Clause 23.3
<p>All payments shall be made in Kenya Shillings</p>	Clause 23.6
<p>There shall be no payment in advance</p>	Clause 23.7
<p>Not Applicable</p>	Clause 25
<p>The proportion of payments retained is 10 percent.</p>	Clause 26
<p>The liquidated damages for the whole of the Works is Kshs. 200,000.00 per week or part thereof</p>	Clause 27.1

The Performance Security shall be five percent (10%) of the Sub-Contract sum from a reputable bank recognized by the Central Bank of Kenya	Clause 28
The minimum insurance covers shall be;	Clause 30
<ol style="list-style-type: none"> 1. The minimum cover for insurance of the Works and of Plant and Materials in respect of the Sub-Sub-Contractor's liability is Sub-Contractors All Risk Policy 2. The minimum cover for loss or damage to Equipment is NIL 3. Insurance to cover third party risks 4. The minimum for insurance of other property is KShs 1,000,000.00 5. The minimum cover for personal injury or death insurance <ul style="list-style-type: none"> • For the Sub-Contractor's employees is AS PER LAWS APPLICABLE • And for other people is AS PER LAWS APPLICABLE 	
<p>The Completion Period for the Works is 12 Months.</p> <p>The schedule of basic rates used in pricing by the Sub-Contractor is as attached</p> <p>[SUB-CONTRACTOR TO ATTACH].</p>	Clause 31
<p>Disputes to be settled as per the Arbitration Laws of Kenya</p> <p>Any dispute arising out of the Sub-Contract that cannot be amicably resolved between the parties shall be referred by either party to the arbitration and a final decision by a panel of a person to be agreed between the parties. Failing agreement on the appointment of an Arbitrator, the Arbitrator shall be appointed by the chairperson of the Chartered Institute of Arbitrators –Kenya branch on the request of the applying party. The seat of arbitration shall be in Kenya.</p>	Clause 37.1

SECTION VII
SUB-CONTRACT PRELIMINARIES
AND
GENERAL CONDITIONS

SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1.1. 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:

- (a) Work detailed in the Specification and in the Sub-Contract Drawings.
- (b) The Republic of Kenya Document “General Conditions of Sub-Contract for Electrical and Mechanical Works”.
- (c) Other documents to which reference is made.

The tenderer 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 Sub-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.

1.2. Discrepancies

The Sub-Contractor shall include all work either shown on the Sub-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 Sub-Contract is awarded.

1.3. Conditions of Sub-Contract Agreement

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

The Conditions of the Sub-Contract between the Main Contractor and the 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 Sub-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.

1.4. Payment

Payment will be made through certificates to the Main Contractor, unless he specifically agrees to forego this right, in which case direct payment can be made to the Sub-Contractor. All payments will be less retention as specified in the Main contract. No payment will become due until materials are delivered to site.

1.5. Definition of Terms

Throughout these Sub-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 Vice Chancellor, Jaramogi Oginga Odinga University of Science and Technology,
P.O. Box 210 – 40601 BONDO
- (ii) Architect: The Term “Architect” Shall Mean
Heritage Associates Limited
P.O Box 56293- 00200 - NAIROBI.
- (iii) Project Manager: The term Project Manager shall Mean:
Heritage Associates Limited
P.O Box 56293- 00200 - NAIROBI.
- (iv) Quantity Surveyor: The term “Quantity Surveyor” shall mean
Cost Bill Systems Limited
P.O Box 5593-00100- NAIROBI.
- (v) Civil/Structural Engineers: The term “Civil/Structural Engineers” shall mean
Wastruct Consultants Limited
P.O Box 51288 – 00200 - NAIROBI.
- (vi) Engineer: The term “ engineer” shall mean
M&E Consulting Engineers
P.O Box 50744-00200- NAIROBI.
- (vii) 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.

- (viii) 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 Sub-Contract agreement with the Main Contractor for the execution of the Sub-Contract Works, and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives.
- (ix) 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.
- (x) Sub-Contract Drawings: The term “Sub-Contract Drawings” shall mean those drawings required or referred to herein and forming part of the Bills of Quantities.
- (xi) Working Drawings: The term “Working Drawings” shall mean those drawings required to be prepared by the Sub-Contractor as hereinafter described.
- (xii) 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.
- (xiii) 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 KBS 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

SWG shall mean standard wire gauge

“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.

1.6. Site Location

The site of the Sub-Contract Works is situated at Jaramogi Oginga Odinga University-Achiego Campus

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.

1.7. Duration of Sub-Contract

The Sub-Contractor shall be required to phase his work in accordance with the Main Contractor's program (or its revision). The program is to be agreed with the Main Contractor.

1.8. Scope of Sub-Contract Works

The Sub-Contractor shall supply, deliver, unload, hoist, fix, test, commission and handover in a satisfactory working order the complete installation detailed in the Specification and accompanying drawings, including all items of plant and equipment other than those clearly stated to be supplied and installed under other contracts. The Sub-Contractor shall supply all accessories, whether described in this Specification or not, essential to the completion of the work to the satisfaction of the Engineer and in accordance with all local and Government Regulations.

The Sub-Contractor shall be responsible for receiving of items or equipment supplied by the Main Contractor but to be fixed and commissioned under this Sub-Contract.

1.9. Extent of the Sub-Contractor's Duties

At the commencement of the works, the Sub-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 Sub-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 Sub-Contractor from supplying the specified materials and equipment in time.

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

Materials supplied by others for installation and/or connection by the Sub-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 Sub-Contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.

The Sub-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 as BS and CP respectively).
- (c) This Specification.
- (d) The Sub-Contract Drawings.
- (e) The Bye-laws of the Local Authority and the Electricity Supply Authority.
- (f) The Architect's and/or Engineer's Instructions.

The Sub-Contract Drawings and Specifications to be read and construed together.

1.11. Validity of Tender

The tender shall remain valid for acceptance within 90 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 Sub-Contract

Unless specifically stated in the documents or the invitation to tender, this is a firm-price Sub-Contract and the Sub-Contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the Sub-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 Sub-Contract period.

1.13. Variations

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

Any variation from the Sub-Contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Sub-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 Sub-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 Architect to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Sub-Contract documents.

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

The whole or any part of these sums utilised by the Sub-Contractor shall be deducted from the value of the Sub-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 Main Contractor for an amount equal to 7½ % of the Sub-Contract amount.

1.16. Government Legislation and Regulations

The Sub-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 Sub-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 Sub-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 Sub-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

The Main 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: All these services utilised shall be paid for by the Main Contractor. The Sub-Contractor shall, however, allow for additional connections/extensions required for his purposes.
- (c) Fixing of anchorage and pipe supports in the shuttering, except that all anchorage shall be supplied by the Sub-Contractor who shall also supply the Main Contractor with fully dimensioned drawings detailing the exact locations.
- (d) (i) Provision of scaffolding, cranes, etc. but only in so far as it is required for the Main contract Works. It shall be the Sub-Contractor's responsibility to liaise with the Main Contractor to ensure that there is maximum co-operation with other Sub-Contractors in the use of scaffolding, cranes, etc.

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

1.20. Suppliers

The Sub-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 Sub-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.

No materials of any description shall be used or delivered to site without prior sanction by the Engineer, and any condemned material as unfit for use in the Works, must be removed immediately from the site without any recompense to the Sub-Contractor.

All materials for the permanent works shall be new and shall, where no other specification is given, be of first class quality and suitable for the purpose intended.

1.22. Administrative Procedure and Sub-Contractual Responsibility

Wherever within the Specification it is mentioned or implied that the Sub-Contractor shall deal direct with the Employer or Engineer, it shall mean "through the contractor" 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 Sub-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 Sub- contract.

All work liable to adjustment under this Sub-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 Sub-Contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-Contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.

1.24. Sub-Contractor's Office in Kenya

The Sub-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 Sub-Contract Works.

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

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

The Sub-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 Sub-Contract Works or otherwise.

1.25. Builder's Work

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

The Sub-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 not constitute builder's work and shall be provided and installed by the Sub-Contractor unless stated hereinafter to the contrary.

1.26. Structural Provision for the Works

Preliminary major structural provision has been made for the Sub-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 Sub-Contractor stated otherwise when submitting his tender. Any major structural provision or alteration to major structural provisions required by the Sub-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 work of the Main Contractor.

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

The Sub-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 siting 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 Sub-Contractor or the Main Sub-Contractor.

Services throughout 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 (by Sub-Contractor) in this respect shall be the Sub-Contractor's responsibility.

The Sub-Contractor shall be deemed to have allowed in his Sub-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 Sub-Contract Drawings. Within these limits no variations in the Sub-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 Sub-Contractor shall satisfy himself to the correctness of the connections he makes to all items of equipment supplied under the Sub-Contract agreement and equipment supplied under other Sub-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 Sub-Contractor shall carry out such tests of the Sub-Contract Works as required by BS 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 (Sub-Contractor's own preliminary and proving tests exempted).

It will be deemed that the Sub-Contractor has included in the Sub-Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Sub-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 Sub-Contractor shall commission the Sub- contract Works and provide attendance during the commissioning of all services, plant and apparatus connected under the Sub-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 Sub-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 Sub- contract Works.

1.30. Identification of Plant Components

The Sub-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. Sub-Contract Drawings

The Sub-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 Sub-Contract works.

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

If the Sub-Contractor requires any further instructions, details, Sub-Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Sub-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 Sub-Contractor to ensure that the installations shown on the Working Drawings have been cleared with the Main Contractor and any other Sub-Contractors whose installations and works might be affected.

If the Sub-Contractor submits his Working Drawings to the Engineer without first liaising and obtaining clearance for his installations from the Main Contractor 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, the Main Contractor's 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 Sub-Contractor shall include but not be restricted to the following:

- (a) Any drawings required by the Main Contractor, or 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.
- (b) 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.

- (c) Schematic Layout Drawings of services and of control equipment.
- (d) Layout Drawings of all embedded and non-embedded paperwork, ducts and electrical conduits.
- (e) Complete circuit drawings of the equipment, together with associated circuit description.
- (f) 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 Sub-Contractor indicating approval or amendment therein.

Six copies of the approved Working Drawings shall be given to the Main Contractor 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 Sub-Sub-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 Sub-Contractor shall ensure that the Working Drawings are submitted to the Architect 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 Sub-Contractor of his obligation to complete the Sub-Contract Works within the agreed Sub-Contract Period and in a manner that would receive the approval of the Architect.

1.33. Record Drawings (As Installed) and Instructions

During the execution of the Sub-Contract Works the Sub-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 Sub-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 Sub-Contractor as a correct record of the installation of the Sub-Contract Works.

They shall include but not restricted to the following drawings or information:

- (a) 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.
- (b) Fully dimensioned drawings of all plant and apparatus.
- (c) General arrangement drawings of equipment, other areas containing plant forming part of the Sub-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.
- (d) Routes, types, sizes and arrangement of all pipework and ductwork including dates of installation of underground pipework.
- (e) Relay adjustment charts and manuals.
- (f) Routes, types, sizes and arrangement of all electric cables, conduits, ducts and wiring including the dates of installation of buried works.
- (g) System schematic and trunking diagrams showing all salient information relating to control and instrumentation.
- (h) Grading Charts.
- (i) Valve schedules and locations suitability cross-referenced.
- (j) Wiring and piping diagrams of plant and apparatus.
- (k) 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.
- (l) Operating Instructions.

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

Marked-up drawings of the installation of the Sub- contract Works shall be kept to date and completed by the date of practical or section completion. Two copies of the Record Drawings of Sub-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 Sub-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 Sub-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 Sub-Contractor's obligations referred to above, if the Sub-contractor fails to produce to the Engineer's approval, either:-

- (a) The Marked-up Drawings during the execution of the Sub-Contract Works or
- (b) 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 Sub-Contractor.

1.34. Maintenance Manual

Upon Practical Completion of the Sub-Contract Works, the Sub-Contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-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 Sub- 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 Sub-Contract Works the following and any other items listed in the text of the Specifications:

- (a) System Description.
- (b) Plant
- (c) Valve Operation
- (d) Switch Operation
- (e) Procedure of Fault Finding
- (f) Emergency Procedures
- (g) Lubrication Requirements
- (h) Maintenance and Servicing Periods and Procedures
- (i) Colour Coding Legend for all Services
- (j) Schematic and Wiring Diagrams of Plant and Apparatus
- (k) Record Drawings, true to scale, folded to International A4 size
- (l) Lists of Primary and Secondary Spares.

The manual is to be specially prepared for the Sub-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 Sub-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 Sub-Contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-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, provided always that the handing over of the Sub-Contract Works shall be coincident with the handing over of the Main contract Works.

