UNIVERSITY OF EMBU

TENDER NO:UoEm/13/2018-2019

CONSTRUCTION OF THE PROPOSED CLASSROOM BLOCK AT LEARNING CENTER FOR THE UNIVERSITY OF EMBU

Date of Closing: 16th April, 2019

SECTION I

INVITATION FOR TENDERS

Tender reference No. UoEm/13/2018-2019

Tender Name: Construction of the Proposed Classroom Block at Learning Center for the University of Embu

1.1 The University of Embu invites sealed tenders for the construction of: **Proposed Classroom Block at Learning Center.**

1.2 Interested eligible candidates may obtain further information at the Procurement Office during normal working hours.

1.3 A complete set of tender documents will be obtained from the University's website.

1.4 **MANDATORY SITE VISIT WILL TAKE PLACE ON 12TH APRIL, 2019 AT 10.00AM.**

1.5 Prices quoted should be net inclusive of all taxes, must be in Kenya shillings and shall remain valid for 120 days from the closing date of tender.

1.4 Completed tender documents are to be enclosed in plain sealed envelopes marked with Tender name and reference number and deposited in the Tender Box at the Reception in the Administration Block or to be addressed to the Vice Chancellor, University of Embu P.O. Box 6-60100 Embu so as to be received on or before **17th April 2019 at 11.00 am.**

1.7 Tenders will be opened immediately thereafter in the presence of the candidates or their representatives who choose to attend at the procurement office.

The Vice Chancellor,
University of Embu

NOTE: THE EVALUATION CRITERIA IS ON PAGE 3 – 5

University of Embu does not levy any fees in order to award tenders.

MANDATORY EVALUATION CRITERIA

Mandatory requirements will determine the satisfactory responsiveness of a tenderer, **Failure to meet any of these requirements as noted hereunder will render a tender non-responsive and will automatically be disqualified and will not be evaluated further.**

1. Copy of Certificate of Incorporation/Registration (certified by a lawyer)
2. Valid tax compliance Certificate from Kenya Revenue Authority (certified by a lawyer).
3. National Construction Authority: NCA 3 and above for Building works **(attach a certified (by a lawyer) and valid registration certificate from NCA)**
4. Copy of CR 12 Form
5. Valid Tender Security from a **recognized bank** in the amount of **Kshs. 500,000.00**
6. Confidential Business questionnaire (Page 62)–**Duly Filled, signed and stamped.**
7. Signed declaration not to involve in corrupt practices – Page 19
8. Signed Certificate of Site Visit
9. Form of Tender duly filled and signed–Page 50
10. Paginate the tender document i.e. insert page numbers on **ALL** Pages

NB: Those bidders who do not meet the mandatory criteria will not proceed to technical stage

TECHNICAL EVALUATION CRITERIA

1.1 Other Requirements		**Weighting Factor**
a)	**Presentation and response** • binding the documents & neat presentation *(1 mark)* • separation and arrangement of requested information and in the order requested *(1 mark)* • general response to all requirements *(1 mark)*	**3**
b)	**Certified Audited Accounts for the last Three (3) years:** • Year 1 *(2 Marks)* • Year 2 *(2 Marks)* • Year 3 *(2 Marks)* • **If Not Certified no marks**	**6**

	(certified by CPAK)	
c)	**Relevant past experience for the past five years.** ***Similarity concept:*** *The project entails the construction of a 680 M2, classroom block. It is a building construction project hence road construction projects will not be considered.* Proof of at least three (3) completed projects of similar nature and magnitude in the last five years each of which be of a value of at least **Kshs.30,000,000.00** • List of 3 completed projects to include the following *(10 marks on each project)* i) Name and Address of project – *(1 mark each)* *ii)* Contact persons - *(1 mark each)* *iii)* Their values (30 million and above) – *(1 marks each)* *iv)* Proof of completion such contracts (Attach completion certificates) – *(7marks each)* **If no completion certificates are attached** – ***(0 Points for the entire project)***	**30**
Other Requirements (cont'd)		**Weighting Factor**
d)	**References** • Reference from clients and consultants giving recommendation for successful completion of works of similar nature and magnitude *(5 marks)*	**5**
e)	**Financial Capability** • Proof of access to working capital or credit facilities of at least **Kenya Shillings Twenty Million (Kshs. 20,000,000.00)** *(10 marks)* • Bank(s) Reference Letter and Letter of Authority to make inquiries to your bankers *(5 marks)*	**15**
f)	**Qualified Personnel** • Contract Manager who must be a Registered Engineer/Architect/Quantity Surveyor/Project Manager with minimum **10 years' experience.** *(10 marks)* • Qualification *(5 points) and experience for the Period Indicated (5 marks) – (total 10 marks)*	**20**

	• With the required qualification but less years of experience than the period indicated *(Pro-rate)* • Less Qualifications than stated above regardless of experience *(0 marks* • Site Manager with a minimum of **15 years'** experience and Diploma in Building/Architecture or Civil Engineering qualification from a recognized institution. *(10 marks)* • Qualification *(5 points) and experience for the Period Indicated (5 marks) – (total 10 marks)* • With the required qualification but less years of experience than the period indicated *(Pro-rate)* • Less Qualifications than stated above regardless of experience *(0 marks* **Attach a detailed curriculum vitae of the above personnel certified by employee and bidding company representative** **Attach commitment letter from the employer confirming that the above personnel would be available during the period of contract** **Attach relevant certificates indicating the required qualification** **NB: If no above attachments, no marks for this requirement**	
g)	**Machinery & Equipment** Ownership or lease of major equipment. Proof of ownership or lease agreements to be provided and a firm commitment for inspection at any time. • Appropriate Transport e.g tippers, tankers, pickups etc – at least 3 No. *(2 marks)* • Power Tools and workshop Equipment– *(1 mark)* • Earthmoving Equipment e.g. excavator, bulldozer, backhoe, compactor etc at least 3 No. *(3 marks)* • Material handling equipment e.g. cranes, forklift, hoist etc at least 3 No – *(2 marks)* • Concrete making equipment e.g. concrete mixers, truck mixers, concrete pumps e.t.c at least 3 No. *(2 marks)* **Attach commitment letter confirming that the above machinery and equipment would be available during the period of contract**	**10**

	NB: If no above attachment, no marks for this requirement **(University of Embu may visit the premises)**	
h)	**Works Program for the Proposed Project and a Statement on current workload (state the job, value and the expected completion date).** **Kindly note that this project is urgent and has tight timelines and is expected to be handed over to the client on or before July 2019** • Works Program *(8 marks)* • Statement on current workload– *(3 marks)*	**11**
	TOTAL	**100**

Any tenderer scoring less than 70 Points will be considered as Technically non-responsive and therefore shall not be considered in the financial evaluation.

SECTION II

INSTRUCTIONS TO TENDERERS

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INSTRUCTIONS TO TENDERERS

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

1.1 The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The successful tenderer will be expected to complete the Works by the Intended Completion Date specified in the tender documents.

1.2 All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.

1.3 All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

1.4 In the event that pre-qualification of potential tenderers has been undertaken, only tenders from pre-qualified tenderers will be considered for award of Contract. These qualified tenderers should submit with their tenders any information updating their original pre-qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.

1.5 Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders, unless otherwise stated:

(a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer:

(b) total monetary value of construction work performed for each of the last five years:

(c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and names and addresses of clients who may be contacted for further information on these contracts;

(d) Major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.

(e) Qualifications and experience of key site management and technical personnel proposed for the Contract and an undertaking that they shall be available for the Contract.

(f) reports on the financial standing of the tenderer, such as profit and loss statements and auditor's reports for the past five years;

(g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);

(h) authority to seek references from the tenderer's bankers;

(i) information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and

(j) Proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

1.6 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:

(a) the tender shall include all the information listed in clause 1.5 above for each joint venture partner;

(b) the tender shall be signed so as to be legally binding on all partners;

(c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

(d) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and

(e) The execution of the entire Contract, including payment, shall bedone exclusively with the partner in charge.

1.7 To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria;

(a) annual volume of construction work of at least 2.5 times the estimated a cash-flow for the Contract;

(b) experience as main contractor in the construction of at least

(c) two works of a nature and complexity equivalent to the Worksover the last 10 years (to comply with this requirement, works cited should be at least 70 percent complete);

(d) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;

(e) a Contract manager with at least five years' experience in works of an equivalent nature and volume, including no less than three years as Manager; and

(f) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than 4 months of the estimated payment flow under this Contract.

1.8 The figures for each of the partners of a joint venture shall be added together to determine the tenderer's compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture's tender. Subcontractors' experience and resources will not be taken into account in determining the tenderer's compliance with the qualifying criteria, unless otherwise stated.

1.9 Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. A tenderer who submits or participates in more than one tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the tenderer's participation to be disqualified.

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

1.11 The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.

1.12 The procuring entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.

1.13 The price to be charged for the tender document shall not exceed Kshs.1,000/=

1.14 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.

2. Tender Documents

2.1 The complete set of tender documents comprises the documents listed below and any addenda issued in accordance with Clause 2.4.

(a) These Instructions to Tenderers
(b) Form of Tender and Qualification Information
(c) Conditions of Contract

(d) Appendix to Conditions of Contract
(e) Specifications
(f) Drawings
(g) Bills of Quantities
(h) Forms of Securities

2.2 The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer's risk and may result in rejection of his tender.

2.3 A prospective tenderer making an inquiry relating to the tender documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will only respond to requests for clarification received earlier than seven days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.

2.4 Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all tenderers. Prospective tenderers shall acknowledge receipt of each addendum in writing to the Employer.

2.5 To give prospective tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders, in accordance with Clause 4.2 here below.

3. Preparation of Tenders

3.1 All documents relating to the tender and any correspondence shall be in English language.

3.2 The tender submitted by the tenderer shall comprise the following:

(a) These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;

(b) Tender Security;

(c) Priced Bill of Quantities ;

(d) Qualification Information Form and Documents;

(e) Alternative offers where invited; and

(f) Any other materials required to be completed and submitted by the tenderers.

3.3 The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause relevant to the Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the tenderer.

3.4 The rates and prices quoted by the tenderer shall only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of Contract.

3.5 The unit rates and prices shall be in Kenya Shillings.

3.6 Tenders shall remain valid for a period of Ninety (90) days from the date of submission. However in exceptional circumstances, the Employer may request that the tenderers extend the period of validity for a specified additional period. The request and the tenderers' responses shall be made in writing. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.

3.7 The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price

3.8 The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.

3.9 Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as "Tenderer" all joint venture partners and list them in the following manner: a joint venture consisting of"……","……",and "……".

3.10 The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.

3.11 The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Contract Agreement and furnished the required Performance Security.

3.12 The Tender Security may be forfeited

(a) if the tenderer withdraws the tender after tender opening during the period of tender validity;

(b) if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;

(c) in the case of a successful tenderer, if the tenderer fails within the specified time limit to

(i) sign the Agreement, or

(ii) Furnish the required Performance Security.

3.13 Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, tenderers wishing to offer technical alternatives to the requirements of the tendering documents must also submit a tender that complies with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. In addition to submitting the basic tender, the tenderer shall provide all information necessary for a complete evaluation of the alternative, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated tender conforming to the basic technical requirements shall be considered.

3.14 The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender, and clearly marked "ORIGINAL". In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as "COPIES". In the event of discrepancy between them, the original shall prevail.

3.15 The original and all copies of the tender shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the tenderer, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialed by the person or persons signing the tender.

3.16 Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.

3.17 The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.

3.18 The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

4. Submission of Tenders

4.1 The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as "**ORIGINAL**" and "**COPIES**" as appropriate. The inner and outer envelopes shall:

(a) be addressed to the Employer at the address provided in the invitation to tender;

(b) bear the name and identification number of the Contract as defined in the invitation to tender; and

(c) Provide a warning not to open before the specified time and date for tender opening.

4.2 Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender. However, the Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with Sub-Clause 2.5 in which case all rights and obligations of the Employer and the tenderers previously subject to the original deadline will then be subject to the new deadline.

4.3 Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.

4.4 Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer's modification or withdrawal notice shall be prepared, sealed, marked,
and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked "**MODIFICATION** "and "**WITHDRAWAL**", as appropriate. No tender may be modified after the deadline for submission of tenders.

4.5 Withdrawal of a tender between the deadline for submission of Tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.

4.6 Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

5. Tender Opening and Evaluation

5.1 The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Tenderers' and Employer's representatives who are present during the opening shall sign a register evidencing their attendance.

5.2 The tenderers' names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted),

any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.

5.3 Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of Contract shall not be disclosed to tenderers or any other persons not officially concerned with such process until the award to the successful tenderer has been announced. Any effort by a tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.

5.4 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask any tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile but no change in the price or substance of the tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.

