Kirinyaga University

TENDER DOCUMENT

PROPOSED EXTERNAL WORKS AT THE NEW KyU MULTI-PURPOSE LECTURE THEATRE

(OPEN NATIONAL TENDER)

TENDER NUMBER: KyU/TN/LT/EW/001/2021

CLOSING DATE AND TIME: Tuesday 10th August 2021 at, 10.00 AM.

OPENING DATE AND TIME: Friday 20th August 2021 at 10.00 a.m. (EXTENDED)

A PRE-TENDER CONFERENCE WILL **BE HELD** on **2nd August 2021 starting from 11 a.m.**

ISSUED BY:

THE VICE CHANCELLOR

KIRINYAGA UNIVERSITY

P.O. Box 143-10300 Kerugoya.

Website: www.kyu.ac.ke

JULY, 2021

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INVITATION TO TENDER (ITT)

PROCURING ENTITY**: KIRINYAGA UNIVERSITY (KyU) P.O.BOX 143-10300 KERUGOYA, KENYA**

CONTRACT NAME AND DESCRIPTION: **TENDER FOR THE PROPOSED EXTERNAL WORKS AT THE NEW KyU MULTI-PURPOSE LECTURE THEATRE**

1. KIRINYAGA UNIVERSITY invites sealed tenders for the proposed external works at the new multi-purpose lecture theatre.

2. Tendering will be conducted under open competitive method (National) using a standardized tender document. Tendering is open to all qualified and interested Tenderers.

   "this is a one lot (contract) and tenderers should quote for all items to be considered".

3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours *[8.00 a.m. to 5 pm]* at the address given below.

4. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of 1000 Kenya shillings in cash or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically from the Website.

   Tender documents obtained electronically will be free of charge. Tenderers downloading documents from a designated Website shall advise the Procurement Entity that they have downloaded the tender documents, giving full contact addresses of the tenderer sent via email to The Procurement Officer, Kirinyaga University and send the email to procurement@kyu.ac.ke.

5. Tender documents may be viewed and downloaded for free from the website www.kyu.ac.ke OR www.tenders.go.ke. Tenderers who download the tender document must forward their particulars immediately to The Procurement Officer, Kirinyaga University and send the email to procurement@kyu.ac.ke. to facilitate any further clarification or addendum.

6. All Tenders must be accompanied by a Tender Security *of* ***Kenya Shillings 100,000.00.***

7. Completed tenders must be delivered to the address below on or before **Tuesday 10th August 2021 at, 10.00 AM**

8. Electronic Tenders will not be permitted.

9. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives and anyone who chooses to attend at the address below.

10. Late tenders will be rejected.

11. The addresses referred to above are:

A. Address for obtaining further information and for purchasing tender documents

KIRINYAGA UNIVERSITY
ALONG KUTUS-KERUGOYA JUNCTION
P.O.BOX 143-10300 KERUGOYA, KENYA
WEBSITE: www.kyu.ac.ke EMAIL: procurement@kyu.ac.ke CC endirangu@kyu.ac.ke
TELEPHONE: Tel: +254 701562092, +254 728499650, +254 709742000/30

B. Address for Submission of Tenders.

ADMINISTRATION BLOCK, KIRINYAGA UNIVERSITY

PART 1 - TENDERING PROCEDURES

SECTION I: INSTRUCTIONS TO TENDERERS

A General Provisions

1. Scope of Tender

1.1 Kirinyaga University as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The name, identification, and number of lots (contracts) of this Tender Document are **specified in the TDS.**

2. Fraud and Corruption

2.1 Kirinyaga University requires compliance with the provisions of the Public Procurement and Asset Disposal Act, 2015, Section 62 "Declaration not to engage in corruption". The tender submitted by a person shall include a declaration that the person shall not engage in any corrupt or fraudulent practice and a declaration that the person or his or her sub-contractors are not debarred from participating in public procurement proceedings.

2.2 Kirinyaga University requires compliance with the provisions of the Competition Act 2010, regarding collusive practices in contracting. Any tenderer found to have engaged in collusive conduct shall be disqualified and criminal and/or civil sanctions may be imposed. To this effect, Tenders shall be required to complete and sign the "Certificate of Independent Tender Determination" annexed to the Form of Tender.

2.3 Unfair Competitive Advantage - Fairness and transparency in the tender process require that the firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender. To that end, Kirinyaga University shall indicate in the **Data Sheet** and make available to all the firms together with this tender document all information that would in that respect give such firm any unfair competitive advantage over competing firms.

2.4 Unfair Competitive Advantage -Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender being tendered for. Kirinyaga University shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. Kirinyaga University shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. Kirinyaga University shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

3. Eligible Tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.7 or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives *(spouses, children, brothers, sisters and uncles and aunts)* are not eligible to participate in the tender. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. The maximum number of JV members shall be specified in the **TDS.**

3.2 Public Officers of Kirinyaga University, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.

3.3 A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:

a) Directly or indirectly controls, is controlled by or is under common control with another tenderer; or

b) Receives or has received any direct or indirect subsidy from another tenderer; or

c) Has the same legal representative as another tenderer; or

d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position

to influence the tender of another tenderer, or influence the decisions of Kirinyaga University regarding this tendering process; or

e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender; or

f) any of its affiliates has been hired (or is proposed to be hired) by Kirinyaga University as Engineer for the Contract implementation; or

g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document or

h) Has a close business or family relationship with a professional staff of Kirinyaga University who:

i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or

ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to Kirinyaga University throughout the tendering process and execution of the Contract.

3.4 A tenderer shall not be involved in corrupt, coercive, obstructive, collusive or fraudulent practice. A tenderer that is proven to have been involved any of these practices shall be automatically disqualified.

3.5 A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.8.A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub-consultants for any part of the Contract including related Services.

3.7 Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.

3.8 Tenderers that are state-owned enterprises or institutions may be eligible to compete and be awarded a Contract(s) only if they are accredited by PPRA to be (i) a legal public entity of the state Government and/or public administration, (ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.

3.9 A Firms and individuals may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as Kirinyaga University shall reasonably request.

3.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable Kirinyaga University determine if this condition is met shall be provided in for this purpose is be provided in *"SECTION III - EVALUATION AND QUALIFICATION CRITERIA, Item 9"*.

3.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan

Citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

3.12 The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.

3.13 The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke

3.14 A Kenyan tenderer shall provide evidence of having fulfilled his/her tax obligations by producing a valid tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

4. Eligible Goods, Equipment, and Services

4.1 Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not eligible under ITT 3.9. At the Procuring Entity's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.

4.2 Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

5. Tenderer's Responsibilities

5.1 The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and Kirinyaga University will in no case be responsible or liable for those costs.

5.2 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 contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.

5.3 The Tenderer and any of its personnel or agents will be granted permission by Kirinyaga University to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify Kirinyaga University against all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the inspection.

5.4 The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

B. Contents of Tender Documents

6. Sections of Tender Document

6.1 The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 8.

PART 1 Tendering Procedures

i) Section I - Instructions to Tenderers (ITT)
ii) Section II - Tender Data Sheet (TDS)
iii) Section III - Evaluation and Qualification Criteria
iv) Section IV - Tendering Forms

PART 2 Works Requirements

i) Section V - Drawings
ii) Section VI - Specifications
iii) Section VII - Bills of Quantities

PART 3 Conditions of Contract and Contract Forms

i) Section VIII - General Conditions of Contract (GCC)
ii) Section IX - Special Conditions of Contract (SC)
iii) Section X - Contract Forms

6.2 The Invitation to Tender Document (ITT) issued by Kirinyaga University is not part of the Contract documents.

6.3 Unless obtained directly from the Procuring Entity, Kirinyaga University is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 8. In case of any contradiction, documents obtained directly from Kirinyaga University shall prevail.

The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its Tender all information and documentation as is required by the Tender document.

7. Site Visit

7.1 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the Site of the Required Services and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for the Services. The costs of visiting the Site shall be at the Tenderer's own expense.

8. Pre-Tender Meeting

8.1 Kirinyaga University shall specify in the **TDS** if a pre-tender meeting will be held, when and where. Kirinyaga University shall also specify in the **TDS** if a pre-arranged pretender site visit will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

8.2 The Tenderer is requested to submit any questions in writing, to reach Kirinyaga University not later than the period specified in the **TDS** before the meeting.

8.3 Minutes of the pre-Tender meeting and the pre-arranged pretender site visit of the site of the works, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.

8.4 Kirinyaga University shall also promptly publish anonym zed (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the works at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-tender meeting and the pre-arranged pretender site visit, shall be made by Kirinyaga University exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9. Clarification and amendments of Tender Documents

9.1 A Tenderer requiring any clarification of the Tender Document shall contact Kirinyaga University in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting and the pre-

arranged pretender visit of the site of the works if provided for in accordance with ITT 8.4. Kirinyaga University will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. Kirinyaga University shall forward copies of its response to all tenderers who have acquired the Tender Documents in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If specified in the **TDS**, Kirinyaga University shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, Kirinyaga University shall amend the Tender Documents appropriately following the procedure under ITT 8.4.

10. Amendment of Tendering Document

10.1 At any time prior to the deadline for submission of Tenders, Kirinyaga University may amend the Tendering document by issuing addenda.

10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from Kirinyaga University in accordance with ITT 6.3. Kirinyaga University shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.

10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, Kirinyaga University shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 25.2 below**.**

C. Preparation of Tenders

11. Cost of Tendering

11.1 The Tenderer shall bear all costs associated with the preparation and submission of its Tender, and Kirinyaga University shall not be responsible or liable for those costs, regardless of the conduct or outcome of the tendering process.

12. Language of Tender

12.1 The Tender, as well as all correspondence and documents relating to the tender exchanged by the tenderer and the Procuring Entity, shall be written in the English Language. Supporting documents and printed literature that are part of the Tender may be in another language provided they are accompanied by an accurate and notarized translation of the relevant passages into the English Language, in which case, for purposes of interpretation of the Tender, such translation shall govern.

13. Documents Comprising the Tender

13.1 The Tender shall comprise the following:

a) Form of Tender prepared in accordance with ITT 14;
b) Schedules including priced Bill of Quantities, completed in accordance with ITT 14 and ITT 16;
c) Tender Security or Tender-Securing Declaration, in accordance with ITT 21.1;
d) Alternative Tender, if permissible, in accordance with ITT 15;
e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3;
f) Qualifications: documentary evidence in accordance with ITT 19establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
g) Conformity: a technical proposal in accordance with ITT 18;
h) Any other document required in the **TDS**.

13.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender,

together with a copy of the proposed Agreement. The Tenderer shall chronologically serialize pages of all tender documents submitted.

13.3 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender**.**

14. Form of Tender and Schedules

14.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested.

15. Alternative Tenders

15.1 Unless otherwise specified in the **TDS**, alternative Tenders shall not be considered.

15.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.

15.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by the Procuring Entity. When specified in the **TDS**, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the **TDS**, as will the method for their evaluating, and described in Section VII, Works' Requirements.

16. Tender Prices and Discounts

16.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.

16.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.

16.3 The price to be quoted in the Form of Tender, in accordance with ITT 14.1, shall be the total price of the Tender, including any discounts offered.

16.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 14.1.

16.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and Kirinyaga University may require the Tenderer to justify its proposed indices and weightings.

16.6 Where tenders are being invited for individual lots (contracts)or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 16.4, provided the Tenders for all lots (contracts) are opened at the same time.

16.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

17. Currencies of Tender and Payment

17.1 Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings. A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya shall device own ways of getting foreign currency to meet those expenditures.

18. Documents Comprising the Technical Proposal

18.1 The Tenderer shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section IV, Tender Forms, in sufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

19. Documents Establishing the Eligibility and Qualifications of the Tenderer

19.1 Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.

19.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.

19.3 A margin of preference will not be allowed. Preference and reservations will be allowed, individually or in joint ventures. Applying for eligibility for Preference and reservations shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

19.4 Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a contractor or group of contractors qualifies for a margin of preference. Further the information will enable Kirinyaga University identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.

19.5 The purpose of the information described in ITT 19.4 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by Kirinyaga University as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.

19.6 The Tenderer shall provide further documentary proof, information or authorizations that Kirinyaga University may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.3. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

19.7 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.

19.8 If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if Kirinyaga University is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.

19.9 If information submitted by a tenderer pursuant to these requirements, or obtained by Kirinyaga University (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of

interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

i) if the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
ii) if the contract has been awarded to that tenderer, the contract award will be set aside,
iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

19.10 If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 6.7 will ensue unless the tenderer can show to the reasonable satisfaction of Kirinyaga University that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tenderer.

20. Period of Validity of Tenders

20.1 Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by Kirinyaga University in accordance with ITT 24). A Tender valid for a shorter period shall be rejected by Kirinyaga University as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the Tender validity period, Kirinyaga University may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 21.1, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 20.3.

20.3 If the award is delayed by a period exceeding the number of days to be specified in the **TDS** days beyond the expiry of the initial tender validity period, the Contract price shall be determined as follows**:**

a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified in the **TDS**;
b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

21. Tender Security

21.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency specified in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms**.**

21.2 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

a) an unconditional Bank Guarantee issued by reputable commercial bank); or
b) an irrevocable letter of credit;
c) a Banker's cheque issued by a reputable commercial bank; or
d) another security specified **in the TDS**,

21.3 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 20.2.

21.4 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by Kirinyaga University as non-responsive.

21.5 If a Tender Security is specified pursuant to ITT 21.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the **TDS**. Kirinyaga University shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were

determined nonresponsive or a bidder declines to extend tender validity period.

21.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the **TDS**.

21.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:

e) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or

f) if the successful Tenderer fails to:

i) sign the Contract in accordance with ITT 50; or

ii) furnish a Performance Security and if required in the **TDS**, and any other documents required in the **TDS**.

21.8 Where tender securing declaration is executed, Kirinyaga University shall recommend to the PPRA that PPRA debars the Tenderer from participating in public procurement as provided in the law.

21.9 The Tender Security or the Tender-Securing Declaration of a JV shall be in the name of the JV that submits the Tender. If the JV has not been legally constituted into a legally enforceable JV at the time of tendering, the Tender Security or the Tender-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITT 4.1 and ITT 11.2.

21.10 A tenderer shall not issue a tender security to guarantee itself.

22. Format and Signing of Tender

22.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 13 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 15, shall be clearly marked "ALTERNATIVE." In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **TDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

22.2 Tenderers shall mark as "CONFIDENTIAL" all information in their Tenders which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

22.3 The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the **TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.

22.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

22.5 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. Submission and Opening of Tenders

23. Sealing and Marking of Tenders

23.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to Kirinyaga University and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

a) in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11; and

b) in an envelope or package or container marked "COPIES", all required copies of the Tender; and

c) if alternative Tenders are permitted in accordance with ITT 15, and if relevant:

i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE TENDER", the alternative Tender; and

ii) in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

a) bear the name and address of the Procuring Entity.

b) bear the name and address of the Tenderer; and

c) bear the name and Reference number of the Tender.

23.2 If an envelope or package or container is not sealed and marked as required, Kirinyaga University will assume no responsibility for the misplacement or premature opening of the Tender. Tenders that are misplaced or opened prematurely will not be accepted.

24. Deadline for Submission of Tenders

24.1 Tenders must be received by Kirinyaga University at the address specified in the **TDS** and no later than the date and time also specified in the **TDS**. When so specified in the **TDS**, Tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified in the **TDS**.

24.2 Kirinyaga University may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Documents in accordance with ITT 8, in which case all rights and obligations of Kirinyaga University and Tenderers previously subject to the deadline shall thereafter be subject to the deadline as extended.

25. Late Tenders

25.1 Kirinyaga University shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 24. Any Tender received by Kirinyaga University after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

26. Withdrawal, Substitution, and Modification of Tenders

26.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 22.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

a) prepared and submitted in accordance with ITT 22 and ITT 23 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;"and

b) received by Kirinyaga University prior to the deadline prescribed for submission of Tenders, in accordance with ITT 24.

26.2 Tenders requested to be withdrawn in accordance with ITT 26.1 shall be returned unopened to the Tenderers.

26.3 No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

27. Tender Opening

27.1 Except in the cases specified in ITT 23 and ITT 26.2, Kirinyaga University shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified in the **TDS**, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 24.1, shall be as specified in the **TDS**.

27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal

and is read out at Tender opening.

27.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.

27.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.

27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as Kirinyaga University may consider appropriate.

27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of Kirinyaga University to sign shall be specified in the **TDS**.

27.7 At the Tender Opening, Kirinyaga University shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 25.1).

27.8 Kirinyaga University **shall prepare minutes of the Tender Opening that shall include, as a minimum:**

a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
b) the Tender Price, per lot (contract) if applicable, including any discounts;
c) any alternative Tenders;
d) the presence or absence of a Tender Security, if one was required.
e) number of pages of each tender document submitted.

27.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

E. Evaluation and Comparison of Tenders

28. Confidentiality

28.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 46.

28.2 Any effort by a Tenderer to influence Kirinyaga University in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.

28.3 Notwithstanding ITT 28.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact Kirinyaga University on any **matter related to the tendering process, it shall do so in writing.**

29. Clarification of Tenders

29.1 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the tenderers, Kirinyaga University may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by Kirinyaga University shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by Kirinyaga University in the evaluation of the tenders, in accordance with ITT 33.

29.2 If a tenderer does not provide clarifications of its tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

30. Deviations, Reservations, and Omissions

30.1 During the evaluation of tenders, the following definitions apply:

a) "Deviation" is a departure from the requirements specified in the tender document;

b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and

c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender document.

31. Determination of Responsiveness

31.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 13.

31.2 A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation**, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:**

a) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or

b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract; or

c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

31.3 Kirinyaga University shall examine the technical aspects of the tender submitted in accordance with ITT 18, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

31.4 If a tender is not substantially responsive to the requirements of the tender document, it shall be rejected by Kirinyaga University and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32. Non-material Non-conformities

32.1 Provided that a tender is substantially responsive, Kirinyaga University may waive any non-conformities in the tender.

32.2 Provided that a Tender is substantially responsive, Kirinyaga University may request that the tenderer submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial non-conformities in the tender related to documentation requirements. Requesting information or documentation on such non- conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.

32.3 Provided that a tender is substantially responsive, Kirinyaga University shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified in the **TDS.**

33. Arithmetical Errors

33.1 The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity.

33.2 Provided that the Tender is substantially responsive, Kirinyaga University shall handle errors on the following basis:

a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.

b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, and subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and

c) if there is a discrepancy between words and figures, the amount in words shall prevail

33.3 Tenderers shall be notified of any error detected in their bid during the notification of a ward.

34. Currency provisions

34.1 Tenders will priced be in Kenya Shillings only. Tenderers quoting in currencies other than in Kenya shillings will be determined non-responsive and rejected.

35. Margin of Preference and Reservations

35.1 No margin of preference shall be allowed on contracts for small works.

35.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, youth and/or persons living with disability, who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses/firms belonging to those specified groups are the only ones eligible to tender. Otherwise if no so stated, the invitation will be open to all tenderers.

36. Nominated Subcontractors

36.1 Unless otherwise stated in the **TDS**, Kirinyaga University does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Procuring Entity.

36.2 Tenderers may propose subcontracting up to the percentage of total value of contracts or the volume of works as specified in the **TDS**. Subcontractors proposed by the Tenderer shall be fully qualified for their parts of the Works.

36.3 The subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated by Kirinyaga University in the **TDS** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

37. Evaluation of Tenders

37.1 Kirinyaga University shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies Kirinyaga University shall determine the Best Evaluated Tender in accordance with ITT 40.

37.2 To evaluate a Tender, Kirinyaga University shall consider the following:

a) price adjustment due to discounts offered in accordance with ITT 16;
b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT39;
c) price adjustment due to quantifiable nonmaterial non-conformities in accordance with ITT 30.3; and
d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

37.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.

37.4 In the case of multiple contracts or lots, Tenderers shall be allowed to tender for one or more lots and the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the **Form of Tender, is specified in Section III, Evaluation and Qualification Criteria.**

38. Comparison of Tenders

38.1 Kirinyaga University shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 38.2 to determine the Tender that has the lowest evaluated cost.

39. Abnormally Low Tenders

39.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.

39.2 In the event of identification of a potentially Abnormally Low Tender, Kirinyaga University shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

39.3 After evaluation of the price analyses, in the event that Kirinyaga University determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, Kirinyaga University shall reject the Tender.

40. Abnormally High Tenders

40.1 An abnormally high price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that Kirinyaga University is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

40.2 In case of an abnormally high tender price, Kirinyaga University shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. Kirinyaga University may also seek written clarification from the tenderer on the reason for the high tender price. Kirinyaga University shall proceed as follows:

i) If the tender price is abnormally high based on wrong estimated cost of the contract, Kirinyaga University may accept or not accept the tender depending on the Procuring Entity's budget considerations.

ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, Kirinyaga University shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

40.3 If Kirinyaga University determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), Kirinyaga University shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

41. Unbalanced and/or Front-Loaded Tenders

41.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, Kirinyaga University may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.

41.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, Kirinyaga University may as appropriate:

a) accept the Tender; or

b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price; or

c) agree on a payment mode that eliminates the inherent risk of Kirinyaga University paying too much for undelivered works; or

d) reject the Tender,

42. Qualifications of the Tenderer

42.1 Kirinyaga University shall determine to its satisfaction whether the eligible Tenderer that is selected as having submitted the lowest evaluated cost and substantially responsive Tender, meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

42.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 19. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

42.3 An affirmative determination shall be a prerequisite for award of the Contract to the Tenderer. A negative determination shall result in disqualification of the Tender, in which event Kirinyaga University shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

42.4 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price.

42.5 In the event of identification of a potentially Abnormally Low Tender, Kirinyaga University shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

42.6 After evaluation of the price analyses, if Kirinyaga University determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, Kirinyaga University shall reject the Tender.

43. Best Evaluated Tender

43.1 Having compared the evaluated prices of Tenders, Kirinyaga University shall determine the Best Evaluated Tender. The Best Evaluated Tender is the Tender of the Tenderer that meets the Qualification Criteria and whose Tender has been determined to be:

a) Most responsive to the Tender document; and
b) the lowest evaluated price.

44. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders.

44.1 Kirinyaga University reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without thereby incurring any liability to Tenderers. In case of annulment, all Tenderers shall be notified with reasons and all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. Award of Contract

45. Award Criteria

45.1 Kirinyaga University shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

46. Notice of Intention to enter into a Contract

46.1 Upon award of the contract and Prior to the expiry of the Tender Validity Period Kirinyaga University shall issue a Notification of Intention to Enter into a Contract / Notification of award to all tenderers which shall contain, at a minimum, the following information:

a) the name and address of the Tenderer submitting the successful tender;
b) the Contract price of the successful tender;
c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;
d) the expiry date of the Standstill Period; and
e) instructions on how to request a debriefing and/or submit a complaint during the standstill period;

47. Standstill Period

47.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

47.2 Where a Standstill Period applies, it shall commence when Kirinyaga University has transmitted to each Tenderer the Notification of Intention to Enter **into a Contract with the successful Tenderer.**

48. Debriefing by the Procuring Entity

48.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 46, an unsuccessful tenderer may make a written request to Kirinyaga University for a debriefing on specific issues or concerns regarding their tender. Kirinyaga University shall provide the debriefing within five days of receipt of the request.

48.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending **such a debriefing meeting.**

49. Letter of Award

49.1 Prior to the expiry of the Tender Validity Period and upon expiry of the Standstill Period specified in ITT 42.1, upon addressing a complaint that has been filed within the Standstill Period, Kirinyaga University shall transmit the Letter of Award to the successful Tenderer. The letter of award shall request the successful tenderer to furnish the Performance Security within 21days of the date of the letter.

50. Signing of Contract

50.1 Upon the expiry of the fourteen days of the Notification of Intention to enter into contract and upon the parties meeting their respective statutory requirements, Kirinyaga University shall send the successful Tenderer the Contract Agreement.

50.2 Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.

50.3 The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period

51. Appointment of Adjudicator

51.1 Kirinyaga University proposes the person named in the **TDS** to be appointed as Adjudicator under the Contract, at the hourly fee specified in the **TDS**, plus reimbursable expenses. If the Tenderer disagrees with this proposal, the Tenderer should so state in his Tender. If, in the Letter of Acceptance, Kirinyaga University does not agree on the appointment of the Adjudicator, Kirinyaga University will request the Appointing Authority designated in the Special Conditions of Contract (SCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

52. Performance Security

52.1 Within twenty-one (21) days of the receipt of the Letter of Acceptance from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 40.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless Kirinyaga University has agreed in writing that a correspondent bank is not required.

52.2 Failure of the successful Tenderer to submit the above-mentioned Performance Security and other documents required in the **TDS**, or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event Kirinyaga University may award the Contract to the Tenderer offering the next Best Evaluated Tender.

52.3 Performance security shall not be required for contracts estimated to cost less than Kenya shillings five million shillings**.**

53. Publication of Procurement Contract

53.1 Within fourteen days after signing the contract, Kirinyaga University shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

a) name and address of the Procuring Entity;

b) name and reference number of the contract being awarded, a summary of its scope and the selection

method used;

c) the name of the successful Tenderer, the final total contract price, the contract duration.

d) dates of signature, commencement and completion of contract;

e) names of all Tenderers that submitted Tenders, and their Tender prices as read out at Tender opening.

54. Procurement Related Complaints and Administrative Review

54.1 The procedures for making Procurement-related Complaints are as specified in the **TDS**.

54.2 A request for administrative review shall be made in the form provided under contract forms.

Section II - Tender Data Sheet (TDS)

The following specific data shall complement, supplement, or amend the provisions in the Instructions to Tenderers (ITT). Whenever there is a conflict, the provisions herein shall prevail over those in ITT.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	A. General
ITT 1.1	The name of the contract is **PROPOSED EXTERNAL WORKS AT THE NEW KyU MULTI-PURPOSE LECTURE THEATRE** The reference number of the Contract is **KyU/TN/LT/EW/001/2021** The number and identification of lots (contracts) comprising this Tender **ONE LOT (CONTRACT) AND TENDERERS SHOULD QUOTE FOR ALL ITEMS TO BE CONSIDERED**
1.1	**Electronic –Procurement System** An electronic copy of the tender document may be obtained by interested firms upon payment of a non-refundable fee of **Kshs. 1000** payable to our accounts office in cash or bankers cheque. The document can also be viewed and downloaded from the website www.kyu.ac.ke or www.tenders.go.ke **free of charge or at no cost.** Bidders who download the tender document from the website **MUST** forward their particulars immediately for records to procurement@kyu.ac.ke and copied to endirangu@kyu.ac.ke. **TENDER SUBMISSION IS HARD COPIES ONLY (one original copy and one copy)**
ITT 2.3	The Information made available on competing firms is as follows: **N/A**
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: **N/A**
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be **2**
ITT 3.7	A list of debarred firms and individuals is available on the PPRA's website: www.ppra.go.ke
ITT 3.11	Tenderers shall be required to be to be registered with The registrar of Companies/ Business Names (Detailed Evaluation criteria is provided)
B. Contents of Tender Document	
ITT 6.1	(a) Address where to send enquiries: All enquiries and questions/ requests for clarifications regarding the tender should be sent via email in to the following address; THE PROCUREMENT OFFICER KIRINYAGA UNIVERSITY P.O.BOX 143-10300 KERUGOYA, KENYA WEBSITE: www.kyu.ac.ke EMAIL: procurement@kyu.ac.ke CC endirangu@kyu.ac.ke The deadline for sending enquiries/ questions/ requests for clarifications is **2nd August 2021 at 5.00 p.m.** KyU will respond in writing (e-mail) to any request received at least **Seven (7) days** prior to the deadline for the submission of tender's.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	(b) KyU shall publish its response for any enquiries/clarifications/questions/amendments relating to this tender at KyU website: www.kyu.ac.ke & PPIP Portal tenders.go.ke and tenderers are advised to be checking these websites from time to time.
8.1	A pre-tender conference will **BE HELD** on **2nd August 2021 starting from 11 a.m.** **ALL INTERESTED BIDDERS ARE EXPECTED TO ATTEND THE CONFERENCE.**
ITT 8.2	The Tenderer will submit any questions in writing, to reach Kirinyaga University not later than **2nd August 2021 at 5.00 p.m.**
ITT 8.4	The Minutes of the Pre-tender meeting shall be published: **N/A**
ITT 9.1	At any time prior to the deadline for submission of Tenders, KyU may amend the tendering document by issuing addenda. The addenda shall be sent to the emails of the contractors and also posted on the University website. All interested bidders are advised to register their intent to participate in the tender by sending their details to the email addresses provided.
C. Preparation of Tenders	
ITP 13.1 (h)	Documents to be submitted: Two copies in hard copy One original copy, one copy of the tender document
ITT 15.1	Alternative Tenders ***shall not be*** considered.
ITT 15.2	Alternative times for completion ***shall not be*** permitted.
ITT 15.4	Alternative technical solutions **shall not be permitted**
ITT 16.5	The prices quoted by the Tenderer **shall not** be subject to adjustment during the performance of the Contract and should be inclusive of all taxes.
ITT 20.1	The Tender validity period is **120** days from the date of tender closing/opening date. A Tender valid for a shorter period shall be rejected by Kirinyaga University as non-responsive.
ITT 20.3 (a)	a) The Number of days beyond the expiry of the initial tender validity period will be 30 days. b) The Tender price shall be adjusted by the following percentages of the tender price: i) By 0% the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and ii) By 0%, the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.
ITT 21.1	Tender shall provide Tender Security. The type of Tender security shall be in form of a **Bank Guarantee in the amount of Kenya Shillings 300,000.00**
ITT 22.1	In addition to the original of the Tender, the number of copies is: **one copy** Bidders should submit **one original** tender document and **one copy** of the tender document properly bound and serialized.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of**:** **Provide a Power of Attorney in Company's letterhead nominating a person to transact on behalf of the company duly signed by the Company's Director and stamped with the Company's stamp.** In the case of Bids submitted by an existing or intended Joint Venture Consortium Agreement/Association (JVCA), provide an undertaking signed by all parties; i stating that all parties shall be jointly and severally liable, and ii nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JVCA during the bidding process and, in the event the JVCA is awarded the Contract, during contract execution."
D. Submission and Opening of Tenders	
ITT 24.1	Tenderers shall seal the hard copies original and the copy of the tender in one envelope bearing the name and Reference number of the Tender, addressed to the to the address given in the invitation to tender and a warning "not to open before the time and date for Tender opening date". A tender package or container that cannot fit in the tender box shall be received as follows: Delivered to the Procurement Office, at the Administration Block. Bidders who deliver bulky tenders shall sign a register at the office. For **Tender submission purposes** only, the Procuring Entity's address is: KIRINYAGA UNIVERSITY ALONG KUTUS-KERUGOYA JUNCTION P.O.BOX 143-10300 KERUGOYA, KENYA WEBSITE: www.kyu.ac.ke EMAIL: procurement@kyu.ac.ke CC endirangu@kyu.ac.ke TELEPHONE: Tel: +254 701562092, +254 728499650, +254 709742000/30 **The deadline for Tender submission is:** CLOSING DATE AND TIME: Tuesday 10th August 2021 at, 10.00 AM. OPENING DATE AND TIME: Tuesday 10th August 2021 at, 10.00 AM. A PRE-TENDER CONFERENCE WILL BE HELD on 2nd August 2021 starting from 11 a.m. Tenders shall **shall not submit** tenders electronically.
ITT 27.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: KIRINYAGA UNIVERSITY ALONG KUTUS-KERUGOYA JUNCTION P.O.BOX 143-10300 KERUGOYA, KENYA WEBSITE: www.kyu.ac.ke EMAIL: procurement@kyu.ac.ke CC endirangu@kyu.ac.ke TELEPHONE: Tel: +254 701562092, +254 728499650, +254 709742000/30
ITT 27.6	The number of representatives of Kirinyaga University to sign the tenders during tender opening is **5**

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
E. Evaluation, and Comparison of Tenders	
ITT 32.3	The adjustment shall be based on the average price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.
ITT 35.2	A margin of preference and/or reservation ***shall not*** *apply*
ITT 36.1	At this time, the Procuring Entity does not intend to execute certain specific parts of the Works by subcontractors selected in advance
ITT 36.2	Contractors may propose subcontracting: Maximum percentage of subcontracting permitted is 20% of the total contract amount. Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be sub contracted along with complete details of the subcontractors and their qualification and experience
ITT 36.3	*[Indicate N/A if not applicable]* The parts of the Works for which Kirinyaga University permits Tenderers to propose Specialized Subcontractors are designated as follows: **NA** For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.
ITT 37.2 (d)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 52.2	Other documents required are specified in Section III, Evaluation and Qualification Criteria.
ITT 54.1	The procedures for making a Procurement-related Complaints are detailed in the "Regulations" available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1. General Provisions

Wherever a Tenderer is required to state a monetary amount, Tenderers should indicate the Kenya Shilling equivalent using the rate of exchange determined as follows:

a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.
b) Value of single contract - Exchange rate prevailing on the date of the contract signature.
c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

This section contains the criteria that Kirinyaga University shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms.

Evaluation and contract award Criteria

Kirinyaga University shall use the criteria and methodologies listed in this Section to evaluate tenders and arrive at the Lowest Evaluated Tender. The tender that (i) meets the qualification criteria, (ii) has been determined to be substantially responsive to the Tender Documents, and (iii) is determined to have the Lowest Evaluated Tender price shall be selected for award of contract.

THE FOLLOWING EVALUATION CRITERIA SHALL BE APPLIED NOT WITHSTANDING ANY OTHER REQUIREMENT IN THE TENDER DOCUMENTS.