The procedure to be followed will be as follows:

- (a) On the completion of the Sub-Contract Works to the satisfaction of the Engineer and the Employer, the Sub-Contractor shall request the Engineer, at site to arrange for handing over.
- (b) The Engineer shall arrange a Hand-over Meeting or a series thereof, at site.
- (c) The Sub-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.
- (d) 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 Sub-Contractor allowed for all protective and finish painting in the Sub-Contract Sum for the Sub-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 Sub-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 Sub-Contractor shall give two weeks' 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 Sub-Contractor's own risk and should the test certificate not be approved new tests may be ordered by the Engineer at the Sub-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 of Installations

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

1.40. Temporary Structures

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

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

If practicable, W.C. accommodation shall be allocated for the sole use of the Sub-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 Sub-Contractor may be allocated certain areas of partially finished building for the purpose of storing material and equipment on site, when such areas are available.

The Main Contractor shall be responsible for making the storage area waterproof but the Sub-Contractor shall be responsible for providing his own lock-up facilities and sheds.

The Sub-Contractor shall exercise particular care not to damage in any way the finished floors, plastered or painted walls and ceilings of the buildings. Care shall particularly be taken not to discolour finished concreted or granolithic floors. The Sub-Contractor shall be liable for making good any damage.

The Sub-Contractor shall, when called upon at any time by the Engineer or Clerk of Works, move any of his plant or material elsewhere notwithstanding his having previously obtained permission for it to be temporary accommodated at any location.

No materials shall be stored or stacked on suspended slabs without the prior approval of the Project Manager.

1.42. Initial Maintenance

The Sub-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 Sub-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 Sub-Contractor shall allow in the Sub-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 Initial Maintenance

The Sub-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 1.42 (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 Sub-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 Main Contractor. The Sub-Contractor shall be liable for the cost of any water or electric current used and for any installation provided especially for their own use by the Main Contractor.

1.46. Protection

The Sub-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 Sub-Contract.

1.47. Defects After Completion

The defects liability period will be 6 months from the date of completion of the Main contract as certified by the Engineer.

1.48. Damages for Delay

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

1.49. Clear Away on Completion

The Sub-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 Sub-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 Sub-Contract.

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

1.51. Fair Wages

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

- (a) The Sub-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.
- (b) In the absence of any rates of wages, hours or conditions of labour so established the Sub-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 Sub-Contractor is engaged are similar.

1.52. Supervision

During the progress of the works, the Sub-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 Sub-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 Sub-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 Sub-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 Sub-Contractor shall provide skilled and unskilled labour as may be necessary for completion of the Sub-Contract.

1.55. Discount to the Main Contractor

No discount to the Main 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 6 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 Sub-Contracts

Notwithstanding the foregoing conditions, the University reserves the right to place a "Direct Sub-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 Sub-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 Sub-Contract every facility for carrying out their work and also for the use of ordinary scaffolding. The Sub-Contractor however, shall not be required to erect any special scaffolding for them.

1.59. Trade Unions

The Sub-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 Sub-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 University 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 Sub-Contract sum or stated by way of provisional sum shall be added to the Sub-Contract sum.

The Sub-Contractor before making any variation from the Sub-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 Sub-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 Sub-Contract.

1.61. Assignment or subletting

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

1.62. Partial Completion

If the Employer shall take over any part or parts of works, apparatus, equipment etc. then within seven days from the date on which the Employer 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 Defect Liability Period in respect of the relevant part be deemed to have commenced on the date the Employer shall have taken possession thereof.

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

The Sub-Contractor shall reduce the value of insurance by the full value of the relevant part.

The Sub-Contractor shall be paid for the part of works taken possession by the Employer.

1.63. Temporary Works

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

The Sub-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 Sub-Contract

1.64. Patent Rights

The Sub-Contractor shall fully indemnify the Employer; 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 Sub-Contractor to the Project Manager. In like manner the Employer shall fully indemnify the Sub-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 Sub-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 Sub-Contractor from liability should he manufacture for supply to other buyers.

1.65. Mobilization and Demobilization

The Sub-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 Sub-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 Sub-Contract period by the Project manager the Sub-Contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The Sub-Contractor shall make provision for extended preliminaries, should the Sub-Contract period be extended and this shall be in a form of a percentage of the proportion of the Sub-Contract works remaining as at that time of extension. Where called upon in the Appendix to these Preliminaries the Sub-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 Sub-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 Sub-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 Sub-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 Sub-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 Sub-Contractor.

1.68. Amendment to Scope of Sub-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 Sub-Contract period and as the works progress the Project Manager may vary the works as per conditions of Sub-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 1.69)

1.69. Sub-Contractor Obligation and Employers Obligation

The Sub-Contractor will finance all activities as part of his obligation to this Sub-Contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this Sub-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 Sub-Contractor, except as relates to late payment as in the conditions of Sub-Contract clause 23.3. The Sub-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 Sub-Contract sum in the Appendix to this section.

APPENDIX TO SUB-CONTRACT PRELIMINARIES AND GENERAL CONDITIONS

1. ADD TO CLAUSE 1.40

There is no labour camp.

2. MODIFY CLAUSE 1.66

Percentage of extended preliminaries shall be inserted in Bill No.1 page H/5 of section H. However, this amount of the extended preliminaries SHALL NOT exceed the Liquidated and Ascertained Damages indicated on page B-23 of Section B of this tender document

3. ADD TO CLAUSE 1.17

Prices quoted shall include 14% VAT and 3% withholding tax including all other taxes applicable at the time of tender.

In accordance with Government policy, the 14% VAT and 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).

4. OMIT CLAUSE 1.12

SECTION VIII
GENERAL SPECIFICATIONS
OF
MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

2.1 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 Sub-Contract Drawings.

2.2 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 Sub-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.

2.3 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.
- (c) 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

2.4 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 of 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.

2.5 Transport and Storage

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimize 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.

2.6 Site Supervision

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

2.7 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.

2.8 Testing

2.8.1 General

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

2.8.2 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 BS 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.

2.8.3 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 weeks' 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.

2.8.4 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.

2.9 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 BS 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:

2.10.4 Pipe Welding

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

2.10.5 General Welding

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

2.10.6 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.

PARTICULAR SPECIFICATIONS FOR AIR CONDITIONING, MECHANICAL VENTILATION, KITCHEN EQUIPMENT, LPG AND FIRE SUPPRESSION WORKS

1. SPECIFICATIONS FOR AIR CONDITIONING

1.1 Climatic Conditions

The following climatic conditions apply at the site of the works and all plant, equipment, apparatus, materials and installations shall be suitable for these conditions.

Maximum temperature	-	30°C
Minimum temperature	-	15°C
Average temperature range	-	25°C
Relative humidity range	-	50% - 85%
Altitude	-	1226 M above sea level
Latitude	-	0° 14'19N
Longitude	-	34° 16'10E
Rainfall	-	Extremely heavy at certain periods of the year

The Sub-Contractor shall be deemed to have taken account of the above details in his prices and his planning of the execution of the works. Unless otherwise stated, all ratings of plant, equipment and apparatus shall be interpreted as site ratings and not sea level or other ratings.

1.2 Design Conditions

Room	Dry bulb maximum temperature	Relative Humidity set point
ICT/Server Room Air-Conditioning	23 ⁰ C+2 ⁰ C	50%+-10%

All Air Conditioners shall be fully Factory assembled, charged with refrigerant, wired, piped and tested at the factory.

The system shall comprise of Air Cooled Split type Outdoor units, and an indoor units connected by separate Refrigerant piping and Power and Control Cabling.

The outdoor unit configuration may be modified by the Bidder giving the same tonnage as specified.

These shall be installed in the ICT/Server room and any other rooms recommended by the client.

1.3 General

The system selected is a split system, with each indoor units connected to individual outdoor units, as per detail designs given in the tender. The outdoor units for all the system shall be air cooled type and mounted on the roof level. Indoor units in various areas shall be as described in this specifications

All the air conditioners shall be fully factory assembled, wired, internally piped & tested. The outdoor unit shall be pre charged with first charge of R 410 a refrigerant. Additional charge shall be added as per refrigerant piping at site. All the units shall be suitable for operation with 415 V + 10%, 50 Hz + 3%, 3 Phase supply for outdoor units & 220V + 10%, 50 Hz + 3%, 1 Phase supply for indoor units.

The split system shall provide stable, trouble free & safe operation, with flexibility of operating desired indoor unit. The operation of the split systems shall be through independent wired/wireless remote controllers as specified.

1.4 Outdoor Units

The outdoor units shall be installed and mounted on the wall using appropriate and approved mounting brackets. They shall be complete with hermetically sealed compressors. Safety devices shall include overload/surge protection among others.

The unit shall be connected to power provided by others. It shall also be connected to refrigerant piping and control wiring. It shall have adequate charge of refrigerator oil and R410A refrigerant or any other non-ozone depleting refrigerant.

The air conditioning units shall be as Samsung air conditioner or approved equivalent and shall be provided with approved mounting brackets. The Unit shall be complete with the following:

Casing constructed of 18 gauge zinc coated mild steel, zinc phosphate bonderized, coated with oven baked polyester paint and weatherized for outdoor installation. It shall have weep holes on base to allow ease of drainage. Hermetically sealed compressor mounted to unit base with rubber isolated hold down bolts, uniform in oil & pressures and shall have internal overload protection.

- Refrigeration pipe work with flared connections
- Distributor with refrigeration control
- Fixing brackets/wall mounting kit/ceiling mounting kit
- Heat exchanger capacity controls
- Precise inverter frequency controls
- New oil returning system (refrigerant oil control system)
- High and low pressure units
- An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity.
- Condensate discharge pipe work
- Service access valves
- Voltage Surge Protector

The Outdoor Unit shall have the following Configurations:

Outdoor Unit	Capacity
ODU2	• 16000 Btu/Hr (Cooling)

1.5 Indoor Units

Indoor Wall Mounted Cooling Unit (Evaporator)

Each coil unit shall consist of a cooling coil, air circulating fan, fan- guard and a thermostatic expansion valve. A timer unit shall be mounted in the control panel to both the de-frosting intervals and defrosting periods, both of which shall be variable.

The evaporator unit shall be of capacity as specified under the specified conditions, and shall be of the dry expansion type, and preferably of similar make as that of the condensing units. The unit shall be cassette type, high wall mounted or ceiling mounted as will be specified by the Engineer.

The coil shall be manufactured from seamless copper tubing with aluminum fins mechanically bonded to the tubes.

The panel shall be interlocked such, that on energizing the heater, the compressor, condenser and evaporator fan shall be de-energized and only re-energized when the heater is switched off by a evaporator mounted thermostat. A manual overriding switch shall by-pass the timer switch.

The air-circulating fan shall be manufactured from rigid aluminum sheet and finished in white casing. A drip tray with 25mm diameter connections shall be incorporated in the base of the casing.

The Unit shall be complete with the following:

- 1 No. air purifying filter.
- Built in drain pump to automatically drain water.
- Refrigeration pipe work with flared connections
- Fixing brackets/wall mounting kit/ground mounting kit
- Thermostat to control room temperature
- High and low pressure units
- Condensate discharge pipe work in Black PVC, 15mm diameter
- Service access valves
- Voltage Surge Protector

The system shall be suitable for 240V, 1 – Phase, 50Hz power supply

The split air-conditioning system shall be designed to maintain room inside temperature of $23\pm 1^{\circ}\text{C}$ and relative humidity of $50\pm 10\%$.

Indoor Unit	Capacity
IDU2	• 16000 Btu/Hr (Cooling)

1.6 Controls System

The units will be installed independently to individual outdoor units & it must be possible to operate the unit independently, through corded/ cordless remote.

The unit shall be supplied with following from the factory

- ☐ Paper pattern for installation
- ☐ Drain hose/ Clamp metal/ Washer fixing plate/ Sealing pads/Clamps/ Screws/
- ☐ Washer for hanging bracket/ Insulation for fitting

1.7 Wireless Remote Controller

Remote controller shall have large crystal display screen, which displays complete operating status.

The digital display must allow setting of temperature with 1 Deg C interval. Remote shall be able to individually program by timer the respective times for operation start and stop within a maximum of 72 hours. Remote must be equipped with thermostat sensor in the remote controller that will make possible more comfortable room temperature control.

The remote shall be able to monitor room temperature & preset temperature by microcomputer & can select cool/ heat operation mode automatically.

The remote must constantly monitor malfunctions in the system & must be equipped with a “self-diagnosis function” that let know by a message immediately when a malfunction occurs.