5.5 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined in Clause 1.7;(b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tendering documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the tendering documents, the Employer's rights or the tenderer's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

5.6 If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

5.7 Tenders determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows:

(a) where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and

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

(c) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the main summary of the Bill of Quantities, the amount as stated in the Form of Tender shall prevail.

(d) The Error Correction Factor shall be computed by expressing the difference between the tender amount and the corrected tender sum as a percentage of the corrected Builder's Work (i.e. Corrected tender sum less P.C. and Provisional Sums)

(e) The Error Correction Factor shall be applied to all Builders' Work (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.

(f) the amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and, with concurrence of the tenderer, shall be considered as binding upon the tenderer. If the tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security may be forfeited in accordance with clause 3.11.

5.8 The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5.

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

(a) making any correction for errors pursuant to clause 5.7;

(b) Excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Day-works where priced competitively.

(c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and

(d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause 4.6

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

5.11 The tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Contract award may result in the rejection of the tender.

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

6. Award of Contract

6.1 Subject to Clause 6.2, the award of the Contract will be made to the tenderer whose tender has been determined to be substantially responsive to the tendering documents and who has offered the lowest evaluated tender price, provided that such tenderer has been determined to be (a) eligible in accordance with the provision of Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8.

6.2 Notwithstanding clause 6.1 above, the Employer reserves the right to accept or reject any tender, and to cancel the tendering process and reject all tenders, at any time prior to the award of Contract, without thereby incurring any liability to the affected tenderer or tenderers or any obligation to inform the affected tenderer or tenderers of the grounds for the action.

6.3 The tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Contract documents called the "Letter of Acceptance") will state the sum (hereinafter and in all Contract documents called the "Contract Price") that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract. At the same time the other tenderers shall be informed that their tenders have not been successful.

The contract shall be formed on the parties signing the contract.

6.4 The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 days of receipt the successful tenderer will sign the Agreement and return it to the Employer.

6.5 Within 21 days after receipt of the Letter of Acceptance, the successful tenderer shall deliver to the Employer a Performance Security in the amount stipulated in the Appendix to Conditions of Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form

6.6 Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.

6.7 Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.

6.8 Preference where allowed in the evaluation of tenders shall not be allowed for contracts not exceeding one year (12 months)

6.9 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

6.10 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.

6.11 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)

6.12 Where contract price variation is allowed, the valuation shall not exceed 15% of the original contract price.

6.13 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.

6.14 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

6.15 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.

6.16 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

7. Corrupt and Fraudulent practices

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

DECLARATION NOT TO ENGAGE IN CORRUPT PRACTICES

I hereby declare that I will not be engaged in corrupt or fraudulent practice and that I have not been debarred from participating in procurement proceedings.

SIGNED: ……. DATE: …….

STAMP: ……

SECTION III CONDITIONS OF CONTRACT

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CONDITIONS OF CONTRACT

1. Definitions

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

"Bill of Quantities" means the priced and completed Bill of Quantities forming part of the tender.

"Compensation Events" are those defined in Clause 24 hereunder.

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

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

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

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

"The Contract Price" is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

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

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

"The Defects Liability Certificate" is the certificate issued by Project Manager upon correction of defects by the Contractor.

"The Defects Liability Period" is the period named in the Contract Data and calculated from the Completion Date.

"Drawings" include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

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

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

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

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

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

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

"Project Manager" is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract and shall be an "Architect" or a "Quantity Surveyor" registered under the Architects and Quantity Surveyors Act Cap 525 or an "Engineer" registered under Engineers Registration Act Cap 530.

"Site" is the area defined as such in the Appendix to Condition of Contract.

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

"Specifications" means the Specifications of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

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

"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.

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

"A Variation" is an instruction given by the Project Manager which varies the Works.

"The Works" are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as defined in the Appendix to Conditions of Contract.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.

2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).

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

(1) Agreement,

(2) Letter of Acceptance,

(3) Contractor's Tender,

(4) Appendix to Conditions of Contract,

(5) Conditions of Contract,

(6) Specifications,

(7) Drawings,

(8) Bill of Quantities,

(9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

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

3. Language and Law

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

4 Project Manager's Decisions

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

5 Delegation

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

6 Communications

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

7 Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer 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 etc. as listed in the Appendix to Conditions of Contract and also with the Employer, as per the directions of the Project Manager. The Contractor shall also provide facilities and services for them. The Employer may modify the said List of Other Contractors etc., and shall notify the Contractor of any such modification.

9 Personnel

9.1 The Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said Information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Qualification Information. If the Project Manager asks the 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.

10 Works

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

11 Safety and Temporary Works

11.1 The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.

11.2 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary works and all drawings prepared by the Contractor for the execution of the temporary or permanent Works, shall be subject to prior approval by the Project Manager before they can be used.

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

12. Discoveries

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

13. Work Program

13.1 Within the time stated in the Appendix to Conditions of Contract, 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. 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.

The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Managermay withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager's approval of the program shall not alter the 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.

14. Possession of Site

14.1 The Employer 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 Appendix to Conditions of Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.

15. Access to Site

15.1 The Contractor shall allow the Project Manager and any other person authorised 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.

16. Instructions

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

17. Extension or Acceleration of Completion Date

17.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Work, which would cause the Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay caused by such failure shall not be considered in assessing the new (extended) Completion Date.

17.2 No bonus for early completion of the Works shall be paid to the Contractor by the Employer.

18. Management Meetings

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

19. Early Warning

19.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of theWork 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.

19.2 The Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance

can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instructions of the Project Manager.

20. Defects

20.1 The Project Manager shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection 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. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor, However, if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.

20.2 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 Appendix to Conditions of Contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.

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

21. Bills Of Quantities

21.1 The Bills of Quantities shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rate in the Bills of Quantities for each item.

21.2 If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contract price, the Project Manager shall adjust the rate to allow for the change.

21.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

22.1 All variations shall be included in updated programs produced by the Contractor.

22.2 The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.

22.3 If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.

22.4 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.

22.5 If the Project Manager decides that the urgency of varying the Work would prevent a quotation being given and considered without delaying the Work, no quotation shall be given and the variation shall be treated as a Compensation Event.

22.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.

23.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed; materials delivered on Site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for

their value. Thereafter, they shall not be removed from Site without the Project Manager's instructions except for use upon the Works.

23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya's average rate for base lending prevailing as of the first day the payment becomes overdue.

23.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

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

23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of an changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.7 In the event that an advance payment is granted, the following shall apply:-

a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money.

b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.

c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached.

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

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

Where:

R = the amount to be reimbursed

A = the amount of the advance which has been granted

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

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

d) with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24. Compensation Events

24.1 The following issues shall constitute Compensation Events:

(a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Appendix to Conditions of Contract.

(b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.

(c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.

(d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.

(e) The Project Manager unreasonably does not approve a subcontract to be let.

(f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the

Site investigation reports), from information available publicly and from a visual inspection of the Site.

(g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.

(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

(i) The effects on the Contractor of any of the Employer's risks.

(j) The Project Manager unreasonably delays issuing a Certificate of Completion.

(k) Other compensation events described in the Contract or determined by the Project Manager shall apply.

24.2 If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the 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.

24.3 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 will assume that the Contractor will react competently and promptly to the event.

24.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.

24.5 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.

24.6 The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

Provided always that should the event giving rise to the claim of continuing effect, the Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

25. Price Adjustment

25.1 The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.

25.2 The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provisions in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Contract, if at any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.

25.3 Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;

(i) The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date for submission of tenders.A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

(ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.

(iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.4 The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the Works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the

schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

25.5 Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.

25.6 No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.7 The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rates.

26. Retention

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

27. Liquidated Damages

27.1 The Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Contract for each day that the actual Completion Date is later than the Intended Completion Date. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not alter the Contractor's liabilities.

27.2 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 rate specified in Clause 23.30

28. Securities

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

until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Day-works

29.1 If applicable, the Day-works rates in the Contractor's tender shall be used for small additional amounts of Work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

29.2 All work to be paid for as Day-works 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.

29.3 The Contractor shall be paid for Day-works subject to obtaining signed Day-works forms.

30. Liability and Insurance

30.1 From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer's risks:

(a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;

(i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or

(ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or 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 the Employer or in Employer's design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.

30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer's risk except loss or damage due to;

(a) a defect which existed on or before the Completion Date.

(b) an event occurring before the Completion Date, which was not itself the Employer's risk

(c) the activities of the Contractor on the Site after the Completion Date.

30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property

(including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risk are Contractor's risks.

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

(a) loss of or damage to the Works, Plant, and Materials;
(b) loss of or damage to Equipment;
(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
(d) personal injury or death.

30.4 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 required to rectify the loss or damage incurred.

30.5 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

30.6 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. Completion and taking over

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

32. Final Account

32.1 The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer 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 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate. The Employer shall pay the Contractor the amount due in the Final Certificate within 60 days.

33. Termination

33.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These

fundamental breaches of Contract shall include, but shall not be limited to, the following;

(a) the Contractor stops work for 30 days when no stoppage of work is shown on the current program and the stoppage has not been authorised 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) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

(d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate)of issue.

(e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of 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.

33.2 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 Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.

33.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

33.4 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. The Project Manager shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials , goods, equipment and temporary buildings on Site.

34. Payment Upon Termination

34.1 If the 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 and delivered to Site up to the date of the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable by the Contractor.

34.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager

shall issue a certificate for the value of the Work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor's personnel employed solely on the
Works, and the Contractor's costs of protecting and securing the Works.

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

34.4 The Contractor shall, during the execution or after the completion of the Works under this clause remove from the Site as and when required, within such reasonable time as the Project Manager may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.
Until after completion of the Works under this clause the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and the verification within a reasonable time of the accounts therefore the Project Manager shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

35. Release from Performance

35.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer 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.

36. Corrupt gifts and payments of commission

The Contractor shall not;

(a) Offer or give or agree to give to any person in the service of the

Employer any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other Contract for the Employer or for showing or forbearing to show favour
ordisfavour to any person in relation to this or any other contract for the Employer.

(b) Enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf

or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

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

37. Settlement Of Disputes

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

(i) Architectural Association of Kenya

(ii) Institute of Quantity Surveyors of Kenya

(iii) Association of Consulting Engineers of Kenya

(iv) Chartered Institute of Arbitrators (Kenya Branch)

(v) Institution of Engineers of Kenya

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

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

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

37.4 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference

amicably with or without the assistance of third parties. Proof of such attempt shall be required.

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

37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.

37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.

37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.

37.5.4 Any dispute or difference arising in respect of war risks or war damage.

37.6 All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.

37.7 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.

37.8 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.

37.9 The award of such Arbitrator shall be final and binding upon the parties.

SECTION IV – APPENDIX TO CONDITIONS OF CONTRACT

Attached in the Bills of Quantities.

Attached in the Bills of Quantities.

Attached in the Bills of Quantities.

SECTION V - SPECIFICATIONS

Notes for preparing Specifications

1.0 Specifications must be drafted to present a clear and precise statement of the required standards of materials, andworkmanship for tenderers to respond realistically and competitively to the requirements of the Employer 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.

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

3.0 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.

4.0 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.

5.0 The Employer 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.

The Employer 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.

Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Employer, 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 the Employer each on its own merits and independently of whether the tenderer has priced the item as described in the Employer's design included with the tender documents.

SECTION VI - DRAWINGS

SECTION VII - BILL OF QUANTITIES

Notes for preparing Bills of Quantities

1.0 The objectives of the Bills 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 content of the Bill of Quantities should be as simple and brief as possible.

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

(a) Preliminaries.

The preliminaries should indicate the inclusiveness of the unit prices, and should state the methods of measurement which have been adopted in the preparation of the Bill of Quantities and which are to be used for the measurement of any part of the Works.

The number of preliminary items to be priced by the tenderer should be limited to tangible items such as site office and other temporary works, otherwise items such as security for the Works which are primarily part of the Contractor's obligations should be included in the Contractor's rates.

(b) Work Items

(i) The items in the Bills of Quantities should be grouped into sections to distinguish between those parts of the Works which by nature, location, access, timing, or any other special characteristics may give rise to different methods of construction, or phasing of the Works, or considerations of cost. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.

(ii) Quantities should be computed net from the Drawings, unless directed otherwise in the Contract, and no allowance should be made for bulking, shrinkage or waste. Quantities should be rounded up or down where appropriate.

(iii) The following units of measurement and abbreviations are recommended for use.

Unit	*Abbreviation*	*Unit*	*Abbreviation*
cubic meter	m^3 or cu m	millimeter	mm
hectare	ha	month	mon
hour	h	number	nr
kilogram	kg	square meter	m^2 or sq m
lump sum	sum	square millimeter	mm^2 or sq mm
meter	m	week	wk
metric ton (1,000 kg)	t		

(iv) The commencing surface should be identified in the description of each item for Work involving excavation, boring or drilling, for which the commencing surface is not also the original surface. The excavated surface should be identified in the description of each item for Work involving excavation for which the excavated surface is not also the final surface. The depths of Work should be measured from the commencing surface to the excavated surface, as defined.