1. Stage One (1) - Compliance to Preliminary/ Mandatory Evaluation Requirements/Criteria
2. Stage Two (2) - Compliance to Technical Evaluation Requirements/Criteria
3. Stage Three (3) - Compliance to Financial Evaluation
4. Stage Four (4) – Post qualification/Due diligence

PRELIMINARY EXAMINATION FOR DETERMINATION OF RESPONSIVENESS

Kirinyaga University will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Procuring Entity's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded.

Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

The following is the preliminary evaluation criteria

	MANDATORY REQUIREMENTS	YES/NO
1)	Submit valid tender security of Kshs. 300,000/- and in the form of a bank guarantee valid for 150 days from the date of tender opening. Any Tender not accompanied by a substantially responsive Tender Security shall be rejected by Kirinyaga University as non-responsive.	
2)	Submit A valid certificate from NCA (Class 1-5) as a civil works (roads) contractor. The license MUST be accompanied by a valid annual practicing licence.	
3)	Submit a valid NCA annual practicing license/ certificate	
4)	Certified copy of Tax compliance certificate by an advocate valid at the time of opening. The validity of the Tax certificate shall be confirmed from KRA Tax Checker	
5)	Certified copy of Certificate of Confirmation of Directors and Shareholding (CR12) for limited companies by an advocate or ID card for Sole Proprietorships	
6)	Certified copy of Valid Business Permit by an advocate (2021)	
7)	Provide a Power of Attorney witnessed by an advocate indicating that the tender has been dully signed by the person lawfully authorized to do so. In the case of Bids submitted by an existing or intended Joint Venture Consortium Agreement/Association (JVCA), provide an undertaking signed by all parties; i stating that all parties shall be jointly and severally liable, and ii nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JVCA during the bidding process and, in the event the JVCA is awarded the Contract, during contract execution."	
8)	Certified copy of Certificate of Incorporation/Registration	
9)	Certified Copy of company VAT Certificate	
10)	Duly filled **FORM EQU: EQUIPMENT** Contractor should fill one form per equipment, and make copies for additional equipment	
11)	Duly filled **FORM PER -1 & 2: Contractor's Representative and Key Personnel Schedule** Contractor to fill one form per staff and make copies for other staff **CVs for at least 4 staff members for the company, who shall be actively involved in the implementation of the project to be attached.**	

12)	Duly filled **FORM ELI -1.1: Tenderer Information Form**	
13)	Duly filled **FORM ELI -1.2: Tenderer's JV Information Form** (to be completed for each member of Tenderer's JV) This form should be filled by bidders submitting tenders as a joint venture	
14)	Duly filled **FORM CON – 2: Historical Contract Non-Performance, Pending Litigation and Litigation History** Contractor should also Provide a commitment letter in Company's letterhead duly signed and stamped by the person lawfully authorized & certified by an advocate stating that History of Non-performance of a contract did not occur within the last Five (5) years. *In case of a JV, all parties in the JVCA must individually meet this requirement.*	
15)	Duly filled **FORM FIN – 3.1:** Financial Situation and Performance	
16)	Duly filled **FORM FIN – 3.2:** Average Annual Construction Turnover	
17)	Duly filled **FORM FIN – 3.3:** Financial Resources	
18)	Duly filled **FORM FIN – 3.4:** Current Contract Commitments / Works in Progress	
19)	Duly filled **FORM EXP - 4.1:** General Construction Experience	
20)	Duly filled **FORM EXP - 4.2(a) & (b):** Specific Construction and Contract Management Experience. Contractor to fill one form for each contract and make copies for other projects performed.	
21)	Dully filled, Signed & Stamped Form of Tender in the format provided.	
22)	Duly filled, Signed and Stamped Tenderer's Eligibility- Confidential Business Questionnaire Form in the format provided.	

23)	Duly filled, Signed and Stamped Certificate of Independent Tender Determination in the format provided.	
24)	Duly filled, Signed and Stamped Self Declaration Form (FORM SD1) That The Person/Tenderer Is Not Debarred in The Matter of the Public Procurement and Asset Disposal ACT 2015 in the format provided. *In the case of JV, all parties in the JVCA must individually meet this requirement.*	
25)	Duly filled, Signed and Stamped Self Declaration Form (FORM SD2) That The Person/Tenderer Will Not Engage in Any Corrupt or Fraudulent Practice in the format provided. *In case of a JV, all parties in the JVCA must individually meet this requirement.*	
26)	Duly filled, Signed and Stamped Declaration and Commitment to The Code of Ethics in the format provided. *In case of a JV, all parties in the JVCA must individually meet this requirement*.	
27)	Duly filled, Signed and Stamped Tenderer's JV Members Information Form in the format provided. *This is applicable to parties in JV agreement only.*	
28)	Submission of audited balance sheets and other financial statements for the last Three (3) years (2019/2020, 2018 & 2017) duly signed and stamped by the Auditor and Certified by an advocate to demonstrate; **a)** the current soundness of the bidder's financial position and its prospective long term profitability. **Criterion1:** $Current\ Ratio = Liquid\ Assets/Liquid\ Liabilities \geq 1$ **Criterion 2:** $Debt\ Ratio = Total\ Debt/Total\ Assets \leq 1$ **b)** Minimum average annual turnover of Twice the Value of Bid Price calculated as total certified payments received for contracts in progress or completed, within the last three (3) years. **c)** The tenderer/bidder must demonstrate access to, or availability of, financial resources such as liquid assets, lines of credit, and other financial means, other than any contractual advance payments to meet the cash-flow requirement **Equivalent to the quoted Bid Price.** *In the case of JV, all parties in the JVCA must individually meet this requirement.*	
29)	Submission of One (1) Original and one (1) copy of the tender/bid document well bound, serialized and paginated.	
30)	At least 5 letters of reference from past and current clients for similar works done. The reference letters must be issued by the entity where the work was carried out and include the email addresses and telephone numbers of the organization	

STAGE 2 TECHNICAL EVALUATION

A. Summary of parameters to be measured

PARAMETER	MAXIMUM POINTS
(i) Key personnel ----------	20
(ii) Contracts Completed in the last Five (5) years ----------	20
(iii) Schedules of on-going projects	8
(iv) Schedules of contractors equipment ----------	20
(v) Audited Financial Report for the last 3 years ----------	10
(vi) Evidence of Financial Resources ----------	15
(vii) Litigation History ---------- ----------	2
TOTAL	**100**
Pass Mark	**80**

B. DETAILED TECHNICAL EVALUATION

Item	Description	Points Scored	Max. Point	
i	**Key Personnel (Attach evidence)**			**20**
	Director of the firm Holder of degree in relevant Engineering field ----------6 Holder of diploma in relevant Engineering field ------ 5 Holder of certificate in relevant Engineering field ---- 3 Holder of trade test certificate in relevant Engineering field ---2 No relevant certificate ---------- 1		**6**	
	At least 1No. degree/diploma of key personnel in relevant Engineering field With over 10 years relevant experience ---------- 6 With over 5 years relevant experience---------- 4 With under 5 years relevant experience ---------- 2		**6**	
	At least 1No certificate holder of key personnel in relevant Engineering field With over 10 years relevant experience---------- 4 With over 5 years relevant experience ---------- 3 With under 5 years relevant experience ----------1		**4**	
	At least 2No artisan (trade test certificate in relevant Engineering field) Artisan with over 10 years relevant experience -------2 Artisan with under 10 years relevant experience ------- 1 Non skilled worker with over 10 years relevant experience --1		**4**	
ii	**Contract completed in the last five (5) years (Max of 5 No. Projects)- <u>Provide Evidence</u>** Project of similar nature, complexity and magnitude ---- 4 Project of similar nature but of lower value than the one in consideration ---------- 3 No completed project of similar nature ----------0		**20**	
i**ii**	**On-going projects – <u>Provide Evidence</u>** Four and above Project of similar nature, complexity and magnitude ---------- 8 Three and below Project of similar, nature complexity and magnitude –----------6		**8**	

	No project of similar, nature complexity and magnitude - -----4			
iv	**Schedule of contractor's equipment and transport (proof or evidence of ownership/Lease)** **a) Relevant Transport** Means of transport (Vehicle) ---------- 10 No means of transport ---------- 0		10	**20**
	b) Relevant Equipment			
	Has relevant equipment for work being tendered-------- 10 No relevant equipment for work being tendered--------- 0		10	
v	**Financial report** **a) Audited financial report (last three (3) years)** Average Annual Turn-over equal to or greater the cost of the project ---------- 15 Average Annual Turn-over above 50% but below 100% of the cost of the project ---------- 6 Average Annual Turn-over below 50% of the cost of the project ---------- 3		**15**	
vi	**b) Evidence of Financial Resources (cash in hand, lines of credit, over draft facility etc.)** Has financial resources to finance the projected **monthly cash flow*** for three months ----------15 Has financial resources equal to the projected **monthly cash flow*** ----------10 Has financial resources less than the projected **monthly cash flow*** ----------5 Has not indicated sources of financial resources -------- 0		**15**	
vii	**Litigation History** Filled ---------- 2 Not filled ---------- 0		**2**	
	TOTAL		**100**	
	PASS MARK		**80**	

Any bidder who scores 80 points and above shall be considered for further evaluation

Monthly Cash Flow = Tender Sum/Contract Period

B) Compliance with Specialist Works specifications

In this section, the bid will be analyzed to determine compliance with General and Particular technical specifications for the works as indicated in the tender document BOQs. The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Country of Origin, Model/Make/Manufacturer of the Item/Equipment they propose to supply.

The tenderer shall also submit relevant technical brochures/catalogues with the tender document, highlighting the catalogue Numbers of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

a) Standards of manufacture;
b) Performance ratings/characteristics;
c) Material of manufacture;
d) Any other necessary requirements (Specify).

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

FINANCIAL evaluation of bidders

Only bidders who pass the technical evaluation will proceed to financial evaluation.

During financial evaluation of bids, the evaluation committee shall compute the figures quoted in the BOQs to determine arithmetical errors.
In case of discrepancy between the unit cost and the total cost, the unit cost shall prevail.
In case of discrepancy between amount quoted in words and amount quoted in figures, the amount quoted in WORDS shall prevail.
All quantities MUST be inclusive of VAT and all other taxes payable, including delivery costs.
The evaluation committee shall then rank the bidders from the lowest, to the highest responsive bidders.

8.1.4: DUE DILIGENCE EXERCISE

Kirinyaga University Evaluation team shall carry out a due diligence exercise by visiting the premises of the responsive bidders.

The due diligence exercise will be aimed at determining whether the bidder has given a true record of all details indicated in their tender documents.

The committee shall then visit the ongoing or completed project sites for the bidders to determine the quality of works carried out.

Any misrepresentation of facts by the bidders will lead to automatic disqualification of the bidder at this stage of evaluation.

CONTRACT WILL BE AWARDED TO THE LOWEST RESPONSIVE BIDDER. RESPONSIVENESS SHALL BE DETERMINED DURING THE FOUR STAGES OF EVALUATION.

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2. QUALIFICATION FORM SUMMARY

1	2	3	*4*	*5*
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by the the Kenya Revenue Authority in accordance with ITT 3.14.	Form of Tender	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.8	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.7	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1st January [*…….]*.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	Form CON – 2	
10	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1st January *[insert year]*	Form CON – 2	
11	Financial Capabilities	(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings *[insert amount]* equivalent for the subject contract(s) net of the Tenderer's other commitments. (ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of	Form FIN – 3.1, with attachments	

1	2	3	*4*	*5*
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
		finance to meet the cash flow requirements on works currently in progress and for future contract commitments. (iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last *[insert number of years]* years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.		
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings *[insert amount]*, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last *[insert of year]* years, divided by *[insert number of years]* years	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last *[insert number of years]* years, starting 1st January *[insert year]*.	Form EXP – 4.1	
	Specific Construction & Contract Management Experience	A minimum number of *[state the number]* similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January [*insert year*] and tender submission deadline i.e. …. (number) contracts, each of minimum value Kenya shillings…….. equivalent. [*In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]* The similarity of the contracts shall be based on the following: [*Based on Section VII, Scope of Works, specify the minimum key requirements in terms of physical size, complexity, construction method, technology and/or other characteristics including part of the requirements that may*	Form EXP 4.2(a)	

1	2	3	*4*	*5*
Item No.	**Qualification Subject**	**Qualification Requirement**	***Document To be Completed by Tenderer***	***For Procuring Entity's Use (Qualification met or Not Met)***
		be met by specialized subcontractors, if permitted in accordance with ITT 34.3]		

QUALIFICATION FORMS

1. FORM EQU: EQUIPMENT

The Tenderer shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment listed in Section III, Evaluation and Qualification Criteria. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Tenderer.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

2. FORM PER -1

Contractor's Representative and Key Personnel Schedule

Tenderers should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Contractor' Representative and Key Personnel

1.	**Title of position: Contractor's Representative**	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
2.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
3.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
4.	**Title of position:** *[_____]*	
	Name of candidate:	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]
5.	**Title of position:** *[insert title]*	
	Name of candidate	
	Duration of appointment:	[*insert the whole period (start and end dates) for which this position will be engaged*]
	Time commitment: for this position:	[*insert the number of days/week/months/ that has been scheduled for this position*]
	Expected time schedule for this position:	[*insert the expected time schedule for this position (e.g. attach high level Gantt chart*]

3. FORM PER-2:

Resume and Declaration - Contractor's Representative and Key Personnel.

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Name of Tenderer

Position [*#1*]: [*title of position from Form PER-1*]		
Personnel information	Name:	Date of birth:
	Address:	E-mail:
	Professional qualifications:	
	Academic qualifications:	
	Language proficiency: *[language and levels of speaking, reading and writing skills]*	
Details		
	Address of Procuring Entity:	
	Telephone:	Contact (manager / personnel officer):
	Fax:	
	Job title:	Years with present Procuring Entity:

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

Project	**Role**	**Duration of involvement**	**Relevant experience**
[main project details]	*[role and responsibilities on the project]*	*[time in role]*	*[describe the experience relevant to this position]*

Declaration

I, the undersigned *[insert either "Contractor's Representative" or "Key Personnel" as applicable]*, certify that to the best of my knowledge and belief, the information contained in this Form PER-2 correctly describes myself, my qualifications and my experience.

I confirm that I am available as certified in the following table and throughout the expected time schedule for this position as provided in the Tender:

Commitment	**Details**
Commitment to duration of contract:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*
Time commitment:	*[insert period (start and end dates) for which this Contractor's Representative or Key Personnel is available to work on this contract]*

I understand that any misrepresentation or omission in this Form may:

a) be taken into consideration during Tender evaluation;
b) result in my disqualification from participating in the Tender;
c) result in my dismissal from the contract.

Name of Contractor's Representative or Key Personnel: [*insert name*]

Signature: _____

Date: (day month year): _____ Countersignature

of authorized representative of the Tenderer:

Signature:_____ Date: (day month

year): _____

4. TENDERER'S QUALIFICATION WITHOUT PRE-QUALIFICATION

To establish its qualifications to perform the contract in accordance with Section III, Evaluation and Qualification Criteria the Tenderer shall provide the information requested in the corresponding Information Sheets included hereunder.

4.1 FORM ELI -1.1

Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 ☐ In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderer is not under the supervision of the Procuring Entity 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.2 FORM ELI -1.2

Tenderer's JV Information Form
(to be completed for each member of Tenderer's JV)
Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.8. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.3 FORM CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non- performed portion of contract**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Reason(s) for nonperformance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	**Amount in dispute (currency)**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: ____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			

Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Procuring Entity" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

4.4 FORM FIN – 3.1:

Financial Situation and Performance

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

4.4.1. Financial Data

Type of Financial information in_____ (currency)	**Historic information for previous _____*years*, _____ (amount in currency, currency, exchange rate*, USD equivalent)**				
	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITT 15 for the exchange rate

4.4.2 Sources of Finance

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	**Source of finance**	**Amount (Kenya Shilling equivalent)**

1		
2		
3		

4.4.3 Financial documents

The Tenderer and its parties shall provide copies of financial statements for _____years pursuant Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1. The financial statements shall:

(a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).

(b) be independently audited or certified in accordance with local legislation.

(c) be complete, including all notes to the financial statements.

(d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements[1] for the _____years required above; and complying with the requirements

[1] If the most recent set of financial statements is for a period earlier than 12 months from the date of Tender, the reason for this should be justified.

4.5 FORM FIN – 3.2:

Average Annual Construction Turnover

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

	Annual turnover data (construction only)		
Year	**Amount Currency**	**Exchange rate**	**Kenya Shilling equivalent**
[indicate year]	*[insert amount and indicate currency]*		
Average Annual Construction Turnover *			

* See Section III, Evaluation and Qualification Criteria, Sub-Factor 3.2.

4.6 FORM FIN – 3.3:

Financial Resources

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as specified in Section III, Evaluation and Qualification Criteria

Financial Resources		
No.	**Source of financing**	**Amount (Kenya Shilling equivalent)**
1		
2		
3		

4.7 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

Tenderers and each member to a JV should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Current Contract Commitments					
	Name of Contract	**Procuring Entity's Contact Address, Tel,**	**Value of Outstanding Work [Current Kenya Shilling /month Equivalent]**	**Estimated Completion Date**	**Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]**
1					
2					
3					
4					
5					

4.8 FORM EXP - 4.1

General Construction Experience

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Page _____of _____pages

Starting Year	Ending Year	Contract Identification	Role of Tenderer
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	
		Contract name: _____ Brief Description of the Works performed by the Tenderer: _____ Amount of contract: _____ Name of Procuring Entity: _____ Address: _____	

4.9 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____
Date: _____
JV Member's Name_____
ITT No. and title: _____

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	
If member in a JV or sub-contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				

4.10 FORM EXP - 4.2 (a) (cont.)

Specific Construction and Contract Management Experience (cont.)

Similar Contract No.	**Information**
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	
2. Physical size of required works items	
3. Complexity	
4. Methods/Technology	
5. Construction rate for key activities	
6. Other Characteristics	

4.11 FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____
Date: _____
Tenderer's JV Member Name: _____
Sub-contractor's Name[2] (as per ITT 34): _____
ITT No. and title: _____

All Sub-contractors for key activities must complete the information in this form as per ITT 34 and Section III, Evaluation and Qualification Criteria, Sub-Factor 4.2.

1. Key Activity No One: _
_____

	Information			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year	Total quantity in the contract (i)	Percentage participation (ii)		Actual Quantity Performed (i) x (ii)
Year 1				
Year 2				
Year 3				
Year 4				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				

[2] If applicable

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	

2. Activity No. Two
3. ……

5. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

i) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.

ii) All italicized text is to help Tenderer in preparing this form.

iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER attached to this Form of Tender.

iv) The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.

- *Tenderer's Eligibility- Confidential Business Questionnaire*
- *Certificate of Independent Tender Determination*
- *Self-Declaration of the Tenderer*

Date of this Tender submission: *[insert date (as day, month and year) of Tender submission]*

Request for Tender No.: *[insert identification*]

Name and description of Tender *[Insert as per ITT)*

Alternative No.: [*insert identification No if this is a Tender for an alternative*]

To: [*insert complete name of Procuring Entity*] Dear Sirs,

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 and complete the Works and remedy any defects therein for the sum of Kenya Shillings [*[Amount in figures]*_____Kenya Shillings *[amount in words]*_____.

   The above amount includes foreign currency amount (s) of [*state figure or a percentage and currency*] [figures]_____[words]_____.

   The percentage or amount quoted above does not include provisional sums, and only allows not more than two foreign currencies.

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 Special Conditions of Contract.

3. We agree to adhere 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. We further understand that you are not bound to accept the lowest or any tender you may receive.

5. We, the undersigned, further declare that:
   i) *No reservations:* We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
   ii) *Eligibility:* We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
   iii) *Tender-Securing Declaration:* We have not been suspended nor declared ineligible by Kirinyaga University based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;
   iv) Conformity: We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works];*

v) *Tender Price:* The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*

vi Option 1, in case of one lot: Total price is: [*insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*]; Or

Option 2, in case of multiple lots:

a) Total price of each lot [*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and

b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

vii) *Discounts:* The discounts offered and the methodology for their application are:

viii) The discounts offered are: [*Specify in detail each discount offered.*]

ix) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

x) *Tender Validity Period:* Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

xi) *Performance Security:* If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;

xii) *One Tender Per Tender:* We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;

xiii) *Suspension and Debarment:* We, along with any of our subcontractors, suppliers, Project Manager, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

xiv) *State-owned enterprise or institution:* [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITT 3.8*];

xv) *Commissions, gratuities, fees:* We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].*

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

xvi) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;

xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

xix) Collusive practices: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Tender Determination" attached below.

xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from_____(*specify website*) during the procurement process and the execution of any resulting contract.

xxi) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:
- a) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
- b) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
- c) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
- d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal

Further, we confirm that we have read and understood the full content and scope of fraud and corruption as informed in **"Appendix 1- Fraud and Corruption**" attached to the Form of Tender.

Name of the Tenderer: *[*insert complete name of person signing the Tender*]

Name of the person duly authorized to sign the Tender on behalf of the Tenderer: **[*insert complete name of person duly authorized to sign the Tender*]

Title of the person signing the Tender: [*insert complete title of the person signing the Tender*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown*

above] **Date signed** [*insert date of signing*] day of [*insert month*], [*insert year*]

Date signed_____day of_____, _____

Notes
** In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer*
*** Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.*

A. TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

Tender is instructed to complete the particulars required in this Form, *one form for each entity if Tender is a JV.* Tenderer is further reminded that it is an offence to give false information on this Form.

(a) **Tenderer's details**

	ITEM	DESCRIPTION
1	Name of the Procuring Entity	
2	Reference Number of the Tender	
3	Date and Time of Tender Opening	
4	Name of the Tenderer	
5	Full Address and Contact Details of the Tenderer.	1. Country 2. City 3. Location 4. Building 5. Floor 6. Postal Address 7. Name and email of contact person.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (*postal and physical addresses, email, and telephone number*) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (*postal and physical addresses, email, and telephone number*) of state which stock exchange	

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full_____Age_____ Nationality_ _____Country of Origin_____ Citizenship __ _____

c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

d) Registered Company, provide the following details.

i) Private or public Company_____

ii) State the nominal and issued capital of the Company_____

Nominal Kenya Shillings (Equivalent)..... Issued

Kenya Shillings (Equivalent).....

iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

(e) DISCLOSURE OF INTEREST- Interest of the Firm in the Procuring Entity.

i) Are there any person/persons in …… …… (*Name of Procuring Entity)* who has/have an interest or relationship in this firm? Yes/No……

If yes, provide details as follows.

	Names of Person	Designation in the Procuring Entity	Interest or Relationship with Tenderer
1			
2			
3			

ii) Conflict of interest disclosure

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of Kirinyaga University regarding this tendering process.		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of Kirinyaga University who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of Kirinyaga University who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to Kirinyaga University throughout the tendering process and execution of the Contract.		

f) Certification

On behalf of the Tenderer, I certify that the information given above is complete, current and accurate as at the date of submission.

Full Name_____ Title or

Designation_____

_____ _____

(Signature) *(Date)*

B. CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying Letter of Tender to the_____[Name of Procuring Entity] for:_____[Name and number of tender] in response to the request for tenders made by:_____[Name of Tenderer] do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of_____[Name of Tenderer] that:

1. I have read and I understand the contents of this Certificate;

2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;

4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
   a) has been requested to submit a Tender in response to this request for tenders;
   b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities orexperience;

5. The Tenderer discloses that [check one of the following, as applicable:
   a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
   b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;

6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   a) prices;
   b) methods, factors or formulas used to calculate prices;
   c) the intention or decision to submit, or not to submit, a tender; or
   d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;

7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;

8. the terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name_____ Title__ Date _____

[Name, title and signature of authorized agent of Tenderer and Date].

C. SELF - DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENTAND ASSET DISPOSALACT 2015.

I, ……., of Post Office Box …….……. being a resident of …….. in the Republic of ……. do hereby make a statement as follows: -

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of ……...…….. *(insert name of the Company)* who is a Bidder in respect of Tender No.
…….. for ……. *(insert tender title/description)* for ……. *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.

3. THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

……. ……. …… (Title)
(Signature) (Date)

Bidder Official Stamp

FORM SD2

SELF DECLARATION THAT THE PERSON/TENDERER WILL NOT ENGAGE IN ANY CORRUPT OR FRAUDULENT PRACTICE

I, ……. of P. O. Box …….....…….. being a resident of …….. in the Republic of ……. do hereby make a statement as follows: -

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ……..... *(insert name of the Company)* who is a Bidder in respect of Tender No. ….....……. for …….. *(insert tender title/description)* for …… *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

2. THAT the aforesaid Bidder, its servants and/or agents /subcontractors will not engage in any corrupt or fraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ……... *(insert name of the Procuring entity)* which is the procuring entity.

3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ……. (name of the procuring entity)

4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other bidders participating in the subject tender

5. THAT what is deponed to herein above is true to the best of my knowledge information and belief.

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

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

I ……..……. (person) on behalf of *(Name of the Business/ Company/Firm*) ……. declare that I have read and fully understood the contents of the Public Procurement & Asset Disposal Act, 2015, Regulations and the Code of Ethics for persons participating in Public Procurement and Asset Disposal and my responsibilities under the Code.

I do hereby commit to abide by the provisions of the Code of Ethics for persons participating in Public Procurement and Asset Disposal.

Name of Authorized signatory……..... Sign…….....

Position…….....……..…….....

Office address……. Telephone…….....……

E-mail…….....….....…

Name of the Firm/Company…….....……

Date…….....…. (Company Seal/ Rubber

Stamp where applicable)

Witness

Name ……..... Sign.....

Date……

D. APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

2. The Government of Kenya's Anti-Corruption and Economic Crime laws and their sanction's policies and procedures, Public Procurement and Asset Disposal Act *(no. 33 of 2015)* and its Regulation, and any other Kenya's Acts or Regulations related to Fraud and Corruption, and similar offences, shall apply with respect to Public Procurement Processes and Contracts that are governed by the laws of Kenya.

3. Requirements

The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.

Kenya's public procurement and asset disposal act *(no. 33 of 2015)* under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior: -

1) a person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
   a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
   b) if a contract has already been entered into with the person, the contract shall be voidable;
4) The voiding of a contract by Kirinyaga University under subsection (7) does not limit any legal remedy Kirinyaga University may have;
5) An employee or agent of Kirinyaga University or a member of the Board or committee of Kirinyaga University who has a conflict of interest with respect to a procurement: -
   a) shall not take part in the procurement proceedings;
   b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and

c) shall not be a subcontractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.

6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
   i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
   ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v) "obstructive practice" is:

- deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
- acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.

b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of Kirinyaga University or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive Kirinyaga University of the benefits of free and open competition.

c) Rejects a proposal for award[1] of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

d) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or recommend to appropriate authority (ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;

e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect[2] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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[1] *For the avoidance of doubt, a party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and tendering, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.*

[2] *Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by Kirinyaga University to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.*

FORM OF TENDER SECURITY-[Option 1–Demand Bank Guarantee]

Beneficiary:_____

Request forTenders No:

_____

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

1. We have been informed that_____(here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of_____ under Request for Tenders No._____(“the ITT”).

2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.

3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender (“the Tender Validity Period”), or any extension thereto provided by the Applicant; or

b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.

5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above onor before that date.

_____

[signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Appendix to Tender

Schedule of Currency requirements

Summary of currencies of the Tender for_____*[insert name of Section of the Works]*

Name of currency	***Amounts payable***
Local currency: _____	
Foreign currency #1: _____	
Foreign currency #2: _____	
Foreign currency #3: _____	
Provisional sums expressed in local currency _____	[To be entered by the Procuring Entity]

PART II - WORK REQUIREMENTS

SECTION V - DRAWINGS

A list of drawings should be inserted here. The actual drawings including Site plans should be annexed in a separate booklet.

SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

1. Specifications must be drafted to present a clear and precise statement of the required standards of materials, and workmanship for tenderers to respond realistically and competitively to the requirements of Kirinyaga University and ensure responsiveness of tenders. The Specifications should require that all materials, plant, and other supplies to be permanently incorporated in the Works be new, unused, of the most recent or current models, and incorporating all recent improvements in design and materials unless provided otherwise in the Contract. Where the Contractor is responsible for the design of any part of the permanent Works, the extent of his obligations must be stated.

2. Specifications from previous similar projects are useful and may not be necessary to re-write specifications for everyWorks Contract.

3. There are considerable advantages in standardizing **General Specifications** for repetitive Works in recognized public sectors, such as highways, urban housing, irrigation and water supply. The General Specifications should cover all classes of workmanship, materials and equipment commonly involved in constructions, although not necessarily to be used in a particular works contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

4. Care must be taken in drafting Specifications to ensure they are not restrictive. In the Specifications of standards for materials, plant and workmanship, existing Kenya Standards should be used as much as possible, otherwise recognized international standards may also be used.

5. Kirinyaga University should decide whether technical solutions to specified parts of the Works are to be permitted. Alternatives are appropriate in cases where obvious (and potentially less costly) alternatives are possible to the technical solutions indicated in tender documents for certain elements of the Works, taking into consideration the comparative specialized advantage of potential tenderers.

6. Kirinyaga University should provide a description of the selected parts of the Works with appropriate reference to Drawings, Specifications, Bills of Quantities, and Design or Performance criteria, stating that the alternative solutions shall be at least structurally and functionally equivalent to the basic design parameters and Specifications.

1. Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details. Technical alternatives permitted in this manner shall be considered by Kirinyaga University each on its own merits and independently of whether the tenderer has priced the item as described in the Procuring Entity's design included with the tender documents.

SECTION VII- BILLS OF QUANTITIES

PRELIMINARIES

1. Objectives

The objectives of the Bill of Quantities are:

a) to provide sufficient information on the quantities of Works to be performed to enable tenders to be prepared efficiently and accurately; and

b) when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and contents of the Bill of Quantities should be as simple and brief as possible.

2. Day work Schedule

A Day work Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by Kirinyaga University of the realism of rates quoted by the Tenderers, the Day work Schedule should normally comprise the following:

a) A list of the various classes of labor, materials, and Constructional Plant for which basic day work rates or prices are to be inserted by the Tenderer, together with a statement of the conditions under which the Contractor shall be paid for work executed on a day work basis.

b) Nominal quantities for each item of day work, to be priced by each Tenderer at day work rates as Tender. The rate to be entered by the Tenderer against each basic day work item should include the Contractor's profit, overheads, supervision, and other charges.

3. Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary priced Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the Special Conditions of Contract should state the manner in which they shall be used, and under whose authority (usually the Project Manager's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by Kirinyaga University to select such specialized contractors. To provide an element of competition among the Tenderers in respect of any facilities, amenities, attendance, etc., to be provided by the successful Tenderer as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Tenderer to quote a sum for such amenities, facilities, attendance, etc.

These Notes for Preparing a Bill of Quantities are intended only as information for Kirinyaga University or the person drafting the tendering document. They should not be included in the final tendering document.

4. The Bills of Quantities

The Bills of Quantities should be divided generally into the following sections:

a) Preambles
b) Preliminary items
c) Work Items
c) Daywork Schedule; and
d) Provisional items
e) Summary.

5. **The Summary to the Bills of Quantities** will take this form or some other form but including these items.

SUMMARY ITEMS	*Page*	*Amount*
Bill No. 1: Preliminary Items		
Bill No. 2: Work Items		
Subtotal of Bills No 1-2		
Allow for any Discounts [i]		
TOTAL TENDER PRICE Carried forward to Form of Tender		

PRELIMINARIES

ITEM	DESCRIPTION	KSH	CTS
	PARTICULAR PRELIMINARIES		
A	**AMENDMENTS TO TENDERING INSTRUCTION** a) Clause 3.6 of the Instructions to Tenderers has been amended to read; "Tenders shall remain valid for period of One Hundred and Twenty (120) days from the date of tender opening" and not ninety days. All tenders are advised to note this amendment when filling the form of tender. b) Clause 3.8 of the Instructions to Tenderers will hence be qualified and interpreted to mean ; " Bid Bond/ Tender Security, which must be from an established bank, shall remain valid for a period of One Hundred and Fifty (150) days beyond the Tender Opening", i.e. , it is still Thirty (30) days beyond the Tender Validity Period.		
B	**PRICING ITEMS OF PRELIMINARIES** Prices SHAL BE INSERTED against items of "preliminaries" in the tenderers Priced Bills of Quantities. Please note that failure to price any item of general particular preliminaries will be Constructed to meat that the tenderer wishes to provide for that item free of charge.		
C	**VALUE ADDED TAX & WITHHOLDING TAX** The contractor shall allow for addition of 16% Value Added Tax (V.A.T.) within the rates of these Bills of Quantities. Any omission in respect thereof shall be treated and corrected as an arithmetic error as per clause 5.7 of the instructions to Tenderers. **FIRM PRICE CONTRACT** This is a firm price contract and the Contractor must allow in his tender rate for any Increase in the cost of labour and/ or materials during the currency of the contract.		
	Carried to Collection		

A

EXISTING BUILDING SERVICES

Special precautions shall be required throughout the contract period to avoid damage to existing cables, drains and other services.
The Contractor shall allow for making good any damage arising from his actions during execution of this contract at his own expense.

B

GENERAL

The Contractor is referred to General Specifications for Building Works 1976 Edition pages B1-B2 and must allow for all costs in complying with these clauses

C

CONTRACT COMPLETION PERIOD

The contract completion period in accordance with condition 31 of the condition of the contract must be strictly adhered to.
The PROJECT MANAGER shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary, the PROJECT MANAGER shall inform the Contractor in writing that his actual performance on Site is not satisfactory.
In all such cases, the Contractor shall accelerate his rate of performance, production and progress by all means such as additional labour, plant e.t.c., and working Overtime all at his cost.

D

WORKING CONDITIONS

The Contactor shall allow in his rates for any interference that he may encounter in the course of execution of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are Completed.