1.8 Refrigerant Piping

Refrigerant pipe work shall be approved copper tubing and fittings, and shall be properly sized in conformity with the system manufacturer specifications. Pipework shall be joined together by soldering/brazing and shall be complete with all necessary joints, reducers and accessories.

The Ozone friendly refrigerant flow shall be controlled with either a capillary tube or thermostatic expansion valve. Installation shall be carried out by competent and qualified craftsmen. The Engineer may demand proof of qualifications and experience in installation of refrigeration systems.

Pipe work shall be tested for leaks after installation to the Engineers satisfaction. It shall be properly anchored, insulated and no vibration of pipes shall be allowed during the running of the systems. An electronic leak detector shall be used to test for leaks.

1.9 Drain Piping

Drain piping shall be UPVC heavy class drain piping with necessary fittings and accessories. 32 mm diameter pipe shall be used for single unit and 40mm diameter pipe for multiple unit installation. The drain piping shall be with P traps and shall be terminated unto the nearest drain piping. The drain piping shall be insulated with 1 layer of 12mm thick Armaflex insulation.

1.10 As Built Drawings and Maintenance Manuals

Once the air conditioning system has been tested and commissioned, drawings and maintenance manuals shall be provided. They shall be a true and accurate representation of what has been commissioned.

1.11 Training

Adequate personnel shall be trained to perform normal operations and routine maintenance of the air conditioning system. The number of personnel to be trained shall be specified for particular pool.

1.12 Electrical Works

The tenderer shall include for supply, installation and commissioning of all starters, control apparatus, control panels and interconnecting wiring and conduits for equipment that the tenderer is supplying. Power points shall be provided within 5 metres of the equipment installation point and the tenderer shall connect his equipment from this point.

1.13 Builders Works

The tenderers shall allow for perforation of holes, hacking of walls etc. All disturbed surfaces shall thereafter be made good by the tenderer upon satisfactory completion of the works.

1.14 Testing and Commissioning

The system shall be balanced to the satisfaction of the project engineer. It shall be run under complete automatic controls for 72 hours continuous operation to ascertain any faults in operation before acceptance and handover. Any faults discovered during this time shall be corrected and a further test or tests of 72 hours duration shall be carried out to ensure satisfactory operation, all at the expenses of the contractor.

All accessories/equipment have to test for capacity, efficiency, leakages and other human errors and shall meet standards and specifications. All the pipe work and connections shall be tested in the presence of the Engineer and to the hydraulic pressure the Engineer deems satisfactory and for a minimum period of 1 hour. These tests must be before any insulation work is undertaken or any pipe work is finally enclosed in any ducts, etc and due allowance is to be made in the tender for these tests.

The tenderer is to include for providing for all the testing equipment, temporary plugging and refilling etc.

2. SPECIFICATION FOR MECHANICAL VENTILATION

2.1 General

This section specifies the general requirements for mechanical ventilation and air conditioning plant, equipment and materials forming part of the contractor works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

2.2 Installation

Installation of all ductwork, plant and equipment shall be carried out under adequate supervision from skilled staff to the relevant codes and standards specified here-in.

The Contractor shall be responsible for ensuring that sufficient provision is made to prevent the transmission of vibration from equipment to the supporting structure. In case of fans, this shall

be done by rot and vermin proof flexible connection and an anti-vibration mounting of an approved type.

The Contractor shall ensure that all ducting systems are provided with sufficient access hatches complete with covers, for maintenance purposes.

Dampers and other user equipment shall be installed with adequate access for operation and maintenance. Where dampers and other operational equipment are unavoidably installed beyond normal reach and in such a position as to be difficult to reach from a short step ladder, extension spindles shall be provided.

The variety and type of supports for ducts, and fans shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixing to both metal, concrete, brickwork and wood.

Where the design of the structure is in reinforced concrete, supports shall be secured to the structure by means of rod heads, raw bolts or other approved means. Where the Sub-Contractor proposes to secure his supports by other means than to the main structural concrete, he shall consult with the Engineer before proceeding.

2.3 Ductwork

The Sub-Contractor shall supply, deliver and erect all ductwork as shown on the Sub-Contract Drawings and Approved working Drawings.

All ductwork shall be manufactured in accordance with the Chartered Institute of Building Services engineering specifications (CIBSE) Specification DW/143, except where stated otherwise.

Ductwork shall be manufactured from galvanized mild steel sheet unless otherwise specified. All external ductwork shall be manufactured from black mild steel sheet and galvanized after manufacture. All seams shall be of lock form type. All ductwork systems shall be complete with all necessary dampers, bends, tees, tapers, transformation and special pieces.

Where removal is required for access or maintenance, ducting shall be provided with steel angle flange joints suitably painted and protected. Only bends type 1-7 inclusive as detailed in the CIBSE Specification will be permitted.

Only duct connections type 41-44 inclusive 53 and 54 as detailed in the CIBSE Specification will be permitted. All joints shall be fixed as to be suitable for the direction of air flow.

All positions of plant and ductwork shall be checked on site before detailed manufacturing drawings are prepared and ductwork manufacture commenced.

Transformation and taper pieces shall, where ever possible be constructed so that the included angle does not exceed 30°.

All flanged joints shall be sealed by the use of asbestos string compressed between a the flanges, and where slip joints occur, these shall be sealed by 'Prestik' or other similar suitable jointing compound and adhesive tape 40mm Exposed sheet metal edges shall be painted with galvanize paints before sealing.

Dampers shall be of aerofoil section and manufactured from galvanized mild steel sheet. Damper blades shall not exceed 150mm in width and the edges of the blades shall be sealed with a 3mm thick felt or rubber seal to minimize leakage. Operating quadrants shall be provided with locknuts and the quadrant shall be clearly marked with 'open' and 'closed' positions. Multileaf damper blades shall be operated by one arm through a linkage external to the duct and secured by a lock nut.

Diffusers shall be louver faced 4 way diffusers fitted with opposed blade dampers. They shall have a removable cover for ease of cleaning and maintenance. They shall be manufactured from extruded aluminum with a colour to match the ceiling finish. They shall be as Flow line Grilles or approved equivalent.

The SUB-Contractor shall provide sufficient access doors and handholes in the ductwork for the purpose of maintenance and inspection. Access doors shall be of the hinged type and door openings in the ductwork shall be adequately stiffened, and made airtight with purpose made rubber gaskets around the door perimeters.

All support and brackets shall be wire brushed and painted one coat of red oxide paint prior to and after erection. All nuts and bolts shall be spheradized. The fastening of electrical cables to ductwork will not be permitted.

Where ductwork has insulation incorporating an external vapor seal, the ductwork shall be insulated from the support by a rot proof softwood, hardwood or other suitable closed cell insulation of not less than 25mm great thickness than the insulation to be applied so that the vapor seal may be bonded to the face of the timer, all as detailed in clause 6.4 of the CIBSE specification DW142.

Where ductwork passes through floors and walls, etc. galvanized sheet sleeves or builders work or builders work timer framed shall be provided. The space between the duct and the sleeve or frame shall be packed with mastic to prevent air movements or noise transmission from one space to another. Ducts must not come into direct contact with building fabric.

Hangers and brackets shall be manufactured from rolled mild steel angle or channel section and shall generally be of red drop rod hanger or cantilever type. The hangers shall be spaced to ensure adequate support and where practicable shall be fitted at each ductwork joint.

The Sub-Contractor shall supply and install, where called for, louvers at inlets and outlets with insect proof screens. The louvers shall be constructed throughout from extruded aluminum sections and shall have a lacquered or anodized finish to prevent corrosion. The louvers shall be weather-proof and have a free area of not less than 50%.

The Sub-Contractor shall ensure that wherever fans or similar equipment are connected to the ductwork system, the connections are made with a heavy duty rot and vermin proof of neoprene, or similar material, flexible connection to prevent transmission to the ductwork or building fabric. Flexible connections shall be secured by a pre- drilled mating flange, or when fixing to spigot, the spigot should be beaded and a jubilee clip or split flat iron ring should be used.

The Sub-Contractor shall provide test holes in all branch ducts and in the main duct on the discharge of the fan. The holes shall be suitably spaced in accordance with B.S 848, shall be situated on a straight length of duct work and where possible , not less than 2 meters down stream of any bends or dampers. After the completion of testing the Contractor shall provide and

fix proprietary metal or plastic plugs to all test holes. The use of drubber or cork bungs will not be permitted.

2.4 Inline Mixed Flow Axial Fans

Axial fans shall have impellers of Aerofoil section with variable pitch angle and manufactured from high quality die cast aluminum. Fan casing shall be L-type, hot dip galvanized steel plate. They shall be as **SOLER AND PALAU** or approved equivalent.

Motors shall be of the totally enclosed type (IP55) with permanently lubricated bearings with speeds of not more than 2700 r.p.m. They shall be capable of operating in an air stream temperature of upto 50°C. The fans shall be mounted on anti-vibration mountings and connected to ductwork by use of flexible connectors.

Roof-Mounted Extract Fans

Roof-mounted Centrifugal Fans shall have backward curved impeller in galvanized steel sheet with the upper cover being of techno- polymer. The fans shall be of horizontal discharge type with single phase motors. The fan shall a bird proof guard.

Fan bases shall be of galvanized sheet steel and cowl manufactured from spun aluminum. The fan shall be **SOLER AND PALAU** or equal and approved.

Fan Controls

Fan control panels shall be fabricated from SWG 18 mild steel sheets powder coated after manufacture and shall have an integral lock. They shall also have an integral isolator which switches off power before the door opens. The panel shall be complete with:

- Contactors with current overload protection.
- Phase failure relay with over and under voltage protection.
- Programmable 24 hour timer switch
- M.C.Bs
- Selector switch for Auto or manual operation
- Indicator lights for fan 'RUN' and 'TRIP'
- Switches/relays to switch off fans in the event of the Automatic

2.5 Silencers

Silencers shall be installed at the fan exit for air extract system. The silencers shall be the splitter type bend silencers of dimensions 500 x 450 x 1200mm long on each side of the bend. They shall be packed with rock wool fiber enveloped in melinex material for easier cleaning and to prevent particle accumulation. The silencers shall be **SOLER AND PALAU** or equal and approved.

2.6 Testing and Inspection

Site Tests

The Sub-Contractor shall supply all instruments and equipment for the testing of associated equipment which may affect the performance of the plant installed under these contractor works.

Site Test -Fans

All fans shall be charged with a suitable lubricant and shall be tested upon completion of the ancillary system erection to ascertain that the performance of each fan complies with the requirements of the Specification.

2.7 Hangers and Supports

All ductwork shall be securely supported by hangers, brackets and other appropriate forms of support. All supports and hangers for air duct installed shall be rigid galvanized steel rod, angle bar or U-channel construction approved by the Structural Engineer.

All ductwork shall be securely supported so as to prevent vibrations or movements and arranged to allow expansion due to thermal stresses without distortion of the ductwork, rupture of insulation or damage to the supporting structure. Ductwork supports shall be positioned close to dampers, diffusers and all similar equipment which are not subjected to distortion, in addition to those hangers and supports generally required.

Allowance shall be made in ductwork construction for instrument and controls connections and adequate local stiffening shall be incorporated to provide ridge mountings.

2.8 Roof Ventilators

Roof ventilators shall be made of all aluminum unpainted and embossed. The ventilator shall be of size 900 diameter X 525 mm high dome. The ventilator shall be supplied complete with; - Bottom plate, Support frame, soaker flange, security frame.

The sub-contractor shall ensure that the moisture sealing material is installed to prevent rain from entering the building.

The plinth on which the ventilator is installed shall be done by the builder. The ventilator shall be installed to realize operation by wind energy only. The ventilator shall be as **STEEL STRUCTURES LTD** or approved equivalent.

2.9 In-Line Axial Flow Fans

The fan casing shall be L. type, hot dip galvanized with extended lubricators. Impellers shall be of aerofoil section with variable pitch angle and manufactured from high quantity die cast aluminum. Impellers shall be statically and dynamically balanced.

Motors shall be of the totally enclosed type with ball bearings. They shall comply with B.S 170 or BS 2613 and have class E Installation.

Fans shall have non-overloading characteristics. The peak power input shall occur within the range of normal operating pressures, the power input always being exceeded by the motor ratings.

For ceiling mounted arrangement, the fan shall sit on anti-vibration mountings fixed on steel mounting frame. Threaded suspension rods with locking nuts shall be used for level adjustment.