(c) Day-work Schedule

A Day-work Schedule should be included if the probability of unforeseen work, outside the items included in the Bill of Quantities, is relatively high. To facilitate checking by the Employer of the realism of rates quoted by the tenderers, the Day-work Schedule should normally comprise:

(i) a list of the various classes of labour, and materials 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 will be paid for Work executed on a Day work basis; and

(ii) a percentage to be entered by the tenderer against each basic Day work Subtotal amount for labour, materials and plant representing the Contractor's profit, overheads, supervision and other charges.

(d) Provisional Quantities and Sums

(i) Provision for quantity contingencies in anyparticular item or class of Work with a high expectation of quantityoverrun should be made by entering specific "Provisional Quantities" or "Provisional Items" in the Bill of Quantities, and *not* by increasing the quantities for that item or class of Work beyond those of the Work normally expected to be required. To the extent not covered above, a general provision for physical contingencies (quantity overruns) should be made by including a "Provisional Sum" in the Summary of the Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a "Provisional Sum" in the Summary of the 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.

(ii) Provisional sums to cover specialized works normally carried out by Nominated Sub Contractors should be avoided and instead Bills of Quantities of the specialised Works should be included as a section of the main Bills of Quantities to be priced by the Main Contractor. The Main Contractor should be required to indicate the name (s) of

the specialised firms he proposes to engage to carry out the specialized Works as his approved domestic sub-contractors. Only provisional sums to cover specialized Works by statutory authorities should be included in the Bills of Quantities.

(e) Summary

The Summary should contain a tabulation of the separate parts of the Bills of Quantities carried forward, with provisional sums for Day-work, for physical (quantity) contingencies, and for price contingencies (upward price adjustment) where applicable.

SECTION VIII – STANDARD FORM

(i) Form of Invitation for Tenders
(ii) Form of Tender
(iii) Letter of Acceptance
(iv) Form of Agreement
(v) Form of Tender Security
(vi) Performance Bank Guarantee
(vii) Bank Guarantee for Advance Payment
(viii) Qualification Information
(ix) Tender Questionnaire
(xi) Confidential Business Questionnaire
(x) Statement of Foreign Currency Requirement
(xi) Details of Sub-Contractors
(x) Request for Review Form

FORM OF INVITATION FOR TENDERS

_____*[date]*

To: _____ *[name of Contractor]*
_____*[address]*
_____
_____

Dear Sirs:

*Reference:*_____*[Contract Name]*

You have been prequalified to tender for the above project.

We hereby invite you and other prequalified tenderers to submit a tender for the execution and completion of the above Contract.

A complete set of tender documents may be purchased by you from ____
_____
[mailing address, cable/telex/facsimile numbers].

Upon payment of a non-refundable fee of Kshs _____

All tenders must be accompanied by _____number of copies of the same and a security in the form and amount specified in the tendering documents, and must be delivered to
_____
[address and location]

at or before _____*(time and date).* Tenders will be opened immediately thereafter, in the presence of tenderers' representatives who choose to attend.

Please confirm receipt of this letter immediately in writing by cable/facsimile or telex.

Yours faithfully,

_____ Authorised Signature

_____ *Name and Title*

FORM OF TENDER

TO: UNIVERSITY OF EMBU

Construction of the Proposed Classroom Block at Learning Center for the University of Embu

Dear Sir,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of Kshs._____*[Amount in figures]*Kenya Shillings_____ _____*[Amount in words]*

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.

3. We agree to abide by this tender until 120 days from the date of submission, and it shall remain binding upon us and may be accepted at any time before that date.

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

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

Dated this _____ day of _____20_____

Signature _____in the capacity of_____

duly authorized to sign tenders for and on behalf of _____*[Name of bidder]*
of_____[*Address of bidder]*

LETTER OF ACCEPTANCE

[letterhead paper of the Employer]

_____*[date]*

To: _____
[name of the Contractor]

_____
[address of the Contractor]

Dear Sir,

This is to notify you that your Tender dated _____
for the execution of _____
[name of the Contract and identification number,as given in the Tender documents] for the Contract Price of Kshs. _____ *[amount in figures]*[Kenya Shillings_____*(amount in words)*] in accordance with the Instructions to Tenderers is hereby accepted.

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

Authorized Signature ……

Name and Title of Signatory ……

Attachment : Agreement

FORM OF AGREEMENT

THIS AGREEMENT, made the _____ day of _____ 20 _____
between_____of[or whose
registered office is situated at]_____
(hereinafter called "the Employer") of the one part AND
_____of[or whose
registered office is situated at]_____
(hereinafter called "the Contractor") of the other part.

WHEREAS THE Employer is desirous that the Contractor executes
_____
(name and identification number of Contract) (hereinafter called "the Works") located at_____*[Place/location of theWorks*]and the Employer has accepted the tender submitted by the Contractor for the execution and completion of such Works and the remedying of any defects therein for the Contract Price of Kshs_____[*Amount in figures*],Kenya Shillings_____[*Amount inwords]*.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.

   (i) Letter of Acceptance

   (ii) Form of Tender

   (iii) Conditions of Contract Part I

   (iv) Conditions of Contract Part II and Appendix to Conditions of Contract

   (v) Specifications

   (vi) Drawings

   (vii) Priced Bills of Quantities

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer 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 thereto have caused this Agreement to be executed the day and year first before written.

The common Seal of _____

Was hereunto affixed in the presence of _____

Signed Sealed, and Delivered by the said _____

Binding Signature of Employer _____

Binding Signature of Contractor _____

In the presence of (i) Name_____

Address_____

Signature_____

[ii] Name _____

Address_____

Signature_____

FORM OF TENDER SECURITY

WHEREAS ……..(hereinafter called "the Tenderer") has submitted his tender dated …… for the construction of ……
…… *(name of Contract)*

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

THE CONDITIONS of this obligation are:

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

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

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

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

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

_____	_____
[date[	*[signature of the Bank]*
_____	_____
[witness]	*[seal]*

PERFORMANCE BANK GUARANTEE

To: _____(*Name of Employer*) _____*(Date)*
_____(*Address of Employer)*

Dear Sir,

WHEREAS _____(hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____ dated _____ to execute _____ (hereinafter called "the Works");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Kshs. _____ (*amount of Guarantee in figures*) Kenya Shillings_____ (*amount of Guarantee in words*), and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings _____ (*amount ofGuarantee in words*) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR _____

Name of Bank _____

Address _____

Date _____

BANK GUARANTEE FOR ADVANCE PAYMENT

To: _____ *[name of Employer]* _____*(Date)*
_____*[address of Employer]*

Gentlemen,

Ref: _____*[name of Contract]*

In accordance with the provisions of the Conditions of Contract of the above-mentioned Contract, We,_____*[name and Address of Contractor]* (hereinafter called "the Contractor") shall deposit with _____*[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Contract in an amount of Kshs._____*[amount of Guarantee in figurers]* Kenya Shillings_____*[amount of Guarantee in words]*.

We, _____[*bank or financial institution*], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to _____[*name of Employer*] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding Kshs_____[*amount of Guarantee in figures*] Kenya Shillings _____[*amount of Guarantee in words*], such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between _____[*name of Employer*] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until _____(*name of Employer*) receives full payment of the same amount from the Contract.

Yours faithfully,

Signature and Seal _____

Name of the Bank or financial institution _____

Address _____

Date _____

Witness: Name: _____

Address: _____

Signature: _____

Date: _____

QUALIFICATION INFORMATION

1. Individual Tenderers or Individual Members of Joint Ventures

1.1 Constitution or legal status of tenderer (attach copy or Incorporation Certificate);
Place of registration: _____

Principal place of business _____

Power of attorney of signatory of tender _____

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

Year	Volume	
	Currency Value	

1.3 Work performed as Main Contractor on works of a similar nature and volume over the last five years. Also list details of work under way or committed, including expected completion date.

Project name	Name of client and contact person	Type of work performed and year of completion	Value of Contract
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

1.4 Major items of Contractor's Equipment proposed for carrying out the Works. List all information requested below.

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

1.5 Qualifications and experience of key personnel proposed for administration and execution of the Contract. Attach biographical data.

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

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

_____
_____

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

_____
_____
_____

1.8 Name, address and telephone, telex and facsimile numbers of banks that may provide reference if contacted by the Employer.

_____
_____
_____

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

_____
_____
_____

1.10 Proposed program (work method and schedule) for the whole of the Works.

2 Joint Ventures

2.4 The information listed in 1.1 – 1.10 above shall be provided for each partner of the joint venture.

2.5 The information required in 1.11 above shall be provided for the joint venture.

2.6 Attach the power of attorney of the signatory(ies) of the tender authorizing signature of the tender on behalf of the joint venture

2.7 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that:

a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

b) one of the partners will be nominated as being in charge, authorized to incur liabilities and receive instructions for and on behalf of any and all partners of the joint venture; and

c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

TENDER QUESTIONNAIRE

Please fill in block letters.

1. Full names of tenderer

   ……

2. Full address of tenderer to which tender correspondence is to be sent (unless an agent has been appointed below)

   ……

3. Telephone number (s) of tenderer

   ……

4. Telex address of tenderer

   ……

5. Name of tenderer's representative to be contacted on matters of the tender during the tender period

   ……

6. Details of tenderer's nominated agent (if any) to receive tender notices. This is essential if the tenderer does not have his registered address in Kenya (name, address, telephone, telex)

   ……

   ……

_____
Signature of Tenderer

Make copy and deliver to:_____(*Name of Employer*)

CONFIDENTIAL BUSINESS QUESTIONNAIRE FORM

You are requested to give the particulars indicated in Part 1 and either Part 2(a), 2(b) or 2 (c) whichever applied to your type of business

You are advised that it is a serious offence to give false information on this form

Part 1 – General:

Business Name ……
Location of business premises. ……
Plot No…… Street/Road ……..
Postal Address …….. Tel No. …… Fax …… E mail ……
Nature of Business ……..
Registration Certificate No. ……
Maximum value of business which you can handle at any one time – Kshs. ……
Name of your bankers …….. Branch ……

	Part 2 (a) – Sole Proprietor *Your name in full …….. Age ……* *Nationality …… Country of origin ……* • *Citizenship details ……. .……* •
	Part 2 (b) Partnership *Given details of partners as follows:* *Name Nationality Citizenship Details Shares* *1. ……* *2. ……* *3. ……..* *4. ……..*
	Part 2 (c) – Registered Company *Private or Public ……* *State the nominal and issued capital of company-* *Nominal Kshs. ……* *Issued Kshs. ……* *Given details of all directors as follows* *Name Nationality Citizenship Details Shares* *1……* *2. ……..* *3. ……* *4. ……* *5 ……*
Date …… Signature of Candidate ……	

- *If a Kenya Citizen, indicate under "Citizenship Details" whether by Birth, Naturalization or registration.*

STATEMENT OF FOREIGN CURRENCY REQUIREMENTS

(See Clause 23] of the Conditions of Contract)

In the event of our Tender for the execution of_____ _____(*name of Contract*) being accepted, we would require in accordance with Clause 21 of the Conditions of Contract, which is attached hereto, the following percentage:

(Figures)…… (Words)……

of the Contract Sum, (Less Fluctuations) to be paid in foreign currency.

Currency in which foreign exchange element is required:

……

Date: The …… Day of …….. 20…….

Enter 0% (zero percent) if no payment will be made in foreign currency.

Maximum foreign currency requirement shall be _____(percent) of the Contract Sum, less Fluctuations.

_____
(Signature of Tenderer)

DETAILS OF SUB-CONTRACTORS

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

Failure to comply with this requirement may invalidate the tender.

(1) Portion of Works to be sublet: ……

(i) Full name of Sub-contractor and address of head office: ……

……

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

……

……

(2) Portion of Works to sublet: ……

(i) Full name of sub-contractor and address of head office: ……

……

……

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

……

_____ _____

[Signature of Tenderer) Date

LETTER OF NOTIFICATION OF AWARD

Address of Procuring Entity
_____
_____

To:_____
_____
_____
_____

RE: Tender No._____

Tender Name_____

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

_____
_____

1. Please acknowledge receipt of this letter of notification signifying your acceptance.

2. The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.

3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

   *(FULL PARTICULARS)*_____
   _____

SIGNED FOR ACCOUNTING OFFICER

FORM RB 1

REPUBLIC OF KENYA

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO…….OF…….….20……...

BETWEEN

…….APPLICANT

AND

……RESPONDENT *(Procuring Entity*)

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

REQUEST FOR REVIEW

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

1.

2.

etc.

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

1.