ITEM	DESCRIPTION	KSH	CTS
	SIGN BOARD		
A	Allow for providing, erecting, maintaining throughout the course of the contract and afterwards clearing away a signboard as designed, specified and approved by the PROJECT MANAGER.		
B	**LABOUR CAMPS** The contractor shall not be allowed to house labour on site. Allow for transporting workers to and from site during the Tenure of the project.		
C	**PRICING RATES** The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing all to comply with the said Conditions of Contract.		
64	Carried to Collection		

ITEM	DESCRIPTION	KSH	CTS
	COLLECTION Brought forward from page PP/1 Brought forward from page PP/2 Brought forward from page PP/3 Brought forward from page PP/4 Brought forward from page PP/5		
	PARTICULAR PRELIMINARIES CARRIED TO SUMMARY		

ITEM	DESCRIPTION	KSH
	GENERAL PRELIMINARIES	
A	**PRICING OF ITEMS OF PRELIMINARIES AND PREAMBLES** Prices will be inserted against items of Preliminaries in the Contractor's priced Bills of Quantities and Specification. The Contractor shall be deemed to have included in his prices or rates for the various items in the Bills of Quantities or Specification for all costs involved in complying with all the requirements for the proper execution of the whole of the works in the Contract.	
B	ABBREVIATIONS Throughout these Bills, units of measurement and terms are abbreviated and shall be interpreted as follows:- C.M. Shall mean cubic metre S.M. Shall mean square metre L.M. Shall mean linear metre MM Shall mean Millimetre Kg. Shall mean Kilogramme No. Shall mean Number Prs. Shall mean Pairs B.S. Shall mean the British Standard Specification Published by the British Standards Institution, 2 Park Street, London W.I., England. Ditto Shall mean the whole of the preceding description except as qualified in the description in which it occurs. m.s. Shall mean measured separately. a.b.d Shall mean as before described. P.M. Shall mean Project Manager	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT** Attendance; Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted: - Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work: clearing away rubbish; unloading checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub-Contractors' work and being responsible for the accuracy of the same.	
B	**Fix Only:-** "Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.	
C	**EMPLOYER** The "Employer" 'The Vice chancellor, Kirinyaga University', P. O Box 143 – 10300, KERUGOYA.	
D	**PROJECT MANAGER** The "Project Manager." shall be appointed by the client	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**FORM OF CONTRACT** The Form of Contract shall be as stipulated in the Government of Kenya's Standard conditions of contract in accordance with public procurement and disposal Act. Conditions of Contract are also included herein	
B	**BOND.** The Contractor shall find and submit on the Form of Tender and approved bank and who will be willing to be bound the Government in and amount equal to five per cent (5%) of the Contract amount for the due performances of the Contract up to the date of completion as certified by the PROJECT MANAGER and who will when and if called upon, sign a Bond to that effect on the relevant standard form included herein. (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Government, the Contractor shall furnish within seven days another Surety to the approval of the Government.	
C	**PLANT, TOOLS AND VEHICLES** Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.	
D	**TRANSPORT.** Allow for transport of workmen , materials, etc., and from the site at such hours and by such routes as may be permitted by the competent authorities.	
64	*Carried to Collection*	

ITEM	DESCRIPTION	KSH
A	**PLANT, TOOLS AND VEHICLES** Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.	
B	**TRANSPORT.** Allow for transport of workmen, Ministry of works supervision personnel, materials, etc., and from the site at such hours and by such routes as may be permitted by the competent authorities.	
C	**MATERIALS AND WORKMANSHIP.** All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The 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 they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
D	**SIGN FOR MATERIALS SUPPLIED.** The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER	
E	**STORAGE OF MATERIALS** The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**SAMPLES** The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Roads, Housing and Public Works. The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.	
B	**GOVERNMENT ACTS REGARDING WORKPEOPLE ETC.** Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. In particular the Contractor's attention is drawn to the provisions of the Factory Act 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained.	
C	**SECURITY OF WORKS ETC.** The Contractor shall be entirely responsible for the security of all the works stores, materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.	

Carried to Collection

ITEM	DESCRIPTION	KSH
A	**PUBLIC AND PRIVATE ROADS.** Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the PROJECT MANAGER	
B	**EXISTING PROPERTY.** The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER	
C	**VISIT SITE AND EXAMINE DRAWINGS.** The Contractor is recommended to examine the drawings and visit the site the location of which is described in the Particular Preliminaries hereof. He shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from his failure to comply with this recommendation will be considered.	
D	**ACCESS TO SITE AND TEMPORARY ROADS.** Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads (approximately 70 metres long) for the transport of the materials plant and workmen as may be required for the complete execution of the works includin the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER	
E	**AREA TO BE OCCUPIED BY THE CONTRACTOR** The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**OFFICE ETC. FOR THE PROJECT MANAGER** The Contractor shall provide, erect and maintain where directed on site and afterwards dismantle the site office of the type noted in the Particular Preliminaries, complete with Furniture. He shall also provide a strong metal trunk complete with strong hasp and staple fastening and two keys. He shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen tape.	
B	**WATER AND ELECTRICITY SUPPLY FOR THE WORKS** The Contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub--contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use.	
C	**SANITATION OF THE WORKS** The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER	
D	**SUPERVISION AND WORKING HOURS** The works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract.	
E	**PROVISIONAL SUMS.** The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (i) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Such sums are net and no addition shall be made to them for profit.	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**PRIME COST (OR P.C.) SUMS.** The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement mentioned in Condition No. 16 of the conditions of Contract. Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods as stated in Condition No. 20 of the Conditions of Contract are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.	
B	**PROGRESS CHART.** The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.	
C	**ADJUSTMENT OF P.C. SUMS.** In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them. Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be as if the work were executed by a Nominated Sub-Contractor.	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**ADJUSTMENT OF PROVISIONAL SUMS.** In the final account all Provisional Sums shall be deducted and the value of the work properly executed in respect of them upon the PROJECT MANAGER's order added to the Contract Sum. Such work shall be valued as described for Variations in Conditions No. 13of the Conditions of Contract, but should any part of the work be executed by a Nominated Sub-Contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added.	
B	**NOMINATED SUB-CONTRACTORS** When any work is ordered by the PROJECT MANAGER to be executed by nominated sub-contractors, the Contractor shall enter into sub-contracts as described in Condition No. 20 of the Conditions of Contract and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".	
C	**DIRECT CONTRACTS** Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.	
D	**ATTENDANCE UPON OTHER TRADESMEN, ETC.** The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills.	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
A	**INSURANCE** The Contractor shall insure as required in Conditions Nos. 22 and 23 of the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection.	
B	**PROVISIONAL WORK** All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment wil be made. All "Provisional" and other work liable to adjustment under this Contract shall left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall if the PROJECT MANAGER so directs uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.	
C	**ALTERATIONS TO BILLS, PRICING, ETC.** Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.	
D	**BLASTING OPERATIONS** Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives.	

ITEM	DESCRIPTION	KSH
A	**MATERIALS ARISING FROM EXCAVATIONS** Materials of any kind obtained from the excavations shall be the property of the Government. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.	
B	**PROTECTION OF THE WORK** Provide protection of the whole of the works contained in the Bills of Quantities, including casing , casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have bee done at completion free of cost to the Government.	
C	**REMOVAL OF RUBBISH ETC.** Removal of rubbish and debris from the Buildings and site as it accumulates and at the completion of the works and remove all plant, scaffolding and unused materials at completion.	
D	**WORKS TO BE DELIVERED UP CLEAN** Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER	
E	**FIRM PRICE CONTRACT** Unless otherwise specifically stated in the Particular Preliminaries this is a firm price contract and the Contractor must allow in his tender rates for any increase in the cost of labour and/or materials during the currency of the contract.	

Carried to Collection

ITEM	DESCRIPTION	KSH
A	**GENERAL SPECIFICATION.** For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision t is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.	
B	**TRAINING LEVY** The Contractor's attention is drawn to legal notice No. 237 of October, 1971, which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than Kshs. 50,000.00 in value.	
C	**MATERIALS ON SITE** All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers.	
D	**HOARDING** The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centres with two 75 x 50 mm timber rails. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site.	
E	**CONTRACTOR'S SUPERINTENDENCE/SITE AGENT** The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	Carried to Collection	

ITEM	DESCRIPTION	KSH
	COLLECTION	
	Brought forward from Page GP/1	
	Brought forward from Page GP/2	
	Brought forward from Page GP/3	
	Brought forward from Page GP/4	
	Brought forward from Page GP/5	
	Brought forward from Page GP/6	
	Brought forward from Page GP/7	
	Brought forward from Page GP/8	
	Brought forward from Page GP/9	
	Brought forward from Page GP/10	
	Brought forward from Page GP/11	
	Brought forward from Page GP/12	
	GENERAL PRELIMINARIES CARRIED TO GRAND SUMMARY	

SPECIFICATIONS

GENERAL SPECIFICATIONS

GENERAL ITEMS

Materials generally

All materials shall be new and of the qualities and kinds specified herein and equal to approved samples.

Deliveries shall be sufficiently in advance to enable samples to be taken and tested if required. No materials shall be used until approved; materials, which are damaged in any way, shall be immediately removed from site at the contractor's expense

Alternative to proprietary brands or specified standards

Where materials are specified to a particular standard or by their proprietary names of where fittings are specified by catalogues numbers of description, the contractor may offer alternatives which are of equal quality. In such event the tender must be qualified by listing the various alternatives to be used. The successful tenderer must then subsequently submit samples of the alternative materials to the project manager as soon as practicable after the award of the contract, and must obtain his written approval before purchasing.

Measuring and testing equipment

The contractor shall provide on the site the following equipment for carrying out measuring and control and tests and maintain the same in full working order; if relevant to the scope of the works:

a) Straight edges 3 metres and 4 metres long for testing accuracy of finished surface.
b) 150mm steel cube moulds with base plates and tamping rods to B.S. 1881
c) two 30 metres steel tapes
d) one dumpy or quick set level and staff

Minor details of construction

Minor details of construction which are fairly and obviously intended and which may not definitely be referred to in this specification and/ or drawings, but which are usual in sound building practice and are essential to the works, shall be considered as included in the contract sum.

DEMOLITION AND ALTERATIONS

GENERALLY

The contractor is required to visit the site to establish the nature of the existing buildings to be demolished and ascertain for himself the nature of the works and no claim arising from lack of knowledge in this respect will be entertained. The dimensions and quantities given in this section are approximate and the contractor is referred to the site to ascertain the exact nature of the work.

The items pulling down and alterations are to include both labour and materials and for any shoring needling and temporary works in connection therewith. The contractor must include in his pricing for making good all works disturbed in all trades and carting away all debris.

The contractor must give all the necessary notices and must exercise due care in the demolitions. He must not collapse large sections of walls, floors, etc and must provide all necessary shoring and supports during the demolition.

During demolition the contractor shall keep the debris constantly watered to minimize the dust arising and this shall be included in his prices.

All materials, including rubbish, shall be removed from the site as soon as possible.

The contractor is to erect dust-proof screens to the approval of the project manager where deemed necessary and to remove them on completion of the works, all to the project manager's satisfaction. Such screens shall be deemed to have been priced for.

Materials arising out of demolitions which the Project Manager considers of value should be handed over to the Client.

INTERPRETATION OF TERMS

a) "demolition" shall be deemed to mean cutting away, breaking up, demolishing, pulling down, taking down, removing etc., as the context requires and shall include all cases temporarily strutting and supporting and making good remaining works as necessary, and clearing away and removing from site all debris etc.

b) "remove" shall be deemed to mean taking down, hacking up, breaking down, removing etc., and clearing away from site and all other expenses thereby entailed.

c) "making good" shall be deemed to mean all making good, fitting, facing up, plastering and repainting or match existing work.

d) "to match" shall apply to relevant existing work in design, workmanship and all other respects.

e) "re- fix" shall apply to the existing materials arising from the works and shall mean take from store and fix in new position, including making good, repairing and adjusting as necessary.

EXCAVATION AND EARTHWORKS

DEFINITIONS

Removing trees, hedges and the like

The removal from site of trees, stumping, roots hedges bushes, scrub, under growth and the like shall be deemed to be included with the items for cutting down and grubbing up roots.

Surface level

The term "surface level" shall mean ground level after clearing site.

Clearing site

Clearing site shall include the site of all loose debris and rubbish, bushes, scrub, Undergrowth, vegetable and small trees (i.e. not exceeding 600mm girth) and grubbing up their roots.

Rock

The term "rock" shall mean any natural materials, which cannot be dislodged by a pick and which can only be removed by the use of compressors or by blasting or wedging. This classification does not include materials that can be removed by other means other than drilling and blasting or drilling and wedging, but which for reasons of economy in excavating, the contractor prefers to remove by drilling and wedging. Unless specifically stated thereafter, the contractor must assume that permission to use explosives to remove rock will be refused and he must therefore price for removing rock by compressors etc.

"Tuff" will not be treated as rock for the purpose of extra payment to the contractor under clause d5 of the S.M.M. should isolated boulders of a different harder nature be located in the course of excavations, these will be treated as rock.

GENERALLY

Levels

The contractor shall be responsible for setting up and maintaining an accurately ascertained datum level for the work. Immediately following the issue of the order to commence, the contractor shall carry out and record a check grid of the site which shall be agreed between the Architect and the Contractor within one week of the above order being given: no alterations of levels shall be undertaken until an agreement has been reached and the Architect's instructions have been received.

Nature of the soil

It will be deemed that the contractor has inspected the drawings and the site and consulted all available information concerning subsoil conditions before submitting the tender. In making information available on subsoil conditions, the Employer does not in any way absolve the contractor from his responsibilities, nor is it guaranteed that similar conditions apply to any specific part of the site.

Unauthorized excavations

The contractor is prohibited from making excavations other than those approved by the project manager as necessary for the works.

Borrow pits

No borrow pits will be allowed to be opened on the site.

Termites

The contractor must destroy any termite's nests found within the perimeter of the buildings and within a distance of 20 metres from the building externally and take out and destroy queens, impregnate holes and tunnels with approved insecticide and back- fill with hard materials well rammed and consolidated

MATERIALS

Blinding

Blinding shall be of the same materials as the hardcore bed crushed and graded from 4mm upwards, free from clay, chemical or pollutions, pest, weeds roots and rubbish.

Hardcore

Hardcore shall be of good, clean, hard broken stone before placing to pass a 100mm ring and free from all rubbish.

Approved filling for filling under floors

Approved filling for filling under floors shall be clean, dry pit or river sand, excavated materials or subsoil free from clay, roots and any impurities.

Soil for backfilling around foundations

Soil for backfilling around foundations shall be dry, clean subsoil free from clay, vegetable soil, roots and rubbish.

WORKMANSHIP

Generally

The contractor shall control the grading around the building so as to prevent water running into excavated areas or into completed sections of the work.

Removal of obstructions

In the event of any derelict foundations, walls slabs, kerbs etc., being discovered upon the site of the works they shall, if below new foundations, be completely removed to a level of 150 mm below the level

foundations as instructed by the Project Manager. For graded areas any such obstructions shall be removed to a depth of 600mm below the finished grade.

Filling voids caused by the removal of such obstructions shall be executed for "filling"

Bottoms of excavations to be approved

The contractor shall give the engineer at least 48 hours' notice when the excavations will be ready for inspection. The bottom of every excavation will be inspected by the Engineer and the level thereof agreed between the Engineer and the Contractor. If a good bearing bottom is not obtained at the level shown, the Engineer is to be informed. No concrete is to be laid until the bottom has been approved and the level thereof taken. Any concrete work or other work done before such approval, shall, if so directed be removed and new work substituted after excavations have been approved, at the Contractors expense. Notwithstanding such approval any bottom which becomes water-logged or otherwise spoilt after approval, shall be cleaned out and reformed to the Engineer's approval before any concrete is placed.

Before placing concrete or masonry on rock surfaces, the surfaces shall be leveled off or shelved to a slope not exceeding 25mm per 300mm.

Disposal of excavated material

Vegetable soil shall be spread and leveled where directed by the Engineer on site. surplus excavated where directed or required shall be removed from the site to a tip, the location of which first be approved by the Project Manager in writing. All fees and charges in connection shall be deemed to be included in the Contract Sum.

Excavation below required levels

Should any excavation be taken below the required levels or depth necessary to obtain a suitable bottom, the Contractor will be required to fill in excavation to the proper level with concrete of the same specifications for the foundation, at his own expense

Timbering, planking, strutting, etc.

The contractor shall provide all necessary timbering, planking, strutting, etc to uphold the faces of excavation, which shall only be removed when it is safe to do so.

Where the Project Manager instructs or agrees that it is necessary for the safety of the works to leave in certain timbering, planking and strutting etc., such timber shall be measured and agreed before covering up.

Filling

Return filling foundations and filling to make up levels under floors and paving shall be deposited until the formation level has been approved by the Project Manager.

In no case shall fill be deposited until the formation level has been approved by the Engineer

In no case shall fill be deposited on a muddy foundation. Filling shall be deposited in layers not exceeding 150mm in depth before compaction and shall be compacted by rolling, pneumatic tamping or other approved means over whole of the area.

If necessary, the filling shall be allowed to dry or be moistened to the correct moisture content before compaction. The finished surface shall be approved by the Project manager prior to further construction work thereon.

The Contractor shall afford every assistance to the specialist executing site sterilization to enable each layer to be treated.

No excavation or foundation work shall be filled in or covered up until all measurements necessary for the adjustment of variations have been made. Walling shall not be built upon the foundation four days after depositing of concrete.

Consolidation of hardcore

Hardcore shall be consolidated with a roller, vibrating roller, or mechanical runner to a compaction equivalent to that obtained with a 2.5 to 3 tone roller, care being taken that no damage is done to the foundation walls.

Hardcore shall be blinded to receive any membrane, the blinding shall be finished and compacted with fine material which will not cause the membrane to puncture under wheel or foot traffic or by the placing of concrete thereon.

Existing services

Active existing services shall be adequately protected from damage. Where active services are found but not shown on the drawings, the subsequent protection support or relocation shall be as directed by the Project Manager.

Where inactive services are encountered upon the site of the works, they shall be removed or sealed off in accordance with the direction of the Project Manager.

Protection

The contractor shall protect all graded and filled areas from the action of elements. Any settlements or washing away of that occurs prior to acceptance of works shall be repaired and grades re-established to the required elevations and slopes.

Laving polythene membrane

Where joints occur there is to be minimum of 300 mm welted lap of joint made with approved tapes.

The contractor shall ensure that the membrane will not pierce during laying and concreting.

Anti-termite treatment

Anti-termite treatment shall be carried out using "gladiator TC" or other chemical approved by the Project manager in writing diluted to a water emulsion containing a minimum of 1.00% of the chemical.

The treatment shall be applied to the whole area of the hardcore bed and all surfaces immediately prior to the placing of the concrete floor slab at the rate of 7 litres per square metre.

Treatment shall be applied whilst it is raining or to surfaces of filling which are wet. The Contractor's attention is drawn to the fact that these treatments are toxic to animals and human life, and he shall prevent contamination of water supply systems, shall cover up and protect treated areas immediately after treatment and post written notices informing of the treatment at prominent points on the site and the building.

Immediately following treatment, the Contractor shall provide to the Project Manager for onward transmission to the client, a written ten- year guarantees:

Immediately following treatment, the contractor shall provide to the Project Manager to onward transmission to the client, a written ten- year guarantees:

a) that the chemical used complies with this specification and has been used in the concentrations stated herein;

b) that the guarantee shall be continuous for a period of ten years from the date of treatment;

c) that should infestation by any terminates appear before the end of five-year period, the Contractor will return and retreat as necessary to eliminate the infestation entirely and at his own cost on each occasion that infestation appears within the ten year period.

The Contractor shall carry out annual inspection commencing three months after treatment and continuing to the end of the guaranteed period to ascertain the presence to eliminate any infestation entirely and at his cost on each occasion that infestation is found.

CONCRETE WORK

DEFINITIONS

Designation of concrete mixes

The various mixes of concrete are designated in the subsequent measured items by the following criteria: -

Nominal mixes; by the weight proportion of whole bags of ordinary Portland cement to fine and course aggregate and by the maximum size of course aggregate. The contractor shall regularly submit details giving specific gravities and moisture content of aggregate.

Tamping

The term “tamping” as used herein in conjunction with the phrase “treating surfaces of unset concrete” shall mean the final compaction and surface finish to be applied top unset concrete beds or the like, with steel shod beam tamper, either manually or mechanically operated unless otherwise stated. The resulting surface shall have a slightly ribbed appearance.

Keying

The term “keying” as used herein in conjunction with the phrase surfaces of unset concrete” shall mean the preparation of bed, or the like, to receive in-situ pavings by raking with a standard horticultural rake whilst the concrete is still green and when the concrete is set and cured, protecting the raked surfaces with a layer of clean sand and removing the sand immediately before the in-situ paving is laid.

Precast concrete units

Unless otherwise described in the measured items, precast concrete units are deemed to be basically rectangular in cross section and rough on exposed faces. Reinforcement bars shall have hooked ends, bedding sand pointing mortar shall be either cement or cement-lime mortar, as appropriate, and units shall be deemed to be fixed by hoisting bedding and building in unless otherwise described.

Nominally non-reinforced units may contain any reinforcement the Contractor may wish to introduce for handling purposes.

GENERALLY

STANDARDS

The whole of Concrete work and testing thereof shall comply with B.S Code of practice no. 110 and with the subsequent clauses of this document and shall be carried out in strict accordance with the working drawing and instruction of the Project Manager.

A competent person shall be employed whose first duty will be to supervise all stages in the preparation and placing of the concrete. All cubes should be made and site tests carried out under his direct supervision. This person shall also be responsible for keeping an accurate record of the dates on which concrete is poured.

Bar bending schedules

The Consultant Structural Engineer will prepare and provide all necessary bar bending schedules and explanatory details.

MATERIALS

Samples

Samples of all materials are to be submitted for approval of the Project Manager at least one week before it is desired to commence deliveries. All condemned materials are to be removed from the site within 24 hours.

Cement

Cement unless otherwise specified shall be that of a brand manufactured in the country or region and approved by the Engineer and shall comply with the requirements of B.S 12 and a Manufacturer's certificate of test in accordance with B.S
12, shall be supplied for each consignment delivered to the site. Provided that the approval of the Engineer is obtained, the cement may vary from B.S 12, in that up to 10% of the total weight may be reactive volcanic ash and the quantity of insoluble residue may exceed that specified by B.S 12.

Portland cement	K.S.02-1262
Rapid hardening cement	K.S.02-1262
Sulphate resisting Portland cement	B. S. 4027

Rapid hardening cement may be used in lieu of ordinary Portland cement only with the prior approval of the Project Manager, provided that all conditions applying to its use are strictly observed. Any additional expense in connection with the use of such cement shall be borne by the Contractor.

The use of high alumina will not be permitted.

All cement shall be delivered to the site in sealed bags bearing the mark of the manufacturer. Rebagged cement, cement in plain bags and cement in torn bags will not be allowed on the site.

Each consignment of cement shall be accompanied by the manufacture's certificate showing that the representative sample of the consignment has been tested and complies with the appropriate specifications. From time to time, as requested by the Project Manager, copies of the cement manufacture's test certificates shall be delivered to the Engineers of his representative on the site promptly, but such documents shall not preclude the Engineer from rejecting any cement which does not in every way comply with the specification.

Any comment which has failed to pass the tests or has been damaged by water or contaminated in any way on site shall immediately be put into bags and removed from the site.

Aggregates

Aggregate shall comply with B.S 882. or K.S.

Each type of aggregate shall be obtained from one approved source, capable of maintain adequate supplies of consistency graded material throughout the Contract.

Aggregates for exposed concrete shall be free from all impurities likely to cause discoloration and shall be of consistent colour throughout the work.

Fine aggregates and sand shall be clean, sharp, coarse, hard material and equal at all times to the samples, which shall be deposited with and approved by the Engineer. The caustic soda test for organic impurities shall show a colour not deeper than that of the standard solution. The settling test for natural sand shall be made and after being allowed to settle for three hours the layer of silt deposit on the coarse material shall not exceed 10%.

The Contractor shall supply all necessary equipment for the testing of fine aggregate and sand for the use of the Project Manager.

Coarse aggregate shall be hard, clean gravel or broken stone from approved quarries and shall be free from earth, decomposed stone, and extraneous matter they shall conform to K. S. 02-95 and shall be "Graded aggregate" 20mm to 5mm. Thin, elongated, friable, flaky or laminated pieces, mica or shale shall only be present in such small quantities as not to affect adversely the strength and durability of the concrete. The amount of fine particles occurring in a free state or as loose adherent shall not exceed 1% when determined by the laboratory sedimentation test. After twenty-four hours in water, a previously dried sample shall not gain more than 10% in weight.

Each grade of aggregate shall be stored in the works in separate heaps so that there shall be no possibly of any inter- mixing. Any materials, which have become inter-mixed, shall be removed from the site forthwith by the Contractor.

If, in the opinion of the Project Manager, the aggregate is dirty or adulterated in any manner, it shall be washed and/or screened by the contractor.

Graded samples of all types of aggregate each weighing 10 Kg., shall after approval, be kept on site behind glass for visual checking of subsequent deliveries for grading, shape, and where applicable, colour.

Reinforcement

Reinforcement shall comply with the following standards: -

a) Mild steel rod reinforcement shall comply with B.S 4449 or K.S.02-22
b) High tensile steel reinforcement shall be either cold worked deformed steel bars of circular/ octagonal section complying with B.S 4461 or hot rolled deformed high tensile bars having a guaranteed minimum yield stress of 4200Kg/sq cm (60,000 p.s.i) and other physical qualities in accordance with B.S 4449.
c) Wielded steel fabric reinforcement shall comply with B.S 4483._All reinforcement shall be in the "diameter and metric "range and the substitution of "square

twisted" or imperial range shall be allowed but only at no extra cost to the Employer.
The contractor will be required to submit at his own expense certified test data of the following characteristics: ultimate tensile stress, yield point stress, elongation, cold bed test. Should such certificates not be submitted by the manufacture, the Contractor shall have the requisite tests made at his own expense at an independent testing laboratory.

Expansion joints- filler and sealers

Filler shall be "Flexcell" impregnated fiberboard joint filler.

Top edges of filler to be covered with plastic tape as a bond-breaking barrier to filling with sealer.

a) sealers to be: -
   i) "pli-astic" grade 99 applied hot with a machine pourer as recommended by the manufactures. Prior to application surfaces to be treated with a brush coat of Expandite No. 3 primer or
   ii) "plastijoin" hard-applied bitumen putty sealant. Prior to application surfaces to be primed as last, or
   iii) "High duty sealer cold applied two-part sealant". Porous surfaces to be primed with Expandite No. 20. Primer
b) The appropriate sealers are specified in the measurement work hereafter and must all be applied and used strictly in accordance with the manufacture's printed instructions.

Wall ties

Wall ties shall be provided between all columns and walling at 450mm interval and shall be of 1.3 mm galvanized mild steel strip 25mm wide x 450 mm long.

Water

Water shall be from the mains and kept free of any impurities and acid or alkaline substance in suspension or in solution, and shall be stored in proper storage tanks to the approval of the Project manager.

Storage of materials

Cement shall be kept dry and used in rotation of deliveries. If delivered in bags these shall be stored off the ground in a well-ventilated and weatherproof shed used exclusively for this purpose.

The shed is to be sufficiently large to contain a working stock and provided with partitions or such other means as may be necessary to ensure the effectual separation of the various consignments and type of cement. Stacking of cement in bags over a height of ten bags will not be permitted. Cement may be delivered in bulk containers provided additional suitable arrangements are made for bulk storage on site to the approval of the Project Manager.

Aggregates shall be stored in a mixer positions on drained concrete paved areas, with stout diving walls between different sizes and types of aggregates.

Reinforcement shall be stored by type, size and length, either off the ground or on clean surfaced areas, and shall be kept free from rust.

Proportions of concrete mix

The quantity of cement shall be measured by weight and each batch of concrete is to use one or more whole bags. The quantity of fine aggregate and coarse aggregate shall be measured separately by weigh bathing plant. Volume mixing will not be permitted.

For grading tests the Contractor shall supply and deliver at his own cost to the Nominated Testing Authority, samples of the aggregates which the Contractor propose to use, consisting of not less than 50 kilograms' weight in coarse aggregate and not less than 25 kilograms' weight in fine aggregate. It is the Contractor's responsibility to ensure that the subsequent deliveries of aggregate conform to the grading analysis of the approved samples.

The proportions of materials to be used for the preliminary cube tests and subsequent batching, shall be ascertained by calculation from the results of the aggregate grading tests carried out by the Nominated Testing Authority.

Preliminary concrete cubes shall be made by the Contractor on site as required by the Project Manager and tested by the Nominated Tested Authority. As a result of these tests definite weights of each material for batching shall be ascertained and agreed with the Project Manager. Thereafter these proportions shall be adhered to throughout the works and may be varied only by instructions given by the Project Manager.

The weight of damp aggregate must be adjusted to take into account the weight of water in the aggregate, and this in turn will affect the amount of water to be added into the mix.

Throughout the carrying out of the Contract, "works cube tests" are to be made from Concrete drawing from newly laid concrete or concrete about to be placed in position, such cubes being made when directed by the Project Manager and in his presence. Such cubes shall be made in 150 mm cube steel or cast iron moulds and shall be marked and cured strictly in accordance with the Appendices of the Code of Practice, and shall be forwarded carriage paid in time for testing at the required age to a testing laboratory to be nominated by the Project Manager.

Three cubes shall be made on each occasion, concrete for each cube being from different batch. Two cubes shall be forwarded in time for testing in twenty-eight days. Each cube shall be marked with the date of casing and a distinctive reference number I accordance with a system agreed by the Project Manager.

Proportions of concrete mix

A record shall be kept of the position from which the concrete for each set of cube was drawn, or to which it was about to be placed.

At least three sets of three cubes shall be cast during each week concrete is being cast including sets of cubes of each quality of concrete used during the period, or at a frequency agreed by the Project Manager.

Concrete is required to have the properties and give the strength in Newton's per square millimeter as follows: -

	class	Min volumetric ration of mix	Max size of Aggregate	Max water to Cement ration by weight	Minimum crushing strength works Cubes in N/Sq. mm	
					7 days	28
A	30/20	1: 1:2	20	0.45	23	30
B	25/20	1:1.5:3	20	0.50	19	25
C	20/21	1:2:4	20	0.58	15.5	20
D	15/25	1:3:6	25	0.60	11	15
E	10/25	1:4:8	25	0.60	7.5	10

Proportions of concrete mix

The above properties and crushing strengths are to be considered as the minimum standard that will be accepted in the finished works.

If the strengths required in the table are not attained and maintained throughout the carrying out the Contract, the Contractor will be required to increase the proportions of cement or substitute aggregates at his own cost so as to give concrete which does comply with the requirements of this clause. The Con tractor may be required to remove and replace at his own cost any concrete which fails to attain the required strength as ascertained by the Works Cube Tests.

Testing of materials generally

The Contractor shall include in his tender prices for the execution on his part of operations specified for testing herein and for supply of the requisite equipment. After initial testing and approval of materials, it is the Contractor's responsibility to ensure and to demonstrate by the submission of further similar sample when so required that subsequent deliveries conform to the quality, grading and (where applicable), colour of the approved samples.

Testing of cement

Before work commences and when subsequently directed, the Contractor shall take 6Kg samples in accordance with BS 12 procedure, of cement and deliver this in tins approved by the Project Manager, to an approved Testing Laboratory for testing.

Each consignment of cement to the site shall be accompanied by the manufacture's advice note and forwarded without delay to the Engineer, shall be delivered to the site at least 7 days before it is intended to be used in the works so that the required tests may be carried out without retarding the progress of works

Testing of aggregates

Before work commences and when subsequently instructed, the Contractor shall take the site samples methods given in B.S. 812, or K.S. 02-95 and deliver these to the Nominated Testing Authority for testing.

Such samples shall be submitted for approval at least 7 days before they intended to be used in the works.

Testing of reinforcement

Should the Project Manager require reinforcement to be tested, it shall be tested at the Contractor's expense and representative test pieces of such reinforcement to be used in the works are to be sent to an approved laboratory for testing.

Manufacture's test reports of reinforcement shall be supplied to the Engineer for all reinforcement to be used in the works.

Testing of concrete in the field

a. Trial mixture

Prior to the commencement of the actual concreting work, the Contractor shall make, or have made, preliminary test Cubes in accordance with B.S 1881, using the aggregate from which sample were taken from for grading analyses. Six cubes are to be made on each occasion, 3 for testing at 7 days and 3 for testing at 28 days. The cube strength obtained in the preliminary tests should show crushing strength of at least 11/3 times the specified works cube test strengths.

The preliminary test cubes will be submitted to an approved Testing Authority for crushing, and from the results of these test, definite weights of each material for batching will be ascertained, and agreed with the Project Manager.

If any of the concrete materials are to be varied or obtained from different source, a further set of preliminary Cube tests, using the proposed new materials, will be required.

b. workability

the total water content in the mixture determines its consistency and once a consistency of a trial has been approved it must remain constant throughout the contract.

In order to help the concrete, maintain the desired consistency the slump of an approved trial mix shall be measured and thereafter all mixes must give the slum as the approved slump shall be in order of 75 mm for hand compacted concrete and 35mm for vibrated concrete. The slump test shall be made on concrete actually being placed in the works at the commencement of each period of concrete placing and at such other times as instructed.

c. Test Specimens

The moulds for test cubes shall be of metal and true to shape to give a 150mm cube and shall be well oiled before filling. The mould shall be filled with concrete taken from that actually placed in the works the concrete being selected by the Project Manager from the point as near as possible to the position of placing. The filling of the moulds shall be done immediately after the selection of the sample concrete and in such a way that the concrete in the moulds be truly representative of that in the works.