2.10 Extract Grilles

Extract Grilles shall be mounted at appropriate positions as shown on the Contract Drawings. Each shall have triple rows of horizontal vanes fixed at 45⁰ as opposed blade dampers. The grilles shall be manufactured from anodized extruded aluminum and the dampers shall be of stove enameled steel. The metal frame shall have zinc coated springs for fixing. The grilles sizes shall be as indicated in the contract drawings.

2.11 Flow Measuring Points

There shall be adequate flow measuring points in the duct work to enable proportional balancing of the system to be done. These shall be incorporated with the volume control dampers.

2.12 Balancing Dampers

The balancing dampers shall be provided where indicated in the contract drawing. Damper blades shall be of the rigid construction without sharp edges and shall be substantially airtight. The dampers shall be multi leaf type and shall extend beyond the swing of the blades. Provisions shall be made for linkages to connect the multiple extended spindles. The 'open, and 'closed' damper positions shall be clearly marked on all dampers.

2.13 Electrical Connection

A 3 phase, 415 Volts 50Hz AC power supply shall be provided by others including the local fused isolator to the plant room on basement level -2.

The HVAC Subcontractor shall be responsible for providing all electrical wiring and connecting power from the local isolator to his equipment and fittings

2.14 Extract Hood

The extract hood shall be of sizes as a specified in the contract drawing. The hood shall made of SS304 stainless steel sheet, all in 1.5mm thickness and stiffened by a frame of galvanized 25mm square steel tubes. It shall have an 80mm x 40mm grease channel all- round the bottom edge with 20mm diameter drainage holes all round. The holes shall have plastic plugs for drainage of grease. Others shall do the lighting conduits to Electrical Engineers details.

The hood supports shall be made of suitable galvanized chains with strength to carry the hood suspended from the roof trusses as shown on the drawing and to Structural Engineer's direction.

The hood shall have a greased eliminator made of a STAINLESS STEEL Vee bank unit incorporating suitable number 20/6/w (washable) or equal and approved.

2.15 Extract Ductwork

The ductwork shall be constructed as shown on the drawing using galvanized mild steel sheets, 18SWG Duct shall be manufactured in conformity with specification DW 143, 1982 published Revised by H.V.C.A.

2.16 Fire Dampers

The fire damper shall be of single blade with flanges for mounting. The blade shall be held in position by a spring-loaded fusible link, set to release at a temperature of 85°C. the fire damper shall have a fire resistance of not less than three (3) hours. It shall be as manufactured by Soler and Palau or equal and approved. It shall have an access door for fusible link.

The damper shall have a switch operated by the blade, which shall switch off the fan when the blade shuts off airflow.

2.17 Extract Fan

The extract fan shall be wall mounted INLINE DUCT fan of duty 3100cu.M/Hr against 350Pa. The fan shall be complete with all necessary accessories and fittings. The fan mounting to the duct shall be done through flanges. The fan shall be mounted in accordance with manufacturer's instruction and as shown on the drawing.

2.18 Fan Control Panel

The panel shall be fabricated from G.I. sheet of minimum 18 SWG (1.2mm) with a hinged door and the powder coated after manufacture. It shall be provided with an integral lock. It shall be complete with the following:-

- (1) Isolator on the door,
- (2) Motor starter with current overload relay,
- (3) Miniature circuit breaker,
- (4) Phase failure relay with over voltage and under voltage protection,
- (5) Timer switch to switch off the fan at a preset time,
- (6) Push buttons for start and stop,
- (7) Indicator lights to show the off position of operation.

2.19 Setting to Work, Testing and Commissioning

After the successful completion of the installations, the Subcontractor shall set the system(s) to the design requirements.

The Subcontractor shall then run the system continuously for 20 Hours during the day (two consecutive days), testing the performance of the equipment, air leaks etc. The Subcontractor shall ensure that the performance of each item of the system is correct and according to specifications.

3. SPECIFICATIONS FOR KITCHEN EQUIPMENT INSTALLATIONS

3.1 General

The specification and sub-contract drawings detail the requirements of the Sub-contract works. The specifications cover the supply, delivery and installation of various kitchen equipment as shown on sub-contract drawing. The specification and sub-contract drawings shall be read together and are meant to explain each other.

The sub-contract drawings do not purport to show minor details of equipment, fixtures, pipe work or fixings, but are intended to indicate the intent and extent of the installations as designed, together with the sufficient information for the tenderer to include in his pricing any other items he deems necessary for the satisfactory completion and correct functioning of the sub-contract works.

If in the opinion of the tenderer, there is any ambiguity or any difference in the requirements of the specifications and the sub-contract drawings, he shall clarify these with the Engineer before tendering. No claims for extra payment shall be entertained because of non-compliance of this requirement.

3.2 Commencement of Works

The Sub-Contractor in submitting his tender shall be deemed to have included for commencing any necessary work on site at such time as will comply with the main contractor's programme. The installation works shall start after the sub-contractor submits 3No. hard copies of the working drawing in A1 or A0 size to the project engineer. The cost shall be factored in the rates and the sub-contract preliminaries.

3.3 Ordering

The sub-contract shall order materials from the quantities taken from his own approved working drawings and not from the quantities shown on the sub-contract drawings or in the specification. All equipment shall be approved before ordering by the project engineer.

3.4 Regulations and Standards

Material, equipment, installations and workmanship shall comply with the requirements of the latest Editions of the following:

- (1) Kenya Government By-laws.
- (2) Relevant standards published by the Kenya Bureau of Standards.
- (3) Relevant British Standards, Specifications & Codes of Practice; referred to as BS & BSCP respectively in this document.
- (4) National Environmental Management Authority (NEMA)

3.5 Quality of Materials and Workmanship

Materials and Workmanship Generally

All material, equipment and accessories are to be new and in accordance with the requirements of the current rules and regulations where such exist, or their absence with the relevant BS

Uniformity of type and manufacture of equipment or accessories is to be preserved as far as practicable throughout the whole work.

If in this specification the practice is adopted of specifying a particular item as "similar" to that of a particular firm's product, it is to be clearly understood that this is to indicate the type and quality of the equipment required. No attempt is being made to give preference to the equipment supplied by the firm whose name or products is quoted.

Where particular manufacturers are specified herein, no alternative makes will be considered, and the Engineer shall be allowed to reject any other makes.

The Sub-Contractor will be entirely responsible for all materials, apparatus, and equipment etc, furnished by him in connection with his work taken down or changed, which is executed in an unsatisfactory manner.

Competent workmen under skilled supervision shall carry out the Work. The Engineer shall have the authority to have any of the work taken down or changed, which is executed in an unsatisfactory manner.

The Works shall be carried out strictly in accordance with:-

- (1) British Standard BS 2512, Gas heated catering and laundry equipment.
- (2) British Standard BS 4167 (Parts 1&2) electrically heated catering and laundry equipment.
- (3) "British Standard BS 3456.
- (4) All other relevant British Standard Specifications and Codes of Practice (hereinafter referred to as BS and C.P. respectively)
- (5) By-Laws of the Local Authority.
- (6) The "Specifications" and the "Particular Specification".
- (7) The Working drawings.
- (8) The Engineer or Architect's instruction.

The drawings and specifications are to be read as a whole and are to explain each other. Work shown on the drawings and not described in the specification or vice versa shall be duly executed under the contract.

Kitchen Equipment

The standard of quality, safety, and performance of catering equipment shall be as specified in the Bills of Quantities or Schedule of Prices and shall be also as recommended by:

- British Standards Institute, Park Lane. London W1A 2EJ, in BS Specifications
- American National Standards Institute (A.N.S.I.) 1430 Broadway New York, NY 10018, U.S.A.
- American Society for Testing Materials (A.S.T.M.) 1916 Race Street, Philadelphia 3, PA. U.S

3.6 Stainless Steel Works

Quality

The stainless steel quality shall be as Grade 304 or better. The stainless steel shall be strong, corrosion proof, resistant to damage by heat or impact and scratching, and shall also be easily cleanable.

Thicknesses

The stainless steel sheets have thickness as follows:-

Worktops and elevated shelving 1.2 mm

Grade 3.04 Sinks

Constructions

The worktops shall be mounted on stainless steel, carefully executed to allow easy cleaning. The finishes of the worktops are to be smooth and without corners that can collect dirt. A carefully executed steel angle frame or other approved system can be considered.

The edge around table shall have an up stand 15 mm higher than the table surface, sloping inwards at 45°, with a width of approximately 20 mm at the top.

All edge shall be bent down 90° with a 50 mm flange and made with rounded corners. The sheet edge shall be rounded or reinforced to facilitate easy cleaning.

Sink Bowls

The sinks shall be executed with vertical sides and smooth rounded corners of a diameter of at least 30 mm, enabling thorough cleaning.

The position for the sink bowls to be as shown on drawings and as specified elsewhere. Centre drain outlet shall be provided with full height perforated stainless steel strainers. Where taps are to be installed on the sink unit, the Sub-Contractors must allow for a circular island around each tap, with a 300 slope and a level 5 mm above surrounds. The Sub-Contractors shall allow for two of these at each sink bowl.

Drainer Slope

The worktops with sinks inset must have a sufficient slope towards the sink. Welded line sink inset and worktop shall not form a ridge to prevent water from draining. Sink bowl shall also be sloped towards the waste drain outlet.

Reinforcing and Sound Deadening

Underside of worktops, drainers and sink benches are to be reinforced with stainless steel channels of at minimum 600mm apart.

Where sinks are inset, the carriage must include the necessary supports to reinforce the table top along the front of the bowl.

Adjustable Legs

The height of the worktop shall be 900 mm measured from the finished floor level for stand-up benches.

The worktops, sink benches, racks etc. shall have round sectional stainless steel legs diameter 40mm x 1.5mm with adjustable feet to enable proper mounting of a workbench onto a floor with drain slope.

The adjustable feet or threaded bolt shall be rust proof.

Sub-Contractor to ensure enough number of legs and supports to prevent sagging of the worktops, sink benches or even under shelf, rack shelves etc.

Stainless Steel Undershelf

The under shelf from a slated stainless tubular grid and mounted on stainless steel structure. Works shall be executed to allow easy cleaning and without corners that can collect dirt.

A carefully executed rustproof, clean framework and profile for under shelf or other approved system can be considered.

3.7 Plumbing Fixtures

All sink bowls shall be provided with 40 mm waste outlet, chain and plug.

Fixing

The benches shall be installed with an up-stand of 100 mm with a 45° flange finish on all edges touching the wall.

Workmanship

The Sub-Contractor shall undertake to carry out all work ordered and specified by the Engineer in a thorough and workman-like manner and to carry on operations with due efficiency and dispatch in accordance with terms of the contract and to the satisfaction of the Engineer and for this purpose shall use suitable machinery and gear and supply efficient and experienced staff. The Engineer shall have the right to order the removal and/or replacement of any plant, which in his opinion is inefficient or unsatisfactory.

3.8 Materials

The Sub-Contractor shall furnish at his own cost any samples of materials or workmanship or any tests that may be called for by the Engineer for approval or rejection and for any further samples or tests in the case of rejecting until these are approved by the Engineer, unless otherwise provided for herein.

All materials shall be new unless otherwise directed or permitted by the Engineer and in all cases where the quality of goods or materials is not described or otherwise specified is to be the best quality obtainable in the original meaning of the work “best” and not merely a trade signification of that word.

All materials and workmanship shall, unless otherwise specified or described, conform to the appropriate British Standards Institution Specification current at the date of the tender.

The Sub-Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that such materials are on Site when required for use in the Works.

3.9 Information

The Sub-Contractor shall as part of his Tender Supply all necessary information such as manufacture, catalogue or type numbers, brochures or copies of catalogue pages, weight, and other relevant information, which are necessary to classify the equipment, tendered for.

3.10 Bye-Laws and Statutory Institutes

The installation of Kitchen and stainless steel equipment, their components and safety shall comply with:

- (1) Local Authority's Byelaws.
- (2) The Factories Act, Laws of Kenya.
- (3) Local Authority's Water and fire Authority's Regulations.
- (4) Statutory Institutes as mentioned earlier.

3.11 Equipment Final Dimensions

The sub-contractor shall confirm with the Main contractor that the equipment to be provided fit in the spaces provided in the building's works. This shall be done by inspection of the Architectural and Structural Engineering Drawings and/or by site inspection before fabrication or ordering the equipment. If this is not done, the Sub-Contractor shall be liable for any remedial works caused by withholding this information.

3.12 Plumbing and Drainage Works

Valves for cold and hot water services to catering equipment inclusive of servery, beverage, and preparation units where necessary will be provided by the Plumbing and Drainage Sub-Contractor on Site. Sub-Contractor of this contract shall do final connections to the equipment.