2.

etc

SIGNED …….(Applicant)

Dated on…….day of ……/…20…

FOR OFFICIAL USE ONLY

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

SIGNED
Board Secretary

PROPOSED CLASSROOM BLOCK AT LEARNING CENTER FOR THE UNIVERSITY OF EMBU

BILLS OF QUANTITIES

Client:			
	University of Embu P. O. Box 6 - 60100 Embu.		
Project Architect:		Project Quantity Surveyor:	
	Arch. Michael Kyeva Reg. No. A1605 P. O. Box 6 - 60100 Embu.		Qs. HuriaKarugu Reg. No. Q840 P. O. Box 6 - 60100 Embu.

APRIL 2019

PROPOSED CLASSROOM BLOCK AT LEARNING CENTER FOR THE UNIVERSITY OF EMBU

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PROPOSED CLASSROOM BLOCK AT LEARNING CENTER FOR THE UNIVERSITY OF EMBU

SPECIAL NOTES

1. This is a **FIXED PRICE CONTRACT and NO PRICE FLUCTUATIONS** will be allowed.

2. **The contractor's attention is drawn to the fact that the site is located in a learning institution and should endeavor to reduce activities that may disrupt normal learning process of particular importance is a noisy operation by plant and equipment deployed on the work.**

3. **The contractor's attention is drawn to the fact that the project is needed urgently and should endeavor to complete within the set timelines (by July 2019)**

4. Rates must be inclusive of all taxes as required by the Government of Kenya including VAT at current rate. Tenderers are therefore strongly advised to price this tender inclusive of VAT at current rate. The PC and Provisional Sums are also inclusive of VAT and should not be adjusted at all.

5. The Contractor is required to check the numbers of the pages of these Bills of Quantities against the contents stated on the Table of Contents and should he find missing, in duplicate or indistinct, he must inform the Quantity Surveyor as described in this document at once and have the same rectified.

6. Should the Contractor be in doubt about the precise meaning of any item or figure for any reason whatsoever, he must inform the Architect/ the Quantity Surveyor in order that the correct meaning may be decided before the date of submission of tenders.

7. No liability will be accepted nor any claim allowed in respect of errors in the Contractor's tender due to mistakes in these Bills of Quantities which should have been rectified in the manner described above.

PROPOSED CLASSROOM BLOCK NEAR LEARNING CENTER FOR THE UNIVERSITY OF EMBU

ITEM	PARTICULARS	KSHS	CTS
A	**DEFINITION OF TERMS** The following terms, whenever used hereinafter and in all Contract Documents shall be interpreted as hereunder:- a) "Employer/Client" shall be held to mean **THE VICE CHANCELLOR, UNIVERSITY OF EMBU of P. O. BOX 6-60100, EMBU** b) "The Architect" shall be held to mean **ARCH. MICHAEL KYEVA, UNIVERSITY OF EMBU of P. O. BOX 6-60100, EMBU** c) "The Quantity Surveyor" shall be held to mean **Qs. HURIA KARUGU , UNIVERSITY OF EMBU of P. O. BOX 6-60100, EMBU** d) "Contractor" shall be held to mean the person or persons partnership, firm or company whose tender for the Works has been accepted and who has or have signed a writen Contract with the Employer and shall include his or their heirs, executors, administrators, assigns, successors and duly appointed representatives. e) "Employer/Client's Representative" – shall be held to mean persons duly authorised to represent the Employer or the successors in office of such persons and also such persons as may be deputed by such representatives to act on their behalf for the purpose of this Contract. f) "Works" shall be held to mean all or any portion of work, materials and articles wherever the same are being manufactured or prepared which are to be used in the execution of this Contract, and whether the same be on the site of the building or not. It shall also be deemed to include the work of all sub-contractors and all variations. g) "Contract" shall be held to mean the Quotation, Articles of Agreement and Conditions of Contract, form of bond, Drawings and priced and signed Bills of Quantities. h) "Site" shall be held to mean the Lands and other places on, under, in or through which the works are to be executed or carried out and other lands or places provided by the Employer for the purpose of the Contract. **CARRIED TO COLLECTION**		

ITEM	PARTICULARS	KSHS	CTS
	DEFINITION OF TERMS CTD i) "Approved, Directed and Selected" shall be held to mean the approval, direction and selection of or by the Employer or Emloyers Representive. j) "Singular and plural" – words importing the singular only shall also include the plural and vice versa where the context requires. k) "remove" shall mean taking down, dismantling, hacking up, breaking down etc. and clearing from site or as directed.		
A	**LOCATION OF SITE** The site is situated within the Municipality of Embu within Embu County, approximately 139 km from Nairobi by road. The site for the works is located within the University of Embu. The Contractor shall be deemed to have visited the site (at his own cost) and satisfied himself as to: (a) The nature of the site. (b) The amount of bush, rubbish or debris to be cleared away before commencement. (c) The nature, current usage, proximity and size of adjoining property and buildings. (d) The topography of the site (e) The nature of existing communication by road or otherwise. The availability of land for the erection and positioning of all temporary structures and materials necessary for the execution of the works		
B	**WORKING CONDITIONS** The contractor's attention is drawn to the fact that the site is located in a learning insititution and should endeavour to reduce activities that may disrupt normal learning process		
C	**SCOPE AND DESCRIPTION OF THE WORKS** The Works under this contract comprise Construction to completion of: - A Classroom Block of approx. 680 M2 with and including all services installations as per the drawings and bills of quantities **CARRIED TO COLLECTION**		

ITEM	PARTICULARS	KSHS	CTS
	SCOPE AND DESCRIPTION OF THE WORKS (CONT'D) The standards of workmanship and materials used must be of the highest levels achievable in accordance with the specifications provided for the works. The Employer shall have the right to hire others to carry out work falling under this contract if the Contractor fails to meet the required standards of materials and workmanship. The Employer has the authority to issue variations through the Architect to either increase or decrease the scope of works. In event of such happenings, the Contractors rates will be used as allowed in the Conditions of Contract. **However such variations will not entitle the Contractor to claims for loss of profit and other related expenses in case of omissions being made to the scope of works. The Employer therefore reserves the right to omit any section(s) of the Works before or after the award.**		
A	**CONDITIONS OF CONTRACT** The parties shall enter into a contract which shall be the current Conditions of Contract for Building Works, published by the Director of Public Procurement excepting in so far as may be deleted therein or is varied hereinafter. The said conditions are included as pages CC/1 to CC/22 in these Bills of Quantities Tenderers are expected to be familiar with the said conditions of contract. That notwithstanding, they can seek clarification from the Quantity Surveyor in respect of any clause, or any addition or amendment to any clause as contained herein. The Contractor is referred to the main document for full information as number and titles of the clauses only are hereafter given with such additional information as is required. All clauses carrying a monetary value to be priced out opposite to the numbers and titles of each clause. **CARRIED TO COLLECTION**		

PROPOSED CLASSROOM BLOCK NEAR LEARNING CENTER FOR THE UNIVERSITY OF EMBU

ITEM	PARTICULARS	KSHS	CTS
B	**CLAUSES**		
	1. Definitions		
	2. Interpretation		
	3. Language, Law, Fraud and Corruption		
	4. Project Manager's Decision		
	6. Delegation		
	7. Communications		
	8. Subcontracting		
	9. Other Contractors		
	10. Personnel		
	11. Works		
	12. Safety & Temporary Works		
	13. Discoveries		
	14. Works Program		
	15. Posession of Site		
	16. Access to Site		
	17. Instructions		
	18. Extension or Acceleration of Completion Date		
	19. Management Meetings		
	20. Early Warnings		
	21. Defects		
	22. Bills of Quantities		
	23. Variations		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
	CLAUSES (cont'd)		
	24. Payment Certificates, Currency of Payments and AdvancePayments		
	25. Compensation Events		
	26. Retention		
	27. Liquidated Damages		
	28. Securities		
	29. Dayworks		
	30. Liability and Insurance		
	31. Completion and Taking Over		
	32. Fianl Account		
	33. Termination		
	34. Payment upon Termination		
	35. Force Majeure		
	36. Release from Performance		
	37. Corrupt gifts and payment commission		
	38. Settlement of Disputes		
	39. Confidentiality		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**APPENDIX TO CONDITIONS OF CONTRACT**		
a	The EMPLOYER is **The Vice Chancellor** **University of Embu (UoEm)** **P. O. Box 6 - 60100** **Embu**		
b	The name of the Contract is **PROPOSED CONSTRUCTION OF A CLASSROOM BLOCK NEAR LEARNING CENTER FOR THE UNIVERSITY OF EMBU**		
c	The Works consists of **CONSTRUCTION OF A CLASSROOM BLOCK AND ALL ASSOCIATED MECHANICAL AND ELECTRICAL WORKS AS DETAILED IN THE DRAWINGS, SPECIFICATIONS AND BILLS OF QUANTITIES**		
d	The start date shall be **AGREED WITH THE EMPLOYER**		
e	The Intended Completion Date for the whole of the Works shall be **AS SHALL BE AGREED WITH THE EMPLOYER**		
f	The following documents also form part of the Contract: **PROGRAMME OF WORKS SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE PROJECT MANAGEMENT TEAM.**		
g	The Contractor shall submit a revised program for the Works within **14 DAYS** of delivery of the Letter of Acceptance.		
h	The amount to be withheld for late submission of an updated program is: **ANY FULL CERTIFICATE DUE.**		
i	The Site Possession Date shall be **AGREED WITH THE EMPLOYER**		
j	The Site is located approximately 3.5 Kms **FROM EMBU TOWN CENTRE, WITHIN EMBU MUNICIPALITY, INSIDE THE UNIVERSITY.**		
k	The Defects Liability period is **6 CALENDER MONTHS AFTER DATE OF PRACTICAL COMPLETION.**		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
	Appendix to Conditions of Contract C'td		
a	The minimum insurance covers shall be;		
b	The minimum cover for insurance of professional fees shall be **15% of CONTRACT SUM**.		
c	The minimum cover for loss or damage to Equipment is **KSHS. 10% OF CONTRACT SUM**		
d	The minimum for insurance of other property is **KSHS. 10% OF CONTRACT SUM**		
e	The minimum cover for personal injury or death insurance:		
	i) For the Contractors' employees is **10% OF CONTRACT SUM**		
	ii) For other people is **5% OF CONTRACT SUM**		
f	The following events shall also be Compensation Events: **NONE**		
g	The period between Program updates is **14 DAYS**.		
h	The amount to be withheld for late submission of an updated Program is **ANY FULL CERTIFICATE DUE.**		
i	The proportion of payments retained is **10% OF CERTIFIED AMOUNT**		
j	The Price Adjustment Clause **SHALL NOT APPLY. THIS IS A FIXED PRICE CONTRACT**		
k	The liquidated damages for the whole of the Works is **KSHS. 50,000.00** (per calendar week of delay or part thereof)		
l	The Performance Security shall be for the following minimum amounts equivalent as a percentage of the Contract Price **10 PERCENT (%)**		
m	The Completion Period for the Works is **SHALL BE AGREED UPON BY THE CLIENT AND THE CONTRACTOR AT CONTRACT SIGNING STAGE**		
n	The rate of exchange for calculation of foreign currency payments is **NOT APPLICABLE**		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
	Appendix to Conditions of Contract C'td		
a	The schedule of basic rates used in pricing by the Contractor is as attached *Tenderer* [*to attach]*.		
b	Advance Payment: **NOT APPLICABLE**		
	CARRIED TO COLLECTION		

PROPOSED CLASSROOM BLOCK NEAR LEARNING CENTER FOR THE UNIVERSITY OF EMBU

ITEM	PARTICULARS	KSHS	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		
	Brought forward from page PP/6		
	Brought forward from page PP/7		
	Brought forward from page PP/8		
	Brought forward from page PP/9		
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO MAIN SUMMARY		