The concrete shall be placed in the moulds in three layers of equal thickness, each layer being rammed with 25 strokes of a steel bar 40mm diameter, (or equivalent), weighing 2 Kg. If the concrete in the works is to be consolidated by mechanical vibration, the test cube moulds shall be likewise vibrated after filling. Each cube shall be inscribed with the date of manufacture and identification mark.

A record shall be kept for each batch of cubes showing the position in the works, which the concrete represents, the date of manufacture, and slump of the concrete, particulars of the cement and aggregate use, a statement of whether or not the cubes were vibrated and other information relating to the subsequent history of the cubes.

The moulds containing the test shall be stored for 24 hours on the site in a damp place free from vibration. At the end of this period the cubes shall be taken from the moulds and stored damp sand for 20 days in they are to be tested 28 days or for 4 days if they are to be tested at 7 days.

The Contractor shall be instructed about the dispatch of the cubes to an approved laboratory and will pay all costs relating to the tests. A set of three cubes will be required for not more than every 60 cubic metres of concrete placed in the works.

d. Quality of Specimen

The test specimens shall have the compressive strength specified for each quality of concrete at the appropriate age as given herein.

If the required strength is not obtained at 28 days, the Contractor will be required to cut out and reconstruct all work represented by the test specimens at his own expense with all dispatch, always provided the Project Manager may first permit further tests, at the Contractor's expense, to prove the quality of the deposited concrete.

In the case of seven day Works cube Tests proving unsatisfactory, the works may be stopped, but shall not be liable to rejection until the result of the twenty eight-day test is known.

In the event of the results of the twenty eight-day Works Cube Tests Proving unsatisfactory, the work represented shall be immediately be liable to rejection. The Contractor may, however be given the option of cutting three specimens from the completed work subject to the direction of the Project Manager, and preparing therefrom test cubes or cores, which shall be sent to the Test Laboratory for testing as Works Cubes Test.

Should the average strength of these specimens attain the specified Minimum twenty-eight day strength, the work will, subject to the Engineer's discretion, be accepted.

Alternatively, the Project Manager may instruct the Contractor to make a loading test as described hereinafter. The cost of all cutting, preparation of specimen, testing and making good the portions of the structure affected, shall be borne by the Contractor.

The cost of all delays on site due to concrete not attaining the desired strength, or caused by investigation of defects, cutting away and making good, shall be entirely the Contractor's responsibility.

Damaged or materials unsatisfactory

All materials, which have damaged, contaminated or have deteriorated, or which do not comply in any way with the requirement of the specification, shall be immediately removed from site.

No materials shall be stored or stacked on suspended floors without the Engineers prior approval.

Should any of the samples tested be found, in the opinion of the Project manager in any respect unsatisfactory or likely to produce unsound work. The whole consignment or load from which samples were taken will be rejected, and the Contractor shall forthwith remove it from site. Notwithstanding that any sample of the material may have passed the test, the Engineer may later reject such consignment or loads if he shall decide that the quality has deteriorated.

The contractor at his own expenses shall remove from the site, without delay all rejected material. Any delay caused by such rejection will not in any relieve the Contractor from his responsibility with regard to the completion within the limit(s) specified. Any bag of cement that is opened shall be used on the same day or be discarded from the works.

Plant and method

Before the commencement of any work, the Contractor shall submit the following for the Project Manager's written approval: -

a. The concreting method, including the size and type of machines for weighing and mixing concrete and the methods of transporting, placing and compacting.
b. Details of formwork proposals, clearly indicating the general method of construction and assembly, fixing of linings together with positions of joints and the make and type of mould oil proposed.

c. The proposed position and type of every construction joint not already shown in the Project Manager's drawings.

Such approval by the Engineer shall not be deemed to relieve the Contractor of his obligations to comply with any of the provisions herein.

Measurement and mixing

All cement is to be measured by weight, the 50Kg bag of cement being used as a unit. The amount of water shall be the minimum required to produce a dense cohesive concrete of adequate workability, to be determined by trial mixes. This amount shall be accurately gauged and adjusted from time to time to compensate for variations in the moisture content the aggregate by an approved method.

All concrete shall be mixed in batch type mechanical mixer of approved type having a drum rotating about a horizontal or inclined axis. The speed of the drum is to be not more than twenty and not less than fourteen revolutions per minute.

Each mixer is to be fitted with water measuring device capable of accurate measurement to one gallon for one cubic yard mixers and pro-rata for small sizes and so arranged that the accuracy is not affected by variations in the pressure of water supply line. The fine and coarse aggregate and the cement shall be mixed for at least four turns, after which the required amount of water shall be gradually while the mixer is in motion and the concrete mixer for not less than two minutes to a uniform colour and consistency.

The volume of concrete mixed in any one batch is not to exceed the rated capacity of the mixer.

The whole of the mixed batch is to be removed before materials for a fresh batch enter the drum.

Concrete as mixed in accordance with the foregoing shall not be modified by the addition of further water or in any other manner. On the cessation of work, including all stoppages exceeding twenty minutes or any change of type of cement used in the mix, the mixer and all handling plant shall be washed out with clean water. At least one sump test shall be made each day concreting is in progress under the supervision of the Project Manager.

Reinforcement

Reinforcement shall be free from all loose scale, loose rust, oil, grease or similar defects, immediately before placing the concrete. It shall be bent cold exactly to detail similar defects, immediately before placing the concrete. It shall be bent cold exactly to detail using an approved bending machine. Hooks, bends, etc. where not specifically detailed, are to be in accordance with B.S 4466. Each bundle of bent bars shall be clearly tagged with the bar list number.

Reinforcement shall be placed in the exact position shown on drawings with all intersections tack welded or securely tied with 16 gauge soft steel tying wire. The designated cover shall be maintained by approved spacers, chairs, bolsters or ties fixed to the reinforcement. These shall be dense concrete left with a wire brushed surface or be dipped in grout before fixing. These blocks are particularly important where the surface of the concrete is exposed to the weather or dampness.

The Contractor must ensure that the bars are securely fixed so as to maintain their indicated positions during the progress of pouring, tamping or vibration of concrete. Six chairs are to be provided around each column to hold top steel in position and are to be made up of mild steel bars of adequate diameter. The cost of providing and fixing

these steel chairs must be allowed for by the Contractor in his rates of reinforcement generally.

No laps or splices in bars shall be made except those detailed on the drawings without prior approval of the Project Manager. The size and position of the reinforcement bars or mesh shall be approved the Project Manager, before concreting commences. The insertion of reinforcement into concrete already placed the lengthening of bars by welding and re-bending of incorrectly bent bars will not be permitted.

For concrete having exposed surfaces, reinforcement shall be assembled and placed in such a manner as to avoid any damage to formwork faces.

Where reinforced concrete slabs or wall are constructed against tanking, care shall be taken in position reinforcement to avoid damage to tanking.

Unless otherwise shown upon the Engineer drawings, or specified in B.S 8110 the reinforcement bars shall be given the following is greater.

In columns, a cover of concrete of 40mm to main reinforcement or the size of the bar, whichever is greater.

In foundation and column bases a cover of 50mm to main reinforcement or size of the bar, whichever greater.

Inspection of reinforcement

When the placing of reinforcement for a particular section of the works in completed and before concrete commences, the reinforcement will be inspected by the Project Manager and no concrete shall be placed until the Project Manager's approval has been given. The Contractor shall give the Project Manager 48 hours' notice of the time when the reinforcement will be ready for inspection.

Formwork

Formwork shall be true to line, level, face and profile and of robust construction, adequately framed, braced, strutted, cramped, tied and propped to restrict deformation due to the constructional loads to not more than 3 mm, and to entirely eliminate deformation of the form faces by warping or buckling, wire ties will not be permitted. formwork shall be grout-tight under all conditions including vibration when specified or used.

Formwork shall be designed to allow prefabrication of conveniently sized elements to facilities ease of handling and assembly, to permit striking without force, shock or any damage whatever to the concrete member or formwork face and permit the removal of sides without disturbing soffits. Propping shall be carried down to an approved bearing, shall not be supported by timber floors and shall be arranged so that formwork may be lowered smoothly.

Re-propping will not be permitted. Provision shall be made for cleaning out and draining.

Formwork shall be constructed of material or lined with materials as may be necessary to achieve the finishes specified herein and in such a manner as to eliminate screw or nail head imperfections.

Before each use, for faces shall be treated with the minimum amount of an approved mould oil necessary to obtain a clean release. Mould oil shall not come into contact with the reinforcement.

The use of cement retarders will not be permitted except where a key for other finishes is required.

Before the placing of the concrete, bolts and fixing shall be in position and cores and other devices used for forming openings, holes, pockets, recesses, ducts or other cavities shall be fixed to the shuttering.

Formwork to soffits of beams shall be cambered upwards to a total rise at the centre of the span of one centimeter per metre of span.

Immediately prior to concreting, formwork shall be thoroughly cleaned out and rechecked. No placing shall commence until the Project Manager has inspected the formwork and given his responsibility for its sufficiency. After striking, formwork shall be cleaned, stacked and protected and before re-use shall be cleaned, stacked and protected and before re-use shall be serviced, made good or replaced with new as may be necessary to maintain the finish standard specified.

Tolerances

The maximum tolerances within which Concrete Work shall be constructed are as follows:

1. All setting out dimensions, and dimensions, horizontally and vertically ± 5mm
2. Sections of concrete members ± 3mm
3. Levels of floor slabs, beams, lintels etc ± 5mm
4. Plum of columns and walls in full building height ± 3mm
5. Plumbing of columns and walls in full building height ± 6 mm
6. Inside faces of lift shafts in storey height ± 5mm
7. Inside faces of lift shafts in full building height ± 15mm
8. Concrete cover to reinforcement ± 3mm

No surface intended to be horizontal or vertical shall slope more than 2 mm in I mm. Any surface intended to be horizontal or vertical shall be rectified entirely at the responsibility and expense of the Contractor.

Placing and compaction

No traffic whatsoever, wheeled or foot, shall take place over reinforcement or placed concrete and the Contractor shall provide all necessary stools, walkways, platforms and borrow runs. Concrete shall be placed in its final position as rapidly as practicable by methods which preclude segregation or loss of ingredients and in any case, within 30 minutes from the time that water is added to the mix; compaction

shall be completed before initial set commences. Partially set concrete shall not be re-worked or used. Flowing in formwork shall be avoided by placing and compacting in shallow layers in quick succession.

Concrete shall be placed into the forms from less a height as possible and shall in no case be dropped from a height of more than 1.5 m except with the approval of the Project Manager.

When chutting is used, the inclinations of the chute must be such as to allow the concrete to flow without the use of excessive water and without segregation or loss of the ingredients. Details of any proposed chutting plant must be approved by the Project Manager before the plant is delivered to the site.

If the contractor wishes to distribute concrete by means of pumps, full details of the system must be available to the Engineer for approval.

Concrete shall be thoroughly compacted and carefully worked with suitable tools, into formwork and round reinforcement and fixtures so as to avoid displacement. A competed steel fixer shall attend throughout concreting to correct any unavoidable displacement.

Compaction shall be by means of vibrators: these shall be of an approved pattern, of the immersion type; clamp on external vibrators in adequate numbers shall be used only where the density of reinforcement shall be avoided. Vibration shall be executed by a competent operative and shall not be carried out to the detriment of adjacent partly hardened concrete.

An accurate record is to be kept by the Contractor showing dates and times when various portions of work were concreted. The concreting foreman must not vary the approved mix or water content without the permission of the representative of the Project Manager. It may occasionally be found that in constricted structural members or where the proportion of reinforcement to concrete is high, the workability of the concrete must be increased locally in order to affect full compaction. Such increase in workability shall be achieved by an increase in mortar content of not more than 10% of the concrete by weight in any single batch and must be made only with the approval of the representative of the Project Manager.

The workability of the concrete must never be altered by the use of additional water or sand alone.

Foundations shall be placed their full depth in one operation and the top surface carefully levelled. Concrete placed in timbered excavations shall be well rammed close against the excavation face as the timber is withdrawn.

Where the design of work demands the placing of reinforced concrete against the sides of excavation without the use of formwork, the earth face in such locations be prevented from crumbling or washing into concrete during placing and compaction by any efficient means, and care shall be taken to maintain the correct cover to the reinforcement.

All concretion shall be continuous to completion or to approved construction joint.

During placing of all concrete, a workman shall be in constant attendance with a hope pipe to wash off any cement slurry which appears on the face of any previously poured concrete immediately it occurs.

Concrete shall not be poured in forms to a depth exceeding 1.5m without the prior approval of the Project Manager.

Column plinths

Column kicker plinths not cast monolithically with the beam or slab will be allowed only at the discretion of the Project Manager and special precautions must be taken if permission is granted especially in regard to the quality of the mix used and the curing of the concrete.

Blinding concrete

No casting of any concrete on the ground shall take place until the ground has been passed as satisfactory by the project manager. All ground to carry reinforced concrete shall be covered with a blinding layer of concrete class 'E' of the thickness shown on the drawings, or if not so shown, a minimum of 50mm.

Waterproof concrete.

Wherever water proof concrete is shown on the drawing it shall be Class A nominal and it shall be compacted by mechanical vibration so that a dense and homogeneous mass of concrete is obtained throughout every pour of the structure, all in accordance with C.P. 2007.

The Contractor shall be allowed at his own cost to add an approved waterproofing addictive to the mix using it strictly in accordance with the maker's printed instructions.

All permanent and construction joints shall be constructed in accordance with the drawings and Specification to achieve complete water tightness.

It shall be Contractor's responsibility to ensure that all structures required to be constructed in waterproof concrete are completely watertight and any work found to be defensive shall be made good to the Engineers satisfaction at the Contractor's expense.

Where waterproof concrete forms a water retaining structure it is to be tested by filling with water for a period of not less than four days.

Any percolation or porous concrete or leaking joint is to be made good at the Contractor's expense. Tanks and pools constructed below ground level are not to be backfilled prior to the satisfactory completion of this test.

Construction joints

All construction joints shall be straight, truly vertical or level as the case may be, of profile shown and formed in the exact positions shown on the drawing or if not shown on the drawings, with the prior approval of the Project Manager. Vertical joints shall be formed against adequately secured rigid stop boards having splayed fillets, designed to pass the continuous steel reinforcement without temporary bending or displacement.

The rate and method of placing concrete and the arrangement of joint bulkheads shall be such that the concrete between construction joints shall be placed in a continuous operation.

Joints in reinforced slabs and beams shall be perpendicular to the axis or surface of the member jointed and at one third of the span. If an intersecting member occurs at that point, the joint shall be located at a point of minimum shear.

Construction joints in columns shall be as shown on the drawings. Whenever it becomes necessary to stop work, such stops shall be located at one third span of slab and beams or as directed by the Project Manager.

An adequate and acceptable key for succeeding work shall be formed by using stop boards, which shall be constructed tightly to prevent any grout leak. As early as possible board shall be removed and the surface thoroughly hacked and brushed to remove all laitance.

Any leakage past stop boards shall be hacked off as soon as the concrete has set. The surface shall be left clean and dry. Immediately prior to further concreting the joint face shall be soaked with water and covered with cement/ sand mortar of proportional identical to that in the concrete to be placed punned into the body of the set concrete.

For exposed finishes, care shall be exercised to preserve an unbroken line at the exposed edge of the joint.

In no circumstances shall the concrete be allowed to finish at a break running down a rough slop. Such cases, if found will be treated as contrary to the specification and the Contractor will be required to cut out the member and re-cast. In the case of horizontal joints any excess water and laitance shall be removed from the surface after the concrete is deposited and before it has set.

Before casting slabs, the haunchings or seatings for the slab shall be thoroughly hacked, scored and washed and covered with a least 5mm mortar immediately before the slab is cast.

Any necessary construction joints in foundations shall be stepped and lapped 600mm. Joint faces shall be prepared and treated as described above.

Striking times

It shall be the Contractor's responsibility that no distortion, damage, overloading or undue deflection is caused to the structure by the striking of formwork, but the Engineer reserves the right to delay the time of striking in the interest of the work. Formwork shall not be struck until the concrete has sufficiently hardened. Approval of the Project Manager shall not relieve the Contractor of his liability to make good any concrete damaged by premature removal or collapse of forms. In no circumstances shall forms be struck until the concrete reaches cube strength of at least twice the stress to which the concrete may be subjected at the times of striking.

The following striking times given in (24 hours) are the absolute minimum that will be permitted: -

Form	Ordinary Cement	Portland Rapid Hardening Cement
Walls, Columns (unloaded) Beam sides	2	2
Slabs – props left under	4	2
Beams soffits – props left under	7	5
Slabs – props	10	5
Beams – props	18	8

The time for removal of forms as set out shall not apply to slabs and beams spanning more than 10 metres. For such spans appropriate times shall be recommended or advised by the Project Manager.

Curing

The curing of the concrete must receive particularly careful attention. The concrete shall be covered with a layer of sacking, canvas, hessian or suitable absorbent material, and concrete, formwork and covering kept constantly wet for the first seven days after casting.

Holes and chase casting in

No holes chase are to be cut in reinforced Concrete Works. The Contractor shall ensure that all necessary holes and chases, including fixing holes for railings and balustrades, etc., are carefully formed in the correct position by requisite measures prior to the placing of concrete.

All conduits, pipes, tubes and the like shall unless otherwise detailed, be run on top of the bottom reinforcement of the concrete work. It shall be the Contractor's responsibility to ensure full co-ordination with Sub-Contractors in the setting out for this purpose.

Generally, conduits, pipes and special fixtures shall be concreted in where required and in exact positions demanded.

Concrete fixing blocks shall not affect the strength or cover of the structure nor effect finished work due to movement or other cause.

Details of positions of all holes, chases and fixing blocks shall be submitted to the Project Manager for his approval prior to putting the work in hand.

Tests of completed structural members

The Project Manager shall instruct that a loading test be made on the works, or any part thereof, if in his opinion such a test be deemed necessary for one or more of the following reasons: -

a. The site – made concrete test cubes failing to attain the specified strength.
b. The shuttering being prematurely removed,
c. Overloading during construction of works, or part thereof
d. Concrete improperly cured,
e. Any other circumstances attributable to negligence on the part of the Contractor which, in the opinion of the Project Manager, may result in the works, or part thereof, being less than the required strength.

If the loading test be instructed to be made solely, or in part, for one or of the reasons mentioned above, the test shall be made at the Contractor's own cost. If a test instructed is to be made for other reason than specifically stated above, the Contractor shall make the test and shall be reimbursed for all costs relating thereto, provided the test results show the concrete to be satisfactory.

Loading tests are to be in conformity with Clause 605 of British Standard Code of Practice C.P 114.

If the result of loading test be not satisfactory, the Project Manager shall instruct that the part of works concerned shall be taken down or removed and reconstructed to comply with this specification, or such other remedial measures shall be taken as to make the works secure.

If the tests be instructed to be made for one or more of the reasons (a) to (b) inclusive as herein before specified, the Contractor shall take down or remove and reconstruct the defensive work or shall take the remedial measures instructed all at his own cost.

Protection

All in-situ and precast concrete shall be protected from rain and during hot, dry and windy weather approved hessian covering constantly damp shall be used to prevent premature drying out.

All in-situ and precast concrete shall be protected from damage by disturbance, shock vibrations, early loading or overloading. In addition, all exposed finishes shall be constantly protected from mechanical damage to arise or faces and damage due to dropping flashing and staining from any source including rusty scaffolding or reinforcement.

No materials or equipment of any kind shall be stored or staked on suspended floor without the Engineers prior approval.

Precast concrete

Precast concrete lintels shall comply with B.S .5977 Part 2

Precast concrete Kerbs shall comply with B.S.340, Figure 5

Concrete shall be cast in properly made strong moulds to form shapes required. For work described as “finished fair” the mould shall be lined with sheet or other approved material.

The coarse aggregate for precast concrete shall be 10mm gauge for the mix specified. The

concrete shall be the mixes described and shall be thoroughly tamped in the moulds and shall not be removed from them until seven days after placing the concrete, but the sides may be removed after three days providing the moulds are such that the sides are easily removable without damaging the concrete.

The precast work shall be cast under the sheds and shall remain under same for seven days in the moulds and a further seven days after removal from the moulds. During the whole of this period the concrete shall be shielded by sacking or other approved material kept wet.

It shall then be removed from the sheds and stacked in the open for at least seven days to season.

Precast units shall be true and smooth on all faces (except where key is required for applied finishes). All arises shall be true and clean with no broken edges.

All units shall be marked during manufacture to indicate: -

a. The edge of casting
b. Identification lettering in accordance with the drawings
c. Where necessary, the way up for building in.

Ends of bar reinforcement shall be 25 mm from internal faces and 40 mm from external faces. Nominally non reinforced units may contain reinforcement at the Contractor’s option for handling purposes, the cost of which shall be deemed to be included in the Contract Sum.

<u>Surface finishes</u>

After removal of shuttering, unless instructed to the contrary, the face of exposed concrete is to be rubbed off immediately to remove fins or other irregularities. In the event of parts of the concrete being honey combed, such portions are to be cut to the depth and shape required by the Engineer and made up with fine concrete of equal quality in such a manner as shall be directed. The face of the concrete for witch shuttering

is not provided, other than slabs, is to be smoothened with wooden float to give a finish equal to that of the rubbed-down surface where shuttering is provided.

The top face of slab which is not intended to cover with other material is to be leveled and floated before setting to a smooth finish at the level or falls shown on the drawings or elsewhere. The floating must be carried out in such a way as will prevent an excess of mortar being brought to the surface of the concrete. The top face of slab

intended to be surfaced with mortar, granolithic or similar material is to be brushed with a stiff broom while still green to remove any laitance and provide a roughened surface.

a. Samples

Before the execution of any specified finish, the Contractor shall prepare 1200 mm square sample, for the Engineers approval. No concreting in finish works shall be attempted until after the approval of a sample. Approved samples shall be retained till the completion of all such work and closely adhered to throughout the work. Rejected samples shall be demolished and removed.

b. Rendered or plastered surfaces.

Concrete surfaces to be rendered or plastered shall be thoroughly hacked to form a good key.

c. Fair faced surfaces.

Fair faced surfaces shall be free from honeycomb, stains fins lippings, nail holes or excessive air holes and shall be uniform in colour and texture. This surface shall be obtained by the use of:

(i) Wrot form, i.e. timber forms planed smooth on the surface in contact with the concrete.
(ii) Forms lined hardboard or plywood or other material, or
(iii) Smooth steel forms.

All imperfections shall be cut out, made good in cement mortar and rubbed down with carborundum stone and finally bag-rubbed with cement slurry to finish to a high standard without trace of shuttering mark, joints or other disfigurements.

WALLING

GENERALLY

Testing

The Contractor shall, as and when required by the Engineer, submit and deliver samples of any materials for testing in accordance with the relevant current B.S specification. Samples of mortar, when required are to be delivered in watertight boxes provided by the Contractor.

Samples and sample panels

Samples of all types of block, bricks and stone required for the works shall be to the Engineer for his prior written approval before any orders are placed.

After approval of samples, the contractor shall erect a 1200mm x 1200mm sample panel of brickwork, stone or any fair face block work required by the Project Manager. No work shall be commenced until written approval has been given to sample panels, which shall be maintained for the duration of execution of the works to which the sample applies.

The work executed shall not be inferior in any respect to the approved sample. Inferior work shall be taken down and removed if required by the Project Manager. The cost of

providing samples and sample panels shall be deemed to be included in the Contract Sum.

MATERIAL

Cement

Cement shall be as described in Concrete Work.

Fine aggregate

Fine aggregate for concrete blocks shall be as described in Concrete Works.

Coarse aggregate

Coarse aggregate for concrete blocks shall be good, hard, clean aggregate from approved quarries. It shall be free from all decomposed materials and shall be graded up to 10mm and all as described for course aggregate in Concrete Work

Limes

Hydrated limes for cement/lime mortar shall be semi- hydraulic or non-hydraulic calcium limes. Lime/sand mortar shall be hydraulic.

Sand for mortal

Sand for mortal shall comply with B.S 1200 Concrete blocks.

Concrete blocks for walling shall be provided by the Contractor complying with B.S. 6073 part 1 and made in approved block making machines of a composition as follows:

Portland cement	1 cubic metre
Fine aggregate (grade up to 5 mm)	3 cubic metre
Coarse aggregate (grade up to 10mm)	6 cubic metres

Blocks shall be solid or hollow two-hole type as specified and are to be made under sheds erected by the Contractor to the directions and approval of the Project Manager. Samples shall be approved by the Project Manager any walling work is commenced.

The compressive strength of non-loading bearing shall be not less than: -

Average of 10 blocks	3.5 N/mm2 gross area
Lowest individual block	2.8 N/mm2 gross area

When load bearing, the compressive strength of blocks shall be: -

Average of 10 blocks	7.0N/mm2 gross area
Lowest individual block	5.6N/mm2 gross area

All testing shall be in accordance with B.S.2028

The concrete is to be put into the machine's moulds in thin layers and all properly tamped therein. On removal from the machines blocks are to be carefully deposited on racks under sheds erected by the Contractor to the direction and approval of the Project Manager and there left for three days and kept thoroughly wet the whole time, after which they shall be put out in the open on racks and protected with approval matting, sacking or straw and kept wet for further five days, then kept in the same position and under same mat cover, but without wetting, for a further two days and then left in the open without matting for wetting or a further seven days to season.

The blocks must be left with good sharp edges. The blocks in use for works shall be 200mm high and may vary in length from 300mm to 450mm and no variations above or below these lengths will be allowed except where required to form proper bonding at corners, around openings sills, lintel, beams, etc. and the like positions and the Contractor must make or cut blocks to all varying sizes required for these purposes and include this in his price.

Blocks to be subsequently covered with an in-situ finishing may be slightly rough in texture. Fair face blocks shall be perfectly smooth.

Precast concrete louvre or screen blocks

Precast concrete louvre or screen blocks shall comply in all respects with the specification for precast items contained in the preambles to 'Concrete Work' and shall be constructed to the dimensions and form shown in the drawings.

Stone

Stone shall be sound and hard and free from all defects and shall be obtained from a quarry approved by the Project Manager.

Storage of materials

a) Cement and Limes shall be stored off the ground, under cover and away from damp, and in such a manner to enable them to be used in rotation in order of delivery.

b) Sands shall be stored separately according to type and on clean, hard dry stand and protected from contamination.

c) Sands for pointing shall be stored separately, away from other sands and shall be obtained in sufficient quantity at one time to enable materials of the approved colour to be used for the whole of the work.

d) Blocks and bricks shall be open stacked to permit ventilation and protected from the sun, rain and rising damp.

Wetting blocks and bricks

Concrete blocks and bricks or grille blocks shall be wetted as necessary before and after laying.

Walls shall be kept wet for three days after building

Bonding walls

The blocks shall be properly bonded together and in such a manner that no vertical joint in any one course shall be within 115 mm of a similar joint in the course immediately above or below. Sufficient through bonders shall be provided as directed by the Engineer. Alternative courses of walling at all angles and intersections shall be carried through the full thickness of the joining walls. All walling shall be built up entirely solid in blocks, without voids, allowance being made for joints 10mm thick only.

All perpends; reveals and other angles of the walling shall be built strictly true and square.

Generally

The Contractor shall provide all setting out rods

All block work and brickwork shall be built uniform, true and levels, with all perpends vertical and in line. No work shall rise more than 1 meter above adjoining work and all such risings are to be properly racked back in long steps to prevent crack. Rising and all walls shall be leveled around at each floor.

Joints generally are not to exceed 10mm in thickness. Cutting of block work against concrete soffits, etc. shall include for cutting to give normal 10mm joints and complete filling thereof with mortar.

All walls built in hollow concrete blocks, where finishing with an open to edge, (i.e. not against ceiling, beams, etc.), or at the underside of sills, shall be finished with a solid concrete block top course.

Where walling is to be fair faced in block work the blocks shall be selected and shall all have clean arises. The blocks are to be built to a true and even face with the joints finished as specified hereinafter.

Openings for wooden doors, frames ventilators, etc., are to be set out and left unbuilt until the wooden frames have been fixed in position.

Openings for metal frames are to be wide enough for the frames to fit without being forced into position. Built the lugs into the joints of the walling and fill the space between the walling and the frame with cement mortar well tamped into the channel of the frames and point all around externally.

Wall reinforcement

Where described walls and partitions shall be reinforced with a 25mm wide strip of 1mm thick hook iron built into alternate horizontal joints in the wall centre. The reinforcement shall be lapped and hooked at the running joints, angles and intersections and carried at least 115mm into abutting walls at junctions.

Mortar mixing

The constituent materials shall be measured separately when dry in specially prepared gauge boxes of sizes given the proportions specified without consolidation of the contents by ramming and shaking. The mortar shall be mixed in an approved power driven mixer for not less than two minutes per batch and using the minimum quantity of water necessary to obtain a working consistency. The mixer shall be used as close as practicable to the works and mortar shall be used within 30 minutes of mixing. No partially or wholly set mortar will be allowed to be used or re-mixed

Chasing

When walling is cut, holed or chased for conduits, pipes or the like, all such chases shall be filled in solid in cement mortar mix (1:4) prior to the application of finishes. In no case shall a vertical chase be deeper than one-third the thickness of the wall and in no case shall a horizontal chase be deeper than one-sixth the thickness of the wall.

STRUCTURAL STEEL

DEFINITIONS

Holes for attachments

Where lugs or other subsidiary members are given in the description of main members of plates, bars sections or tubes, holes required for the screws, bolts or rivets by which the subsidiary members are attached to the main members shall be deemed to be included.

Welding

In the absence of specific requirements, the technique and materials employed in welding shall be selected with due regard to the character of the work and the metal being connected.

GENERALLY

Shop drawings

The contractor shall submit complete shop drawings as and when required by the project manager for his approval.

Standard of construction for structural work

Structural metalwork and testing shall comply with the relevant causes of B.S. 449 part 2.

Fabrication of Structural metalwork

Structural metalwork shall be fabricated by a specialist firm and before an order is placed by the contractor; such specialist firm shall be approved by the Engineer.

Shop details for structural work

The contractor shall include for the preparation of all shops details for structural work from the drawings supplied by the Engineer. All such details shall be approved in writing, by the Engineer before the work is put in hand. Every drawing shall show the number and sizes of all rivets and bolts, complete details of welds, type of electrodes, welding procedure, whether the welds are to be made in the shop or elsewhere and any other relevant information.

Accuracy of drawings

The contractor shall be responsible for the correctness of his shop details and for shop fittings and site connections.

Dimensions to be verified

The contractor shall take the dimensions from the site of buildings and he shall verify all dimensions given on the drawings before the work is put in hand.

MATERIALS

Steel generally

The steel used for (i) hot rolled steel products (ii) cold-formed steel products and (iii) hard drawn steel wire and steel sections shall comply with the relevant B.S. or K.S. 02-18 as approved by the engineer. Where applicable this standard shall overrule any other standard hereafter stated.

Steel for general metalwork

Mild steel shall comply with B.S. 4360, Grade 43a1 of 43A. Hot rolled sections shall comply with B.S. 4, Part 1 Hot rolled hollow sections shall comply with B.S. 4848, Part 2. Tubes (other than circular hot rolled hollow sections) shall comply with B.S. 6323 and shall be of the type of steel and method of manufacture described.

Steel for structural metalwork

(a) All structural mild steel shall comply with B.S. 449 Part 2 and B.S. 4360.
(b) All structural steel tubes shall comply with B.S. 1775 and B.S. 449 Part 2.
(c) Mild steel and medium tensile steel electrodes for metal-arc welding shall comply with the requirements of B.S. 639.
(d) All mild steel bolts and nuts shall have a tensile strength of not less than 432 N/mm^2 (38 tons/in) (37 tones/in^2).
(e) All high tensile bolts, nuts and washers have a minimum tensile strength of 570N/mm2 (37tons/in^2)
(f) High strength friction grip bolts and washers shall comply with B.S. 4395 Part 1.
(g) All plain washers shall be of steel. Tapered or other specially shaped washers shall be made of steel or malleable cast iron complying with B.S. 3410.

Cast Iron

Cast iron shall comply with B.S. 1452

Galvanized work

Galvanized plain steel sheets shall be to the standards approved by the Engineer. Zinc sprayed iron and steel shall comply with B.S. 2569 Pat 1. The nominal thickness of zinc coating shall be not less than 0.102mm and at no point less than 0.07-mm.

Bolts and nuts

Bolts and nuts shall comply with B.S. 1494 and B.S. 916 (imperial) or B.S. 4190 (metric).

Aluminium

Wrought aluminium shall be of the alloys described and shall comply with the following:-

Plate, sheet and strip	B.S. 1470
Drawn tube	B.S. 1471

Extruded round tube and hollow sections, bar and rods, - to approved manufacturer's specification.

WORKMANSHIP

Smithing, etc.

All smithing and bending shall be soundly and neatly executed; care being taken not to overheat.

Forging

All straps bolts and similar work shall be forged neat and clean from the anvil.

Welding

The word 'welded' is to be understood to include the normal trade methods of jointing metals using electric arc welding apparatus or an oxyacetylene torch, rod and flux. The joints shall be made so that they will transmit the loads and resist the stresses to which they will be subjected. All excess metal is to be filed down and smoothed off to a workmanlike finish to the approval of the Engineer. The materials employed in welding shall be selected with due regard to the character of the work and the metals being connected.

Structural work generally

The whole of the fabrication and erection of the structural metalwork shall be carried out in accordance with B.S. 449; Part 2. The welding of steel to B.S. 4360 must conform to:

B.S. 1140 – "General requirement for the spot welding of light assemblies in mild steel", or

B.S. 5135 – "Metal is welding of carbon and carbon manganese steels" as applicable.