The Sub-Contractor shall similarly connect drains from the equipment and discharge pipes to the nearest drain point (floor gully etc). Others shall install the floor gullies and drainage pipe. This Sub-Contractor as detailed in the specifications will supply stainless steel gratings, funnel etc.

Floor gullies, valves to cold and hot water services shall be provided by the Plumbing and Drainage Contractor within 0.3 metres from the equipment.

Cold and hot water taps, and waste traps will be supplied and installed by this Sub-Contractor, unless otherwise specified in the Specifications.

3.13 Electrical Installations

The supply of power for the Kitchen Equipment shall be terminated with power points (Namely socket outlets, pedestal fixed on the floor or on the walls as the case may be) by the Electrical Sub-Contractor.

It shall be the responsibility of the Sub-Contractor for Kitchen Equipment to provide conduits, electrical wiring, and final extensions from the power points to the Equipment.

Power points contain fixed connectors to which wires from the distribution boards are terminated. Flexible waterproof conduits should be used by the Sub- Contractor. Terminal connections at the Kitchen Equipment shall be made waterproof.

The wires shall be medium duty heat proof double sheathed complying with IEE Regulations B 34-38 and suitable for temperatures up to 150⁰C. The same applies to the wires to be used for internal wiring and controls and controls circuits for the Kitchen Equipment.

The Sub-Contractor providing Kitchen Equipment shall retain complete responsibility for the correct functional connections of the electrical cables, wiring, commissioning and correct functioning of the equipment.

The Sub-Contractor shall be responsible for supplying all schematic cabling and wiring diagrams and other necessary information, for Engineers' approval, and as may be required by the Electrical Sub-Contractor to enable him to install power supply cabling.

Power points shall be provided as shown on the contract drawings or within 1.5 m horizontally and vertically in any direction from the locations of the equipment. Within these limits no variations will be made to the Sub-Contract sum.

3.14 Commissioning and Testing

When installation is completed, an acceptance test shall be carried out at the Sub- Contractor's own expense.

Before calling for testing and handing over, the Sub-Contractor shall confirm that the installation has been examined and tested by himself, that it is ready for use and can be maintained efficiently.

Any defects revealed by the tests shall be made good by the Sub-Contractor and the test repeated to the approval of the Engineer.

The sub-contract works shall be considered completed 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, provided always that the handing over of the contract works shall coincide with the completion of the building works.

3.15 Spare Parts

The Sub-Contractor shall submit with the tender a guarantee that he will hold a sufficient number of spare parts for the maintenance of the equipment.

If specific requirement for supply of spare parts are specified in the bill of quantities or schedule of prices, these spare parts shall be supplied to the client, when the installation are handed over.

The Sub-Contractor shall submit with his tender a priced list of any optional extras, which he recommends should be purchased for the plants and are not supplied as standard with the unit.

3.16 Defects Liability and Contractual Maintenance Period

The Sub-Contractor shall maintain the complete installation in the total defects liability period and shall be responsible for the initiation and execution of the clients planned programme of maintenance during this period.

During this maintenance period, the Sub-Contractor shall carry out all necessary adjustments and repairs, cleaning and lubricating, etc. A report of any work shall be submitted to the Client and incorporated in the maintenance records.

The Sub-Contractor shall be held responsible for and shall make good all defects in materials that appear during the maintenance period; he shall supply expendable items, such as gaskets, filters, indicator lamps, etc. The period of liability shall not end until all defects, which appear during the maintenance period, have been rectified.

The Sub-Contractor shall instruct the Employer's staff in the maintenance techniques of the plants, all associated equipment and control gear of all descriptions during the routine maintenance visits.

The Sub-Contractor shall notify in writing the Employer before routine maintenance inspections are carried out, so that the Employer can have staff available to attend.

3.17 Maintenance Manual

Upon completion, the Sub-Contractor shall furnish to the Client four copies of a manual size A4 of loose-leaf type containing all the following items:-

- (1) Description of equipment
- (2) Full operation and maintenance instructions
- (3) Valve operation
- (4) Fault-finding chart
- (5) Emergency procedure
- (6) Maintenance and service periods
- (7) Lubricating instruction
- (8) Colour code legend
- (9) Schedule of Primary and Secondary spares
- (10) Record drawings - Folded to size A4.

The manual must be specially written and not standard manufacturers manual unless approved by the Engineer.

Tags giving instructions are not permitted. All instructions must be written into the manual with reference to the drawings.

3.18 Maintenance and Service after Expiration of the Contractual

The Sub-Contractor shall if required, enter into a maintenance and service agreement with the Employer for the complete installation, for a period of up to five years from the day of expiration of the contractual maintenance period.

The terms of any such agreement shall not be less beneficial to the Client, than the terms of agreement for other similar installation.

3.19 EQUIPMENT

The specifications cover the supply, delivery and installation of various kitchen equipment.

3.20 GAS COOKING RANGE WITH ELECTRIC OVEN.

Four-burner LPG cooking range with electric oven as follows: -

- Exterior stainless steel, 1.5mm thick.
- Open burners in cast iron.
- Cast iron pan supports.
- Stainless steel spillage tray, 0.8mm thick.
- Automatic burners lighting device with pilot flame.

- Flame failure device.

The oven and door shall be double walled with insulation, complete with: -

- Pipe shaped burner with automatic burner lighting device.
- Flames failure protection device.
- 1 No. Chromium plated grid shelf
- Three position shelf supports.
- Secondary drip tray below burners (in stainless steel)
- Thermostatically controlled oven temp to range from 50⁰ C- 350⁰C.
- Adjustable legs.

The unit shall have a total rating of 157,000 BTU/Hr for the top and it shall have external dimensions of 800 x 900 x 850mm high and shall be as MODULAR of Italy. Model No. **EM 90/80 CFGEV or an approved equivalent**

3.21 LOW LEVEL HIGH PRESSURE COOKER

H.P. gas heated 1 burner stockpot stand complete with: -

- Stainless steel, 1.5mm thick.
- Cast iron burner with flame failure device.
- Stainless steel spillage tray, 0.8mm thick.
- Enameller cast iron pan supports.
- Adjustable legs.

The unit shall have a rating of at least 47,000 BTU/Hr for the burner with overall external dimensions of 1400 x 600 x 550mm high.

3.22 ELECTRIC DEEP FAT FRYER

Electric heated Double deep fat fryer with oil capacity of 2 x 13 litres, constructed as follows:

- Exterior stainless steel, 1.5mm thick.
- The fryer wells shall be of 18/10 stainless steel with oil draw off tap.
- Stainless steel 18/10 lid with athermic handle.
- Stainless steel oil collection bin.
- Frying steel baskets **with athermic handles**.
- Stainless steel frying basket supports.
- Temperature regulation thermostat ranging from 90⁰C to 200⁰C.
- Security thermostat

It shall be as manufactured by MODULAR of Italy. **Model No. EM 70/80 FRE13** or an approved equivalent

3.23 DOUBLE BOWL DOUBLE DRAINER SINK ON STAND

DBDD Sink size indicated in the bills of quantities with 2No. Bowls size 600x450x300mm deep each centrally placed, and a stainless steel grid under shelf shall be incorporated. The top shall be of 16 SWG Stainless steel. Unit frame to be 32mm R.H.S. stainless steel and each leg to be equipped with an adjustable sanitary foot. The feet/stand shall have a spacing of maximum 1000mm.

Each bowl shall be fitted with a perforated removable corner strainer in full own height, a 40 mm waster outlet with stand overflow outlet fitting and a heavy duty hot/cold water sink mixer, pillar type with over arm swivel outlet.

3.24 STAINLESS STEEL WORKTOP

Stainless steel working with a stainless steel grid shelf shall be incorporated. The top shall be of grade 304. Stainless steel sheet backed with stainless steel channels for reinforcement. Stainless steel and each leg to be equipped with an adjustable sanitary foot, and the corners strengthened to give stability. The table top to have turned down edges in front and ends. The top shall be strengthened with the frame such that it takes heavy loads without sagging.

3.25 GENERAL PURPOSE TROLLEY

Stainless steel general-purpose mobile trolley of size 900x560x900mm high. The trolley shall be constructed sturdily with 3No. Trays made of 16 SWG Stainless steel sheet backed with plywood for rigidity and noise/shock absorption. The unit to run on 4No.150mm diameter heavy-duty castors (2 fixed, 2 swivel).

3.26 BAINE MARIE

Electric heated upper half Baine Marie dropped in, on Galaxy black granite finished counter. Size 1300x700x900mm high. The Baine Marie shall be of the water well type complete with food serving pots and lids. Fitted with Sneeze guards.

The Baine Marie top shall be divided into suitable number of food container pots, minimum 200mm deep and to be drawn from 16SWG Stainless steel sheet. Water well to be integral with the top and filled with 20mm swivel drain.

3.27 COFFEE/TEA URN

Electrically heated coffee/tea urn of capacity 40 liters with an infuser. It shall be of stainless steel casing with lift off cover.

The urn shall be complete with non-drip draw off tap and drain plug, and water supply arm with control valve and drain plug.

It shall have an immersion electric element of loading 2 x 3kW single phase with selector switch and automatic safety cut-out.

3.28 MILK URN

Electrically heated stainless steel milk urn of capacity 30 litres with twin jacket for indirect heating complete with stainless steel lift off cover.

It shall be complete with non-drip draw off tap, drain plugs and water supply arm. It shall have a concealed element of 3KW with selector switch and automatic safety cut-out.

3.29 COFFEE MAKING MACHINE

Electrically heated automatically regulated coffee making machine capable of brewing a maximum of 2 litres in every 5minutes. The machine to be equipped with hot plates for the glass

bowls to keep brewed coffee hot (2 glass bowls and hot plates). There shall also be a double pad keep hot unit.

The machine shall be hygienic and be efficiently insulated. Outer casing, inner tank and brewing head with filter plates shall be made of ground stainless steel 18/8.

4 No glass bowls made of robust, heat-resistant borosilicate glass with non-heat conducting plastic handles secured to the neck by a ground stainless steel clamp shall also be provided.

3.30 STAINLESS STEEL COUNTER FREEZER

A stainless steel freezer cabinet of capacity 280 litres net. The freezer counter shall have a solid stainless steel. The freezer cabinet shall be of stainless steel whole body, grade 304, finished with 2 solid doors. The freezer to be fitted with a heating system for evaporation during defrosting.

It shall be an automatic defrosting heat pump system. There shall be a thermostat for setting of storage temperature upto – 180C. The unit shall have a green “power on” indicator light and a red to go off when pre-set temperature are achieved. The unit shall run on R 134a refrigerant and shall be suitable for 240V, 50Hz power supply.

3.31 UPRIGHT REFRIGERATOR

An upright refrigerator of capacity 600 litres net. The refrigerator shall be anti-corrosion treated with white enamelled outer casing and with foamed in polyurethane insulation. The inside shall have aluminium inner cabinet with 5No. adjustable stainless steel wire GN1/1 shelves.

The refrigeration system shall be tropicalized hermetically sealed with thermostat control. It shall be suitable for 240v, single phase, 50Hz power supply, with R 134a refrigerant. It shall be capable of achieving a temp range of 4°C-6°C.

3.32 SLIDING WEIGHT SCALE

Sliding weight scale suitable for efficient utilisation in weighing meat up to 150kg capacity with accuracy as Avery or equal and approved.

3.33 DIAL INDICATOR BENCH SCALE

Bench type dial indicator scale (0-25Kg) with accuracy. The unit shall be executed in enameled steel and the weighing platform to be finished in polished stainless steel suitable for weighting wet foodstuffs during preparation.

3.34 Mixing Machine

15 litres capacity electrically driven mixing and general-purpose machine complete with 20-liter stainless steel bowl, beater, whisk and spiral dough hook. Optional extras to include a splash rim, pastry knife, bowl guard, stand, receiving tray, 10minute timer, vegetable slicer and shredder, mincer, colander and sieve attachments.

3.35 Dish Draining Rack

2-tier stainless steel glass stacking rack of size as 1900mm x 400mm x 400mm High. The distance between the tiers shall be 400mm apart. The dish drainer with cutleries holder to be designed to Engineers approval.

3.36 Pot Drying Rack

4-tier stainless steel pot rack of size 1900mm x 400mm x 250mm. The distance between the tiers shall be 400mm apart. The rack shall have an additional frame to reinforce the underside of the shelves such that the longest side shall have three frames and three legs. All legs shall have an adjustable foot.

3.37 Insectocutor

Insectocutor of stainless steel housing with powder coated safety grille, removable plastic tray, fully protected high-tension grid operating at a voltage of about 16000 volts and wall mounting brackets. It shall also have a facility to emit ultra – violet light and shall be operational on 240V, 50Hz supply.