ITEM	PARTICULARS	KSHS	CTS
A	**METHOD OF MEASUREMENT** The Bills of Quantities have been prepared in accordance with the general principles of the Standard Method of Measurement of Building Works for East Africa, Second Edition (Metric), published by the Architectural Association of Kenya, Chapter of Quantity Surveyors in June 2008		
B	**ABBREVIATIONS** Throughout these Bills of Quantities, units of measurements and terms are abbreviated and shall be interpreted as follows; **mm** shall mean millimeters **cm** shall mean centimeters **m** shall mean metres **M1** shall mean linear metres **M2** shall mean square metres **M3** shall mean cubic metres **Kgs.** shall mean kilograms **NO.** shall mean number **Prs.** shall mean pairs **n.e** shall mean Not Exceeding **B.S.:** shall mean current British Standard Institution, 2 Park Street, London, WI England **K.B.S.:** shall mean the current Kenya Bureau of Standards **DITTO:** Shall mean the whole of preceding description except as qualified in the description in which it occurs. Where it occurs in description of succeeding items it shall mean the same as in the first description of the series in which it occurs expect as qualified in the description concerned. Where it occurs in brackets it shall mean whole of the preceding description which is contained with the appropriate brackets. **Approved:** shall mean approved by or to the approval of the Client or Client's Representative. **As directed:** shall mean as directed by the Client or Client's Representative		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
	ABBREVIATIONS C'TD		
	(m.s.) shall mean measured separately **(b.m.s.)** shall mean both sides measured **(p.c.)** shall mean prime cost **100 to 200** shall mean exceeding 100mm but not exceeding 200mm girth and all items described in this manner shall be similarly construed **Works** the term 'the works' wherever used hereinafter and in all contract documents shall mean all or any portion of the works materials and articles wherever the same are to be used in the execution of this contract and whether the same be on site or not		
	SPECIAL CLAUSES		
A	**SAFETY** The Contractor shall take all precautions as necessary to ensure maximum safety for all persons, engaged upon or visiting the works.		
B	**TRESPASS AND NUISANCE** The Contractor shall not obstruct any public way or otherwise do or suffer to be done anything which may amount to a nuisance or annoyance, and shall not interfere with any right to any way or right to adjoining property and any notice received by him or left upon the site requiring the discontinuance or suspension of any part of the works shall at once be forwarded by him to the Client or, if given verbally, shall at once be communicated by him to the Client in writing and the contractor shall keep the Employer indemnified against any claim or loss consequent upon any act neglect or omission of the contractor The Contractor shall take all precautions to eliminate as far as possible the danger to the public and other persons arising from the entry and exit of vehicles to and from the site.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**HOARDING** The site shall be enclosed by hoarding of appropriate length as required and of minimum 2.50m high constructed with 30 gauge galvanized iron sheets fixed to approved timber framing complete with access gate all to the approval of the Architect.		
B	**CONTRACT RATES TO APPLY** Rates inserted in the tender Bills of Quantities shall apply throughout the period of contract. Any changes will be strictly in accordance with the contract.		
C	**PRICING BILL OF QUANTITIES** The Contractor shall price out individually and in detail all items in this Bill of Quantities and under no circumstances will lump sums be allowed. All rates and figures entered in the Bill of Quantities must be done in indelible ink. Any item not priced for in this Bills of Quantities shall be deemed to be provided for for free or its rate is included elsewhere in these Bills of Quantities The Contractor is advised to check Bill of Quantities and should he find any pages missing or in duplicate or the figures in writing indistinct or any ambiguity in description, he must inform the Emloyer/Client at once and have the same rectified. Without authority the Contractor shall not alter or otherwise qualify the text of the Bill of Quantities, otherwise such alterations shall be ignored. All expense incurred by the Contractor in preparation of this tender shall not be allowed.		
D	**TOOLS, PLANTS AND SCAFFOLDING** Provide all necessary cranes, hoists and other plant including ladders, staging, access gangway tackle tarpaulins, tools, moulds, template etc., necessary for the proper execution of the works and properly maintaining them during the contract performance.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**SANITATION FOR THE WORKS** The Contractor shall provide and maintain proper sanitation of the Works to the satisfaction of the County Authorities, Labour Department and the Project Management Team.		
B	**SECURITY OF WORKS** The Contractor shall be entirely responsible for the security of all the works, stores, materials, plant, personnel, etc. both his own and sub-contractor's and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss of damage and the protection of the public. All articles and materials supplied by the Client must be signed for by the Contractor at the time of taking delivery as having received them in good order and thereafter the Contractor shall be responsible for any damage or loss.		
C	**LABOUR REGULATIONS** The Contractor shall strictly adhere to the relevant Current Labour Regulations regarding emoluments, working hours and working conditions. These regulations must be displayed at all times during the execution of this contract for the information of employees in all places used for the execution of the contract. The Contractor shall recognise the freedom of employees to belong to Trade Unions and maintain daily records in English of the time worked and wages paid to individual employees.		
D	**SUPERVISION AND WORKING HOURS** **The work shall be executed under the direction and reasonable satisfaction of the Client and Project Management Team who shall at all times during the normal working hours have access to all Works or any other places where such work is being prepared for the Contract.** Working hours shall be those generally in force in the Building and Civil Engineering Trades in Kenya. No work shall be carried out at night or on gazetted holidays unless the Employer shall so direct. No work shall be covered up nor shall any concreting be carried out in the absence of the Clerk of Works without the prior approval of the Client/ Project Management Team in writing.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**BLASTING OPERATIONS** Blasting will only be allowed with the express permission of the Client or the Architect. Any 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 Architect governing the use and storage of explosives.		
B	**INSURANCES** The Contractor shall insure as required in Clause 11, 12, 13 and 14 of the Articles of Agreement. No payment on account of the work executed shall be made to the Contractor until he has satisfied the Employer or his representative either by production of an Insurance Policy or an Insurance Certificate that the foregoing insurance clauses have been complied with.		
C	**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 owners and the project management team.		
D	**WATER FOR WORKS** The Contractor shall provide at his own risk and cost all necessary clean and fresh water for the works including that required by sub-contractors on site, and for any temporary plumbing, meter and storage facilities and clear way on completion and make good works disturbed. Nominated sub-contractors are to be made liable for the cost of any water used or any installations specially provided for their own use.		
E	**LIGHTING AND POWER FOR THE WORKS** The Contractor shall provide at his own risk and cost the required electricity supply for the works including that required by sub- contractors and others on site. Nominated sub- contractors are to be made liable for the cost of any electrical power used and for any installations provided specially for their own use.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**EXISTING PROPERTY** The contractor shall take all precautions to avoid damage to all existing property including buildings, roads, cables, drains and other services and he will be held responsible for and shall make good all such damages arising from the execution of this contract at his own expenses to the satisfaction of the Architect.		
B	**EXISTING SERVICES** Prior to commencement of any work the Contractor is to ascertain from the relevant Authorities the exact position, depth and level of all existing electric cables, water pipes or other services in the area and they shall make whatever provisions may be required by the Authorities concerned for the support and protection of such services. Any damage or disturbance caused to any services shall be reported immediately to the Architect and the relevant Authority and shall be made good to their satisfaction at the Contractor's expense.		
C	**ACCESS TO SITE AND TEMPORARY ROADS** Means of access to the site shall be agreed with the Architect and the Client prior to commencement of the work and the contractor must allow for constructing and maintaining the necessary temporary access roads, removing them and making good and reinstating all works and surfaces disturbed to the satisfaction of the project management teamt.		
C	**SITE OFFICE** The Contractor shall provide a site office to accommodate the Client's Representative, Clerk of Works and visiting staff as follows: 1 No. meeting room for site meetings etc. 1 No. office for contractor’s use The following furniture shall be provided by the contractor: 1 No. table and at least 10 seats 2 No. pin up boards 1200mm x 2400mm Provide for all power and lighting points. The Contractor shall also provide on-site at all times a modern and accurate level together with a levelling staff, ranging rods and one 5 metre; one 30 metre and one 50 metre tapes, digital camera and stationery for use only by the Clerk of Works or Employer’s Representatives.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**URGENCY OF THE WORKS** The Contractor is notified that these "works are urgent" and should be completed within the period stated in these Particular Preliminaries.The Contractor shall allow in this tender for any costs he deems that he/she may incur by having to complete the works within the stipulated contract period.		
B	**SITE PHOTOS** The contractor shall allow for taking digital site phographs on a daily basis to the satisfaction of the consultants.Copies of each shall be provided to the employer and consultants as required and a weekly record shall be placed in an Album in the site office.		
C	**STORAGE OF MATERIALS** The Contractor shall provide onsite weatherproof lock up sheds for safe storage and custody of materials for the works and shall remove them on completion of the works, making good disturbed surfaces to the satisfaction of the project management team. Nominated Sub-Contractors shall be made liable for the cost of any special additional storage accommodation provided over and above the normal requirement specifically for their Use**.**		
D	**TRANSPORT** Allow for transport of workmen, materials, etc. to and from the site at such routes as may be permitted by competent authorities.		
E	**LABOUR CAMPS** Labour camp will not be permitted on the site and the contractor must make arrangement for transport of workers in accordance with all existing traffic laws.		
F	**PROGRESS CHART** As indicated elsewhere in this Document, the Contractor shall prepare a full detailed programme and progress chart in the form of bar chart, precedence diagram or network analysis to coincide with various sectional completion dates if any. The programme must be updated on monthly basis throughout the progress of Works. The draft is to be submitted and approved by the project management team.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**PROVISIONAL WORK** All work measured provisionally shall be left uncovered by a reasonable time to allow all measurements needed for such adjustment to be taken by the Quantity Surveyor when such work is completed. Should the Contractor default in these respects, he shall, if the Employer/ Employer's Representative so directs uncover the work at his own expenses to enable measurements to be taken**.**		
	PROTECTIVE CLOTHING The Contractor shall provide all protective or any other special clothing or equipment for their employees that may be necessary. These shall include, inter-alia, safety helmets, gloves, goggles, earmuffs, gumboots, steel toed boots, overalls, etc according to the type of work. The Contractor shall ensure that all safety and protective gear are worn by all staff on site at all times		
B	**SHOP DRAWINGS** The contractor shall prepare for scrutiny and issue to the architect,copies of detailed shop drawings of all specialists works.The contractor shall immediately amend after the architect has checked the drawings and when approved shall issue to the architect four copies for general use.The scrutiny of these drawing shall be for general conformity including conformity with the works of others and to co-ordinate the contract work in pace. Such appovals shall not imply any further indication or correctness.		
C	**EXISTING AND ADJACENT PROPERTY** The Contractor must take all steps necessary to safeguard existing and adjacent property, make good at their own expense any damage to persons or property caused thereon, and hold the Employer indemnified against any such claim arising. The Contractor will be held fully responsible for the safety of the existing and adjacent buildings and for any damage caused in consequence of these Works. They must reinstate all damages at his own expense and indemnify the Employer against any loss. The Contractor must take such steps and exercise such care and diligence as to minimise nuisance from dust, noise or any other cause to the occupiers of the existing and adjacent property.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**IMPORTED MATERIALS AND SPECIAL ITEMS** Where imported materials or special items of goods, materials, or equipment form part of the Contract, the Contractor shall be entirely responsible for making all necessary arrangements and placing all necessary orders to ensure their prompt and timely arrival on site to suite the building operations. No claim for an extension of time shall be entertained by the Architect unless the Contractor can produce reasonable proof that he has taken all possible precautions to prevent delay and that the delay is beyond his control.		
B	**PRIME COST AND PROVISIONAL ITEMS** Interpretation of these items shall be as in Clause A7 of the Standard Method of Measurement and sums of money included under these terms shall be subject to adjustment at final account.		
C	**MATERIALS ARISING FROM EXCAVATIONS** Materials of any kind obtained from the excavations shall be the property of the Employer and unless directed otherwise 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 Employer. 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.		
D	**PROTECTION OF THE WORKS** Provide protection of the whole of the works contained in the Bills of Quantities, including casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the project management team and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Employer.		
E	**REMOVAL OF RUBBISH AND CLEANING** Remove all rubbish and debris from the buildings and site as it accumulates and at completion of the works and remove all plant, scaffolding and unused materials at completion, or as directed by the project management team from time to time. Before final inspection and handing over date, the Contractor must clean the building both internally and externally to make the Works perfect and fit for immediate occupation by the Employer.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**WORKS TO BE DELIVERED UP CLEAN** All works in this contract should be delivered up clean. i.e. as shall be deemed necessary; 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 which may require it, remove all marks, blemishes, stains and defects from joiner, fittings and decorated surfaces generally, polish door furniture and bright parts of metal-work and leave the whole of the buildings water-tight, clean, perfect and fit for occupation to the approval of the project management team.		
B	**FIRM PRICE CONTRACT** Unless otherwise specifically stated, this is a firm price contract and the Contractor must allow in his tender for any increases in the cost of labour and/or materials during the currency of the Contract. No claim for increased costs will be entertained except only in increased costs arising from fluctuation in duties as defined in Condition No.50 of the Conditions of Contract.		
C	**SAMPLES** The Contractor should allow for providing and testing any number of samples of materials or workmanship required by the project management team for approval or rejection and any further samples in the case of rejection until such samples are approved. Materials or workmanship not to the standard of approved samples shall be rejected.		
D	**CONCRETE CUBE TESTS** The contractor should allow for making, delivery and testing of concrete cube tests during all stages of the Works. Such cubes should be made in accordance with Engineer's instructions and the Contractor shall allow for all costs and expenses associated thereof**.**		
E	**STATUTORY OBLIGATIONS, NOTICES, FEES AND CHARGES** **The Contractor should allow in his tender for all costs incurred in complying with all Statutory Requirements and payment of all Levies currently in force and affecting the Construction Industry** This Clause will cover among others, Training Levy as in Legal Notice No. 237 of October 1971 as well as the Standards Levy Order 1990 as in Legal Notice No.267 of 1st July 1990, Value Added Tax act 1989 and all amendments enacted upto tender date**.**		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**DIRECT PROCUREMENT OF EMPLOYER** Certain items may be directly procured by the Employer for incorporation in the Works. In such cases the Employer will be required to list such items for notification to the Contractor before the date of possession. Such items shall then rank and be treated as P.C. Sums items for the purposes of the evaluation of profit and attendance. No other claim shall be made against such items by the Contractor except as in accordance with the Contract. Where such items are fixed by the Contractor a fixing rate shall be determined by the Quantity Surveyor in accordance with the Contract.		
B	**WITHHOLDING TAX** The contractor to comply fully with all the requirements under the Act currently in force and affecting the building industry**.**		
C	**NOISE CONTROL** The Contractor shall take all precautions to minimise noise levels and shall comply with all statutory requirements to that effect.		
D	**NUISANCE** The contractor shall endeavour to avoid nuisance during demolition from noise, water, smoke, dust and the like.		
E	**OVERLOADING** The Contractor shall avoid damage to existing building and adjoining structures and shall avoid excessive loads by way of plant materials, debris etc. on any part of the existing building without prior approval of the Architect.		
F	**INTERPRETATION OF TERMS** “Demolish” shall be deemed to mean cutting away, pulling down, breaking up, taking down etc. as the context may require and shall include clearing away and removing from site all debris arising. “Remove” shall mean taking down, dismantling, hacking up, breaking down etc. and clearing from site or as directed.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
A	**SIGN BOARD** The Contractor shall provide and erect a sign board on the site showing the title of the project, the name and address of the Employer, the Consultants, Nominated Sub-contractors, Nominated Suppliers and such other information as may be required by the project management team. The board shall be maintained in good condition and removed after the Expiry of the Defects Liability Period or any other earlier time if directed by the Architect A drawing of the sign board may be inspected in the office of the Architect. The project management team shall direct on the actual location of the board		
B	**VISITORS BOOK AND SITE DIARY** The Contractor shall keep on the site a visitors book for recording the names of all persons who visit the site for the purpose of the project. He shall also maintain on site a diary in which he shall record site activities on a daily basis and particularly any occurrence which bears on the progress of the works in any way. The visitors' book and the diary shall be surrendered to the project management team at the completion of the project or at any other time that he may direct		
C	**NOTES:**		
1	The Contractor shall exercise extreme care during demolitions to avoid unwarranted damage. Any damage caused through want of care shall be at the Contractor own expense.		
2	Where the items require the salvaged materials to be handed over to the Employer, the Contractor shall make every effort to minimise damage to such items during removal and subsequent handling.		
3	All reusable material arising from demolition work shall be the property of the Employer and will be handed over to the Employert or stored in a secure place as directed by the Employer .Such materials shall be identified by the Employer before demolition starts.		
4	Where such reusable materials are to be reused in the Works, this will be at the sole discretion of the Employer and the Contractor shall give due credit to the Employer.		
D	**COPYRIGHT** The copyright of these Bills of Quantities is vested in the Quantity Surveyor of the University of Embu and no part thereof may be reproduced without their express permission given in writing.		
	CARRIED TO COLLECTION		