For welding any particular type of joints the contractor shall provide evidence acceptable to the project manager that the welder has satisfactorily completed the appropriate tests as described in B.S. 449, part 2, chapter 6. Any welder's tests shall be made at the contractor's expense and shall include the cost of any

fees incurred b the Employer for witnessing of, or making such tests and any other instructions the project manager may give from time to time during the progress of works.

Fabrication

As much of the work of fabrication of the structural metalwork as reasonably practicable shall be completed in the manufacturers works. Field connections shall be made in accordance with the approved drawings. The contractor shall give four day's clear notice of structural metalwork ready for inspection at the manufacturer's works, to facilitate inspection before delivery.

Joints and connections

No variation of the number, type or position of the joints or connections shown on the drawing of structural metalwork shall be made without the consent of the Engineer. If such consent is desired the contractor shall submit detailed drawings of the proposed joints for the approval of the project manager and no extra cost incurred by reason of such additions of alterations will be allowed to the contractor.

Painting at works

Where described as primed at works, structural metalwork shall be freed off rust, mill scale, welding slag and flux residue and shall be dry immediately prior to painting with primer.

For joints with high strength friction grip bolts the contact surface shall be left unpainted but special care shall be taken after assembly to paint all edges and corners near the joints together with bolt heads, nuts and washers to prevent the ingress of moisture. For joints made with other bolts and rivets the contact surfaces shall each be given a coat of priming paint and for shop connections the contact surfaces shall be brought together while the paint is still wet.

For welded connections where the contact surfaces are not completely sealed the contact surfaces shall be painted to within 50mm of the edges that are to be welded. The primer shall be touched up with similar primer if damaged by subsequent handling.

Welded members to be galvanized

All galvanized members which are to be welded shall be galvanized only after all fabrication is complete.

Metalwork to be painted

All metalwork which is to be painted shall be painted with one coat of primer before fixing.

FLAT ROOF WATERPROOFING WITH EPDM RUBBER

SPECIFICATION OF WATERPROOFING MATERIAL

The waterproofing material shall consist of a single ply VARNAMO EPDM RUBBER, shall not be less than 1.2mm thick and shall have the properties specified below (unless otherwise agreed at the time of award of the contract).

The membrane material shall be supplied by the manufacture in the sheets (or rolls) large enough to minimize jointing which shall be capable of forming single bents in-situ. At the points where the membrane goes over parapet, proper care shall be taken to seal the edges per manufactures specifications, including chiseling grooves to tuck in the rubber.

Before fixing the waterproofing membrane, the substrate must be smooth, clean, dry, free of oil/fat, sharp edges and foreign materials. All bituminous waterproofing materials previously used must be removed in total and carted away. The membrane shall be adhered to the substrate at least 50%, using an adhesive specified by the manufacture.

The rubber surfaces shall be painted with two coats of rubberized paint as manufactured by Crown Paints, to give a grey finish or any other colour that may be specified. Areas as specified in the drawings, prone to mechanical damage shall be protected by installing paving tiles.

The application of waterproofing membrane shall be carried out by a specialist sub-contractor who is to be specifically approved by the Architect and will be required to give a TEN YEARS GUARANTEE against workmanship backed by a similar guarantee for materials from the MANUFACTURES. Such a SUB-CONTRACTOR will have a demonstrable experience in installing such materials in East Africa

	PROPERTY	TEST OR DEMONSTRATION	REQUIREMENT
a)	Thickness / Uniformity	BS 903 Part A38	In the range of +3% to 5% stated thickness
b)	Tensile strength and elongation	BS 2782 Method 210 A	Minimum tensile strength at beak 4 kN/m Minimum elongation at Break 350%
c)	Tear strength	BS 903 Part A3	Minimum tear strength 8 N/mm
d)	Thermal expansion	Change of dimension 100^0C	Maximum +1%
e)	Resistance to aging and weathering	DIN 7864 Heat aging at 80	Tensile strength maximum degrees change on (b) after 28days 20% elongation at break, maximum change on (b0 above after 28days 20%
f)	Deteriorating by lime	DIN 7864	Tensile strength, maximum change on (b) above after 28 days 20% elongation at break
g)	Ozone resistance	BS 903 Part A4	No visible cracking under 7xMagnification after being exposed under strain to the standard ozone

			rich atmosphere
h)	Robustness	Contractor to provide evidence for similar work	The material must be sufficiently robust to be suitable for installation on the basis foreseen in the contract.
i)	Bio-degradation	Contractor to provide evidence for similar work	The material shall be immune to bacterial attack when installed on site
j)	Chemical resistance	Contractor to provide features of supply material	Good resistance to corroding substances with which the material may come in contact in installed conditions at the site

VANDEX PRODUCTS

SPECIFICATION FOR WATERPROOFING CONCRETE STRUCTURES

Preparatory work

All areas shall be examined for structural defects.

Shrinkage cracks exceeding 0.3mm (0.01") in width shall be cut or chiseled out at least 10mm wide and 15mm deep and washed out. Then a slurry coat of VANDEX super shall be applied. Following this the groove is filled with a mixture of 3 to 1 sand and shall cement in stiff mortar consistency.

Over-poured forms, around columns and/or inverted beams, form grooves shall be cleaned out, rinsed with water and slurry coated with VANDEX super. These grooves shall then be filled flush with a mixture of 3 to 1 sand and cement.

Any honeycombed concrete found in walls and /or inverted beams/columns shall be raked out to solid concrete, washed out with water, coated with a slurry coat of VANDEX super and filled out with a 3 to 1 mixture of sand and cement.

Cleaning

Concrete surfaces shall be thoroughly wetted down in order to achieve the penetration of the activated chemicals, and thereby starting the crystalline growth throughout the capillary tracts.

All free lying water must be removed from surface, leaving the concrete in a damp condition just prior to VANDEX application

Mixing

VANDEX super is mixed to slurry consistency. Add approx. 0.8 parts water to 2.0 parts powder or 9 litres to 25 Kg when mixing full bags, and mix thoroughly until the mixture is free from lumps.

Application

The pre-watered concrete surface shall receive two coats of VANDEX super each coat approx. 0.75 Kg/sqm. Use a VANDEX brush and work the material well into the surface.

The application should be as even as possible trying to avoid thick and thin spots. Areas applied too thick will not cure right and when drying cracks and subsequently peeling may form.

The second coat may be applied when the first coat has set and is not drawn off by the second coat.

Curing and protection

VANDEX applications must be protected against sun and rain. After the application is dry to the touch, cover with polyethylene sheet (Hessian cloth) or wet sand for five days. If this is not possible, sprinkle with water several times a day for five days. Do not apply VANDEX materials at temperature below 5 degrees C or on super cooled structures.

Additional information

When concrete is poured in sections, it is recommended that each section is keyed. After keyed form is removed and just prior to pouring the next section the construction joint shall receive a slurry coat of VANDEX SUPER (1.5 Kg/sqm.)

This does not apply to control or expansion joints.

ROOFING

"RESIN COT" PRE-PAINTED MILD STEEL/G.C.I. SHEETING

Generally

Pre-painted corrugated mild steel sheeting shall be No. 24 Gauge of best quality in accordance with B.S. 3038, and shall be as per Mabati Rolling Mills Ltd manufactured products or other equal and approved. Where stated aluminium sheets, they should conform to a specified and approved thickness.

Laps

Sheets shall be laid wit 150mm end laps and side laps of 30mm corrugations on the side away from the prevailing wind.

Fixing of Steel and Timber

The sheets shall be fixed to mild steel angle purlins with 6mm diameter pre-painted mild steel hook bolts 50mm longer in the shank than the depth of the steel purlins to which they are fixed each with one diamond shaped bitumen washer, one, pre-painted steel to timber purlins by using 14gauge drive screws with bituminous felt washer backed by cranked diamond shaped aluminium washer.

Holes

Holes for bolts or screws shall be punched from the inside of the sheet and through the ridges of corrugations NOT in the hollows. A clearance of 0.80mm on the bolt of screw must be allowed.

Ridges, Valleys, Flashings

The ridges, valleys and flashing etc., shall be formed on No. 24 gauge pre-panted mild steel sheeting of a qualify to the sheeting on each side at 450mm centres maximum with 6mm diameter seam bolts 20mm long each with one diamond shaped bitumen washer one pre-painted steel washer and one pre-painted steel nut.

Ridges and valleys shall not be less than 375mm girth.

Bolts and Screws

All fixing bolts and screws shall comply with B.S. 1494.

Square Abutments

At the square abutments the last two corrugations of the corrugated iron sheets next to wall shall be flattened and turned up against wall and covered with 2-gauge pre-painted sheet iron apron flashing.

Bat Proofing

Bat proofing shall consist of "Perspex" or other equal and approved translucent plastic corrugated sheeting.

TILE ROOFING

Concrete Single-pin tiles and Fittings

Concrete singe-pin tiles and fittings shall comply to B.S. 473 and 550; Part 2 group B. Tiles are to be 381 x 229mm nominal unless otherwise specified.

Concrete Single-pin tiles and Fittings

Surface coating, when specified must be firmly bonded. A full range of fittings are available from the manufacturer and must match the tiles with which they are laid.

Mangalore Tiles

Mangalore tiles where specified, shall be interlocking clay tiles as manufactured by M/s Clayworks Ltd., or other equal and approved. They shall be uniform in size, shape and colour, hard, well burnt and free from defect.

They shall be laid in accordance with the manufacturer's printed instructions.

Polythene Underlay

Nails for underlay shall comply to B.S. 1202: Part I

Tying Wire

Tying wire shall comply to B.S. 443, 1.6mm diameter (16 S.W.G.) iron wire.

Decra Roofing Tiles.

Decra roofing tiles where specified, shall be interlocking steel tile with a coating as manufactured by Decra roofing tiles products. They shall conform in size, shape thickness and coating to the manufacturer's specifications and standards. They shall be laid in accordance with the manufacturer's printed installation details and instructions.

CARPENTRY

STANDARDS AND CODES OF PRACTICE

The requirements of the following British Standards and Codes of Practice shall be observed:

British Standards

a)	B.S. 565	Glossary of items relating to timber and wood work.
b)	B.S. 1860 Part 1	Structural timber. Measurements of characteristics affecting strength (softwood)
c)	B.S. 4471	Dimensions for softwood
d)	B.S. 373	Methods of testing small clear specimens of timber.

Standards and Codes of Practice (Contd.)

e)	B.S. 1202 Part 1	Nails
f)	B.S. 1579	Connectors for timber.
g)	B.S. 4169	Glued laminated structural members.
h)	B.S. 916	Black bolts

Codes of Practice

a)	C.P. 112	The structural use of timber.
b)	C.P. 98	Preservative treatment for Construction timber.
c)	NOTE:	The contractor's attention is drawn to drawn to section 'L' of the Standard Method of Measurement.

DEFINITIONS

Selected

The term 'selected' shall be deemed to include keeping the materials so described clean for staining, polishing, or any similar finish.

Hardwood or the like

The term 'hardwood or the like' which is used as a statement to which ironmongery is to be fixed, shall be deemed to include plywood and other manufactured materials, except when faced with metal, laminated plastics or the like.

MATERIALS

Terminology

All technical terms shall be as defined in the Glossary of Terms used in Timber Standards, the British Standard Code of Practice No. 112.

Timber Generally

Timber shall be sound, well-conditioned, properly, seasoned, containing of more than 15% moisture for joinery work or 18% moisture for carpentry work and complying with the following performance specifications.

Performance Specifications

The specifications refer to all conifer (softwood) and broad leaved (hardwood) species and apply to timber sections incorporated in the building after they have had a sufficient time to season. The period required for green timber to season fully after installation under cover shall be assumed to be one month for each 25mm thickness.

Unless noted elsewhere timber shall conform to the listed specification as follows:

a) F Grade	Furniture and high class joinery
b) GJ Grade	General Joinery
c) S75 Grade	Structural grade having grade stress value of 75% of basic Stress
d) S50 Grade	Structural grade having stress value of 50% of basic stress.
e) C Grade	A general construction grade for non-stressed construction.
f) L Grade	A low grade for low quality.

GENERAL

All timber used for carpentry shall be sound, well-conditioned, properly seasoned to suit particular use and free from defects or combination of defects rendering it unsuitable for the purpose intended.

Timber used for carpentry shall be in accordance with the latest approved Grade Rules as may be directed by the Project Manager Timber used structurally shall be to the approval of the Project manager and shall comply with the requirements of the Export Grading Rules made under the Export of Timber Act, Second or Select Grade, as per B.S. 1860.

The following timber shall be used:

a) Cypress
b) Podocarpus (Podocarpus spp)
c) Cedar (Junipers Procera)
d) Elgon Olive
e) Mahogany

All timber as it arrives on site shall be inspected by the contractor and any timber found not to comply with the specifications or mot approved must be removed forthwith from the site and only timber which has been approved shall be used.

Tolerances shall conform with the following extracts from the Government of Kenya grading rules:

a) Softwood Grading strength grades first and second grades.

b) Undersize All timber to be sawn by 1.6mm per 25mm of thickness and width.

Not more than 3mm in thickness and not more than 6mm in width.

All timber shall be free of live borer, beetle or other insect attack when brought upon on site. The contractor shall be responsible, to the end of maintenance period, for executing at his own cost, all the work necessary to eradicate insect attack from timber attached or suspected to be attacked, notwithstanding that the timber concerned must have already been inspected and passed as fit for use.

GENERAL

Timber shall be seasoned to moisture content of not more than 18%.

All carpentry timbers shall be treated with pressure impregnated "Celcure" or "Tenalith" solution with a minimum wet retention of 5.46kg of dry salt per m3. If so required 'charge sheets' issued after treatment with 'Celcure' or 'Tenalith' shall be submitted by the contractor to the Architect for his retention. All out ends and other cut faces or timbers sawn after treatment shall be treated before fixing with 'Celcure 'B' or 'Wolmanol' solution brushed on.

The contractor's rates for such timber hereinafter must allow for the above treatment.

All grounds shall be Podocarpus or other light and approved hardwood.

Nails shall comply with the relevant standard as above.

Black bolts shall comply with B.S. 916.

Rag bolts, coach screws and others shall comply with B.S. 1494.

Where used externally nails and screws shall be sherardized.

Timber shall be delivered early to the site, stored under cover clear of the ground and protected from the sun and dampness.

The Project Manager shall be given facilities and reserves the right for inspection of all works in progress whether in workshop or on site. The contractor is to allow for testing of pro-types of special of special construction units and Project Manager shall be at liberty to select any sample he may require for the purpose of testing i.e. for moisture content or identification, species, strength etc.

The contractor is to clear out and destroy or remove all cut ends, shavings and other wood waste from all parts of the building and the site generally, as the work proceeds and at conclusions of the work.

The clearance, destruction and removal is to prevent accidental borer infestation and to discourage termites and decay.

All carpentry work shall be accurately set out in strict accordance with the drawings and shall be framed together and securely fixed in the best possible manner with properly made joints. All brads, nails and screws etc., shall be provided as directed and approved and the rates shall be deemed to allow for these.

Carpentry work shall be left with sawn faces except where specified to be wrot.

All timber shall be as long as possible in length in order to minimize joints. If splitting is likely, or is encountered in the course of the work, holes for nails are to e prepared at diameters not exceeding 4/5th of the diameter of the nails. Clenched nails must be bent at right angles to the grain.

Lead holes are to be bored for all screws. When the use of bolts is specified the holes are to be bored from both sides of the timber and are to be of the diameter D/16 where D is the diameter of the bolt. Nuts must be brought up tight but care must be taken to avoid crushing of the timber under washers.

JOINERY

STANDARD AND CODES OF PRACTICE

The requirements of the following British Standards and Codes of Practice shall be observed:

British standards

a) B.S 565	Glossary of terms relating to timber and Woodwork
b) B.S 4471	Dimensions for softwood
c) B.S. 1186	Parts 1+2 Quality of timber and workmanship in joinery
d) B.S 373	Methods of testing small clear specimen of timber
B.S. 4512	Methods of test for clear plywood.
f) B.S.1142 Part 3	Fibre building board (Insulation board softwood)
g) B.S 3444	Block board and laminated board
h) B.S 1455	Plywood manufactured from tropical hardwoods
i) B.S 3794	Decorative laminative board.
j) B.S. 549 Part 2	Flash doors.
k) B.S.459 Part 3	Fire check flash doors and wood and metal frame (1.5 hour and 1 hour types)
l)B.S. 1567	Wood door frames and linings.

m) B.S. 584	Wood trims (softwood architraves, skirting, quadrants etc.)
n) B.S. 1024	Synthetic resin adhesive
Part 1+2	(phenolic and type MR- Moisture amino plastics) for wood Resistant Type INT- Interior.
o) B.S 1210	Wood screws)
p) B.S 1494 Part 2	Fixing accessories for building purposes (bolts, screws, staples etc.)
q) B.S 4174	Felt tapping screws and metallic drive screws.

Code of Practice.

a) C.P. 201	Timber flooring
b) C.P. 201 Parts 1+2	Flooring for wood and wood products
c) C.P.151	Doors and windows including Frames and linings
d) NOTE:	The contractors' attention is drawn to the Section "M" of the standard Method of Measurement.

DEFINITIONS.

Selected

The term 'selected' shall be deemed to include keeping the material so described clean for staining, polishing or any similar finish.

Hardwood or the like.

The 'hardwood or the like' which is used as a statement to which ironmongery is to be fixed, shall be deemed to include plywood and other manufactured materials except when faced with metal laminated plastics or the like.

MATERIALS.

Terminology.

All technical terms shall be defined in the glossary of Terms used in Timber Standards, the British Standard Code of Practice No. 112.

Timber Generally.

Timber shall be sound, well-conditioned, properly seasoned, containing no more than 15% moisture for joinery work or 18% moisture for carpentry work, and complying with the following performance specification:-

Performance Specifications.

These specifications refer to all conifer (soft wood) and broad leaved (hardwood) species and apply to timber sections incorporated in the building after they have had a sufficient time to season. The period required for green timber to season fully after installed under cover shall be assumed to be one month for each 25mm. thickness.

Performance Specifications (Contd.)

Unless noted elsewhere timber shall conform to the listed specifications as follows: -

a)	F	Grade Furniture and high class joinery
b)	Gj Grade	General joinery
c)	S75 Grade	Structural grade having grade stress value of 75% of basic stress
d)	S50 Grade	Structural grade having stress grade value of 50% of basic stress
e)	C Grade	A general construction grade for non-stressed construction
f)	L Grade	A low grade for low quality work

Defects shall not exceed those specified in tables 1, 2 and 3 of 02-17.

WORKMANSHIP

The timber for joinery shall be as specified in the Export Timber Ordinance of 1951 and obtained from an approved sawmill. All such timber shall be Prime Grade and reasonably straight, grained and shall be purchased immediately the Contract is signed. It shall be open stacked on site for such further seasoning as may be required.

Timber which in the opinion of the Project Manager does not satisfy the specification in character or condition or is not suitable for the requirements of the work because of the blemishes it contains shall not be used.

The following timber shall be used;

a) Podocarpus 068

b) Mvuli

c) Cedar
d) Elgon Olive
e) Elgon Teak f) Camphor
g) Mahogany

All timber shall be wrot by machine dressings. Non- exposed faces and machine marks shall be removed with hand plane and sanded out, unless otherwise specified.

The dimensions and thickness stated in the Bills Quantities are the finished (unless otherwise stated) and the Contractor will allow for the necessary waste.

The joinery shall be worked strictly in accordance with Drawings, and is to be framed up and put together as soon as possible and stored in the drying rooms, for as long as possible before being wedged up. All joints and angles are to glued and where

necessary cross tongued with hardwood tongues and surfaces finished clean and smooth, with machine marks and sand- papered out before fixing.

Should any of the joinery work shrink, warp, wind, or defect unduly before the end of the maintenance period of the Contract, the work is to be taken down and rectified at the Contractor's sole expense.

Tolerance in thickness shall conform with the following extracts from the Government of Kenya Rules: -

Hardwood Grading: (first and second grades)

a) 1.6mm oversize on pieces up to 22mm in thickness.
b) 3mm over size on pieces over 25mm and up to 51mm in thickness.
c) 6mm over size on pieces over 51mm in thickness, under size will not be permitted.
d) Softwood grading Appearance Grades (First and Second Grades); under size will not be allowed.
e) Oversize: All timber to be sawn oversize by 1.6mm per 25mm of thickness and width. Not more than 3mm in thickness and not more than 6mm in seasoning of timber shall be to a moisture content of not more than 15%.

Pressure impregnation treatment shall be as for "Carpentry".

Where joinery is described as screwed, this is deemed to include sinking the head of the screw and pellating with similar timber, and to grain I with the finished joinery.

All hardwood joinery shall be finished for oil paint/varnish, unless otherwise stated. The rates shall be deemed to allow for all nails and screws and fixing, all labour, cuttings notching, halving, morticing, tenoning and wedges except where otherwise stated.

All works described as plugged shall be fixed with screws to plug formed by drilling concrete wall etc., with the proper tool of suitable size and 750mm. spacing and filling the holes completely with "Phil plug" raw plastic or raw plugs in accordance with the manufacturer's instructions. Alternatively and where so agreed by the Project Manager, hardwood dovetailed fixing slips in preservation and cut and primed or bedded in cement mortar (1:3) may be used.

The rates are to allow for all surfaces of joinery where in contact with walling or plaster, or where otherwise unexpected being treated before fixing with two coats of approved wood preservative.

Laminated plastic sheeting shall be "Formica" manufactured by M/s Thomas de la Rue and Co., or equal and approved, 1.6mm thick and accurately fixed with approved type waterproof impact adhesive and in the colours selected by the Project Manager.

Blackboard shall comply with the Standard as mentioned above.

Plywood shall comply with the standard as mentioned above and faced both sides unless otherwise stated.

Fiberboard shall be 12.7 “Celotex” or other equal approved soft board.

All joinery work shall be accurately set out and framed together as soon after commencement of the building as in practicable bit not to be wedged up or glued until the building is ready for fixing same. Any portions that warp, wind or dent shall be removed and new ones fixed in their place together with other work which may be affected thereby or at the Contractors expense.

All work shall be properly mortised, tennoned, housed, shouldered, dovetailed, notched, primed, braded etc., as directed and to the satisfaction of the Project Manager and all glued up with the best quality glue.

Joints and joinery shall be specified or detailed, and so designed and secured as to resist or compensate for any stresses to which they may be subjected. All nails strings, etc., are to be punched and putted. Loose joints are to be where provisions for shrinkage is necessary; glued joints where shrinkage need not be considered and conditions may be damp must be of the resin type. For non-load- bearing joints or where dry conditions may be guaranteed, resin or organic glues may be used.

All exposed surfaces for joinery shall be wrot and all rises “cased off” by planning and sand papered to an approved finish suitable to the specified treatment.

3 mm reduction of specified surfaces will be allowed to each wrot face except in members 25mm. Thick or less or where described as finished sizes in which case joinery shall hold up the full dimensions.

In fixing all beads, fillets and small members shall be fixed with round or oval brads or nails well punched in and stopped. All large members shall be fixed with screws. Brass screws shall be used for fixing of all hardwoods, to the heads in and pellated with wood pallets to match the grain.

Rates shall include for bedding frames, cills, etc, in mortar or dressing surfaces of walls, etc, in lieu.

Round wood plugs shall not be used, and screws or plugs shall be spaced at 75mm. Centers.

All fixed joinery which in the opinion of the Project Manager is liable to become bruised or damaged in any way shall be completely cased and protected by the contractor at his own expense until completion of works.

Bottom edges of doors shall be painted or polished with two coats of approved primer before fixing.

ALUMINIUM WORKS

STANDARDS AND DIRECTIVES

All aluminium works are to be executed according to the valid standards, directives, government calls and building regulations, fire regulations and any other such application, regulations such as: -

a) DIN 107 Methods of testing windows; mechanical tests

b) DIN 1055 Design loads for buildings

c) DIN 1240 Flat glass for building construction

d) DIN 1745 Wrought aluminium alloy plates, sheet and strips greater than 0.35mm. thickness; conditions properties, technical delivery

e) DIN 1748 Wrought aluminium and aluminium extruded sections; design, Permissible deviations.

f) DIN 1783 alloys Strips, planes and sheet of aluminium and wrought aluminium with thickness of over 0.335mm, cold rolled; dimensions.

g) DIN4102 Fibre behavior of building materials and building components.

h) DIN 4108 Heat insulation in buildings.

i) DIN4109 Noise control in buildings

j) DIN 4113 static Aluminium constructions under predominantly static loading, analysis and structural design.

k) DIN7863 Non-cellular elastomer glazing and panel gaskets

l) DIN 16935 Sheets of polysobutylene used for damp proofing

m) DIN 17611 alloys with Anodized wrought products of aluminium and aluminium layered thickness.

n) DIN17615 AlmgSi 0.5 precision profiles.

o) DIN 18000 Modular co-ordinations in building

p) DIN 18055 Windows; air permeability joints, water tightness and mechanical strain.

q) DIN 18056 Window walls; design construction

r) DIN 18103 (Burglar resistant) doors

s) DIN 18201 Tolerances in building; terminology, principals, application, verification.

t) DIN18202 Dimension tolerance; in building construction

a) DIN18203 Dimension tolerance; precast/reinforced/prestressed concrete.

b) DIN 18355 Contract procedure for building works; general technical specification for steel construction works

c) DIN 18357 Contract procedure for mounting aluminium fittings.

d) DIN 18358 Contract procedures for rolling shutter works

e) DIN 18360 Contract procedures for locksmith works

f) DIN 18361 Contract procedures for works for protection against corrosion of steel and aluminium structures

g) DIN 18540 Sealing of exterior wall joints in building construction using joint sealants

h) DIN 18801 Sealing of exterior wall joints in building construction using joint sealants

i) DIN 18808 Steel structures consisting of hollow section predominantly static loaded.

j) DIN 555920 Protection of steel structures from corrosion by organic and metallic Coatings.

k) VD 2719 Sound insulation of windows or comparable British codes and standards

l) CP 3 codes of basic date for the design of building

m) CP 118 the structural use of aluminium

n) CP 158 windows and roof lighting

o) DD 22 tolerance and fit for building

p) DS 1470 wrought aluminium and aluminium alloys for general engineering purposes, plate, sheet and strip

q) BS 1474 wrought aluminium and aluminium alloys for general engineering purposes, bars, extruded round tubes and sections

r) BS 3987 specification for anodic oxide coatings on wrought aluminium for external architectural application

s) BS4873 Aluminium alloy windows, specification

t) BS5950 structural use of steel bar in building

u) BS 6262 code of practice for glazing for buildings

v) BS 6375 performance of windows

w) BS 6496 specification for external architectural purposes, etc.

x) NOTE: The directives and guidelines on insulating glass Suppliers

The guidelines of accident insurers for local authorities

The guidelines of window/façade system manufacture

ALUMINIUM

Extruded aluminium profile of alloy AlMgsi 0.5F22 in anode quality according to DIN 1748 and DIN 176615 are to used, for anodized sheets AlMgl, for colour coated AlMgl or A199.5

a) special anodizing processes to be taken into account, if determined by the Bill of Quantities

b) the aluminium system shall be capable of achieving different colours and finishes on the external/internal façade and within the same element

STEEL

Steel parts for anchoring or braising must either be non- corrosive or galvanised. During mounting all necessary welding points have to be painted with cold Zinc galvanizing.

SECTION OF PROFILES

All required sections are to be chosen according to foreseen application and data given by the system manufacturer. Thermally insulated out and inner profiles must be continuously connected and sheer-resistant by insulating bars.

The profiles must safely support all loads as described in DIN 1055. The effective moments of inertia given by the system manufacturer are to be considered when selecting the optimal profile. The principal of thermal is to be respected in all points of construction. All thermally insulated profiles are determined by the Groups of DIN4108.

Ventilation and drainage of rebate base and from chamber must be foreseen in the aluminium construction system in order to drain off moisture to the outside. The insulating connection of outer and inner sections must be water-proof and water-resistant without additional sealing if the connection uses the rebate or front chamber. When using insulting glass, the ventilation of the rebate base is to be guaranteed as the insulating glass suppliers specified.

a) All aluminium and maximum vent sizes and weights as listed in all B.S. profile system or binding

b) The glazing guidelines of the insulating glass supplier and DIN18056 determining the allowed deflection of mullions and transoms are to be observed.

PROFILE CONNECTIONS

Corner cleats must have a cross section which corresponds to the interior profile contours. At the mitres a perfect sealing and gluing is required. In T- joints the seeping of water into the construction must be prevented by corresponding parking and elastic sealing.

VENT GASKETS

All gaskets are to be inserted in order to fulfill the specific window requirements (type, building height, etc) permanently the gaskets are to be exchangeable.

a) side hung, turn-tilt, bottom hung and double vent windows must have a middle gasket.

WINDOW LOADING

The system shall be so designed to suffer no permanent distortion or other damage. Deflection of larger pane edges are not to exceed 1/250 for double glazed units and 1/200 for single glazing. When subjected to positive and negative pressures as determined by an in accordance with B.SCP 3 Chapter 5 part 2.

THERMAL IMPROVEMENT.

The aluminium framework and glazing assembles shall be constructed and installed in the prepared locations with sufficient tolerance and, where necessary, expansion joints incorporated within the coupling, to provide for expansion and contraction as will be caused by the climatic conditions and temperature changes, winter summer, day to night, without buckling, distortion of joints, damage to sealants or other detrimental effects over the temperature range-15 deg. C. to 35 deg. C. The design shall accommodate, noiselessly, the thermal movement within the combination units and the curtain walling without distortion. Details shall be prepared based upon the dimension at 20 deg. C. and take account of the ambient temperatures at the time of assembly and installation.

DRAINAGE AND VENTILATION OF CONSTRUCTION

All profile rebates where water or condensate could seep in are to be drained off and ventilated by wind-protected slots or through cavities to the outside.

The system shall incorporate an integral and internal condensate collection drainage channel to remove the condensate from within the assembly to the external drainage system.

Provision for the continuity of drainage for the transom to the mullion is to be provided.

No perforation of the internal structural members within areas of drainage will be permitted.

All internal section junctions are to be adequately sealed.

Transom members within sloped glazed areas shall permit water to drain from one area to another without inhibiting the flow and creating pooling.

FITTING

a) Construction systems of VS are to be assembled or completed by compatible system fittings as specified. Other fittings may be selected but only if fulfilling DIN standards. If not specified in the Bill of Quantities, all fittings except handles and hinges are to be concealed.

b) The fittings are to be attached in their rebates tension and pressure proof. If required because of profile wall thickness screw connections need nuts and washes.

GLAZING PANES

Glass supply and glazing is described separately for each positions of the Bill of Quantities.

a) The glazing is to be executed by permanent elastic EPDM-gasket.
b) Guidelines and directives of insulating glass suppliers are to be strictly followed.
c) Supply and installation for fixed panels is always described in the position concerned.

d) All glass assembles shall be tape sealed between the units and within the structural unit zone and prior to the installation of the external gasket and pressure plate.

BUILDING DIMENSIONS.

The exact measurement must be produced by the tenderer himself on site.

a) If the client required the construction to be ready for mounting before the measurement on site can be carried out, the tenderer shall determine the assembly dimension together with the client taking into account the tolerance of the building according to DIN.

WORKING DRAWINGS.

After award of contract, the contractor must submit working drawings for specific positions and details as requested by the project manager.

INSTALLATION OF ELEMENTS.

The anchoring of all aluminium elements must neutralize all movements of structure and elements attracted without loading or stress the aluminium construction.

a) All mounting of aluminium elements is to be executed exactly in horizontal and vertical alignment according to the measurement points provided by the client.

b) All attachment accessories necessary for mounting are to be calculated by the tenderer.

c) If described in the Bills of Quantities, some anchor rails for attachments will be provided or will be fixed to the structure. In this case, the contractor is requested to provide a location plan of required anchoring in time.

All connecting means, e.g. screws or bolts, must be non-corrosive zinc plated steel.

All attachments to neighbouring building parts are to be considered when calculating the positions in the Bills of Quantities.

GASKETRY AND SEALING

Appropriate EPDM- gaskets or seals are to be inserted according to design, dimensions and its range of application. The gaskets or seals and their elasticity must fulfill all temperature requirements. The contractor shall ensure total alignment of the gasketry in all visible locations.

a) Permanent elastic sealing compounds on silicone or thiocol bases are to be applied for sealings. Joints within any area of the system are to be adequately bolded together to produce a water tight joint. The sealing must stick to the construction parts taking into account the shape of elements and the range of existing temperature without loosening when elements move caused by tension to be considered before. All guidelines of sealing compound suppliers are to be respected.

ANODIC OXIDATION.

The aluminium profiles and sheets are to be anodized according to DIN 17611. Surface treatment coating and protection is determined by the specifications as described in the Bills of Quantities.

a) After the Contract, the tone of colour is to be defined according to colour samples.

b) All visible fittings must suit the profile colour if available.

IRONMONGERY

STANDARDS AND CODES OF PRACTICE.

The requirements of the following British standards shall be observed: -

British Standards.

a) B.S 1227 Part 1 A	Hinges
b) B.S.2088	Performances state for locks
c) B.S. 2911	Letter plates
d) B.S. 4112	Performance requirements for hardware domestic furniture.
e) NOTE:	The contractors' attention is drawn to Section "M" of the Standard Method of Measurement.

MATERIALS AND WORKMANSHIP.

All locks and ironmongery shall be fixed with screws etc, to match, before woodwork is painted, handles shall be removed, carefully stored and re-fixed after completion of painting and locks oiled and left in perfect wording order.

All keys shall be labelled with the door reference on labels before handing to the Project Manager on completion. All ironmongery shall be carefully protected until completion of the work and any damage is to be made good at the contractor's expense.

Rates shall allow for easing and adjusting all doors, etc, and for lubricating all locks, hinges, etc, and left in perfect working order.

Where description fixing ironmongery includes catalogue numbers, such items shall be obtained from the specified manufacturers if at all possible.