3.38 Cold Room (Expected Operating Temp 0°C to +4°C)

Refrigeration units for Cold rooms

Shall be of Bitzer Germany air cooled condensing units with Bitzer Germany Semi-Hematic Compressors, Crank case Heaters suitable for 415v; 3-Phase; 50Hz. Gas R404A. All specs to match the size of the cold room. LH series or equivalent.

Evaporation Units

Guntner Europe Evaporators. GACC RX series or equivalent, 240v; 1-Phase; 50Hz.

Cold room Controls Panel: must be installed in easily accessible area, showing running temperature, and all operating mode status

Cold room Body

All panels must be of 100mm thickness, density range 40 – 42 kg/ m³ injected with CFC free polyurethane foam insulation.

All panels must meet flame retardancy requirements according to DIN 4102-1 and classified as B3.

Fitted with Single leaf hinged doors Size: 900 x 1900 mm high.

Floor to be finished with stainless steel chequered sheet.

4. PARTICULAR SPECIFICATION FOR LPG INSTALLATIONS

4.1 General

The specification and sub-contract drawings detail the requirements of the sub-contract works.

The specification and sub-contract drawings shall be read together and are meant to explain each other.

The sub-contract drawings do not purport to show minor details of equipment, fixtures, pipe work or fixings, but are intended to indicate the intent and extent of the installations as designed, together with the sufficient information for the tenderer to include in his pricing any other items he deems necessary for the satisfactory completion and correct functioning of the sub-contract works.

If in the opinion of the tenderer, there is any ambiguity or any difference in the requirements of the specifications and the sub-contract drawings, he shall clarify these with the Engineer before tendering. No claims for extra payment shall be entertained because of non-compliance of this requirement.

4.2 Commencement of Works

The Sub-Contractor in submitting his tender shall be deemed to have included for commencing any necessary work on site at such time as will comply with the main contractor's programme. The installation works shall start after the sub-contractor submits 3 No. hard copies of the working drawing in A1 or A0 size to the project engineer. The cost shall be factored in the rates and the sub-contract preliminaries.

4.3 Ordering

The sub-contract shall order materials from the quantities taken from his own approved working drawings and not from the quantities shown on the contract drawings or in the specification. All equipment shall be approved before ordering by the project engineer.

4.4 Regulations and Standards

Material, equipment, installations and workmanship shall comply with the requirements of the latest Editions of the following:

- (a) Kenya Government By-laws.
- (b) Relevant standards published by the Kenya Bureau of Standards.
- (c) Relevant British Standards, Specifications & Codes of Practice; referred to as B.S & BSC.P respectively in this document.
- (d) Requirements of the clients proposed local L.P Gas Supplier for the sub-contract.
- (e) This specification and the sub-contract drawings.

4.5 LPG Bulk Storage Tanks

The LPG bulk storage cylinder shall be of horizontal cylindrical mild steel construction manufactured in compliance with the requirements of BS 5500 or ASME (American Society of

Mechanical Engineers) Codes. The storage gas cylinder shall have a nominal gas capacity of 500Kg. The storage tank shall have the following minimum pressure requirements:-

- (a) Test Pressure: 25 bars
- (b) Working pressure: 17.5 bars

The tank shall be supplied complete with:

- (a) Filling valve, magnetic float gauge, multi-valve and first stage regulator all housed under a lockable hinged cover and padlock forming integral part of the storage gas cylinder.
- (b) Safety relief valve.
- (c) Drain plug.
- (c) Main isolating Valve.
- (e) Lifting lug and mounting feet.

The tank shall be pickled and primed on the outside and painted with two coats of weather resistant paint.

Apart from the above minimum specification for the bulk LPG storage tank, the tenderer shall ensure that he has allowed for in his pricing of the tank any additional requirements needed by LPG supplier. The vertical cylinder shall be fitted with a discharge isolation valve, pressure relief valve. Where there is a multiple cylinder bank installation, an automatic change- over valve with a regulator to reduce pressure to 37 mbar shall be incorporated. The standard tank details shall be permanently marked on the tank shell or imprinted on a stainless steel name plate affixed to the tank. It shall include the name of the Vendor, construction standard to which the tank is built, reference number unique to the tank, date of manufacture, tank capacity etc.

4.6 Pipework

The LPG pipe work installation shall comply with the requirements of BS C.P. 331: Part 3 and the current KEBS L. P. Gas standard and regulations. Pipes for L. P. Gas installations shall be seamless mild steel tubing to BS 1387: schedule 40. Pipe and pipe fittings shall be either welded or seamless wrought steel pipe fittings to BS 1740: schedule 40. All joint in the pipework shall be made using non hardening jointing compound suitable for L.P gas. A union shall be provided on all straight runs of pipe work at a maximum interval of six meters.

Pipe work laid underground shall be wrapped with pipe wrapping material having vapour permeability of less than $0.11\text{g/m}^2/\text{d}$ at 25^0C and 75% relative humidity. The pipe wrapping material shall have high resistance to mineral acids, alkalis and salts and shall be on non-cracking and non- hardening characteristics.

Underground LPG distribution pipe work shall be laid to a slope of 1 in 200. Gas service pipes, from the gas distribution pipes to the parts of building they service, shall be laid to rise from the distribution pipe at a slope of 1 in 200. All pipes under the ground shall rest throughout their length on a 150mm deep, flue sand topping, followed by an approved backfilling. The pipe shall be applied with a bitumen layer for corrosion protection. Where the pipe passes through the building fabric, it shall be located within a galvanized steel pipe sleeve, one diameter larger than

the pipe passing through it. The void between the pipe and the sleeve shall be packed with bitumen or approved equal material.

Horizontal and vertical pipes within the building shall be fixed off the walls with brass built in brackets or spacer type steel pipe clips. The Pipe supports spacing intervals for both the horizontal and vertical pipe runs shall be as follows:

Pipe nominal diameter	:	Interval
15mm	:	1.82 metres
20 & 25mm	:	2.44 metres
32 & 40mm	:	2.75 metres
50mm	:	3.00 metres
65mm	:	3.65 metres

The pipe work underneath the tables worktops to which shall be connected the gas outlets shall be made from gas quality copper.

4.7 Chainlink Fence

It shall be the responsibility of others to construct a concrete plinth of 150mm thickness to support the tank and erect a 1.2m high chain link fence with lockable gates around the cylinders to protect them with the details being provided by the LPG sub-contractor. Two approved **NON-SMOKING OR NAKED LIGHTS** notices in red background shall be fixed on the surrounding fence. They shall be of such a size that can be read from a distance of 20 meters.

4.8 GAS ISOLATION VALVE

The LPG isolation valves shall be quarter turn; lever operated ball valve of stainless steel construction. The valve shall have “open” and “closed” positions clearly marked on the valve body.

The valves shall be as ‘Saunders’ or equal and approved.

4.9 TESTING AND COMMISSIONING

The whole pipe work system shall be pressure tested using compressed air. The test pressure shall be 7.0 bars, which shall be maintained for a period of six hours. If the pressure drops during this period, leaks in the pipe work shall be made good and the pressure test repeated for a further six hours. The pressure test on pipe work shall be made before any part of the pipe work is concealed in any manner.

The bulk storage gas cylinder shall be pressure tested using water and compressed air. Test pressure of 25 bars shall be maintained for a period of six hours. After completion of pressure tests and installation, the LPG installations shall be balanced to give the required gas flows at each gas user’s point.

5. SPECIFICATIONS FOR KITCHEN HOOD FIRE SUPPRESSION SYSTEM

Supply, deliver, install, testing and commission fire suppression system for kitchen hood as SIEX-KP, to be complete with their ancillary equipment. Equal and equivalent may supplied.

Mechanical control station for detection activation

23 Litres Agent cylinder complete with charge, valve and gauge, Seamless Black steel pipework schedule 40,

Nitrogen 0.8litres pilot cartridge complete with valve and gauge

Single cylinder storage cabinet

Vertical cylinder brackets

Double micro-switch for electrical actuator, manual reset relay unit, remote manual pull

Actuator, pneumatic gas shut off valve, pneumatic actuation head valve, manual actuation head for mechanical detection and other accessories necessary for the proper working of the fire suppression system

Fusible link assembly

Discharge nozzles

Swivel adaptors for nozzles Silicon lubricant for nozzles Rubber blow-off caps Nozzle aiming device

Sealant liquid adaptors.

SECTION X: SCHEDULE OF UNIT RATES

- 1 The tenderer shall insert rates against the items in the following schedules and may add such other items as he considers appropriate.
- 2 The unit shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation.
- 3 The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the sub-contract works.
- 4 Where trade names or manufacture's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of quality of article or quality of material required .Alternative brands of equal and approved quality will be accepted.

SCHEDULE OF UNIT RATES**(Must be completed by the Tenderer)**

ITEM	DESCRIPTION	QTY/UNIT	RATE (KSHS)
1	Supply and install		
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

SECTION XI BILLS OF QUANTITIES

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 No.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 Sub-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 Sub-Contract.

The Bills of Quantities are divided generally into three sections:

Preliminaries – Bill No.1

Sub-Contractor's preliminaries are as per those described in section C – Sub-Contract Preliminaries and General Conditions of Sub-Contract. 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 has 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 Sub-Contract Drawings, conditions of Sub-Contract and specifications.

The unit of measurements and observations are as per those described in clause 1.0 5 of the section 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.

SPECIAL NOTES TO BILLS OF QUANTITIES

1. The Bills of Quantities form part of the Sub-Contract documents and are to be read in conjunction with the Sub-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 14% VAT and 3% withholding tax).

In accordance with Government policy, the 14% VAT and 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 thereof.
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 approval 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.
6. Tenderers must enclose, together with their submitted tenders, manufacturer's brochures detailing technical literature and specifications of the equipment that they intend to offer. Where the brochure contains different models tenderers MUST clearly mark out the model they intend to offer by using a 'markpen'.

BILLS OF QUANTITIES

ITEM	BILL 1: PRELIMINARIES	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
1	Discrepancies clause 1.02				
2	Conditions of sub-contract Agreement clause 1.03				
3	Payments clause 1.04				
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 Forward to Page 107				

ITEM	BILL 1: PRELIMINARIES	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
16	Supplies clause 1.20				
17	Bills of Quantities clause 1.23				
18	Sub-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 1.3				
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 Forward to Page 107				

	BILL 1: PRELIMINARIES	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				
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 105				
	Subtotal brought forward from Page 106				
	Total for Bill 1 for Preliminaries Carried Main Summary on Page 121				

ITEM	BILL 2: AIR-CONDITIONING - DESCRIPTION	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
	<p><u>SERVER/ICT AIR CONDITIONING</u></p> <p>SINGLE SPLIT AIR CONDITIONING SYSTEM</p> <p>The single split system shall be new factory supplied air cooled System. The system shall be complete with indoor & outdoor units with individual corded controller as per the following capacities of the IDU and ODU, Refrigerant piping, electrical and communication cables, charged with R410A REFRIGIRANT, clips, supports, brackets, Drain pipes and any other necessary fittings to achieve full operation.</p>				
1	<p>OUTDOOR UNITS</p> <p>Modular type outdoor units equipped with highly efficient scroll compressors with all inverter type compressor(s) only, special acryl precoated heat exchanger, low noise condenser fan, pre coated fin type heat exchangers.</p> <p>The outdoor and indoor units shall be integrated with special super wiring system with a central monitoring remote controller for each unit. Refrigerant should be R410A. All structural frame work platforms required shall be of HVAC vendor as per site conditions.</p> <p>Capacities</p>				
A	16,000 Btu/Hr (Cooling)	2	No.		
2	<p>INDOOR UNITS (for the above mentioned outdoor unit)</p> <p>Wall Mounted units with a 10m windblast and a 4-way swing. The unit shall have a multi-stage Tropical compressor. The Units shall be supplied complete with all Installation supprot clips</p>				
A.					
Total Carried Forward to Collection Page for Air Conditioning Page 110					

ITEM	BILL 2: AIR-CONDITIONING - DESCRIPTION	QTY	UNIT	RATE	AMOUNT (KSHS)
B	<u>SERVER/ICT AIR CONDITIONING</u> Capacities Wall Mounted Type 16,000BTU/hr Cooling Load duty and stand by	2	No.		
	Total Carried Forward to Collection Page for Air Conditioning Page 110				