ITEM	PARTICULARS	KSHS	CTS
	COLLECTION		
	Brought forward from page GP/1		
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	Brought forward from page GP/11		
	Brought forward from page GP/12		
	TOTAL FOR GENERAL PREIMINARIES CARRIED TO MAIN SUMMARY		

SPECIFICATIONS

PART ONE:

SPECIFICATIONS

GENERAL

A. MATERIAL GENERALLY

All materials used on the works shall be new and of the qualities and kinds specified herein and equal to approved samples. Deliveries shall be made sufficiently in advance to enable samples to be taken and tested if required. No materials shall be used until approved and all materials which are note approved or which are damaged, contaminated or have deteriorated in any way or do not comply in any way with the requirements of this specification shall be immediately removed from the site at the Contractor's expense.

B. MATERIALS FOR WHICH THERE IS A KENYA BUREAU OF STANDARDS SPECIFICATION

All materials used in the works for which a Kenya Bureau of Standard Specification has been published shall conform with the latest edition thereof in every way. The Architect reserves the right to demand that the Contractor shall obtain at his own expense a certificate in respect of any material to state that it is in accordance with the Kenya Bureau of Standard Specifications.

C. MATERIALS FOR WHICH THERE IS NO KENYA BUREAU OF STANDARDS SPECIFICATION

All materials used in the works for which no Kenya Bureau of Standard Specification has been published shall conform with the British Standard Specifications for such material. If there are no published standard as specified for any materials, the quality of such materials shall be generally of a Standard equal to those for which there is a Kenya Bureau of Standard or British Standard Specification.

D. ALTERNATIVES TO PROPRIETARY BRANDS

Where materials are specified by their proprietary names or where fittings are specified by catalogue numbers, or descriptions, the contractor may offer material or fittings of alternative manufacture which are of equal quality. Such alternatives must be approved before being used in the works and the Contractor shall allow for this, but prior to tendering he may submit to the Architect for approval the names of any suppliers or manufacturers whose products he intends to use, together with catalogue numbers and descriptions and/or samples but the decision of the Architect will be final.

E. SAMPLES

The Contractor shall furnish for approval, with reasonable promptness all samples of material and workmanship required by the Architect. The Architect shall check and approve such for conformance with the design concept of the works and for compliance with the information given in the Contract Documents. The work shall be in accordance with approved samples.

(a) All material samples shall be delivered to the Architect's Office with all charges in connection therewith paid by the Contractor.

(b) Duplicate final approved samples, in addition to any required for the Contractor's use, shall be furnished to the Architect, one for office use and one for the site.

(c) Samples shall be furbished so as not to delay fabrication, allowing the Architect reasonable time for consideration of the sample submitted.

(d) Each sample shall be properly labelled with the name and quality of the material, manufacturer's name, name of project, the Contractor's name and the date of submission and the specification number to which the sample refers.

F MEASUREMENT AND TESTING EQUIPMENT

The Contractor shall provide the following equipment for carrying out measuring and control tests on the site and maintain in full working order:

(a) Straight edges 2 metres and 4 metres long for testing the accuracy of the finished concrete.

(b) A glass graduated cylinder for use in the silt test of organic impurities in the sand.

(c) Slump test apparatus

(d) 150 mm steel cube moulds with base plates and tamping rod to BS 1881.

(e) Two 30 metre steel tapes

(f) One dumpy or quickset level and staff.

(g) Micrometer.

PART TWO

DEMOLITIONS & ALTERATIONS SPECIFICATIONS

DEMOLITIONS AND ALTERATIONS

A. DEMOLITIONS

Demolitions, taking out and cutting away shall be carefully performed and every precaution shall be taken to ensure the safety of the work. If damage should occur in the carrying out the demolitions or alterations the contractor shall reinstate and make good the same at his own expense.

B. PROTECTION

Supply, erect and maintain during the cutting of openings etc., all necessary protection to the existing premises against damage by weather or other cases.

C. LAYING THE DUST

Allow for laying the dust as far as possible during the alteration by watering with a hose or other means

D. MAKING GOOD

All making good of blockwork, building up of opening etc., shall be solid blockwork unless otherwise described, in cement mortar (1:4) properly cut, toothed and bonded and pinned up to existing work and pointed where necessary.

E. CREDIT FOR MATERIALS

Unless otherwise specified materials arising from the demolitions and alterations will become the property of the contractor. If the Contractor wishes to allow a credit for any such materials the appropriate allowance should be included in the credit column of the Bills of Quantities. In the event that the Employer wishes to take possession of any such materials the contractor will only be entitled to receive compensation to the amount of credit indicated.

PART THREE

EXCAVATIONS & EARTHWORKS SPECIFICATIONS

EXCAVATION AND EARTHWORKS

A. CODES OF PRACTICE

The contractor shall comply with the following codes of practice:

Site Investigations C.P 2001
Earthworks C.P 2003
Foundations C.P 2004
Protection of building against water from the ground C.P 102

B. INSPECTION OF SITE

The contractor is deemed to have visited the site and to have ascertained the nature of the soil and sub-soils to be excavated. No claim will be allowed on account of these being of a different nature from that for which he had allowed in his prices.

C. PROCEDURE

The excavations and fillings shall be carried out in such a manner and order as the Architect may direct.

D. EXISTING TREES SHRUBS AND GRUBBING UP ROOTS

(a) Directions

Cut down and remove shrubs and trees as directed. No shrubs, trees, plants etc., shall be removed except as directed by the Architect and the contractor shall be held responsible for any damage caused by the building operations to those shrubs, trees etc., not so directed to be removed.

(b) Grubbing up roots

Grubbing up roots etc. shall include the following and disposal shall be described under the foregoing clause:

(1) Stumps and roots of large trees shall be completely removed.

(2) Stumps and roots of small trees, bushes or other vegetation shall be completely removed to a depth of at least 600mm below formation.

(3) Smaller stumps and roots of vegetation up to 25mm thick shall be completely removed to a depth of 230mm below formation.

(4) Fine roots shall be removed to as great depth as is practicable by hand.

Except where the area of grubbing is to be excavated, all resulting holes shall be filled up solid with approved material compacted to the same relative density as the surrounding.

E. SITE CLEARANCE

All grass, vegetable matter etc., must be removed from or burned on site at the commencement of the contract over areas as directed by the Architect.

F. WHITE ANT-INSECTICIDE TREATMENT

The Contractor must destroy any white ant's nests found within the perimeter of the buildings and within a distance of 20 metres from the buildings externally and take out and destroy queen ants, impregnate holes and tunnels with approved insecticides and back-fill with hard materials well rammed and consolidated.

G. EXCAVATION

(i) The excavations are to be executed to the widths shown on the Drawings, and to the depth below existing ground levels as directed by the Architect in order to obtain satisfactory foundations. If the contractor excavates to any widths or depths greater than those shown on the drawings or as instructed by the Architect he shall at his own expense fill in such widths or depths of excavation beyond that instructed or shown with concrete to the satisfaction to the Architect.

(ii) Level and ram bottoms of all excavations to receive concrete, form steppings if necessary or directed to allow for sloping ground, and well water excavations before pouring concrete.

(iii) The contractor shall report to the Architect when secure bottoms to the excavations have been obtained. Any concrete of other work executed before the excavations have been inspected and approved shall, if so directed, be removed and new work substituted after the excavations gave been approved all at the contractor's expense.

(iv) Excavations made below required levels shall be filled with mass concrete (1:4:8) at the contractor's expense.

ROCKS

A. ROCK

(a) Definition

Rock is defined as any material met within the excavations which is of such size or position that it can only be removed by means of wedges, compressed air plant, or other special plant and the Architects opinion shall be final.

(b) Other materials to be taken with normal excavations

Excavations in any material such as compacted murram, soft tuff, stiff clay or similar materials which in the opinion of the Architect can reasonably, be removed by pick, traxcavator or similar, means will be deemed to be included in the prices of normal excavation.

B. BLASTING

No blasting will be permitted without the prior approval of the Architect and local Authority.

C. BORROW PITS

Borrow pits will only be allowed to be opened up on the site on receipt of permission from the Architect.

D. HARDCORE FILLING

Hardcore for filling under floors etc., shall be good hard stone, ballast or quarry waste (not magadi or similar soft stone) to the approval of the Architect broken to pass not greater than a 150mm ring or to be 75% of the finished thickness of the layers being compacted whichever is the lesser and graded to contain sufficient smaller pieces to fill all voids so that it can be thoroughly compacted. The filling is to be laid in layers each of a consolidated thickness not exceeding 225mm and well watered and compacted by hand of mechanical tampers. The top surface of the hardcore shall be levelled or graded to falls as required and blinded with a 75 mm layer of similar material finely crushed and well rolled and watered immediately before concrete is laid.

E. FILLING OBTAINED FROM THE EXCAVATIONS

Filling obtained from surplus excavated materials is to be free from all weeds, roots, vegetable or other unsuitable materials and is to be filled in layers each of not more than 225 mm finished thickness. Each layer to be well watered and consolidated before the subsequent layer is filled in.

F. MATERIALS FOUND IN THE EXCAVATIONS

No sand, aggregate or other materials found in the excavations is to be used in the works without the written permission of the Architect.

G. INSECTICIDE / ANTI-TERMITE TREATMENT

The top surface of all filling shall be treated with an approved chemical treatment, applied in accordance with the manufacturers printed instructions. The approved specialist treatment shall include a ten year guarantee against termites.

H. RATES OF DISPOSAL

Rates of disposal of excavated material are to include for the selection of spoil as it arises and for all double handling and re-excavation from spoil heaps not specifically ordered by the Architect.

I. POLYTHENE SHEETING

Polythene sheeting shall be 1000 gauge or as described obtained from an approved manufacturer. Joints in sheeting shall be treble folded with 150 mm fold and taped at 300 mm intervals with 50 mm wide black plastic adhesive tape as manufactured by sellotape limited. The sheeting shall not be laid loose with sufficient wrinkles to permit shrinkage up to 15%.