Rates shall include for labeling all keys with door references as directed by the Project Manager.

METAL WORK

STANDARDS AND CODES FOR PRACTICE.

The requirements for the following British Standards and Codes of Practice shall be observed.

British

a) B.S.4 Part 1 Structural steel, Hot rolled screws

b) B.S. 4 Part 2 Structural steel, Hot rolled hollow sections

c) B.S.325 Black cup and countersunk bolts and nuts.

STANDARDS AND CODES FOR PRACTICE.

d) B.S. 916 Black bolts, screws and nuts.

e) B.S. 4174 Self tapping screws and metallic drive screws

f) B.S. 405 Metal washers for general engineering purposes.

g) 1161 and addendum Aluminium and aluminium alloy sections for general engineering purposes.

h) B.S 938 Metal ore welding or structural steel tubes.

i) B.S 1856 Metal ore welding or mild steel

j) B.S.729 Part 1 Hot dip galvanized coating iron and steel articles

k) B.S 1474 Wrot aluminium and aluminium alloy

l) B.S 990 Part 1+2 Steel windows (Domestic and similar buildings.)

Codes of practice.

a) C.P. 499 Metallic railing and balustrades

b) C.P. 117 Composite construction in structural steel and concrete

c) C.P. 2008 Protection of iron and steel structures from corrosion.

d) C.P.3012 Cleaning and preparation of metal surfaces

e) NOTE: The Contractors attention is drawn to section “P” of the Standard Method of Measurement.

MATERIAL AND WORKMANSHIP

Iron and steel where galvanized shall comply with the requirements of B.S. 729, part 1 entirely with fine fabrication by complete immersion in zinc bath in one operation and all excess carefully removed.

The finished surfaces shall be clean and uniform. All works in aluminium shall comply with the standards mentioned above.

All smiting and bending shall be soundly and nearly executed care being taken not to overheat.

All strap bolts and similar works shall be forged neat and cleaned from the anvil.

All welded connections shall be ground to a smooth finish and rates shall be deemed to allow for this.

Steel windows shall comply with the requirements of the standard mentioned above and shall be fixed in accordance with manufacturer's instructions.

All mild steel except galvanized shall be cleaned of rust and scale, painted one coat red lead priming paint before delivering to site and the rates shall include for this.

FLOOR WALL AND CEILING FINISHES

STANDARD AND CODES FOR PRACTICE.

The requirements of the following British Standard and Codes of Practice shall be observed: -

British Standards

a) B.S.1191 Part 1	Gypsum building plaster (excluding premixed light weights plasters.)
b) B.S. 1193	Standard for internal plastering with gypsum plasters.
c) B.S.1100 Table 1	Sands for external rendering, internal plastering with lime and Portland Cement, and floor screeds
d) B.S. 1201	Aggregate for granolithic floor finishes.
e) B.S. 1281	Glazed ceramic tiles and tile fittings for internal walls
f) B.S. 1369	Metal lathing (steel for plastering)
g) B.S. 890 Class A	Building limes
h) B.S. 1187	Woods Block for floor
i) NOTE:	The Contractor's attention is drawn to Section "S" of the Standard Method of Measurement

MATERIAL AND WORKMANSHIP.

Cement

Cement shall be described in “Concrete”

Sand

Sand shall comply with the requirements of the standard mentioned earlier.

Lime

Lime shall be non-hydraulic lime to satisfy the Standards mentioned above. It shall be obtained from an approved source.

It must be freshly burnt and shall be slaked at least once a month before using by drenching with water, well broken up and mixed and the wet mixture shall be passed through a sieve of 10 mashes to the square centimeter. Lime putty shall consist of freshly slaked lime as described above, saturated with water until semi-fluid and passed through the fine sieve, it shall then be allowed to stand until superfluous water has evaporated and it has become consistency of thick paste, in no case for shorter period of one month before being used during which it must be kept dump and clean and no portion of it allowed to become dry.

Alternatively, hydrated lime with 70% average calcium oxide content may be used and it must be protected from dump until required for use. It shall be soaked to a putty at least 24 hours before use.

Concrete Beds of Slabs.

All concrete beds and slabs shall be thoroughly brushed, hatched if necessary and well wetted and flashed over with a cement and sand (1 grout immediately before screeds or paving are laid.)

Screeds and cement paving shall be laid in accordance with the relevant British Standards and/or Codes of Practice and in alternative bays generally not exceeding 3.0m during any period of working hours with neat butt joints and shall be damp cured with sand and sawdust and kept damp for at least 7 days after laying.

As bays are formed batten strips must be used to retain the exposed edge of the screed.

Thickness and mixes of screeds are adjusted to suit the various top dressing and the Contractor must first ascertain what finish is intended to each specific area before the work of laying screeds in put in hand.

Screeds shall be finished with a wood float for wood blocks and steel trowel for thermoplastic and similar tiles.

Surface to be Plastered

All surfaces to be plastered must be brushed clean and well wetted before plaster is applied. Joint of walling shall be raked and concrete hacked to form a key. Care shall be taken to see that paving and plastering do not dry out prematurely. Adequate time intervals must be left between successive coats in two coat work in order that the drying shrinkage of the undercoat may be substantially complete.

Internal Lime Plaster

To be applied in minimum two coats to finish not less than 12mm total thickness. The rendering coat shall be in the protection of cement and sand (1:4) and the finishing coat not less than 1.50mm thick shall consist of fine sieved lime putty with 10% of cement thoroughly incorporated immediately before use, trowelled hard and smooth with a steel trowel and sprinkled with water during the process.

The first coat shall be well soaked to form a key and at least fourteen days must elapse between the completion of any portion of the rendering coat and application of the finishing coat.

Marmoran Aztec 3-1

This applies to concrete, plaster renders, fibre cement and gypsum substrates only- for other substrates consult a Marmoran Technical Advisor or refer to the table in 'Preparation of substrates'. A primer may be required if the substrate is of porous or previously painted, or if there is a distinct colour difference between the Marmoran Aztec 3-1 and the surface to be coated.

New Work; Prepare substrate by removing all loose and friable particles. Stop and fill appropriately. Ensure that the surface is clean, dry and sound in accordance to SABS ISO 1514; 1993(South Africa Market only). Apply the 2 coats of Marmoran Aztec 3-1 with a stippled or lambs wool roller, depending on the desired texture. Allow for drying time between coats.

The system must be applied in strict conformance to other manufacturer's instructions.

Redecoration; Prepare by removing all loose and flaking paint, dirt, grease and grime. Spot prime exposed substrates appropriately. Proceed as for new work.

External Cement and Sand Rendering

External cement and sand rendering shall consist of cement and sand (1:4) applied in two cats and finished with wood float

Samples

If required the Contractor shall prepare samples of the screeds, pavings and plastering as directed until the quality, texture and finish required is obtained and approved by the Project Manager, after which all work executed shall conform with the respective approved samples.

Marmoran Caledonplast 2-1

This is a decorative plaster in a combined plaster and topcoat and may be applied at a coating thickness of 1 mm. The use of a primer such as Marmoran Universal Primer is recommended where the substrate is porous or dense or LP or RBP Acrylic primer on previously painted surface, or where the is a distinct colour difference between the Marmoran Caledonplst 2-1 and the surface to be coated.

Marmora Caledonplast 2-1 is applied using a steel trowel and floated with a plastic trowel to give the finished effect. Marmoran Caledonplast 2-1 is supplied Ready for use. Do not thin.

The coating should never be applied during adverse weather conditions, or on wet surfaces. In hot climates, the coating should be applied during the morning and late afternoon hours, and if possible away from direct sunlight.

Specification; This applies to concrete, plaster renders, fibre cement and gypsum substrates only- for other substrates consult a Marmoran Technical Advisor or refer to the table in 'Preparation of substrates'. New Work; Prepare substrate by removing all loose and friable particles. Stop and fill appropriately. Ensure that the surface is clean, dry and sound in accordance to SABS ISO 1514; 1993(South Africa Market only). Prime the surface with the appropriate Marmoran Primer. Apply the Marmoran Caledonplast 2-1 by using a steel trowel to achieve the desired patterned finish. Redecoration; Prepare by removing all loose and flaking paint, dirt, grease and grime. Spot prime exposed substrates appropriately. Proceed as for new work.

Screeds and paving

All screeds and paving shall be finished smooth, even and truly level, unless otherwise specified and paving shall be steel trowelled.

Finishing

Rendering and plastering shall be finished plump, square, smooth, hard and even and junctions between surfaces shall be perfectly true straight and square.

All work not found to be of satisfactory standard shall be hacked away and made good at the Contractor's expense.

Partially or wholly set materials will not be allowed to be used or re-mixed. The plaster etc., mixes must be used within two hours of being combined with water.

Granolith paving

Granolithic topping is to be in two layers to the total thickness shown on the Drawings and topping shall consist of one part coloured cement to two parts aggregate shall be 70% black trap and reminder approved local coloured stones.

Colours shall be as selected by the Project Manager.

Paving shall be rolled and trowelled to a dense even surface and rubbed down at completion to a grit finished surface free from holes and blemishes. The paving shall be laid in square divided by plastic strips anchored securely in the screed and having

their top edge truly with the finished floor surface. The granolithic work shall be laid polished complete to the approval of the Project Manager.

Wood Block flooring.

Wood block flooring shall comply with the requirements of B.S 1187 mentioned above and shall be dripped in a cold latex bitumen emulsion adhesive before laying.

Any one package or bundle shall contain wood blocks of single species, thickness, width length and type of manufacture only. The pattern shall be approved by the Project Manager.

Wood parquet flooring shall comply with relevant standards and shall be laid using and approved adhesive in accordance with manufacturer's instructions.

P.V.C. Covering

P.V.C. coverings shall satisfy the Standard mentioned and shall be obtained from an approved manufacture's agent. Floor tiles shall be Dunlop or other equal and approved. Rates shall include for two of an approved emulsion floor polish or other protective coating

Glazed Wall Tiles

Glazed wall tiles shall be cushion edged and satisfy the relevant Standards as mentioned earlier. Tiles shall be well soaked in water laid with straight horizontal and vertical joints painted in white cement and cleared down at completion.

Tiles joints of 2mm width shall be formed and filled with the redding mix but using very fine, well screened, care shall be taken that tiles are not overstocked and water shall be avoided during fixing.

The fixed tiles shall be kept damp for 4 days. Tiles are splash backs to lavatory basins, sinks and baths shall be fixed with necessary rounded-edge corner tiles.

Rates for linear items shall allow for all special fittings and cutting at angles and intersections.

General

Rates for in-situ work shall allow for raking out joints walling or hacking or treating with an approved bonding fluid. Hacking concrete form key, dubbing out irregular surfaces of base to provide a finished surface to in the same plane as the surrounding surface, cutting out cracks, making good and leaving the whole of the work sound and perfect on completion.

Rates shall also allow for fair edges, whether square, splayed or rounded, arises, chamfered external angles not exceeding 25mm wide, rounded external angles not exceeding 25mm radius coved internal angles not

exceeding 25mm radius, intersections to groins and the like, and for making good around pipe, brackets, floor spring boxes and all other items of a like nature.

Rates for all linear items shall allow for all short length, angles, end and arises, mitres and intersections and the like.

Rates for all paving shall allow for adequate covering protection during the progress of the work to ensure that the floors are handed over in perfect condition on completion.

Rates of external rendering shall allow for work at any height and for any scaffolding, ladders, cradles etc. required.

Terrazzo pavings

Aggregate for terrazzo shall be good quality marble or other natural stone of similar characteristics, hard angular in shape, free from clay, iron oxide and other foreign matter, graded from 10mm to 6mm. unless otherwise specified and without excessive contents of fine and dust. The source of supply and colour are to be approved by the Project Manager before bulk ordering.

Terrazzo flooring must be laid and finished by an approved specialist sub-contractor. All

base surfaces must be thoroughly cleaned to remove dust, dirt, rust, oil and loose material.

Terrazzo shall be laid in two courses as follows: -

a) Base Course: cement –sand 1:3, not less than 20mm. thick, followed immediately by
b) Topping terrazzo mix as specified, not less than 20mm. finished thickness
c) Skirting are to be 6mm. thick on a screed not less than 10mm. thick.

Terrazzo bays shall not be more than 1M2 and joints shall be formed with plastic or aluminium strips set out to an approved pattern. Strips must be through the backings screed and finish flush with the floor surface.

Tamp lightly immediately after laying and compaction lightly, taking care to avoid excessive laitance on the surface. Not less than 3 days after laying, rough polish by an approved mechanical means using water. Grout with a fine mix reserved from the initial mix. Not less than 8 days after grouting, fine polish by an approved mechanical means using water to a texture approved by the Project Manager.

Terrazzo Floor Tiles

Terrazzo floor tiles shall be to B.S 4131 of approved manufacture. The faces of tiles must be free from projections, depressions, flakes and crazes. The overall colour must be practically uniform in any one delivery. The facing level must not be less than 6mm. thick after grinding.

Unless otherwise specified or approved by the Project Manager, tiles are to be 197mm x 197mm x 22mm.

Mosaic finishes shall comply with the requirements of B.S Code of Practice C.P. 212 part 2.

Quarry Tile Finishes

Quarry tile finishes shall comply with the requirements of B.S 1286.

GLAZING

STANDARDS AND CODES OF PRACTICE

The requirements of the following British Standards and Codes of Practice shall be observed: -

British Standards

a) B.S 952 Glass for glazing

b) B.S. 544 linseed oil putty for use in wooden frames

c) NOTE: The Contractor's attention is drawn to section "T" of the Standard Method of Measurement

Codes of practice

d) C.P 152 glazing and fixing glass for buildings

MATERIALS AND WORKMANSHIP

The whole of the glass shall be of the best quality and free from bubbles, specks, waves flaws or any other defects and shall comply with the requirements of the standards mentioned above.

All glass is to accurately cut to fit easily into rebates. Glass shall be well puttied and sprigged with copper springs.

Glazing to wood frames shall be secured with glazing beads fixed with grass caps and screws and wash leather or approved "Neoprene" beading strips. Putty for lazing in wood frames shall be composed of pure linseed oil and powdered whiting, free from grittiness all in accordance with the standard mentioned above.

Glazing to metal frames shall be quick hard setting tropical putty specially manufactured for use with steel windows.

Rebates of metal frames receiving glass shall be prepared and treated with primer for putty prior to glazing shall be primed 10 days after glazing.

Rates for glazing Georgian wired glass shall include for aligning lines in adjoining panes both ways.

Glass panes shall be cut to sizes to fit the opening with not more than 1.6mm play all round. Clear sheet shall be ordinary glazing (0Q) quality and polished plate shall be (GG) quality.

Mirrors to be of selected glazing (S.G.) quality plates glass of approved manufacture with bevelled edge fixed at all corners of walls with raw plugs and brass screws with removable chromium plated dome heads.

Cut out all cracked or broken glass re-glazed to match and leave perfect on completion. On one account shall windows be cleaned by scraping with glass.

PAINTING AND DECORATING

STANDARD AND CODES OF PRACTICE

The requirements of the following British Standards and Codes of Practice on completion shall be observed: -

British Standards

a) B.S. 2521 + 2523 Lead based joint

b) B.S. 3968 Calcium plumbate priming paints

c) B.S. 4756 Ready mixed aluminium priming paints for woodworks

d) B.S. 1336 Knotting

e) B.S 3842 Treatment of plywood with preservative

f) B.S. 4800 Paint colours for building purposes

g) B.S. 2524 Red-Oxide Linseed oil priming paint

h) B.S. 2525-7 Undercoating and finishing paints

i) B.S. 1215 Oil Stains

j) NOTE: The Contractor's attention is drawn to section "U" of the Standard Method of Measurements

Codes of Practice

k) C.P. 231 Paints for buildings

l) C.P. 3012 Cleaning and preparation of metal surfaces.

GENERAL

All work under this trade must be executed by an approved Specialist unless otherwise permitted.

The Contractor's Programme in this area shall be so arranged that all other trades are completed and away from the area to be painted prior to the commencement of painting.

Before painting the Contractor must remove all concrete and mortar droppings and the like from all work to be decorated and remove all strains from and obtain uniform colour to be oiled and polished.

MATERIALS AND WORKMANSHIP

All plaster, metal, wood or other surfaces which are to receive finishes of paint, stain. Polish, distemper or paint work of any description are to be carefully inspected by the Contractor before he allows any of his painters to commence work. The Contractor shall be held solely responsible for all defective works as a result of his painters' failure to insist on receiving from the other grades surface in proper condition to allow first class finishes to the various kinds specified being applied to them.

All painting and decorating schemes shall be carried out in colours selected by the Project Manager.

Paints shall be ready mixed; oil based priming paint shall comply with the requirements of the relevant standards mentioned earlier.

The oil shall comply with the requirements of B.S. 1215. All materials shall be of the best quality and shall be an approved proprietary brand selected from the latest scheduled paints.

Materials to be applied externally shall be of external quality and/or recommended by the manufactures for external use.

Materials shall be delivered to the site intact in the original sealed drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instructions and to the approval of the Project Manager.

Unless specifically instructed or approved by the Project Manager, no paints, distemper etc are to be thinned or otherwise adulterated, but are to be used as supplied by the manufactures and direct from the tins.

If required by the Project Manager the Contractor shall provide at his own expense samples of paints etc., with containers and cases to be forward, carriage paid, by the Contractor for analysis to a laboratory.

The priming, undercoat and finishing coats shall be each be different tints, and the priming and undercoat shall be the correct brands and tints to suit the respective finishing coats, in accordance with the manufacturer's instructions. All finished coats shall be of colours and tints selected by the Project Manager. Each coat must be approved by the Project Manager before the next coat is applied.

Each coat shall be properly dry and in vase of oil or enamel paints shall be well rubbed down with fine glass paper before the next is applied. The paint work shall be finished smooth and free from brush marks.

Colour cards of all paints etc. shall be submitted to and samples prepared for approval of the Project Manager before laying on, and such samples, when approved, shall become the Standard for the works.

All paints, emulsion paints and distempers shall be applied by means of a brush or spray gun or rollers of an approved type, where so agreed by the Project Manager.

No painting is to be done in wet weather or on surface, which are not thoroughly dry.

Woodwork to be painted shall be rubbed down and all knots and resin pockets shall be scorched back and coated with knotting. After priming all nail holes and other imperfections shall be stopped and the whole

surface be rubbed down and all dust brushed off. The surface of woodwork shall be lightly sand prepared between the coats.

All woodwork in contact with walling or plaster shall be treated after cutting and preparation but before fixing assembly or fixing with one coat of approved wood preservative. The solution is to be brushed on all surfaces of all timbers, unless exposed to view and painted. The Contractor shall note that this solution is poisonous and shall take necessary precautions and instruct his workmen accordingly.

Wax polish shall be furniture polish of an approved branch, and wood surfaces shall be clean smooth free from oil or grease or any other blemishes. A minimum of two coats shall be applied to approval.

Plaster surfaces shall be perfectly smooth free from defects ready for decorations. All such surfaces shall be allowed to dry a minimum period of six weeks, stopped with approved plaster compound stopping and rubbed down flush as necessary, and then thoroughly, immediately prior to decorating.

Plaster surface which are to be finished with emulsion, oil or enamel paint shall be primed with an alkali resisting primer complying with the particular paint manufacture's specifications and applied in accordance with their instructions.

Fibre board or similar surfaces shall be lightly brushed down to remove dirt, dust and loose particles and have all nail holes or other defects stopped with an approved plaster compound stopping rubbed down flush and left with a texture to match surrounding materials and shall receive one coat petrifying liquid at last or two coats polyurethane or clear lacquer.

All metal surfaces shall be thoroughly brushed down with wire brushes and scraped where necessary to remove all scale, rust etc. immediately prior to decorating. Where severe rust exists and if approved by the Project Manager a proprietary de-rusting solution may be used in accordance with the manufacturer's instructions.

Hot primed and unprimed surfaces shall be given one coat of metal chromate primer.

Galvanized surfaces shall be treated before painting with an approved proprietary or de-greased solution before priming.

Coated surfaces already treated with bituminous solution shall be scrapped to remove soft parts and then receive two isolating coats of aluminium primer or other approved anti-tar primer.

Existing painted and decorated surfaces shall be prepared as described above. Painted plaster, metal or wood surfaces shall then be rubbed down to expose the material beneath and paint burnt off with blow torches if necessary in the Project Manager's opinion.

Emulsion paint on ceilings and all undercoats of emulsions paint and complete oil painting on walls only if and as recommended by the manufacture. An approved plaster primer tinted to match may be submitted for the first coat.

Enamel paint shall be applied in two undercoats and one finishing coat after preparation and commenced and shall be cleaned and renovated if necessary and re-fixed after completion of printing.

Rates of painting shall be deemed to include for preparing and priming surfaces above described.

Rates for paints, distemper etc, shall allow for covering up all floors, fittings etc. with dust sheets when executing the work and for removing, covering when no longer required and floor cleaning, off, touching up and leaving perfect at completion.

DRAINAGE

STANDARDS AND CODES OF PRACTICE

The requirements of the following British Standards and Codes of Practice shall be observed.

British standards

a)	B.S. 556 part 1 + 2	Concrete cylindrical pipes and fittings (including manholes, inspection chambers and street gullies)
b)	B.S. 4101	Concrete un-reinforced tubes and fittings (with ogee joints for surface water drainage)
c)	B.S. 437 Part 1	Cast iron spigot and socket drain pipes and fittings
d)	B.S 1247	Manhole step iron (in malleable cast iron)
e)	B.S 2760	Pitch-impregnated fibre drainage pipes and fittings
f)	B.S 1211	centrifugally cast (spun) iron pressure pipes for water, gas and sewerage
g)	B.S. 1130	Cast iron drain fittings.
h)	NOTE	The contractor's attention is drawn to Section "V" of the Standard Method of Measurement.

Codes of Practice.

i)	C.P. 301	Building
j)	C.P 2005	Sewerage
k)	C.P. 2010	Pipelines

PIPEWORK AND FITTINGS

Plastic Pipes.

The pipework and fittings for use underground shall be u PVC to B.S. 4660

Cast Iron pipework

Cast iron pipework which is used in connection with buried external services shall be manufactured, coated and tested in accordance with the requirement of B.S 1211.

All buried cast iron bends, elbows sweep tees and other fittings, shall comply with the requirements of B.S. 1130.

Jointing on external cast iron pipe shall be carried out in accordance with one of the methods described in British Standards Code of Practice 301, clause 505 c(v), to the approval of the Project manager.

Pitch Fibre Pipework.

Pitch fibre pipework and fittings for use in connection with external drainage services shall be manufactured in accordance with the requirements of B.S 2760. Pipes shall be connected by means of purposes made tapered joints manufactured in accordance with B.S. 2760.

Until such times as the use of pitch impregnated fibre is covered by Code of Practice, the jointing, laying and cutting of these pipes shall be carried out in accordance with the requirements of notes under appendix C of B.S. 2760.

Concrete pipework

Where concrete pipes and fittings are used in connection with the conveyance of surface water and sewerage under atmospheric pressure, they shall be manufactured in accordance with the requirements of B.S. 556, Class 1, except where otherwise stated.

The joints of concrete pipe and fittings may be one of the following depending upon application and conditions: -

1. Flexible spigot and socket type
2. Flexible rebated type (storm water drainage only)
3. Ordinary spigot and socket type
4. Ordinary rebated type (Storm water drainage only)

Joints (1) and (2) shall be sealed with suitable rubber gaskets manufactured in accordance with B.S/ 2494 except where they are likely to be contaminated by oil products, in which case the gaskets shall be manufactured in accordance with B.S. 3514

Joints (3) and (4) shall be made with approved cement mortar mix.

Asbestos Cement Soil Waste and Ventilation Pipes

Where spigot and socket asbestos cement pipes and fittings are used in connection with the conveyance of soil and waste or ventilation purposes in above ground applications, they shall be manufactured in accordance with B.S. 583.

Pipes and fittings shall be joined with cement/sand mortar cement content not to be greater than 30% of a fib rough cementitious jointing compound.

Alternatively, if synthetic rubber rings are used, the annular space between socket and pipe above the ring shall be packed with a suitable mastic compound.

Rubber rings shall comply fully with the requirements of B.S 2494.

VALVES

Draw-offs and Stop Valves (Up to 50mm, Nominal Bore)

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

Gate Valves

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

All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S. 1218

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

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

Globe valves

All globe valves up to and including 65mm. nominal bore shall be of bronze construction in accordance with B.S. 2060.

All globe valves 80mm. nominal bore and above shall be of cast iron construction in accordance with the requirements of B.S. 3961.

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

Check or Non-Return Valves.

All check or non-return valves up to and including 65mm nominal bore shall be of the swing check of bronze construction in accordance with B.S. 1953

All check or non-return valves 80mm nominal bore and above shall be of the swing check type of cast iron construction in accordance with the requirements of B.S 4090

The pressure classification of all check-non-return valves shall depend on the pressure conditions pertaining of Site of Works.

Ball valves

All ball valves for use in connection with hot and cold water services shall be of the Portsmouth type in accordance with the requirements of B.S 1212, constructed from classification as follows: -

a)	Low Pressure	3.538 b maximum
b)	Medium Pressure	7.725 b maximum
c)	High Pressure	12,620 b maximum

The pressure classification required for each ball valve will be designated in the description of its associated equipment contained in Part C of the Specification.

Manually Operated Mixing Valves

Mixing valves for shower fittings and other appliances being provided under the Sub – contract Works shall be manufactured In accordance with the requirements of B.S. 1415 from bronze or other corrosion resistant materials

WASTE FITMENTS TRAPS

Standard and Deep Seal P & S Traps

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

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

Anti-siphon traps

Where anti-siphon traps are specified, these shall be similar or equal to the range of traps manufactured by Greenwood and Hungers Limited, Deacon Works, Little Hampton, Sussex, England.

GENERAL

Drain pipes have been measured over all bends, junctions and other fittings and the contractor shall include in his prices for all joints, short lengths, cutting and waste. Rates for bends, junctions, etc. shall include for extra joints, cuttings and waste and any other labour required.

Lines of drains shall be accurately set out and trenches excavated and bottom trimmed to accurate gradients to approval before pipe laying commences.

Generally, the drainage is to be executed in suitable sections to cause the minimum interference to the continual use of any existing drains. The location and depth of any existing drains shall be ascertain before other work is commenced and the rates are to include for all costs of complying with this requirement.

Excavations for drain trenches shall be not be less than 300mm. wider than the external diameter of the pipes and rates shall include for grading ground under beds, carefully filling earth to avoid damaging pipes, ramming and carting away surplus excavated material, keeping excavations free from water, if necessary executing such

works and installing such pumps as may be required to keep the excavations dry at all times, and necessary planking strutting.

No subsoil water shall be discharged into the sewers without the written permission to the Project Manager.

Excavations shall be made to such depths and dimensions as may be required by the Project Manager to obtain proper falls and firm foundations. No permanent construction shall be commenced or any bottom until the excavation has been examined and approved by the Project Manager. Should the Contractor in error or without instruction of the Project Manager, make any excavations below the required level of the drain or bed, as the case be, he will be required to refill such excavations to the correct levels with concrete (1:4:8 –38mm gauge)

Rates shall include for excavating in all materials met with and for trimming bottoms to the necessary falls and working space.

The first back filling of pipes trenches is to be of material free from stone and shall be watered and carefully tamped over and around the pipes in 300mm layers until they are covered to a depth of 600mm. subsequent filling is to be in 150mm layers watered and rammed, only materials approved by the Project Manager are to be used for backfilling.

Where hardcore is used for backfilling it is not to exceed 150mm gauge and all interstices shall be properly filled with small pieces and fine binder. Surplus excavated materials are to be removed from the site.

If in the opinion of the Project Manager care has not been exercised in refilling trenches, he may order a fresh test to be on the drain. In the event of the drain failing to pass the test the Contractor will be required to remedy the fault in his own expense.

Concrete beds and surrounds shall be of concrete 1:3:6-20mm gauge to the thickness falls, and widths specified. Hollows shall be left to receive the collar of the pipe, so that the pipes sufficiently wide to form hard-holds to permit the joining of pipe, and after joining of pipe, and after resting drains shall be hunched to both sides to half the diameter of the pipe in similar concrete.

Where pipes are specified to the surrounds, the concrete shall be carried up from the bed in a square section with a minimum of 150mm in thickness over the barrel of the pipe.

Rates for beds and surrounds shall include for forming recesses and filling with concrete, for mortar layer etc. and for any necessary formwork.

Each pipe shall be carefully examined on arrival, any defective pipes shall be removed immediately from site and not used in the works. Minor damage to the protective coating of cast iron pipes shall be made good by painting hot tar; if major defects in the coating exists such pipes shall be rejected and removed from site.

Drains are to laid in a straight line from point to point and each pipe is to be properly bowed in so that the invert is a true and even gradient and set up and maintain all sight rails, bowing rods, and bench marks etc, necessary for the purposes.

All drains shall be kept free from earth debris, superfluous cement and other obstructions or water during laying and until completion of the contract when they shall be handled over in a clean condition.

Pipes shall be laid with sockets leading uphill and shall rest on solid and even foundations for the full lengths of the barrel, sockets recesses shall be formed the foundations, as short as practicable but sufficient deep to allow the pipe jointer room to work right round the pipe. Such recesses shall be filled with cement mortar (1:4) on completion of laying.

All joints are to be accurately made by butting the pipes together, caulking with tarred rope neat cement finished externally with bold fillet neatly pointed. As each pipe is laid it is to be drawn with a badger and left of all obstructions.

Rates of bends junctions and other fittings in drains shall include all cuttings and waste and extra joints.

The tasting of drains shall be done at completion and before the trenches are filled in. They shall be tested in the presence of the Project Manager and a representative of the Local Authority by filling with water having a head not less than 1.5m at the highest point of the section under test. A second and similar test may be applied, after the drain trenches are filled in and the work completed.

Manholes shall be constructed in the positions indicated in the drawings or as instructed by the Project Manager. Such chambers shall be to the depth required to obtain even gradients in the drain and of sufficient size to contain and requisite main channel and by branches thereto and all the entire satisfaction of the Project Manager and the Local Authority.

Rendering the manholes shall be trowelled smooth coved at all internal angles and rounded at arises.

Manholes are to be tested for water-tightness in the same way as to drain by filling with water but not exceeding 105mm head. The contractor shall apply all testing apparatus and materials necessary for these tests and provide all labour and assistance required. Any failure whatsoever in the drainage system to withstand the specific tests and any defects appearing are to be made good and the drains re-tested to the satisfaction of the Project Manager and the Local Authority.

For connection to public drainage the Contractor shall make all arrangements with the Local Authority.

For connection to public drainage the Contractor shall make all arrangements with the Local Authority and pay all fees that may be required for connections to main sewer.

TESTING AND INSPECTION.

Site Tests – Pipe works System

Underground Drainage System.

A site test shall be carried out on all drainage pipes before concrete haunchings or surrounds are applied. These tests shall be carried out preferably from manhole to manhole.

Short drains connected to a main drain between manhole shall be tested as one system with the main drain and the branch tested separately. After the tests have been passed, the testing junction shall be effectively sealed.

All tests on underground drains shall be water tests. Smoke tests shall not be permitted

In certain circumstances air tests may be permitted on cast iron drain at the discretion and to the approval of the Project Manager.

Water tests shall be carried out in accordance with the methods described under B.S. Code of Practice 301, Clause 601 (b) and (c) and the test pressure shall not be less than 1.520mm head at the highest point in the pipe section and not ore that 10.360mm at any point in the section.

The test pressure shall be maintained for a period of one hour during which time the pipes and joints shall be inspected for sweating and leakage. Any leaks discovered during the leaks shall be made good by the sub-contractor and the section re-tested.

In addition to pressure tests, drainpipe runs shall also be tested for straightness where applicable. These tests shall be carried out in accordance with one of the two methods described in B.S. Code of Practice 301, Clause 601 (f).

Above Ground Soil Waste and Ventilation Pipe Systems.

All soil, waste and ventilating pipe system forming part of the above ground installation shall be given a smoke test to a pressure of 38mm of water gauge and this pressure shall remain constant for a period of not less than 3 minutes.

Water tests on above ground soil, waste and ventilating pipe systems shall be permitted.

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

Any defects revealed by the tests shall be made good by the Sub-contractor and the test repeated to the approval of the Project Manager.

In all other respects, tests shall comply with the requirements of B.S Code of Practice 304.

SITE-TEST PERFORMANCE

Following satisfactory tests on pipework systems, operational tests shall be carried out in accordance with the relevant B.S. Codes of Practice on the system as a whole to establish the special valves, gauges, controls, fittings equipment and plant are functioning correctly to the satisfaction of the Project Manager.

EXTERNAL WORKS

EXCAVATIONS

GENERAL

Earthworks shall be deemed to include excavation, filling, grading and compaction of all types of soil, sand gravel and rock as required in the construction of works and as specified in drawings or as directed by the Project Manager.

In execution of works, the contractor shall take all necessary measures to prevent causing nuisance to any neighboring land by causing flooding, erosion and deposition of sediments in drain.

Removal of Top Soil

Unless otherwise directed by the project manager, all surface soils shall be removed from areas to be used for cuttings and embankments and stockpiled for re-use for any purpose such as soiling of slopes of embankment and spreading on top of seepage beds.

The use of tope soil as a fill material shall be restricted to surface layers in position not subject to loading by pavements of structures.

Formation Level.

Formation level on embankments and in cuttings shall be the surface level of the ground obtained after completion of the earthworks, i.e. the underside of the sub- base, or where no sub-base s specified, the underside of the base. Any excess depth unnecessarily excavated below formation level shall be back-filled with material acceptable for construction and compacted as directed by the Project Manager and no payment shall be made for excess excavation or for the filling and compacting. The levels of tolerance of irregularity of the surface of the course shall be within the limits specified for sub-grade.