BILL 2: AIR CONDITIONING COLLECTION PAGE

ITEM	BILL 2: AIR-CONDITIONING	AMOUNT (KSHS)
	<p data-bbox="402 375 1179 407">SERVER/ICT AIR CONDITIONING COLLECTION PAGE</p> <p data-bbox="228 478 245 510">1</p> <p data-bbox="453 478 1133 510">TOTAL BROUGHT FORWARD FROM PAGE NO. 108</p> <p data-bbox="228 562 245 594">2</p> <p data-bbox="453 562 1133 594">TOTAL BROUGHT FORWARD FROM PAGE NO. 109</p>	
	<p data-bbox="321 1829 1263 1892">Total for Bill 2: Air Conditioning Carried Forward to Main Summary Page 121</p>	

ITEM	BILL 3: MECHANICAL VENTILATION -	QTY	UNIT	RATE (KSHS)	AMOUNT (KSHS)
	MAIN TOILET EXTRACT SYSTEM				
	Supply, deliver, install, test and commission the following plant and equipment as described:-				
	EXTRACT FAN				
A	Roof mounted fans model CRHB/8-500. The fan shall have a flow rate of 4000 Cu.M/Hr @ 270Pa. The assembly should be complete with moisture sealing plate for rain proofing around the fan. Power 270W, 1.34amps as Soler & Palau or equal and approved.	2	No.		
	DUCT WORK AND EXTRACT GRILLES				
B	Supply and fix 24 gauge GMS ductwork as described in the Technical Specification Clause 1.6.1 inclusive of all transformational pieces and fittings Extract grillers as described in clause 1.6.5 of the particular specification.				
i	600 X 400 mm duct	25	LM		
ii	400 X 400 Ditto	16	LM		
iii	300 X 300 Ditto	16	LM		
iv	200 X 200 Ditto	20	LM		
v	200 X 150 Ditto	10	LM		
vi	150 x150	60	LM		
vii	150 x 150 mm EXTRACT GRILLES with non returnable damppers	88	No.		
viii	Air balancing dampers	4	No.		
	Total Carried Forward to Collection Page for Mechanical Ventilation Page 114				

ITEM	BILL 3: MECHANICAL VENTILATION	QTY	UNIT	RATE	AMOUNT (KSHS)
	ELECTRICAL CONNECTION				
C	A 1 phase, 230V, 50Hz. A.C. power supply shall be provided by other including the local fused isolator. The sub-contract shall be responsible for providing all electrical wiring and connecting power from the local isolator to his equipment and fittings.	2	Lot		
	SETTING TO WORK, TESTING AND COMMISSIONING				
D	Allow for setting to work testing and commissioning of the whole of the mechanical ventilation system for the basement and offices.	1	Lot		
	EXTRACT FAN				
A	In-line mixed flow fan model TD2000/315. The fan shall have a flow rate of 2000 Cu.M/Hr. @200Pa. Power 255W, 1.2Amps as Soler & Palau or equal and approved.	1	No.		
	DUCT WORK AND EXTRACT GRILLES				
B	Supply and fix 24 gauge GMS ductwork as described in the Technical Specification inclusive of all transformational pieces and fittings Extract grilles as described in clause 1.6.5 of the particular specification.				
i	350 X 350 mm duct	26	LM		
ii	250 X 200 Ditto	20	LM		
iii	200 x150	6	LM		
iv	150 x150	4	LM		
	Total Carried Forward to Collection Page for Mechanical Ventilation Page 114				

ITEM	BILL 3: MECHANICAL VENTILATION -	QTY	UNIT	RATE	AMOUNT (KSHS)
v	150mm flexible ducting	30	LM		
vi	150 x 150 mm EXTRACT GRILLES with non-returnable dampers	13	No.		
vii	Air balancing dampers	5	No.		
	ELECTRICAL CONNECTION				
C	A 1 phase, 230V, 50Hz. A.C. power supply shall be provided by other including the local fused isolator. The sub-contract shall be responsible for providing all electrical wiring and connecting power from the local isolator to his equipment and fittings.	1	Lot		
	SETTING TO WORK, TESTING AND COMMISSIONING				
D	Allow for setting to work testing and commissioning of the whole of the mechanical ventilation system for the basement and offices.	1	Lot		
	AUDITORIUM MECHANICAL VENTILATION				
	Supply, deliver, install, test and commission mechanical ventilation system for Auditorium				
	EXTRACT FAN				
A	Cyclone Roof Ventilator, 600mm throat width with 900mm dia. x 525mm high dome all in aluminium (unpainted and embossed), inclusive of bottom plate, support frame, soaker flange and other necessary fittings and transitional pieces, all as manufactured by Steel Structures Limited	4	No.		
	EXTRACT GRILLES				
B	Extract grillers as described in clause 1.6.5 of the particular specification.				
i	600 X 1200 mm	12	No.		
	Total Carried Forward to Collection Page for Mechanical Ventilation Page 114				

BILL 3: MECHANICAL VENTILATION COLLECTION PAGE

ITEM	BILL 3: MECHANICAL VENTILATION	AMOUNT (KSHS)
1	TOTAL BROUGHT FORWARD FROM MECHANICAL VENTILATION PAGE 111	
2	TOTAL BROUGHT FORWARD FROM MECHANICAL VENTILATION PAGE 112	
3	TOTAL BROUGHT FORWARD FROM MECHANICAL VENTILATION PAGE 113	
	Total for Bill 3: Mechanical Ventilation Carried Forward to Main Summary Page 121	

ITEM	BILL 4: KITCHEN EQUIPMENT	QTY	UNIT	RATE	AMOUNT (KSHS)
	Supply, Install, test and commission the following Kitchen Equipment as per specification of the tender document. Rates must include connection to power from isolators provided by others and all mounting accessories.				
1	Cooking Area				
A	Four Burner Gas Cooker with electric oven as MODULAR ITALY EM 90/80 CFGEV or an approved equivalent Size 800 x 900 x 900mm High. 6kw, 380-415V 3N 50-60Hz	1	No.		
B	Gas Hot plate Full smooth. MODULAR ITALY EM 90/80 FTGS-P or an approved equivalent . Size 700 x 800 x 900mm High.	1	No.		
C	Electric Deep fat frier/(double well) one basin (14 litre). Design and Specs, to Engineer's Approval. 24kw, 380-415V 3N 50-60Hz	1	No.		
D	Stainless Steel Infill table Size 400 x 900 x 900mm high	2	No		
E	Low level High pressure cooker 600 x 600 x 600mm High Design and Specs to engineers Approval	2	No.		
F	Stainless Steel High Pressure Gas Manifold	1	No		
G	Stainless Steel Low Pressure Gas Manifold	1	No		
H	Stainless Steel wall mounted kitchen hood 5 metres long by 1.1 metres wide with a depth of 0.5 metres. Kitchen hood shall be complete with grease filters and oil traps. Hood material shall be SS304 all sheet in 1.5mm thickness.	1	No		
2	PREPARATION AND COOK SUPPORT				
A	Stainless Steel island table with one undershelf and sink Size: 1650 x 700 x 900mm High	2	No		
B	Stainless Steel suspended double overshelf Size: 4700 x 400 x 1200mm High	1	No		
	Total Carried Forward to Collection Page for Kitchen Equipment Page 118				

ITEM	BILL 4: KITCHEN EQUIPMENT	QTY	UNIT	RATE	AMOUNT (KSHS)
C	Stainless Steel Waste bin mobile	2	No.		
D	Stainless steel Double door Counter Freezer size 1400 x 700 x 900mm high Power: 0.2kw. 240 V / 50 Hz	1	No		
E	Stainless steel Prep sink size 600 x 700 x 900mm high	1	No		
F	Stainless steel Wall shelves size 2000 x 400 x 300mm high	3	No		
3	DISH WASHING AREA				
A	Double bowl stainless steel sink.size:(2000mm x 700mm x 900mm) Bowl Size: 600 x 450 x 300mm deep	1	No.		
B	Stainless Steel Dish Drainer rack size:(1900mm x 400mm x 400mm High)	1	No		
C	Stainless Steel Wall mounted Pot rack size:(1900mm x 400mm x 250mm)	2	No.		
D	Stainless Steel Washup Waste bin mobile	1	No.		
E	Stainless Steel 4-Tier Storage Rack size 1200mm x 600 x 1800mm High	1	No.		
4	SERVERY LINE				
A	Dropped-in 3GN bain marie with Sneeze Guard Power: 9kw. 240 V / 50 Hz	2	No.		
B	Stainless Steel Neutral Cupboard 1600 x 700 x 600 mm high	2	No.		
C	Three Compartment Plastic Cutleries Dispenser	2	No.		
D	Filter Coffee machine	1	No.		
E	Stainless steel tea urn 40ltrs, Concealed element	2	No.		
F	Stainless Steel Milk Urn - 30 Litres, Concealed element	2	No.		
G	Kitchen Blender, capacity 2ltrs	1	No.		
	Total Carried Forward to Collection Page for Kitchen Equipment Page 118				

ITEM	BILL 4: KITCHEN EQUIPMENT	QTY	UNIT	RATE	AMOUNT (KSHS)
H	Commercial Microwave	1	No.		
I	Table top dough mixer, capacity 15kg	1	No.		
J	Infrared Insectocutor	4	No.		
5	COLD STORE				
A	Cold room complete with Insulated doors and pvc strip curtaons Operating temperature: 0 to + 4°C. Size: 2600 x 2400 x 2400mm High	1	No.		
B	Stainless Steel 4-Tier Storage Rack size 1150mm x 500 x 1800mm High	3	No.		
C	Stainless Steel 4-Tier Storage Rack size 1600mm x 500 x 1800mm High	1	No.		
6	DRY STORE				
A	Stainless Steel 4-Tier Storage Rack size 1100mm x 600 x 1800mm High	3	No.		
B	Sliding weighing scale, capacity 150kg	1	No.		
C	Table top Dial Scale capacity 30kg	1	No.		
	Total Carried Forward to Collection Page for Kitchen Equipment Page 118				

BILL 4: KITCHEN EQUIPMENT COLLECTION PAGE

ITEM	BILL 4: KITCHEN EQUIPMENT	AMOUNT (KSHS)
1	Total for Kitchen Equipment B/F from Page 115	
2	Total for Kitchen Equipment B/F from Page 116	
3	Total for Kitchen Equipment B/F from Page 117	
4	Allow for contingency	
	Total Carried to Main Summary on Page 121	

ITEM	BILL 5: LIQUIFIED PETROLEUM GAS	QTY	UNIT	RATE	AMOUNT (KSHS)
1	Supply, deliver, install, testing and commission LPG gas system for kitchen comprising of gas filled 500kg tank, Pipework, regulators, gauges, tank cages, 2NO. 9Kg CO2, Powder and all other necessary accessories and transitional fittings.	1	Item		
2	Ditto but 50Kg tank and gas standby.	1	No.		
3	Fire blanket for Kitchen	1	No.		
Total Carried to Main Summary on Page 121					

ITEM	BILL 6: - KITCHEN FIRE SUPPRESSION	QTY	UNIT	RATE	AMOUNT (KSHS)
1	KITCHEN HOOD FIRE SUPPRESSION SYSTEM Supply, deliver, install, testing and commission fire suppression system for kitchen hood as SIEX-KP, to be complete with their ancillary equipment. Equal and equivalent may supplied.				
2	Mechanical control station for detection activation 23 Litres Agent cylinder complete with charge, valve and gauge, Seamless Black steel pipework schedule 40, Nitrogen 0.8litres pilot cartridge complete with valve and gauge Single cylinder storage cabinet Vertical cylinder brackets	1	No.		
3	Double micro-switch for electrical actuator ,manual reset relay unit, remote manual pull actuator, pneumatic gas shut off valve, pneumatic actuation head valve, manual actuation head for mechanical detection and other accessories necessary for the proper working of the fire suppression system	1	Item		
4	Fusible link assembly Discharge nozzles	2	No.		
5	Swivel adaptors for nozzles Silicon lubricant for nozzles Rubber blow-off caps Nozzle aiming device Sealant liquid adaptors	6	Item		
	Total Carried to Main Summary on Page 121				

MAIN SUMMARY PAGE

ITEM	DESCRIPTION	AMOUNT (KSHS)
1	Total for Bill 1: Preliminaries B/F from Page 107	
2	Total for Bill 2: Air Conditioning B/F from Page 110	
3	Total for Bill 3: Mechanical Ventilation B/F from Page 114	
4	Total for Bill 4: Kitchen Equipment Installations B/F from Page 118	
5	Total for Bill 5: LPG Installations B/F from Page 119	
6	Total for Bill 6: Kitchen hood Fire suppression Installations B/F from Page 121	
	Total for Preliminaries, Air-conditioning, Mechanical Ventilation, Kitchen Equipment, LPG and Kitchen Fire Suppression Installations Carried to Form of Tender	

SECTION XII: TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

- 1.0. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders.
- 2.0. The filling of this schedule forms part of Technical Evaluation of the tenders, and tenderers shall therefore be required to indicate the type/make and country of origin of all the materials and equipment they intend to offer to the employer in this schedule.
- 3.0. Any bid returned with unfilled Technical Schedule shall be considered technically non-responsive, and the tenderer shall automatically be disqualified.