PART FOUR

CONCRETE WORK SPECIFICATIONS

CONCRETE WORK

GENERAL

A. AUTHORITATIVE STANDARDS AND CODES OF PRACTICE

The following authoritative standards are referred to hereinafter:

British Standard Specifications are published by the British Standards Institutions 2 Park Street London W.1, England (Abbreviated in text to BS)

BS	Date	Title
12:Pt.2	1971	Portland cement (ordinary and rapid hardening)
812	1975	Methods for sampling and testing of mineral aggregates, sand and fillers
882,1201: Pt.2	1973	Aggregate from natural sources for concrete (including granolithic)
1881:	1970-71	Methods of testing concrete
1926:	1962	Ready mixed concrete
2499:	1973	Hot applied joint sealants for concrete pavements
3148:	1959	Tests for water for making concrete
3921:	1974	Clay bricks and blocks
4251	1974	Truck type concrete mixers
4449:	1969	Hot rolled steel bars for the reinforcement of concrete
4461	1969	Cold worked steel bars for the reinforcement of concrete
4466	1969	Bending dimensions and scheduling of bars for the reinforcement of concrete
4483	1969	Steel fabric for the reinforcement of concrete

American society for Testing and Materials Standard as published by the American Society for Testing and Materials, 1916 Race St., Philadelphia PA 19103, U.S.A (abbreviated in text to ASTM)

ASTM	Date	Tile
C88-	73	Soundness of Aggregates by use of Sodium sulphate
C234-	71	Comparing Concretes on the basis of the Bond development with Reinforcement steel
C282-	71	Potential Reactivity of Aggregates (Chemical Method)

The following codes of practice are referred to hereinafter:

The British Standard Codes of Practice published by the Council of Codes of Practice, British Standards Institution 2 Park St, London W.I England (Abbreviated in text to C.P)

C.P	Date	Title
110:Pt.1,2 &3	1972	The structural use of concrete
116:Pt.2	1976	Structural use of precast concrete
BS 5337:	1969	The structural use of concrete for retaining aqueous liquids

Should the Contractor wish to substitute any other authoritative standard or code of practice for any listed above he should submit details of any such together with two complete copies to the Engineer for approval with his Tender. Approval will only be given to the use of such standards where the Engineer considers the proposed standard or code of practice will give a quality or finished work equal to or better than the specified standard.

All insitu concrete shall be in accordance with CP 110 except where superseded by this Specification. All precast concrete shall be in accordance with CP 116 except where superseded by this specification.

A. BENDING SCHEDULES

The Engineer will issue bar bending schedules in accordance with BS 4466. The Contractor should check these against the drawings before any cutting bending or construction involving the schedule is started. Any discrepancy should be reported to the Engineer immediately for his clarification. The contractor shall be responsible for any delays or additional work caused solely by his failure to check the schedules.

B. APPROVALS

Well before construction commences the Contractor shall supply to the Engineer for his approval details of his proposed layouts of concreting plant and on site workshop; details of formwork systems and the construction devices, e.g., cranes, chutes, scaffolding, which he proposes to use for the structural work. The information is to be sufficiently detailed to enable the Engineer to approve or otherwise.

The Contractor should note that further approvals are required by the Specification before construction starts. The contractor is wholly responsible for obtaining these approvals and no claim for delays will be entertained due to the contractors failure to obtain such approvals in adequate time.

MATERIALS

A. CEMENT

Cement, unless otherwise specified, shall be ordinary Portland Cement complying with BS12. The contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each consignment of cement delivered to the site and shall immediately forward copies of the same to the Engineer for his retention.

Notwithstanding the manufacturer's certificate the Engineer may require that any cement delivered to the site be sampled and tested. Any batch so tested which fails to comply with this specification will be rejected.

Any cement which upon inspection is considered by the Engineer to have deteriorated in any way will be rejected.

B. AGGREGATES OF CONCRETE

Aggregates for concrete shall, unless otherwise specified, be aggregates from natural sources complying with BS 882. Additionally, the flakiness index when determined by the sieve method described in BS 812 shall not exceed 35 for any size of concrete aggregate. Fine aggregate within or finer than zone 4 of BS 882 shall not be used.

Well before any concreting work, the Contractor shall forward to the Engineer for approval details of his proposed source of supply of aggregate giving the aggregate group classification and typical physical properties as required by BS 882.

The Contractor shall provide the Engineer with a certificate for his retention showing that all aggregate regularly comply with the requirements of his Specification.

C. WATER FOR USE WITH CEMENT

Water for use in mixing with cement or for curing concrete shall be from any approved source, clean, fresh and free from organic and other deleterious matter.
The Engineer may require that any water be sampled and tested by the method given in BS 3148. Water failing the criteria given in the appendix to BS 3148 will be rejected.
Water for use in mixing with cement shall neither be hotter than 25 degrees centigrade (77 degrees fahrenheit) nor colder than 5 degrees centigrade (41 degrees Fahrenheit) at the time of mixing.

D. STEEL ROD REINFORCEMENT

Steel rod reinforcement shall consist of:

(a) Mild steel bar complying with BS 4449 or KS 02-22

(b) Hot rolled high yield bars complying with BS 4449.

(c) Cold worked high yield bars complying with BS 4461 as described in the drawing.

All reinforcement shall be stored in clean conditions in an orderly manner to the satisfaction of the Engineer such that the batch to which each piece belongs can be readily identified.

E. STEEL FABRIC REINFORCEMENT

Steel fabric reinforcement shall be electrically cross welded steel mesh reinforcement complying with BS 4483 and of the size and weight specified and made of wire to B.S. 4482.

F. TYING WIRE

Tying wire for fixing reinforcement shall be either:

(a) No. 16 gauge soft annealed iron wire, or

(b) No. 18 gauge stainless steel wire.

G. SPACERS

Spacers block required for ensuring that the reinforcement is correctly positioned shall be as small as possible consistent with their purpose, of a shape acceptance to the Engineer, and designed so that they will not overturn when the concrete is placed. Unless otherwise approved they shall be made of concrete with 10 mm maximum aggregate size and mix proportions to produce the same strength as the adjacent concrete.

Wire shall be cast in the block for the purpose of typing it to the reinforcement. Spacer block of concrete shall not be used until at least 7 days old.

H. ADMIXTURES

No admixtures or cements containing additives shall be used in concrete unless specified or approved by the engineer. Such approval will not be given unless in the Engineer's opinion specific benefit to the density or quality of the concrete will result.

I. WALL TIES

Wall Ties between concrete and adjoining block or block walling shall be "Abbey" slots and anchors as supplied by Abbey Building supplies Ltd or similar approved.

J. JOINT FILLERS

Joint fillers unless otherwise stated shall be "flexcell" as manufactured by Expandite Ltd, or similar approved and placed in accordance with the manufacturer's instructions.

K. JOINT SEALANTS

Joint sealants shall be as described in the drawings and approved by the Engineer. Sealant shall be used strictly in accordance with the manufacturer's instructions.

L. HOLLOW CLAY POTS

Pots shall be burnt clay blocks conforming to BS 3921 or similar approved. They shall be true to shape and free from cracks or distortion.

M. WATER STOPS

Water stops unless otherwise stated shall be. Sika waterbar. As manufactured by Sika International or similar approved and placed and jointed in accordance with the manufacturer's instructions.

PART FIVE

WALLING SPECIFICATIONS

MATERIALS

A. CEMENT

Cement used for making mortar shall be as described in concrete work.

B. LIME

The lime for making mortar shall be obtained from an approved source and shall comply with BS 890 Class A for non-hydraulic lime. The lime to be run to putty in an approved lined pit or container. The water to be first run into the pit or container and the lime to be added until it is completely submerged, stirred vigorously until all lumps are disintegrated and shall be kept constantly covered with water and regularly stirred for at least four weeks. The resulting milk-lime then to be through a fine sieve and run into a pit or other container and kept clean and moist for not less than two weeks before being used in the works and moist for not less than two weeks before being used in the works.

C. SAND

Sand used for making mortar shall be clean well graded siliceous sand of good sharp hard quality equal to samples which shall be deposited with and approved by the Architect. It shall be free from lumps of stone, earth, loam, dust, salt, organic matter and other deleterious substances, passed through a fine sieve and washed with clean water if so directed by the Architect.

D. WATER

Shall be as described in “concrete work”.

E. CONCRETE BLOCKS

Concrete blocks shall comply with the requirements of BS 2028, 1384 except where amended or extended by the following clause. Blocks shall have square arises and corners. For fairfaced work damage to arises and corners shall not exceed the removal of 6mm of the blocks depth or thickness.

Concrete blocks shall have a minimum crushing strength of 3.5 N/mm2 except when below the damp course level or in contact with soil when they shall have a minimum crushing strength of 7 N/mm2, unless noted otherwise on drawings.

F. STONE

All stone shall comply with the requirements of CP121.202 for masonry and rubble walls respectively except where amended or extended by the following clauses.

G. WALL REINFORCEMENT

Where described walls and partitions shall be reinforced with a 25mm wide strip of No.20S.W.G hoop iron built into alternate horizontal joints in the wall centre. The reinforcement shall be lapped and hooked at running joints, angles and intersections and carried at least 115mm into abutting walls at junctions.

H. WALL TIES

To be 3mm diameter galvanized mild steel wire twisted butterfly wall ties

I. DAMP - PROOF COURSES

The bituminous felt sheeting for damp-proof courses shall be hessian based bituminous felt complying with BS743 TYPE 4A weighing not less than 3.85 Kgs per square metre. The sheeting is to be lapped 150mm at running joints and the full width of walls at angles.

PART SIX

ROOFING, WATERPROOFING & RAIN WATER PIPES SPECIFICATIONS

ROOFING, WATERPROOFING & RAIN WATER PIPES

A. TILE ROOFING

(i) Tiles are to be uniform in size and shape, free from cracks, twists and other blemishes and are to be true after fixing on the roof.

(ii) Unless specified all tile battens are to be 50 x 25 mm fin sawn celcured Podo Carpus or Cypress continuously and securely spiked at raters at such centres up the roof to suit the pitch of the tiles. (In addition Roman tiles Roofs are to have 75 x 50 mm counter battens to suit).

(iii) Mangolore, Brosley, Roman and Pan tiles are to be purchased from Clayworks Ltd. Cement tiles shall be purchased from Manson Hart Limited and Mareba Enterprises Limited or any other approved manufacturers and shall be laid in accordance with the manufacturers instructions and shall be completed with left hand verge tiles and fascia tiles nailed to battens. At the ridge provide and lay 300mm wide felt under the socketless ridging which shall be matching tinted pointed with oxide purchased from the manufacturer.

(iv) Where valley tiles are specified, these shall be laid in accordance with manufacturers instructions and the roof tiles to be cut shall be marked by the Contractor, transported to and from the factory where they are to be cut and re-tinted by Manson Hart Limited or Mareba Enterprises Limited before fixing on site.

B. POLYTHENE UNDERFELTING

500 Gauge polythene underfelting is to be provided to all tile roofs and fixed under roofing battens with 150mm laps.

C. TIMBER ROOF TRUSSES

All timber to be used shall be as described in carpentry and Joinery hereafter.

Roof construction is to include for all necessary timbers, dragon ties, ridges, hips, purlins, valleys, eaves, timbers, etc., and for any eaves soffits, fascias, gangboards as specified or shown on the Drawings. Generally trusses are to be set vertical and level, spiked to wall plates and secured with the wall ties.

No timbers used for ties, rafters or purlins shall be over 5.0 metres in length. All joints shall be scarfed and bound with continuous 20 mm hoop iron binding, pitched at 35mm centres scarfs in purlins shall occur at trusses but in ties and rafters they shall occur approximately central between joints. The prices for roof trusses shall include for all the foregoing and nails, bolts, etc., necessary to make the required joints.

D. ALUMINIUM FLASHINGS

Aluminium flashings shall be formed out of 22 gauge super purity aluminium with natural mill finish to BS 1470. Where flashings are built into joints or tucked into grooves the minimum depth is to be 25mm and they are to be secured by folded aluminium wedges at 450mm centres and pointed in cement mortar (1:3).

E. ROOF SCREED GENERALLY

Roof screeds are to be laid to a minimum fall and crossfall of 27mm in 3.0 metres with a minimum thickness of 19mm at rainwater outlets and are to be finished to the entire satisfaction of the sub-contractor executing the roofing.

F. CEMENT AND SAND ROOF SCREEDS

The roof screeds shall be formed of cement and sand (1:3). The screeds shall be laid in bays, square where possible, of maximum 10 square metres.

A. LIGHTWEIGHT ROOF SCREEDS

Lightweight roof screeds shall be composed of bases of cement, sand and pumice (1:4:8) finished with a 12mm cement and sand (1:5) topping laid whilst the base is still green and trowelled smooth to the satisfaction of the Architect.

The screeds are to be laid as described in 'cement and sand Roof Screeds.'