Removal of Unsuitable Materials

Materials which do not comply with the Specifications for fill Material for embankments, sub-grade, sub-base or base shall be excavated to such a depth and over such areas as shown on the drawings or as directed by the Project Manager. Unsuitable material shall comprise:

(i) Materials from swamps or marshes, silt, perishable material, slurry or mud or
(ii) Any materials:
    a) Which is highly organic clay or silt;

b) Which is clay having a liquid limit exceeding 55 and/or a plasticity index exceeding 20;
c) Which is outside the limits of moisture content specified in the earthworks series of clauses either when excavated or thereafter;
d) Which is susceptible to spontaneous combustion;
e) Consisting of such domestic refuse which but virtue of its physical or chemical composition or moisture content will not compact to form stable fill.

Suitable material shall comprise all that which is acceptable in accordance with the requirements of the Specification for use in the works, whether obtained from within or outside the site. Any reference in this and other Clauses of the specification to suitable material shall have meaning defined above.

For the purpose of selection for use in earthwork all common excavation shall be classified as either plastic or non-plastic. Non-plastic materials shall be defined as those on which it is impossible to carry out a plasticity index test and shall include "course grained, no cohesive materials" included in Table I of British Standard B.S 6031: Earthworks, and such sales, silts and other material which in the opinion of the Project Manager are readily self-draining.

Plastic materials shall be defined as all other materials included in the above mentioned Table as "fine grained cohesive m a t e r i a l s ", as defined in BS6031.

Unsuitable material shall be removed to locations outside the area of the site works provided by the Contractor and approved by the Project Manager. All stray and isolated rocks or builders found in the road bed which may affect the consolidation shall be excavated to a depth of not less than 250mm below the bottom of the pavement and the excavated areas back-filled with suitable materials, which shall be placed and compacted by mechanical rammer to at least 100% maximum dry density in B.S Standard Compaction test.

Excavation of Cutting in Soil

Cuttings shall be shaped by excavation to the line, levels, slopes and width as shown on the Drawings with due regard to settlement by compaction of formation level. Before commencing excavations the contractor shall measure and record,in agreement with the Project Manager, the existing ground levels over the site of the works.

When boulders are encountered in cuttings, the side slopes shall be cut back beyond those shown on the Drawings, if necessary, to avoid rock falls after completion.

Excavation of Cutting in Rock.

Before the commencement of any part of the excavations which shall be claimed to be in 'Rock' the attention of the Engineer shall be called to the same and a section of the surface prepared which shall form the basis of subsequent measurement.

In cases where drilling and blasting must be carried out, all completion excavation lines shall be in accordance with the typical cross-sections. Within the limits of the shoulders, all rocks depth of 300mm below the bottom of the pavement or as directed by the Engineer and backfilled.

The contractor shall comply with all statutory requirements in respect of the use and storage of explosives and shall be responsible for obtaining the necessary licenses.

During blasting operation, the Contractor shall exercise care not to overshoot, and shall be required to remove at his own expense, any material outside the authorized cross-section which may be shattered or loosened by the blasting. Excavation of rock shall be planned and performed with reuse of the materials in mind.

Disposal of Excavated Materials

The Contractor shall plan and perform the earthwork with regard to the best possible utilization of the different materials in the excavations, especially to use the best available soil in the upper 300mm of the subgrade. Before commencing the earthwork the Contractor shall submit to the Project Manager a Programme for disposal of excess materials.

Obstructions

The contractor shall at his own expense, take all reasonable precautions against damage to all pipes, ducts, cables, roads, structures etc. encountered during excavations and shall be responsible for the cost of repairing any damage caused by his acts or omissions or causes within his control.

Preparing Ground Surface Under Embankments

The Contractor shall ensure that the natural ground is cleared of vegetation, rubbish and soft and wet materials unsuitable for embankment construction. All necessary work to drain the natural ground shall be executed. slopes greater than 1 in 2 shall be formed into horizontal terrace not less than 2m wide.

Construction of Embankments

Embankment material shall be placed in successive layers not exceeding 150mm after compaction unless the Contractor proves by testing to the Project Manager's satisfaction that his compaction equipment is able to compact in greater layers. Each layer shall extend over the full width of the embankment and shall be compacted according to requirements before the next layer is placed.

It is the Contractor's responsibility that only approved materials are incorporated in embankments. If any suitable or oversize material is included it shall be removed and placed with suitable material.

In forming embankments, the Contractor shall make due allowance in height and width for consolidation and shrinkage. On the completion of the Contract, the levels, width and dimensions of the finished surface of the carriageway on embankment shall correspond to the levels and dimensions shown on the drawings.

Where the CBR value of the fill material obtained from general excavation is less than 8% at BS Compaction after 48 hours soaking then the Project Manager shall instruct the Contractor to provide selected fill in the upper layer or layers of embankment. The thickness of the selected fill, material shall be determined by the Project Manager 's Representative.

In cutting where the soaked CBR value of the sub grade is lower than 8% the Project Manager shall similarly instruct the Contractor to replace the upper layer or layers with selected fill material.

The fill material shall preferably conform to the following requirements:

Liquid Limit	0-45%

Plastic Index	0-20%
Linear Shrinkage	0-10%

Compaction

All fill and sub grade shall be compacted to at least 100% of the maximum dry density obtained in the B.S Standard Compaction as follows:

- Top 150mm of natural ground before filling
- All fill in embankment
- Top 300mm of formation in both cut and fill
- The Contractor shall, when needed for proper compaction, distribute and incorporate water in the layer of fill to be compacted.

When the moisture content in some material is in the excess of that for proper compaction the wet material shall be allowed to dry before compaction is commenced.

Compaction Equipment

The Contractor shall provide and maintain on the site for the whole period during which earthworks are in progress adequate and suitable compaction equipment approved by the Project Manager which is capable of compacting the various types of material included in the works to such densities and at such moisture contents as are specified herein.

The Contractor shall also provide such other pneumatic tired and smooth tired rollers, tower vibrating rollers, grid rollers, vibrating floats and mechanical rammers as may be required.

The equipment shall be of specific set out in the General specifications standard or higher in order to achieve the specified compaction standards.

Testing

The Contractor shall determine the dry density of compacted earthwork at the following maximum frequencies. The result of the Contractor's findings shall be submitted to the Project Manager, who may approve or reject a volume of compacted earthworks on the evidence of the Contractors tests or he may carry out tests himself in additional:

i) The top 150mm of the compacted original ground under embankments in areas where compaction is specified or has been ordered by the project Manager: 1 density test per 1000m^2.
ii) All fill in embankments except the top layer:1 density test per 1000m^2
iii) Formation in cutting and fill: 1 density test per 400m^2

The contractor shall carry out a B.S Standard Compaction test including CBR test and a set of Atterberg Limit tests on soil samples from at least every tenth dry density determination tests carried out as above. He shall also carry out a BS Standard Compaction test on soil sample from any dry density determination which failed to reach the specified percentage of soil in which it is related in the above mentioned 1:10 representative group.

Diversion of Water

Excavation and filling operation shall be carried out with side slopes so that water can run off the surface. The contractor shall at his own expense maintain sufficient drainage of the works to prevent ponding and scour.

Tolerances

The finished sub grade and shoulder levels shall at no place vary more than 15mm above or below the levels shown on the Drawings. Deviations shall not be one sided.

Improved Sub-grade

Where necessary the contractor shall be responsible for providing material for earth-works fill that is required over the above that which is available from cuttings on site. His rates for this work shall include for all costs incurred in provision of this material such as purchase of the land, site clearance, overburden strip, haulage, processing, spreading compaction and any other associated costs.

Sub-base

Unless otherwise specified or directed by the Project Manager, the materials for sub-base shall comply with the following requirements:

- CBR of at least 30
- CBR shall be measured at a dry density corresponding to 95% MDD (Heavy compaction) and after 4 days soak.
- Plastic index - maximum 25
- Los Angeles value - maximum 70
- Aggregate crushing - Maximum 50
- Shall have a grading curve of materials after processing and compaction within the following envelope:

SIEVE SIZE	PERCENTAGE PASSING
80	100
63	95-100
50	90-100
40	85-100
28	72-100
20	55-100
10	30-100
5	18-85
2	10-65
1	8-52
0.425	7-42
0.75	4-35

HAND PACKED STONE BASE COURSE

Hand packed stones

In addition to requirement of clause 9709 of General Specification stones used shall comply with the following:

Aggregate crushing value (9.V.C).	Not more than 40%
Los Angeles Abrasion (L.A.A).	Loss on 5 cycles not more than 12%

The hand packed stone base course will consist of stones of such grading and size that they pack firmly when they are laid by hand. The greater number of stones shall be higher than the thickness of the layer laid. Stones shall be free of top-soil or other deleterious material.

Stone Dust

Stone dust for building shall be blank trap or similar approved screened to the following grading:

Passing 10mm Sieve	100%
No. 4 Sieve	85-
No.100 Sieve	5-25%

PRE-MIX

Prime Coat

The pre-mix Surfacing shall consist of a tack coat and a wearing course of specified thickness.

The tack coat shall be anionic Emulsion A1 – 55 sprayed at the rate of 0.5 litre/sq. metre.
Prior to application of the tack coat existing surface shall brushed off all loose material to the satisfaction of the Project Manager.

The tack coat shall be spread in one even layer to the widths as shown on the drawings by the Project Manager by pressure distributor. Hand spraying shall not be permitted except in small areas when approved by the Project Manager.

Wearing Course

The bituminous binder used shall be straight run bitumen of grade 80/100 penetration. Nominal bitumen content should be between 4.5 to 8.0% by weight of the mix.

The nominal size of aggregate for 25 mm thick wearing course shall be 13 mm and nominal size aggregate for 50 mm thick wearing course shall be 14 mm. Grading envelopes shall be as follows:

Sieve size	Percentage passing
20	*100*
14	*90 – 100*
10	*70 – 95*
6.3	*55 – 85*
4	*46 – 75*
2	*35 – 60*
1	*25 – 45*
0.425	*17– 32*
0.300	*11 - 27*
0.150	*6 - 17*
0.075	*3 - 8*

Sampling and testing Pre-mix

Sample of the premix should be done on the vehicles as follows:

1. Sample should not be taken within 300 mm of the side of the vehicle.
2. 3 locations should be sampled from each vehicle
3. Each location should produce 7 kgs and they should then be combined as one sample of minimum weight 21 kg.
4. 100 mm of material should be removed from the top layer of the sampling location and discarded. The underlying material shall then be removed care being taken to ensure loose material from the sides does not fall back into the sampling hole.
5. A square mouth shovel should be used for above purposes
6. The position in the works of each sample load shall be recorded on drawings.

7. The bagged samples should be delivered to Materials Branch or other approved laboratory immediately for analysis of binder content and the grading of the aggregate.
8. Delivery and rolling temperature should be taken for each load and recorded using proper thermometers.
9. Specified rolling procedure must be complied with.

The working mix shall comply with the following requirements:

Marshal Stability N	6000 (Minimum)
Flow value	2 mm – 4 mm
Mix % by weights	4.5 – 8 %

The Project Manager will have the right to take samples of the actual mix and of ingredients as often as he considers necessary to determine whether specified requirements are confirmed with.

Before pre-mix is laid existing surface shall be cleaned of all loose or deleterious material. No pre-mix shall be aid until the surface had been approved by the Project Manager.

Pre-mix shall be laid by approved mechanical pavers to correct thickness, line and camber. The mixture shall be laid at temperature between 120 deg C to 150 deg C.

Immediately after spreading, the mixture shall be compacted by 8 to 10ton smooth wheel roller and final compaction shall be done by 7 – 10-ton tired roller.

ROAD MARKING

Paint for road marking shall comprise of Robialac Epoxy Road Marking Paint or similar paint of equal quality.

Paint shall be applied in two coats if applied by the brush and one coat if applied by the spraying machine.

Before the paint is applied the area to be painted shall be cleared to remove all dirt, grease, oil laitance or any other foreign matter which shall reduce the bond between the paint and the pavement. Paint shall be applied to surfaces which are clean and dry and painting shall not be carried out when the weather is excessively windy or dust

Road Marking (Contd.)

Sub-Contractor shall provide experienced technician to supervise setting out of the areas to be painted and the application of the painting. The Sub-Contractor shall protect painted areas from all traffic and from injury or damage of any kind until the painting is completely dry.

White marking shall be to approximately B.S. Colour No. 102, white of B.S.S 381 C.

Yellow markings shall be to B.S. Colour No. 305 (Lemon) of B.S.S 381 C (Colour 0.002 of B.S.S. 2660).

Concrete Kerbs Quadrants and Channels

Precast concrete Kerbs and edgings shall be laid and bedded on a 12mm layer of cement mortar (1:6) on a foundation or haunch of concrete mix. 1:3:6 as shown on the drawings.

All Kerbs, channels and quadrants shall be joined with cement mortar (1:3). No joint shall exceed 12mm in width.

Specially cast circular Kerbs and edgings shall be used on curves where the radius is 20 metres or less.

All Kerbs and edgings shall be laid true to line and level any unit found to be more than 3mm out of line or level at either end shall be lifted and relayed.

Precast concrete kerb, quadrants & channel have to be in accordance with B.S 340 and are to be placed as indicated on the drawings.

DRAINAGE

General

The whole of the works are to be set out by the Sub-contractor who will provide fix and maintain properly constructed sight rails of 150mm x 25mm wrought soft wood painted black and white and secured to strong uprights embedded firmly in ground at intervals not exceeding 40 metres.

Trenches for pipeline shall have a width not less than that shown on the drawings and must have vertical sides unless the Project Manager has approved the use of sloping sides in lieu of shoring.

In rock, the trench shall be taken out to a minimum of 100mm below the underside of the pipe and before the pipe is laid, approved, selected fill shall be placed.

Trenches for pie laying must be kept from all water all times.

Cars should be taken in handling of pipes and channels. Any pipe or channel damaged due to improper handling storage or negligence will be condemned and removed from site.

Backfilling of trenches

Back of trenches up to a level of 300mm above the pipe shall be with suitable fine material with maximum particle size of 20mm and shall placed in layers not exceeding 150mm in depth, kept at the same level on each side of the pipe and carefully rammed under and around it.

Subsequent filling shall be with the same material in layers not exceeding 150mm in depth, and each layer shall be thoroughly rammed and consolidated using approved equipment, or method, before another layer is added. Backfilling material shall be brought above the required formation level to allow for subsequent settlement.

Where embankments re required to ensure sufficient cover to the pipes they shall be constructed to the dimensions shown on the drawings or indicated by the Project manager. They shall be built up evenly over their full width in layers not exceeding 150mm and consolidated using vibrating hard rollers, vibrating plates or similar approved plant. The cost of trimming the sides to shape and forming drainage ditches at the toe shall be included in the rates.

Pipe bends, Junctions and Fittings

Pipes for sewers shall either be UPVC class 41 to BS 4660 or precast concrete pipes to BS 5911: Part I, as specified in the drawings.

Concrete pipes for surface water drainage shall be spun concrete pipes with ogee joints to BS 4101. Pipes shall be bedded and surrounded by minimum of 150mm of concrete grade 10 to BS 8110.

Coarse Granular Fill

Coarse granular fill in seepage beds shall be broken stone between sizes 15 to 25mm.

Laying Pipes

Each pipe shall be carefully examined on arrival; any defective pipe shall be removed immediately from the site and not used in the works. Minor damage to protective coating of cast iron pipes shall be made good b painting with hot tar, if major defects if the coating exist, such pipes shall be rejected and removed from the site.

Drains shall be laid in straight lines and to even gradients as required and to the satisfaction the Project Manager.

Great care shall be exercised in setting out and determining the levels of the pipes and the contractor shall provide suitable instruments and set up and maintain all sight rails, boning rods and bench marks, etc, necessary for the purpose.

All drains shall be kept free from earth, debris, superfluous cement and other obstructions or water during laying and until completion of the contract when they shall be handed over in a clean condition.

Pipes shall b laid with the sockets, leading uphill and shall rest on solid and even foundations for the full lengths of the barrel. Socket recesses shall be formed in the foundation, as short as practicable but sufficiently deep to allow the pipe jointer room to work right round the pipe. Such recesses shall be filled with cement mortar (1:4) on completion of laying.

Inspection Chambers

Inspection chambers shall be constructed in the positions indicted on the drawing or as required by the Project manager. Such cambers shall be to the depths required to obtain even gradients to the drain and of sufficient size to contain the requisite main channel and any trenches thereto and all to the entire satisfaction of the Project Manager.

Protection PVC Pipes

PVC pipes under roads and in verges shall be protected by concrete slab where the cover is less than 1.2m over the soffit o the pipe.

Cement Mortar

All block work exposed to air shall be plastered with mortar group 1, 1:3.

Where used for bedding stone and concrete blocks one volume of Portland cement to five volumes of sand to be used.

For rendering one volume of Portland Cement to three volume of sand shall be used.

Concrete Blocks

Natural stone blocks complying with sections G08 and Go9 of General Specifications can be sued. The source of stone blocks shall be approved by the project Manager and stone supplied there from shall be free from Magadi, overburden, mudstone cracks, sand holes, veins, laminations and other imperfections. Concrete blocks shall be in accordance with B.S. 6073.

Concrete blocks shall be hard, true to size and shape with sharp arises and shall comply with BS 2028 and CP 111 Part 2, of minimum crushing strengths %N/mm^2 maximum density 1500 kg/m^3 and minimum density of 1000kg/m^3. They shall be obtained on manufactured on size in approved block making machines.

Manhole cover and Frame

Manhole cover and frames shall comply with B.S. 497. In trafficked areas heavy duty manhole cover and frames shall be provided. In other areas light duty manhole cover and frame shall be provided.

Step Irons.

In manhole more than 1.2m deep step irons of malleable cast iron with galvanised finish condiment to B.S. 1247 shall be provided.

Testing

Each length of drain and manhole shall be tested as described hereinafter and approved by the project manager before any backfilling of the trench takes place. Sewer pipes shall be tested generally in accordance with CP 301.

Testing shall not be carried out until at least 12 hours have elapsed after the jointing of the last pipe.

The test shall be as follows: -

(i) The lower end of the pipe and all junctions shall be securely stoppered and the whole length under test filled with water.

(ii) When full a further stopper shall be inserted at the top leaving a pipe attached to the drain plug. This pipe shall be bent through 90^0 and shall terminate in a header tank shall be 225mm square. The vertical distance between the centre line of the drain plug and the top of the header tank not less than 1.00 metre.

(iii) Water shall then be poured into the header tank, which shall be kept full for a minimum period of 3 hours to allow absorption to take place. At the expiration of this period the header tank shall be topped up and the testing of the drain commenced. If, after a further period of 30 minutes, the water level in the header tank has not fallen by more than 12mm the test will be considered satisfactory.

(iv) In the event of a pipe failing to withstand the test, the point of failure shall be completely surrounded, at the Contractor's expenses, with concrete

(Grade 10 – 20mm maximum aggregate) so that there is minimum cover of 150mm in all directions. The length shall then be re-tested.

(v) Immediately and length of drain has been approved the trench shall be backfilled for a depth of at least 300mm above the top of the pipes.

CONCRETE WORKS

General

All concrete shall be produced and tested to comply with requirements of BS 8110 and BS 5328.

The constituent materials shall comply with the relevant British Standard

Concrete mixes

The following grades of concrete shall be used (Max. size of aggregate in brackets).

Blinding:	Class 15(30)
Beams slabs and columns:	Class 20(20) and Class 25(20)
Foundation:	Class 20(20).

A. Fencing Generally

The level of the top of fencing is to be as directed by the Architect but is generally to follow the mean level of the ground on the line of the fencing. Any minor excavations on the line of the fencing to enable this to be achieved to be allowed for in the rates.

B. Chain Link Fencing with Concrete Posts

Fence posts to be concrete Class "D" finishes fair on all exposed surfaces.

Intermediate fence posts shall be paced at 3.00 metres intervals, to be of 125mm x 125mm section tapering to 75mm x 75mm at top and 2800mm long overall.

The post to be reinforced with four 8mm diameter mild steel bars with No. 12 S.W.G. wire binders at 600mm centres and six times holed for wires or fixing bolts.

Raking struts to be of 200mm diameter section and 3000mm long overall with one end splayed to suit notch in main post. The strut to be reinforced with four 20mm diameter mild steel bars with No. 12 S.W.G. wire binders at 500mm centres and four times holed for wires or fixing bolts. At the junction with the main or gate post the strut is to be bolted on with one 20mm diameter wrot bolt with head, nut and two washers.

Main posts, spaced at 9.00 metres centres, and corner posts to be of 150mm x 150mm section and 2800mm long overall. The post to be reinforced with four 10mm diameter mild steel bars with No. 12 S.W.G. wire binders at 600mm centres, ten times holed for wires or fixing bolts and twice notched as required to receive end of raking struts. Two side faces of post to have set of angle cleats and vertical clamp bars as last described bolted on.

Concrete filling around post bases to be in plain concrete Class "E".

Intermediate and main post bases to be excavated to allow posts to be let into the ground for a vertical depth of 750mm and filled with 600mm diameter x

400mm deep concrete well packed around post, the excavated material to be part returned, filled and rammed and the surplus removed.

Raking strut bases to be as last but let into the ground for a vertical depth of 600mm and filled with 450 x 450 x 300mm deep concrete.

Barbed wires to be No. 8 S.W.G. galvanized mild steel fixed complete with all galvanized staples strainers winding brackets and other necessary fittings. Fasten to intermediate concrete posts with No. 16 S.W.G. galvanized annealed mild steel wire.

Tying wire for securing chain-link fencing to line wire to be No. 16 S.W.G. galvanized annealed mild steel wire.

Chain-link fencing to be manufactured from No. 16 S.W.G. galvanized annealed mild steel wire woven into 50mm mesh with barbed top and 2000mm high or as specified. The fencing is to be supported by three single and one double (at top) lines of line wire and fastened to each line at 900mm horizontal intervals with tying wire.

C. landscaping and Site Development

Bush Clearing

All trees, stumps, shrubs, undergrowth and other vegetation shall be completely cut down and all roots entirely grubbed up and burned at a central point. All arising will be left on the site for use in the garden development. Where roots are grubbed up in areas which are to remain at existing ground level the resulting holes shall be filled up with approved material rammed in 150mm layers up to the existing ground level.

Grassed Areas

i) Areas to be grassed shall be cleared of all debris and roots and dug up to a depth of 300mm.
ii) Where outcrops of rock or murram occur, these will be covered with suitable soil to a depth of 150mm.

Maintenance

The trees, grass and flowers shall be watered and maintained until well established. The contractor is advised to include all this in his rates.

Grass Planting in The Works

Grass planting over rock or compacted fill material

Where grass is to be established in areas where decomposed or solid rock or other fill material exists closer to the finished surface than 200mm, the following grass planting procedure shall apply.

The rock shall be removed to a depth of 200mm below the finishes surface. The rock shall then be ripped or otherwise broken up to a further depth of 150mm and lightly compacted; 200mm of selected red soil shall then be spread over the surface. The whole shall then be lightly rotated to obtain a homogenous mixture to a depth of 150mm. Prior to planting, the soil shall be raked and 50 gm each per square metre of bone meal and hoof horn meal shall be spread on the surface.

The grass shall be cuttings of approximately 200mm long and shall be planted at 150mm intervals, 150mm buried in the soil. Planting shall be carried out with the aid of a wooden peg and the soil well rammed around the cuttings.

The grass shall be systematically watered, cut and weeded to maintain it in a healthy state throughout the maintenance period.

The rate for grass planting over rock shall include for the ripping of the rock, provision of grass and all subsequent materials, tools, etc.

D. Trees and Palms Planting

Pits shall be 0.9 metre diameter x 0.9 metre deep. The sides shall be undercut and the soil mixture shall be as follows: -

4	Parts approved red soil
1	Part sewage sludge

These shall be thoroughly mixed together on the mixing ground and specifically set aside for the purpose. The mixture shall be filled into the pits in 300mm layers, firming with hard earth rammers at each layer. The surface is to be shaped into a bowl-depression 200mm deep to assist in watering.

The tree plants are to be at least 0.9-metre-high when brought to the works for planting.

In the two days before planting takes place, each pit is to be thoroughly soaked with 100 litres of water. The trees or palms shall be planted and sticked in an approved manner, well-watered and maintained throughout the maintenance period.

The rates for tree planting shall include for provision of plants and materials described in this clause.

E. Planting Shrubs

Pits for shrubs shall be 750mm diameter x 750mm deep. They shall be excavated, refilled, planted, maintained and paid for identical manner to trees and palms. All shrubs are grouped together and the tenderer is to give a uniform rate that covers the cost of any of the shrubs.

F. Herbaceous Borders, Plant Boxes and Similar Areas

Plant boxes, herbaceous borders and similar areas shall be excavated, refilled, planted, maintained and paid for in an identical manner to trees and palms, excepting that four parts of forest soil shall be used in place of red soil and 50 gm each per square metre of bone meal and hood and horn meal shall be spread on the surface of the soil mixture before planting.

G. Bougainvillea Hedges and Tables

Bougainvillea hedges and tables formed on fencing and fencing tables shall be planted between 100mm diameter cedar fence posts in a pit 0.75 metre deep and 0.75 metre diameter filled as described above.

For tables, one plant is to be planted every 10 square metres as directed by the Architect.

Bougainvillea hedge plants are to be planted at 2.0 metres intervals. The cedar posts are 600mm high and placed at 2.0 metres centres with barbed wire stacked at the top.

Bougainvillea plants are to be attached to the fence wires and strained into a hedge or table in the course of the maintenance period to the approval of the Architect. The plant pits are to be excavated, refilled, planted, maintained and paid for in accordance with the requirements laid down for shrubs.

The rates for bougainvillea plants and hedges and tables shall also include for all the materials and operations described in this clause. Fence for bougainvillea hedges are measured lineally and fence tables are measured superficially over the area formed by the outermost wires of the table.

PREAMBLE AND NOTES TO BILLS OF QUANTITIES

1. These Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the conditions of Contract, Standard and Special Specification and Drawings.

2. The quantities set forth in the Bills of Quantities are believed to represent the character of the work to be carried out. There is no guarantee to the Contractor that he will be required to carry out the quantities of work indicated under any one particular item or group of items in the Bills of Quantities, though on the Contract as a whole the quantities are believed to represent the overall value of the work to be carried out.

3. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed and the Engineer will measure the whole of the works executed in accordance with the Contract.

4. The prices and rates inserted in the bills of quantities are to be the full inclusive costs of the works described under the items, complete in place and in accordance with the Specification and Drawings including costs and expenses which may be required in and for the construction of the works described, together with any temporary works and installations which may be necessary and all general risks, liabilities and obligations set forth or implied in the Documents on which the Contract is based.

5. The brief description of the items given in the Bills of Quantities are purely for the purpose of identification and in no way modify or supersede the detailed descriptions given in the Conditions of the Contract, Specifications or Drawings and Special Specification for the full directions and descriptions of work and materials.

6. A price or rate is to be inserted, in ink against each item in the Bills of Quantities, whether quantities are stated or not, and if the Tenderer includes the cost of a particular item elsewhere in his rates or prices, he shall insert in the word “nil” against both the rate and extension of that particular item. Should the Tenderer omit to price an item, then it will be assumed that he has included the cost of the item elsewhere in his rates or prices.

7. No alteration shall be made to the Bills of Quantities and no extra item shall be inserted. The Tenderer shall satisfy himself that the Contract Sum arrived at by pricing the quantities and items given is sufficient compensation for constructing and maintaining the whole of the works in accordance with the Contract Documents.

8. For the purpose of payment by Interim Certificate of "Lump Sum" items the Engineer may assess the portion of the work completed on the "Lump Sum" items and allow for payment the portion of the "Lump Sum" he deems fair and reasonable. The total of all portions allowed shall not exceed the "Lump Sum". All interim payments shall be subject to the retention stipulated in the Contract Documents.

9. During construction the unit rate established for an item in one Bill of Quantities may be used as a basis for establishing a unit rate for similar work in another Bill of Quantities which contains no unit rate for the said item.
10. The Contractor will be provided by Employer with all that land occupied by the Permanent Works including the specified working width for pipe laying and the costs of compensation and entry upon land will be paid from Provisional Sums.

11. It shall be the responsibility of the Contractor to arrange for the removal of, or alteration to, services where necessitated by the Works. Incurred costs being paid by the Employer.

12. Quantities for site clearance stripping and spreading shall be based on the horizontal projection of the area cleared or stripped.

13. The rates for excavation items shall include inter alia for setting aside spoil for reuse in the Works or disposing to approved tips, except where otherwise provided for in the Bills of quantities.

14. Generally, the excavation items are based on volume for structures and on linear measurement for certain pipelines. One or more items may cover the works. The rates shall include as appropriate for: -
    a) Breaking through surfaces; handling different classes of material separately: excavation beyond the net plan area of the foundations for working space and for battering or timbering etc
    b) Timbering
    c) Dealing with water
    d) Backfilling as specified e)
    Disposal of surplus spoil

    Measurement of the volume in pipe trench will be measured from ground level to the invert of the trench. Measurement for other excavations will be to the size which is required to accommodate the permanent work. A tenderer shall accordingly allow in his

prices for any amount of extra excavation which may be necessary for working space to complete the work to the satisfaction of the Engineer.

Items are included for "Extra for Rock" on a volume basis. The rates shall include for Breaking out and any other additional costs and the items shall apply to work encountered within measured excavation. Different classifications may be billed separately. Rock shall be measured as a volume calculated from the thickness encountered within the plan area of a mass excavation, within the plan dimensions of a structure, or within the notional width of a trench. Timbering left in excavations shall only be measured for payment where it is specified or ordered by the Engineer.

15. When the site of any particular item of Works has been sufficiently cleared of trees, undergrowth etc. and before any excavation or filling has been carried out, the Contractor shall carry out survey
    under the supervision of Engineer's Representative to take, record and agree adequate ground levels. The data so obtained shall be used as a basis for the computation of excavation and filling.

16. The volume of fill will be measured net to the finished levels as shown on the drawings or as amended by the Engineer.

17. All reinforcement will be paid for on the basis of its computed weight except for reinforcement that will be paid for on the basis of the area placed. The unit rates inserted in the Bills of Quantities shall include for all necessary cutting, bending and fixing, and all additional bars which may be required as spacer supports and lacings and also for all soft iron tying wires, fixing clips of approved pattern and manufacture and chairs. The cost of all temporary works including clips, chairs etc. shall be included in the rates for the reinforcing steel.
    The weight for reinforcing bars shall include for all hooked or bent ends as per the bending schedule. Rates for fabric reinforcement or other reinforcement shall include for all laps, cuttings to size, bending and waste.

18. The rates for concrete shall include for making and testing preliminary test cubes, for making works test cubes and forwarding them to the Testing Engineer, forming the concrete to the slopes and falls shown on the drawings and any additional concrete used in excess of the net requirements. The rates shall also include for forming construction joints, for protection, for curing, for the rubbing down of exposed surfaces of concrete

after removal of formwork and for floating or brushing of other exposed surfaces where this is required.

19. The rates for precast concrete paving shall include for all cutting, bending, jointing and laying to falls.

20. The rates for precast concrete edging and Kerbs shall include for formwork, concrete bed and backing, all cutting, bedding, jointing and laying to falls.

21. The rates for formwork shall include for fillets and chamfers up to 50mm wide on the spay, coating to prevent adherence of concrete and the provision of temporary openings to facilitate inspection and cleaning. Rates shall also be inclusive of all necessary box outs and cut outs for holes up to 1 square metre.

    The rates for forming rebates in concrete walls etc shall include for forming pockets for the fish tail fixing cleats where required. Deductions from formwork quantities will be made for openings more than 1 square metre in area.

22. Formwork for upper surfaces inclined at 15 degrees or less to the horizontal is not measured and the cost of any such formwork used will be deemed to be included in the relevant concrete item rate.

23. Wrought formwork where specified will be measured to 150mm below final ground level

24. The rates for metal work shall include for bolts, nuts, washers and rawl bolts, fixing as Specified or in accordance with the manufactures instructions and rectifying as specified any parts of the painted, coated or galvanized surface that may be damaged either before or after erection.

25. The rate for fixing penstocks and flap valves etc. shall include for bedding and grouting, testing for water tightness, greasing all working parts and leaving in good working order: where the item includes supply, the rates shall also include for supplying drawings for approval before manufacture is commenced.

Sewers, Drains and Pipelines

The rates for pipes, pipe work specials shall include for supply of all materials, setting of concrete blocks and hardwood wedges where specified, provide any temporary support that may be necessary, preparing ends of pipes for jointing and all labour in jointing, protection to detachable joints, cleaning pipelines and rectifying as specified any damage to surface

coating. The rates shall also include for all cutting of pipes consequent upon structures, specials and fittings being construction in the designated positions.

26. The rates for concrete surround, bed and haunching to pipes, concrete in anchor blocks to pipes, and to gulley pots shall include for all formwork required and for any additional concrete the Contractor may place for his own convenience or by reason of the method or carrying out the work.

Prime Cost Items

27. Attendance on nominated Sub-Contractors shall include for all or any of the following as appropriate; labour, materials and plant required for taking delivery, carting, storing, hoisting and builders work entailed in fixing, erecting and installing as specified or in accordance with the manufactures instructions and all overheads and profits.

28. When, in the opinion of the Engineer, it is reasonable to expect the Contractor to price the attendance item it will be so included in the Bills of Quantities in all other cases it will form the subject of a Provisional Sum to be expended on a Day works basis.