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

(To be Completed by the Tenderer as a Mandatory Requirement)

SECTION:.....TITLE:.....

EQUIPMENT.....

ITEM	DESCRIPTION	TYPE/MAKE	COUNTRY OF ORIGIN
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			

SECTION XIII

SCHEDULE OF SUB-CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE

SECTION XIV – STANDARD FORMS

- i. Letter of Acceptance
- ii. Form of Agreement
- iii. Performance Bank Guarantee
- iv. Qualification Information
- v. Tender Questionnaire
- vi. Confidential Business Questionnaire
- vii. Details of Sub-Contractors
- viii. Letter of Notification of Award
- ix. Request for Review
- x. Anti-Corruption Declaration Commitment/Pledge
- xi. Non-Debarment Statement
- xii. Statement of Compliance
- xiii. Details of Litigations or Arbitration Proceedings

LETTER OF ACCEPTANCE

[Letterhead paper of the Employer]

_____[Date]

To: _____
[Name of the Sub-contractor]

[Address of the Sub-contractor]

Dear Sir,

This is to notify you that your Tender datedfor the execution
of.....

[name of the Sub-contract and identification number, as given in the Tender documents] for the

Sub-contract Price of Kshs..... [amount in figures][Kenya

Shillings]..... (amount in words) in

accordance with Instructions to Tenderers is hereby accepted

You are hereby instructed to proceed with the execution of the said Works in accordance with the
Sub-contract documents.

Authorized Signature

Name and Title of Signatory

Attachment: Agreement

FORM OF AGREEMENT

THIS AGREEMENT, made the _____ day of _____ 20 ____

Between of/or whose registered office is situated at.....(hereinafter called “the Employer”) of the one part

ANDof/or whose registered office is situated at(hereinafter called “the Sub-contractor”) of the other part.

WHEREAS THE Employer is desirous that the Sub-contractor executes

..... (Name and identification number of Sub-contract) (Hereinafter called “the Works”) located at

.....[Place/location of the Works]and the Employer has accepted the tender submitted by the Sub-contractor for the execution and completion of such Works and the remedying of any defects therein for the Sub-contract Price of Kshs [Amount in figures],

Kenya Shillings

.....

.....[Amount in words].

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Sub-contract hereinafter referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.
 - (i) Letter of Acceptance
 - (ii) Form of Tender
 - (iii) Conditions of Sub-contract Part I
 - (iv) Conditions of Sub-contract Part II and Appendix to Conditions of Sub-contract
 - (v) Specifications
 - (vi) Drawings
 - (vii) Priced Bills of Quantities
3. In consideration of the payments to be made by the Employer to the Sub-contractor as hereinafter mentioned, the Sub-contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Sub-contract.
4. The Employer hereby covenants to pay the Sub-contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Sub-contract Price or such other sum as may become payable under the provisions of the Sub-contract at the times and in the manner prescribed by the Sub-contract.

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

The common Seal of -----

Was hereunto affixed in the presence of -----

Signed Sealed, and Delivered by the said-----

Binding Signature of Employer-----

Binding Signature of Sub-contractor-----

In the presence of (i) Name -----

Address -----

Signature -----

[ii] Name -----

Address -----

Signature -----

PERFORMANCE BANK GUARANTEE

To:

.....(Name of Employer.....(Date)

.....(Address of Employer)

Dear Sir,

WHERE AS(hereinafter called “the Sub-contractor”) has undertaken, in pursuance of Sub-contract No.....dated.....to execute (hereinafter called “the Works”

AND WHEREAS it has been stipulated by you in the said Sub-contract that the Sub-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 Sub-contract;

AND WHEREAS we have agreed to give the Sub-contractor such a Bank Guarantee: NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Sub-contractor, up to a total of Ksh------(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 Sub-contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Sub-contract or of the Works to be performed thereunder or of any of the Sub-contract documents which may be made between you and the Sub-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 -----

QUALIFICATION INFORMATION

1. Individual Tenderers or Individual Members of Joint Ventures

1.1 Constitution or legal status of tenderer (attach copy or Incorporation Certificate);

Place of Registration

Principal Place of Business

Power of Attorney of Signatory of Tenderer

1.2 Total annual volume of construction work performed in the last five years

Year	Volume	
	Currency	Value

1.3 Schedule of completed projects of similar nature and volume over the last five years.

Project name	Name of client and contact person	Type of work performed and year of completion	Value of sub-contract

1.4 Schedule of on-going projects of similar nature and volume.

Project name	Name of client and contact person	Type of work performed	Value of sub-contract

1.5 Major items of Sub-contractor's Equipment proposed for carrying out the Works. List all information requested below.

Type of Equipment	Description, Make and age (years)	Condition (new, good, poor) and number available	Owned, leased (from whom?), or to be purchased (from whom?)

1.6 Qualifications and experience of key personnel proposed for administration and execution of the Sub-contract. Attach biographical data.

Position	Name	Years of experience (general)	Years of experience in proposed position
Project Manager			
etc			

1.7 Financial reports for the last three years: balance sheets, profit and loss statements, auditor's reports, etc. List below and attach copies.

1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of supportive documents.

1. _____.
2. _____.
3. _____.
4. _____.
5. _____.
6. _____.
7. _____.
8. _____.
9. _____.
10. _____.

1.9 Tenderer's Bank Information

NAME OF BANK	BANK BRANCH	ADDRESS	TELEPHONE

1.10 Statement of compliance with the requirements of Clause 1.2 of the Instructions to Tenderers.

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 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.....

Make copy and deliver to

(Name of Employer)

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 2 (d) 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: K. pound.....

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.....			

Part 2(c) – Registered Company:

Private or public..... State the nominal and issued capital 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(Name of Employer) who has interest in this firm?
Yes/No.....(Delete as necessary)

I certify that the information given above is correct.

.....
(Title) (Signature) (Date)

- Attach proof of citizenship

DETAILS OF SUB-CONTRACTORS

If the Tenderer wishes to sublet any portions of the Works under any heading, he must give below details of the sub-contractors he intends to employ for each portion.

Failure to comply with this requirement may invalidate the tender.

(1) Portion of Works to be sublet.....

(i) Full name of Sub-contractor.....

and address of head office:

(ii) Sub-contractor's experience of similar works carried out in the last 3 years with Sub-contract value:

.....

.....

(iii) Sub-contractor's experience of similar works carried out in the last 3 years with Sub-contract value:

.....

.....

2) Portion of Works to be sublet.....

(i) Full name of Sub-contractor.....

and address of head office:

(ii) Sub-contractor's experience of similar works carried out in the last 3 years with Sub-contract value:

.....

.....

(iii) Sub-contractor's experience of similar works carried out in the last 3 years with Sub-contract value:

.....

.....

[Signature of Tenderer)

Date

LETTER OF NOTIFICATION OF AWARD

To:

Name and Address of Sub-Contractor

RE: Tender No. _____

Tender Name _____

This is to notify that the sub-contract/s stated below under the above mentioned tender have been awarded to you.

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. The sub-contract/sub-contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.
3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

(FULL PARTICULARS)

SIGNED FOR ACCOUNTING OFFICE

REQUEST FOR REVIEW

REPUBLIC OF KENYA

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO.....OF.....20.....

BETWEEN

..... APPLICANT, AND

..... RESPONDENT (Procuring Entity)

Request for review of the decision of the..... (Name of the Procuring Entity) of
.....dated the.....day of 20 in the matter of Tender
No.....of20...

REQUEST FOR REVIEW

I/We....., the above named Applicant(s), of address:
Physical address Fax No Tel. No
Email, hereby request the Public Procurement Administrative Review Board
to review the whole/part of the above mentioned decision on the following grounds , namely:-

- 1.
2. etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
2. etc.

SIGNED (Applicant)

Dated on.....day of/...20...

FOR OFFICIAL USE ONLY

Lodged with the Secretary Public Procurement Administrative Review Board on day of
.....20.....

SIGNED

Board Secretary

ANTI – CORRUPTION POLICY IN THE PROCUREMENT PROCESS

UNDERTAKING BY BIDDER ON ANTI – CORRUPTION POLICY / CODE OF CONDUCT AND COMPLIANCE PROGRAMME

The governments of Kenya is committed to fighting corruption in all its forms and in all its institutions to ensure that all the government earned revenues are utilized prudently and for the purpose intended with a view to promoting economic development as the country work towards actualizing Vision 2030.

Here at Jaramogi Oginga Odinga University of Science and Technology and also being one of the government entities mandated under the government to provide quality education and transforming lives, on behalf of the government, we are highly committed to fighting any form of corruption in our organization to ensure that all the monies that the government entrust with us, is optimally and prudently utilized for the benefits of all the people we serve.

The following is a requirement that every Bidder wishing to do business with JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY must comply with:

- (1) Each bidder must submit a statement, as part of the tender documents, in the format given and which must be signed personally by the Chief Executive Officer or other appropriate senior corporate officer of the bidding company and, where relevant, of its subsidiary in Kenya. If a tender is submitted by a subsidiary, a statement to this effect will also be required of the parent company, signed by its Chief Executive Officer or other appropriate senior corporate officer.
- (2) Bidders will also be required to submit similar No-bribery commitments from their subcontractors and consortium partners; the bidder may cover the subcontractors and consortium partners in its own statement, provided the bidder assumes full responsibility.
- (3) a) Payment to agents and other third parties shall be limited to appropriate compensation for legitimate services.
- b) Each bidder will make full disclosure in the tender documentation of the beneficiaries and amounts of all payments made, or intended to be made, to agents or other third parties (including political parties or electoral candidates) relating to the tender and, if successful, the implementation of the contract.
- c) The successful bidder will also make full disclosure [quarterly or semi- annually] of all payments to agents and other third parties during the execution of the contract.
- d) Within six months of the completion of the performance of the contract, the successful bidder will formally certify that no bribes or other illicit commissions have been paid. The final accounting shall include brief details of the goods and services provided that are sufficient to establish the legitimacy of the payments made.

- e) Statements required according to subparagraphs (b) and (d) of this paragraph will have to be certified by the company's Chief Executive Officer, or other appropriate senior corporate officer.
- (4) Tenders which do not conform to these requirements shall not be considered.
- (5) If the successful bidder fails to comply with its No-bribery commitment, significant sanctions will apply. The sanctions may include all or any of the following:
 - a) Cancellation of the contract;
 - b) Liability for damages to the public authority and/or the unsuccessful competitors in the bidding possibly in the form of a lump sum representing a pre-set percentage of the contract value (liquidated).
- (6) Bidders shall make available, as part of their tender, copies of their anti-Bribery Policy/Code of Conduct, if any, and of their-general or project - specific - Compliance Program.
- (7) The Government of Kenya through Ethics and Anti-Corruption Commission has made special arrangements for adequate oversight of the procurement process and the execution of the contract. Those charged with the oversight responsibility will have full access if need be to all documentation submitted by Bidders for this contract, and to which in turn all Bidders and other parties involved or affected by the project shall have full access (provided, however, that no proprietary information concerning a bidder may be disclosed to another bidder or to the public).

1. MEMORANDUM (FORMAT)

(Clause 46 of Kenya Public Procurement and Asset Disposal Act 2015)

This company _____(*name of company*) has issued, for the purposes of this tender, a Compliance Program copy attached -which includes all reasonable steps necessary to assure that the No-bribery commitment given in this statement will be complied with by its managers and employees, as well as by all third parties working with this company on the public sector projects or contract including agents, consultants, consortium partners, subcontractors and suppliers'")"

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Bidder: _____

Address: _____

NON-DEBARMENT STATEMENT

I/We/Messrs..... of
.....Street/avenue,Building, P. O. Box.....Code, of (Town),

..... (Nationality), Phone: E-mail

declare that I/We /Messrs

are not debarred from participating in public procurement by the Public Procurement Oversight Authority pursuant to section 115 of the Public Procurement and Disposal Act, 2005.

Dated thisday of 20.....

Authorized Signature.....Official Stamp

Name and Title of Signatory.....

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, who can be perceived as an inducement to win this tender.

Signed:for and on behalf of the Tenderer

Date:

Official Rubber Stamp:

**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. _____.