29. Profit shall include for establishment charges, profit and any other costs not included in the attendance item.

The rates for the supply for any mechanical and electrical equipment shall include for witnessed works as directed by the Engineer.

a) *Provide* –shall mean all costs to cover purchase of materials in good condition, services for transaction with supplier, supervision, and transport to site or works all charges for rental, consumptions, overheads and profits throughout the Contract. It shall also include for all maintenance, insurance, handling and storage whenever applicable.

b) *Excavate for*- shall mean handling of any material from its incumbent position intended for specified work shown in the drawings or directed by the Engineer and backfilling and compacting part of material after laying of pipes, and cart away remaining to tips to be provided by the Contractor. The cost for this work shall include all survey, supervision, labour, tools machinery, protection of work, pumping, insurances and overheads and profits.

c) *'Laying'*- shall cover all work necessary for placing an object or materials to true line and level and level specified in a drawing or as directed by the Engineer.

d) *'Jointing'*- shall mean process of fixing specified material, pipes, fittings and specials together using appropriate tools, materials, labour and machinery. It should cover for all work necessary to provide matching of opposite parts in size, shape, and position indicated and clamps, settings and holders to hold firmly.

e) *'Testing'*-shall mean provision of all materials, apparatus, labour, machinery, charges for the media or chemical to be used and their transport, repair of object to be tested if required, re-testing, excavation of any part for visual inspection, erection of any type all until the object has been certified as having passed the required test satisfactorily.

f) *'Install'*-shall include for all work requirements stipulated for "laying and jointing"

30. <u>Government Taxes</u>

Tenderers to include in their rates for 16% V.A.T., all duties and other statutory taxes as no claim on the same shall be allowed.

a) Tenderers should note that the Employer will deduct 3% of the contract being withholding tax and will be remitted directly to the commissioner of Income Tax.

31. <u>Pricing of Preliminaries Items.</u>

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

32. <u>Statement of Compliance</u>

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

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

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

Date: .....…….

Official Rubber Stamp: ……

BILLS OF QUANTITIES

BILLS OF QUANTITIES

PROPOSED EXTERNAL WORKS AT THE LECTURE THEATRE FOR KIRINYAGA UNIVERSITY

Item	Description	Qty	Unit	Rate	Amount
	CAR PARK AND ACCESS ROAD				
	ELEMENT NO. 1				
A	Wheel and deposit away from site surplus excavated materials	3154	M^3		
B	150mm thick approved hand packed stone pitching	3670	M^2		
C	Import hardcore fill consolidated and rolled in layers	2100	M^3		
D	Blind surface of filling with approved stone materials and roll to cambers and gradients	3670	M^2		
E	60mm thick standard duty concrete paving blocks laid on 25mm thick sand bed to falls	3670	M^2		
F	125x250mm precast concrete splayed kerbs including 125x100mm edging channel and including concrete (1:3:6) foundation and launching up at the back including all necessary formwork, excavation and disposal	770	M		
G	Extra over ditto for kerbs circular on plan to radius not exceeding 2.5m	40	M		
H	450x450x250mm quadrant corner block ditto	12	NO		
J	125x100mm precast concrete channel	770	M		
K	Extra over125x100mm precast concrete edging channel curved to radius not exceeding 2.5m	40	M		
L	300mm wide x 100mm deep(internal) channel comprising 150mm thick concrete class20/40 sides and bottom,300mm wide mild steel grating consisting of 50x50mm angle iron at 40mm centres and neatly built into channel kerbs including finishing in channel internally in 12mm cement and sand screed (1:4) excavations, disposal and all necessary formwork	35	M		
M	50mm wide road marking paint	250	M		
	CAR PARK				
	CARRIED TO GRAND SUMMARY				

Item	Description	Qty	Unit	Rate	Amount
	STORMWATER PIPED DRAINAGE				
	ELEMENT NO. 2 : STORMWATER DRAIN				
A	Excavate trench for storm water drain 1000mm wide and 900mm deep including trimming sides to 45 deg. Slope and cart away.	75	M		
B	Ditto not exceeding 1.5m metres deep ditto	115	M		
C	600x300x75mm thick invert block drain courses of 600x225x75mm thick precast concrete interlocking side slabs all jointed in cement and sand mortar (1:4) mix including laying in trench on 100mm thick compacted murram on both sides	75	M		
D	Ditto with four courses slabs ditto.	115	M		
E	600x450x65mm thick shallow precast drain slab laid on 100mm thick compacted murram	120	M		
	CULVERTS				
F	Excavate for culvert head wall not exceeding 1.5metres deep and cart away	14	M^3		
G	Concrete (1:3:6) in wall foundations	2	M^3		
H	225mm thick masonry wall bedded and jointed in cement and sand (1:4) mortar	28	M^2		
J	Extra over ditto for chisel dressing and pointing	15	M^2		
K	450mm diameter precast concrete, spigot and socket culvert pipe laid and jointed in trench with cement mortar including 150mm concrete (1:3:6) bed surround and all necessary excavation.	6	M		
L	Build end of 450mm diameter pipe through 225mm thick wall and make good.	4	NO		
	Precast concrete ogee pipes and fittings laid and				
	jointed in trench:				
M	300mm diameter	90	LM		
N	450mm ditto	45	LM		
O	Extra over ditto for Y- junction 450x300mm	1	NO		
	Road gullies				
P	Road gully Pot size 900X525 to BS 556 including concrete (1:3:6) bed and surround and approved steel grating cover to BS 497 and close fitting galvanized steel stopper and chain	12	NO		
	CARRIED TO COLLECTION				

Item	Description	Qty	Unit	Rate	Amount
	STORMWATER DRAIN C'TD; Trenches				
A	Extra trench for 300mm drain pipe not exceeding 1.5M deep and average 1000mm deep	90	M		
B	Excavate trench for 450mm diameter drain pipe not exceeding 1.5Metres deep part return and part spread on site	20	M		
C	Ditto not exceeding 1.5m metres deep and not exceeding 3.0M deep.	25	M		
D	**Concrete (1:3:6) bed and surround.**				
	600x150mm thick bed and surround Type 'C' to 300mm diameter.	90	M		
E	750x150mm thick ditto to 450mm pipe	45	M		
	Inspection Chambers				
F	Inspection Chamber 900x600x900mm deep internally comprising 100mm thick concrete (1:2:4) bed,140mm thick reinforced concrete block walls,100mm concrete (1:2:4) slab reinforced with 8mm mild steel bars at 100mm centres both ways, concrete (1:3:6) benching to form diameter channel, 600x450mm medium duty manhole cover complete with frame including plastering walls internally sand steel troweled screed to benching, all necessary formwork	2	NO		
G	**The following in 2No. Ring Manholes**				
	Excavate pit for manhole not exceeding 1.5M deep from ground level	18	M^3		
H	Ditto not exceeding 1.5m metres deep and but not exceeding 3.0 M deep	7	M^3		
J	Extra over excavation for excavation in rock	2	M^3		
K	Return fill in and ram selected excavated materials around manholes	8	M^3		
L	Wheel away average 100mm on site spread and level surplus excavated materials as directed	17	M^3		
	Concrete (1:4:8)				
M	50mm thick blinding	9	M^2		
	Concrete (1:2:4)				
N	100mm thick bed	9	M^2		
O	100mm thick reinforced concrete walls	17	M^2		
	CARRIED TO COLLECTION				

Item	Description	Qty	Unit	Rate	Amount
	STORMWATER DRAIN C'TD				
	Concrete (1:2:4)				
A	1000mm diameter raising collar around cover 300mm high with 550mm diameter opening including formwork	2	NO		
B	Benching average 300mm high to manhole 1200mm diameter including forming 300mm diameter main channels and finishing top smooth in 12mm thick render	1	NO		
C	Ditto average 400mm high ditto for 450mm diameter main channel ditto	1	NO		
D	2- layers of BRC mesh type A193 weighing 3.95 KG to1200mm Curved wall	16	M^2		
E	Ditto to top slab including cutting for 550mm diameter diameter opening	2	M^2		
	Sawn formwork to:				
F	Vertical sides of wall curved to 675mm mean radius	17	M^2		
G	Edge of bed 75-150mm high ditto	8	M		
	Precast concrete (1:2:4)				
H	100mm thick precast concrete cover slab 1450mm diameter reinforced with and including 12mm diameter mild steel bars at 150mm centres both ways and with with 600mm diameter opening	2	NO		
J	1150mm diameter 60mm thick precast concrete rings 600mm long jointed in (1:3) mortar to BS 556 including100mm thick concrete grade surround	6	NO		
K	Single seal cast iron heavy duty triangular cover to BS 497 Grade A set in concrete (1:2:4)	2	NO		
L	Make hole in 150mm thick precast concrete wall for extra-large pipes and make good	4	NO		
M	Galvanized Malleable cast iron steps built into concrete wall and make good	8	NO		
	STORMWATER DRAIN				
	CARRIED TO COLLECTION				
	COLLECTION				
	Brought forward from page No. 2				
	Brought forward from page No. 3				
	From above				
	STORMWATER DRAIN				
	CARRIED TO GRAND SUMMARY				

Item	Description	Qty	Unit		
	LANDSCAPING				
	ELEMENT NO. 3				
	AMPHITHEATRE				
A	Excavate foundation trench not exceeding 1.5M deep, wheel and deposit on site excavated materials	43	M^3		
B	Reinforced concrete (1:2:4) mix in strip foundations	8	M^3		
C	200mm thick natural stone retaining wall jointed in cement and sand mortar (1:4) including reinforcing with hoop iron every course	53	M^2		
D	50X200mm precast concrete coping to wall	60	M		
E	200mm thick reinforced concrete (1:2:4) retaining wall	36	M^2		
F	Sawn formwork to vertical sides of wall	72	M^3		
G	Prepare, ground and form landscaped seating terraces 900mm wide	200	M		
H	Form soil moulds from soil stacked from excavations average size 10x3x2 metres high	3	NO		
J	Ditto 3x2x1 metre high	2	NO		
	LANDSCAPING				
	CARRIED TO GRAND SUMMARY				

Item	Description	Qty	Unit		
	GRAND SUMMARY				
1	CARPARK AND ACCESS ROAD				
2	STORMWATER PIPED DRAINAGE				
3	LANDSCAPING				
	EXTERNAL WORK INCLUSIVE OF VAT				
	CARRIED TO FORM OF TENDER				

PART III - CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

These General Conditions of Contract (GCC), read in conjunction with the Special Conditions of Contract (SCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

General Conditions of Contract

A. General

1. Definitions

1.1 Bold face type is used to identify defined terms.

a) **The Accepted Contract** Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

b) **The Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.

c) **The Adjudicator** is the person appointed jointly by Kirinyaga University and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.

d) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.

e) **Compensation Events** are those defined in GCC Clause 42 hereunder.

f) **The Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.

g) **The Contract** is the Contract between Kirinyaga University and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.

h) **The Contractor** is the party whose Bid to carry out the Works has been accepted by the Procuring Entity.

i) **The Contractor's Bid** is the completed bidding document submitted by the Contractor to the Procuring Entity.

j) **The Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.

k) **Days** are calendar days; months are calendar months.

l) **Day work**s are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.

m) **A Defect** is any part of the Works not completed in accordance with the Contract.

n) **The Defects** Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.

o) **The Defects Liability Period** is the period **named in the SCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

p) **Drawings** means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) Kirinyaga University in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

q) **Kirinyaga University** is the party who employs the Contractor to carry out the Works, **as specified in the SCC,** who is also the Procuring Entity.

r) **Equipmen**t is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

s) **"In writing" or "written"** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

t) The Initial Contract Price is the Contract Price listed in the Procuring Entity's Letter of Acceptance.

u) **The Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the SCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

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

w) **Plant i**s any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

x) **The Project Manager** is the person **named in the SCC** (or any other competent person appointed by Kirinyaga University 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 Contract.

y) **SCC** means Special Conditions of Contract.

z) **The Site** is the area of the works as **defined as such in the SCC**.

aa) **Site Investigation Reports** are those that were included in the bidding document and are factual and interpretative reports about the surface and subsurface conditions at the Site.

bb) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

cc) **The Start Date** is **given in the SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

dd) **A Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

ee) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

ff) **A Variation** is an instruction given by the Project Manager which varies the Works.

gg) **The Works** are what the Contract requires the Contractor to construct, install, and turn over to the Procuring Entity, **as defined in the SCC**.

2. Interpretation

21 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

22 If sectional completion is specified in the SCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

23 The documents forming the Contract shall be interpreted in the following order of priority:

a) Agreement,
b) Letter of Acceptance,
c) Contractor's Bid,
d) Special Conditions of Contract,
e) General Conditions of Contract, including Appendices,
f) Specifications,
g) Drawings,
h) Bill of Quantities[6], and
i) any other document **listed in the SCC** as forming part of the Contract.

[6] *In lump sum contracts, delete "Bill of Quantities" and replace with "Activity Schedule."*

3. Language and Law

3.1 The language of the Contract is English Language and the law governing the Contract are the Laws of Kenya.

3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Procuring Entity's Country when

a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country; or

b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

4. Project Manager's Decisions

4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between Kirinyaga University and the Contractor in the role representing the Procuring Entity.

5. Delegation

5.1 Otherwise **specified in the SCC,** the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of Kirinyaga University in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and Kirinyaga University between the dates given in the Schedule of Other Contractors, as **referred to in the SCC.** The Contractor shall also provide facilities and services for them as described in the Schedule. Kirinyaga University may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Procuring Entity, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in Fraud and Corruption during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Procuring Entity's and Contractor's Risks

10.1 Kirinyaga University carries the risks which this Contract states are Procuring Entity's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Procuring Entity's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Procuring Entity'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 Kirinyaga University or by any person employed by or contracted to him except the Contractor.

b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of Kirinyaga University or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is a Procuring Entity's risk except loss or damage due to

aa) a Defect which existed on the Completion Date,

bb) an event occurring before the Completion Date, which was not itself a Procuring Entity's risk, or

cc) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability 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 Procuring Entity's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of Kirinyaga University and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the Contractor's risks:

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 Contract; and

d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, Kirinyaga University may effect the insurance which the Contractor should have provided and recover the premiums Kirinyaga University has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

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

19. Discoveries

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

20. Possession of the Site

20.1 Kirinyaga University shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the SCC,** Kirinyaga University shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

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

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, Kirinyaga University and/or persons appointed by the Public Procurement Regulatory Authority to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Public Procurement Regulatory Authority. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Public Procurement Regulatory Authority's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Public Procurement Regulatory Authority's prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by Kirinyaga University and the Contractor, at the time of the Procuring Entity's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, Kirinyaga University does not agree on the appointment of the Adjudicator, Kirinyaga University will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 14 days of receipt of such request.

23.2 Should the Adjudicator resign or die, or should Kirinyaga University and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by Kirinyaga University and the Contractor. In case of disagreement between Kirinyaga University and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the SCC at the request of either party, within 14 days of receipt of such request.

24. Settlement of Claims and Disputes

24.1 Contractor's Claims

24.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.

24.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and Kirinyaga University shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub- Clause shall apply.

24.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

24.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Procuring Entity's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record- keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

24.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

a) this fully detailed claim shall be considered as interim;
b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and
c) the Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

24.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

24.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause

24.1.8 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the

additional payment (if any) to which the Contractor is entitled under the Contract.

24.1.9 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

24.1.10 If the Project Manager does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer to Arbitration in accordance with Sub-Clause 24.4 [Arbitration].

24.1.11 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 24.3.

242 Amicable Settlement

24.2.1 Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 24.1 above should move to commence arbitration after the fifty-sixth day from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

243 Matters that may be referred to arbitration

24.3.1 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 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.
e) Any dispute arising in respect of war risks or war damage.
f) 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 Contract, unless Kirinyaga University and the Contractor agree otherwise in writing.

244 Arbitration

24.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 24.3 shall be finally settled by arbitration.

24.4.2 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute 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.

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

24.4.4 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.

24.4.5 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.

24.4.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

24.4.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

24.4.8 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Project Manager shall not be altered by reason of any arbitration being conducted during the progress of the Works.

24.4.9 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the

Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

24.5 Arbitration with National Contractors

24.5.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or 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, on the request of the applying party, 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

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

24.6 Alternative Arbitration Proceedings

24.6.1 Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

24.7 Failure to Comply with Arbitrator's Decision

24.7.1 The award of such Arbitrator shall be final and binding upon the parties.

24.7.2 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

24.8 Contract operations to continue

24.8.1 Notwithstanding any reference to arbitration herein,

a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
b) Kirinyaga University shall pay the Contractor any monies due the Contractor.

25. Fraud and Corruption

25.1 The Government requires compliance with the country's Anti-Corruption laws and its prevailing sanctions policies and procedures as set forth in the Constitution of Kenya and its Statutes.

25.2 Kirinyaga University requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time stated in the SCC, after the date of the Letter of Acceptance, the 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. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 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.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC 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. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The 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.

27. Extension of the Intended Completion Date

27.1 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 Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When Kirinyaga University wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If Kirinyaga University accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both Kirinyaga University and the Contractor.

28.2 If the Contractor's priced proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the Project Manager

29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

30. Management Meetings

30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. 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.

31. Early Warning

31.1 The 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 Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for 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 instruction of the Project Manager.

C. Quality Control

32. Identifying Defects

32.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

33. Tests

33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

34.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price[7]

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price[8]

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Procuring Entity.

37.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

38. Variations

38.1 All Variations shall be included in updated Programs[9] produced by the Contractor.

38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

38.4 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.

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[7] *In lump sum contracts, replace GCC Sub-Clauses 36.1 as follows:*

36.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. The Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for materials on site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

[8] *In lump sum contracts, replace entire GCC Clause 37 with new GCC Sub-Clause 37.1, as follows:*
The Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

[9] *In lump sum contracts, add "and Activity Schedules" after "Programs."* [10] *In lump sum contracts, delete this paragraph.*

38.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning

38.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill 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 Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work

38.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

a) the proposed change(s), and a description of the difference to the existing contract requirements;
b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) Kirinyaga University may incur in implementing the value engineering proposal; and
c) a description of any effect(s) of the change on performance/functionality.

38.8 Kirinyaga University may accept the value engineering proposal if the proposal demonstrates benefits that:

a) accelerate the contract completion period; or
b) reduce the Contract Price or the life cycle costs to the Procuring Entity; or
c) improve the quality, efficiency, safety or sustainability of the Facilities; or
d) yield any other benefits to the Procuring Entity, without compromising the functionality of the Works.

38.9 If the value engineering proposal is approved by Kirinyaga University and results in:

a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the SCC** of the reduction in the Contract Price; or
b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39. Cash FlowForecasts

39.1 When the Program[11], is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

40. Payment Certificates

40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

40.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

40.3 The value of work executed shall be determined by the Project Manager.

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed12.

40.5 The value of work executed shall include the valuation of Variations and Compensation Events.

40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

40.7 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (which would be the tender price), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price)/tender price X 100*.

41. Payments

41.1 Payments shall be adjusted for deductions for advance payments and retention. Kirinyaga University shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If Kirinyaga University makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the 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.

41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

41.4 Items of the Works for which no rate or price has been entered in shall not be paid for by Kirinyaga University and shall be deemed covered by other rates and prices in the Contract.

42. Compensation Events

42.1 The following shall be Compensation Events:

d) Kirinyaga University does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.

e) Kirinyaga University modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.

f) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

g) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

h) The Project Manager unreasonably does not approve a subcontract to be let.

i) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

j) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Procuring Entity, or additional work required for safety or other reasons.

k) Other contractors, public authorities, utilities, or Kirinyaga University does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

l) The advance payment is delayed.

m) The effects on the Contractor of any of the Procuring Entity's Risks.

n) The Project Manager unreasonably delays issuing a Certificate of Completion.

42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the 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 Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

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[11] *In lump sum contracts, add "or Activity Schedule" after "Program."*

[12] *In lump sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."*

42.4 The Contractor shall not be entitled to compensation to the extent that the Procuring Entity's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

43. Tax

43.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currency y of Payment

44.1 All payments under the contract shall be made in Kenya Shillings

45. Price Adjustment

45.1 Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC.** If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies:

P = A + B Im/Io

where: P is the adjustment factor for the portion of the Contract Price payable.

A and B are coefficients[13] **specified in the SCC,** representing the non-adjustable and adjustable portions, respectively, of the Contract Price payable and Im is the index prevailing at the end of the month being invoiced and IOC is the index prevailing 30 days before Bid opening for inputs payable.

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 Kirinyaga University shall retain from each payment due to the Contractor the proportion stated in the **SCC** until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" Bank guarantee.

47. Liquidated Damages

47.1 The Contractor shall pay liquidated damages to Kirinyaga University at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. Kirinyaga University may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

47.2 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 Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

49. Advance Payment

49.1 Kirinyaga University shall make advance payment to the Contractor of the amounts stated in the **SCC** by the date stated in the **SCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to Kirinyaga University in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

49.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

50. Securities

50.1 The Performance Security shall be provided to Kirinyaga University no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the SCC,** by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 day from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

51. Dayworks

51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

51.2 All work to be paid for as Dayworks shall be recorded by the 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.

51.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

52. Cost of Repairs

52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 Kirinyaga University shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the 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 Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 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 Contractor and issue a payment certificate.

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[13] *The sum of the two coefficients A and B should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient A, for the non-adjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other non-adjustable components. The sum of the adjustments for each currency are added to the Contract Price.*

56. Operating and Maintenance Manuals

56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

57.1 Kirinyaga University or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

a) the 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 Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;

c) Kirinyaga University or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction oramalgamation;

d) a payment certified by the Project Manager is not paid by Kirinyaga University to the Contractor within 84 days of the date of the Project Manager's certificate;

e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

f) the Contractor does not maintain a Security, which is required;

g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or

h) if the Contractor, in the judgment of Kirinyaga University has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then Kirinyaga University may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

57.3 Notwithstanding the above, Kirinyaga University may terminate the Contract for convenience.

57.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

57.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental ornot.

58. Payment upon Termination

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to Kirinyaga University exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

58.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, 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 Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

59. Property

59.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of Kirinyaga University if the Contract is terminated because of the Contractor's default.

60. Release from Performance

60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either Kirinyaga University or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The 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 and for any work carried out afterwards to which a commitment wasmade.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	A. General
GCC 1.1 (q)	The Procuring Entity is: ***Kirinyaga University P.O.BOX 143-10300 KERUGOYA, KENYA***
GCC 1.1 (u)	The Intended Completion Date for the whole of the Works shall be *16 weeks from site hand over*
GCC 1.1 (x)	The Project Manager is: ***[Shall be appointed by the Vice Chancellor, Kirinyaga University].***
GCC 1.1 (z)	**Project Site**: Kirinyaga University Multi- Purpose Lecture Theatre (Ongoing works). **Contract Period**: This project is expected to be complete in **16 weeks from the date of site handover.** **Bidders should write a letter of commitment to complete the work within the timeframe provided.** ***[Note: The GCC default specifies the Contract Period as when all the Supplier's obligations are completed.]***
GCC 1.1 (cc)	The Start Date shall be *[***14 days after contract signing***]*.
GCC 1.1 (gg)	The Works consist of ***[Excavations and Earthworks, piped storm water drainage, Road kerbs laying Concrete paving blocks and Amphitheatre]***.
GCC 2.2	Sectional Completions are: ***[shall be agreed with the project manager]***
GCC 5.1	The Project manager ***[Shall be appointed by the Vice Chancellor, Kirinyaga University)***
GCC 8.1	Schedule of other contractors: *[insert Schedule of Other Contractors, if appropriate]*
GCC 9.1	**Key Personnel** GCC 9.1 is replaced with the following: 9.1 Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Special Conditions of Contract. The Contractor shall employ the Key Personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of Key Personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. [insert the name/s of each Key Personnel agreed by Kirinyaga University prior to Contract signature.]
GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: *[contractors all risks insurance]*. (b) For loss or damage to Equipment: *[contractors all risks insurance]*. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract *[contractors all risks insurance]*. (d) for personal injury or death: (i) of the Contractor's employees: *[Work Injury Benefits for employees]*.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	(ii) of other people: *[contractors all risks insurance including third parties]*.
GCC 14.1	Site Data are: ***[Not applicable]***
GCC 20.1	The Site Possession Date(s) shall be: ***[*14 days after contract signing*]*** *the 14 days shall be the contractor mobilization period.*
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: [*VC, Kirinyaga University]*.
	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: *[shall be agreed upon]*.
B. Time Control	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within ***7* days** from the date of the Letter of Acceptance.
GCC 26.3	The period between Program updates is ***14* days**. The amount to be withheld for late submission of an updated Program is ***the entire Certificate***
C. Quality Control	
GCC 34.1	The Defects Liability Period is:***150 days.*** *[The Defects Liability Period is usually limited to 12 months, but could be less in very simple cases]*
D. Cost Control	
GCC 38.9	If the value engineering proposal is approved by Kirinyaga University the amount to be paid to the Contractor shall be ___% *(insert appropriate percentage. The percentage is normally up to 50%)* of the reduction in the Contract Price. NA
GCC 44.1	The currency of the Procuring Entity's Country ***is Kenya Shillings***.
GCC 45.1	The Contract ***is not*** subject to price adjustment in accordance with GCC Clause 45, and the following information regarding coefficients ***does not*** apply.
GCC 46.1	The proportion of payments retained is ***10 percentage***
GCC 47.1	The liquidated damages for the whole of the Works are ***0.1%*** per day. The maximum amount of liquidated damages for the whole of the Works is ***8%*** of the final Contract Price.
GCC 48.1	The Bonus for the whole of the Works is ***NIL*** per day. The maximum amount of Bonus for the whole of the Works is ***NIL*** of the final Contract Price. *[If early completion would provide benefits to the* Procuring Entity, *this clause should remain; otherwise delete. The Bonus is usually numerically equal to the liquidated damages.]*
GCC 49.1	The Advance Payments shall be ***Shall not be granted*** and shall be paid to the Contractor no later than ***NIL.***
GCC 50.1	The Performance Security amount is *10% of the total contract sum in form of a bank guarantee*

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is *immediately after project completion]*. The date by which "as built" drawings are required is *immediately after project completion].]*.
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Procuring Entity's additional cost for completing the Works, is ***100%*.**

FORM No 1: NOTIFICATION OF INTENTION TO AWARD

This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative
   - *i)* Name: *[insert Authorized Representative's name]*
   - *ii)* Address: *[insert Authorized Representative's Address]*
   - *iii)* Telephone: *[insert Authorized Representative's telephone/fax numbers]*
   - *iv)* Email Address: *[insert Authorized Representative's email address]*

   [IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

2. Date of transmission: [*email*] on [*date*] (local time)

   This Notification is sent by (*Name and designation*) _____

3. Notification of Intention to Award

   - *i)* Procuring Entity: *[insert the name of the Procuring Entity]*
   - *ii)* Project: *[insert name of project]*
   - *iii)* Contract title: *[insert the name of the contract]*
   - *iv)* Country: *[insert country where ITT is issued]*
   - *v)* ITT No: *[insert ITT reference number from Procurement Plan]*

   This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender

   Submit a Procurement-related Complaint in relation to the decision to award the contract.

   a) The successful tenderer

      i) Name of successful Tender_____

      ii) Address of the successful Tender _____

      iii) Contract price of the successful Tender Kenya Shillings _____ (in words_____)

   b) Other Tenderers

   Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out. For Tenders not evaluated, give one main reason the Tender was unsuccessful.

SNo	Name of Tender	Tender Price as read out	Tender's evaluated price (Note a)	One Reason Why not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

a) DEADLINE: The deadline to request a debriefing expires at midnight on [*insert date*] (*local time*).

b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.

c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

i) Attention: [*insert full name of person, if applicable*]

ii) Title/position: [*insert title/position*]

ii) Agency: [*insert name of Procuring Entity*]

iii) Email address: [*insert email address*]

d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [*insert date*] (local time).

b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

i) Attention: [*insert full name of person, if applicable*]

ii) Title/position: [*insert title/position*]

iii) Agency: [*insert name of Procuring Entity*]

iv) Email address: [*insert email address*]

c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

e) There are four essential requirements:

i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.

ii) The complaint can only challenge the decision to award the contract.

iii) You must submit the complaint within the period stated above.

iv) You must include, in your complaint, all of the information required to support your complaint.

7. Standstill Period

i) DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).

ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.

iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature:_____ **Name:**_____

Title/position:_____ **Telephone:**___ **Email:** _____

FORM NO. 2 - REQUEST FOR REVIEW

FORM FOR REVIEW(r.203(1))

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 Kirinyaga University of ……dated the…day of …….20…….in the matter of Tender No……..…of ……..20….. for .....(Tender description).

REQUEST FOR REVIEW

I/We……,the above named Applicant(s), of address: Physical address…….P. O. Box 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.

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

1.

2.

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

FORM NO 3: LETTER OF AWARD

[letterhead paper of the Procuring Entity] [date]

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by …… (*name of Procuring Entity)*.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:.....

Name and Title of Signatory:.....

Name of Procuring Entity.....

Attachment: *Contract Agreement*.....

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the_____day of_____, 20____, between _____of _____ (hereinafter "the Procuring Entity"), of the one part, and_____of_____(hereinafter "the Contractor"), of the other part:

WHEREAS Kirinyaga University desires that the Works known as_____should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

Kirinyaga University and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
   a) the Letter of Acceptance
   b) the Letter of Tender
   c) the addenda Nos_____(if any)
   d) the Special Conditions of Contract
   e) the General Conditions of Contract;
   f) the Specifications
   g) the Drawings; and
   h) the completed Schedules and any other documents forming part of the contract.

3. In consideration of the payments to be made by Kirinyaga University to the Contractor as specified in this Agreement, the Contractor hereby covenants with Kirinyaga University to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. Kirinyaga University hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by_____(for the Procuring Entity)

Signed and sealed by_____(for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary:_____*[insert name and Address of* Procuring Entity*]* **Date:**_____

_____*[Insert date of issue]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Contractor") has entered into Contract No._____dated_____with (*name of Procuring Entity*)_____(Kirinyaga University as the Beneficiary), for the execution of _____(hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(*in words*),[1] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the …. Day of ……, 2...…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[Name of Authorized Official, signature(s) and seals/stamps].

Note: *All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

[1] *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.*

[2] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. Kirinyaga University should note that in the event of an extension of this date for completion of the Contract, Kirinyaga University would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM No. 6 - PERFORMANCE SECURITY

[Option 2– Performance Bond]

[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee instead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: _____ *[insert name and Address of* Procuring Entity*]* **Date:** _____ *[Insert date of issue]*.

PERFORMANCE BONDNo.: _____

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond _____ as Principal (hereinafter called "the Contractor") and _____] as Surety (hereinafter called "the Surety"), are held and firmly bound unto _____] as Obligee (hereinafter called "the Procuring Entity") in the amount of _____ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

2. WHEREAS the Contractor has entered into a written Agreement with Kirinyaga University dated the _____ day of _____, 20 , for _____ in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by Kirinyaga University to be, in default under the Contract, Kirinyaga University having performed the Procuring Entity's obligations thereunder, the Surety may promptly remedy the default, or shall promptly:
   1) complete the Contract in accordance with its terms and conditions; or
   2) obtain a tender or tenders from qualified tenderers for submission to Kirinyaga University for completing the Contract in accordance with its terms and conditions, and upon determination by Kirinyaga University and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
   3) pay Kirinyaga University the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than Kirinyaga University named herein or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.

6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this day _____ of _____ 20_____.

SIGNED ON_____on behalfof By___in the capacity of In the presence of

SIGNED ON_____on behalf of By__in the capacity of In the presence of

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of* Procuring Entity*]*
Date: _____ *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: _____ *[Insert guarantee reference number]* **Guarantor:** _____

_____ **[***Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ *dated* _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (*in words*) is to be made against an advance payment guarantee.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (*in words* _____)[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
   a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____.

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of _____, 2 ,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[1] *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.*

[2] *Insert the expected expiration date of the Time for Completion. Kirinyaga University should note that in the event of an extension of the time for completion of the Contract, Kirinyaga University would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 8 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____*[Insert name and Address of* Procuring Entity*]*

Date:_____*[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____*[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____*[insert reference number of the contract]* dated_____with the Beneficiary, for the execution of_____*[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[*insert the second half of the Retention Money] is to be made against a Retention Money guarantee.

3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]*_____(*[insert amount in words*_____*])*[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number_____at_____*[insert name and address of Applicant's bank]*.

5. This guarantee shall expire no later than the …..... Day of ….....……, 2.....….[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[1] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.*

[2] *Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. Kirinyaga University should note that in the event of an extension of this date for completion of the Contract, Kirinyaga University would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the Tenderer by meeting one or more of the following conditions:

- *Directly or indirectly holding 25% or more of the shares.*
- *Directly or in directly holding 25% or more of the voting rights.*
- *Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.*

Tender Reference No.:_____[*insert identification no*]

Name of the Assignment:_____*[insert name of the assignment]* to:

_____*[insert complete name of Procuring Entity]*

In response to your notification of award dated_____*[insert date of notification of award]* to furnish additional information on beneficial ownership:_____*[select one option as applicable and delete the options that are not applicable]*

I) We here by provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	**Directly or indirectly holding 25% or more of the shares (Yes / No)**	**Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)**	**Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer (Yes / No)**
[include full name (last, middle, first), nationality, country of residence]			

OR

ii) We declare that there is no Beneficial Owner meeting one or more of the following conditions: directly or indirectly holding 25% or more of the shares. Directly or indirectly holding 25% or more of the voting rights. Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.

OR

We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Tenderer shall provide explanation on why it is unable to identify any Beneficial Owner]

Directly or indirectly holding 25% or more of the shares. Directly or indirectly holding25% or more of the voting rights.

Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer]"

Name of the Tenderer: .....[insert complete name of the Tenderer]*_____

*Name of the person duly authorized to sign the Tender on behalf of the Tenderer: ** [insert complete name of person duly authorized to sign the Tender]*

Title of the person signing the Tender: ..... [insert complete title of the person signing the Tender]

Signature of the person named above: ..... [insert signature of person whose name and capacity are shown above]

Date signed ..... [insert date of signing] day of..... [Insert month], [insert