B. PVC RAINWATER PIPES

PVC rainwater pipes and fittings are to comply with BS 4576 with solvent welded or rubber ring seal joints.

Pipes are to be case into concrete or to be fixed to the structure with PVC holderbats built-in or plugged and screwed at maximum 2 metre centres.

Bends, swan necks, discharge chutes and fittings generally are to be fixed where necessary to facilitate the flow of water.

Rainwater outlets shall be PVC suitable for the roof finish in which they occur with domical PVC grating.

C. PROTECTION

The contractor is to take all necessary precautions to protect the finished work and must ensure no damage occurs to the roofing until completion of the works.

D. COMPLETION OF THE WORKS

On completion of the works, the contractor shall clear away, ensure that rainwater outlets are clear and generally leave the roof areas in a clean and watertight conditions to the satisfaction of the Architect.

PART SEVEN

CARPENTRY & JOINERY SPECIFICATIONS

CARPENTRY & JOINERY

A. GENERALLY

All woodwork shall be carried out in accordance with the drawing and the principals of first class joinery construction. Unless specifically stated otherwise, sizes shown on drawings are finished sizes and the contractor must allow for wrot faces.

MATERIALS

B. QUALITIES OF TIMBER

(a) The qualities of timber stated hereinafter are in accordance with the latest Kenya Government Grading Rules.
(b) All timber described as prime Grade is to be first Grade (Grade 1)
(c) All timber described as selected Grade is to be second Grade (Grade 11)
(d) All hardwood is to be prime Grade (Grade 1)
(e) All timber for permanent use in the building shall before use be approved by the Architect for quality in accordance with the foregoing specification for its respective grade. Any timber not so approved by the Architect shall be removed from the site forthwith.

C. INSECT DAMAGE

All timber, whether graded or ungraded, and including shuttering, scaffolding and the like shall be free of live borer beetle or other insect attached when brought upon the site. The contractor shall be responsible up to the end of the maintenance period for executing at his own cost all work necessary to eradicate insect attack of timber which becomes evident including the replacement of timbers attacked, or suspected of being attacked, notwithstanding that the timber concerned may have been inspected and passed as fit for use.

D. SEASONING OF TIMBER

All carpentry timbers are timbers are to be seasoned to an average moisture content of not more 20%. All joinery timbers are to be seasoned to an average moisture content of not more than 15%. The contractor is to make available on site a metre of testing moisture content of all timber delivered.

E. PRESSURE IMPREGNATED TIMBER

(i) All timber described as pressure impregnated shall be impregnated under vacuum and pressure with celcure. or Tanalith. Wood preservative with an average absorption of not less than 6.7kgs. of dry salt per cubic metre. In case of resistant species where this retention cannot be obtained the timber shall be treated to refusal point. All treated timber shall not be exposed to wet conditions for at least 14 days after treatment has been carried out. All cut ends, drilling or fabrications on the site producing new surfaces shall be thoroughly brushed or soaked with celcure B. salts applied in accordance with the manufacturer's instructions.

(ii) Any other method of timber impregnations will only be allowed at the Architect's approval.

F. HARDWOOD

All hardwood will comply with the requirement of BS 1186 part 1 BS 4047. It shall show a straight and regular grain throughout.

Hardwood shall be free from wooly texture, soft heart, sap wood, splits, shakes, all evidence of insect of fungi attack and rot and all faults caused by compression failure. There shall be no waney edges.

Hardwood shall be free from knots on exposed faces. Any hardwood showing visible imperfections will be rejected.

Preservatives shall not be used without the Architect's permission. Where indicated on the drawings, internal hardwoods will be treated with clear sealants as specified elsewhere.

G. SOFTWOOD

Softwood timber for carcassing work shall be either podocarpus or cypress to the approval of the Architect and shall be dimensions specified on the drawings.

Timber shall be accordance with the Groups listed in this clause.

All softwood shall comply with the requirements of BS1186 part 1. Timber shall be free from wooly texture, soft heart, sap wood, splits, shakes, pith showing on the surface, sloping grain exceeding one in eight checks, knots exceeding 25mm of diameter, loose knot or knot holes and any evidence of insect or fungi attack. There shall be no waney edges.

Where indicated on the drawings , the softwood will be treated with clear sealer or painted with gloss paint. All softwood is to be pressure impregnated against insect attack before delivery to site. Any ends cut after treatment shall be given two liberal coats of preservative.

I. CHIPBOARD

Chipboard shall be medium density wood particle board complying with BS 2604 part 2, produced in factories by an approved process.

J. TIMBER DOORS

Doors are to be designed, manufactured and fixed in accordance with the relevant British standards summarised below:-

BS	476	part 8	1972	fire tests etc.
BS	4787	part 1	1972	Door dimensions etc.
BS	1186	part 1	1971	Quality of timber and workmanship.
BS	1227	part 1A		Hinges
BS	3827			Builder's hardware - glossary

K. FLUSH DOORS

Generally, the requirement for flush doors is that they have a minimum thickness of 40mm. They shall be faced both sides and there shall be hardwood lippings to all edges. Hollow core and semi-solid types shall contain adequate provision within the core for ironmongery (e.g. lock blocks etc).

Flush doors shall be obtained from a supplier to be approved by the Architect. Flush doors shall comply with the requirements of BS 459 parts 1,2 and 3. All edges shall be lipped with hardwood tongued into edge of the door.

The core of solid core flush doors shall be constructed of longitudinal laminations of precision planed timber, butt joined and glued with resin based adhesive under hydraulic pressure, the whole forming a rigid fire resistant raft.

Where doors are indicated as fire resistant they shall be constructed so as to exceed the requirements stated when tested in accordance with BS 476 part (1972) section 7.

E. NAILS AND SCREWS

Nails shall comply with BS 1201, screws shall comply with BS 1494 and bolts shall comply with BS 916.

PART EIGHT

STRUCTURAL STEELWORK AND OTHER METAL WORK SPECIFICATIONS

A. STEEL QUALITY

Structural steel shall comply with the requirements of B.S.4360 and shall be new and unused. It shall be free of imperfections, distortion, rust, scales of other deterioration or contamination by grease, paint and similar items.

B. TESTING

The Engineer may, where he so desires call manufacturer's work test certificates in respect of all steel, which tests shall have been performed in accordance with B.S.18. The Engineer may also carry out such further tests as he may consider necessary.

C. SECTIONS

The dimensions and properties of hot rolled structural steel sections and hollow sections shall be in accordance with B.S.2, part 1 and 2, or B.S.4848 for metric sized sections.

D. MINIMUM THICKNESS

All steelwork sections other than gauge metal sections, including cleats, gusset plates, etc. shall be not less than 8mm thick unless specifically indicated on the Drawings.

E. FORGING

All steel for forging and all forgings shall comply with the requirements of B. S. 29, and shall be subject to inspection and approval of the Engineer.

F. CASTING

All material used in the manufacture of castings and all castings shall comply with the requirements of B.S. 309, 1452 and 3100 and shall be subject to inspection and approval of the Engineer.

G. GAUGE METAL SECTIONS

Sections shall be manufactured from continuously hot dipped galvanised steel coil to B.S.2989 using steel to B.S.1449, part 1A and 1B, classification CR4 with a guaranteed minimum yield stress of 280 N/mm2.

The sections shall be cold formed to the basic shapes given in B.S 2994 with the design and details conforming to Addendum No. 1 to B.S.449 (PD4064).

Section shall be sawn and holes may be punched so as to produce a neat round hole with no distortion . Holes and cut ends shall be painted with zinc rich paint as soon as possible after cutting.

H. "Z" PURLINS

"Z" purlins shall be fabricated in the longest practicable lengths with staggered joints. All connections shall have a minimum of four bolts. Sag rods and apex ties shall be provided where indicated.

PART NINE

FINISHINGS SPECIFICATIONS

FINISHINGS

GENERAL

A. OTHER SPECIFICATIONS

All other specifications of this contract where applicable are deemed to apply equally to the finishings specifications.

B SAMPLES

The contractor shall prepare at his own cost sample areas of the paving, plastering and rendering as directed until the quality, texture and finish required is obtained and approved by the Architect after which all work executed shall conform with the respective approved samples.

C FINISHED THICKNESSES

The thicknesses of floor finishes quoted in this section of the specification shall be the minimum requirements.

Suspended floors shall have a constant structural thickness and have level top surfaces. The finished floor surface will equally have constant level and any adjustment needed to achieve this effect with the varying floor finish materials is to be made in the screeds beneath the same.

Slabs bearing on the ground may be cast to varying levels, and be of constant thickness with varying formation levels, or have varying thicknesses at the option of the contractor. This stipulation in no way relieves the contractor of the requirements of the specifications for the structural work.

D MATERIALS GENERALLY

All materials shall be of high quality, obtained from manufacturer's to be approved by the Architect. Cement, sand and water shall be as described under concrete work and Blockwork.

E BONDING

Bonding compounds, etc., for use in applying plaster and similar finishes direct to surfaces without the use of backings or screeds are only to be used if approved by the architect and are to be used strictly in accordance with the manufacturer's printed instructions.

F. CHASES, OPENINGS AND HOLES

All chases, holes and the like which were not formed in the concrete or walling shall be cut, and all service pipes shall be fixed and all holes and chases filled with mortar before paving and plaster work is commenced. In no circumstances will the contractor be permitted to cut chases, holes and the like in finishes pavings or plasterwork..

INSITU FINISHINGS

PLASTERING

A GENERALLY

The term plastering refers to the operation internally and rendering to the same operation externally but for ease of reference the term plastering has generally been used in this specification to describe both operations.

B MIXES

The methods of measuring and mixing plaster shall be as laid down under concrete work and the proportions and minimum thickness of finished plaster shall be in accordance with the following:-

Item of work	Mix	Minimum Thickness and finish
Internal Plaster	1 part cement ¼ part lime 4 parts sand	16mm finish to walls and ceilings. wood float finish unless otherwise specified.
External Render	1 part cement 4 parts sand	12mm finish in two coats
Tyrolean finish	Ditto	6mm finished thickness in two coats on 10mm plastered backing

To obtain greater plasticity a small quantity of lime may be added to the mixes for external plastering at the Architect's discretion but in any case this is not to exceed ¼ part lime to 1 part cement.

With regard to the lime mortars gauged with cement, of the cement to small quantities of the lime/sand mix shall preferably take place in a mechanical mixer and mixing shall continue for such time as will ensure uniform distribution or materials and uniform colour and consistency. It is important to note that the quality of water used shall be carefully controlled. Plaster may be mixed either in a mechanical mixing machine or by hand.

Hand mixed plaster shall first be mixed in the dry state being turned over at least three times. The required amount of water should then be added and the mix again turned over three times or until such time as the mass is uniform in colour and homogeneous.

The plaster shall be completely used within thirty minutes of mixing and hardened plaster shall not be remixed but removed from the site.

C PREPARATION OF SURFACES FOR PLASTER ETC.

Irregularities in the surfaces to be plastered or rendered shall be filled with mortar, without lime, twenty four hours before plastering is commenced. Joints in blockwork etc., are to be wel raked out before plastering to form a good key. Smooth concrete surfaces to be plastered shall be treated with an approved proprietary bonding agent or hacked to provide an adequate key for the plaster.

All surfaces to be plastered or rendered shall be clean and free from dust, loose mortar and all traces of salts. All surfaces shall be thoroughly sprayed with water and all free water allowed to disappear before plaster is applied.

As far as practical plastering shall not be commenced until all mechanical and electrical services, conduits, pipes and fixtures have been installed.

Before plastering is commenced all junctions between differing materials shall be reinforced. This shall apply where walls join columns and beams, particularly where flush and similar situations where cracks are likely to develop and as directed by the Architect. The reinforcement shall consist of a strip of galvanised wire mesh. Expament or equal approved 15cm wide which shall be plugged, nailed or stapled as required at intervals not exceeding 45mm at both edges. The surfaces to which such mesh shall be applied shall be painted with one coat bituminous paint prior to fixing the mesh.

D APPLICATION OF PLASTER AND RENDER

After preparation of the surfaces a key coat of cement slurry shall be applied to the wetted surface to be plastered. When this coat is dry the plaster coat shall be applied, by means of a trowel between screeds laid, ruled and plumbed as necessary. This coat which shall be to the required thickness shall be allowed to be so hard and then cured as described. Surfaces are to be finished with a wood or steel float to a smooth flat surface free from all marks.

Tyrolean finish shall be applied with an approved machine to give a finish of even texture and thickness. The sprayed finish shall be applied in two separate coats allowing time for drying between coats.

Application in one continuous operation to build up a thick layer will not be permitted. The total finished thickness of the two sprayed coats shall be not less than 6mm.. the sprayed finish shall not be applied until all repairs and making good to the undercoat are completed. any plaster which adheres to pipes, doors, windows and the like shall be carefully removed before it has set. Curing shall take place after the application of the second coat. The pressed finish as directed by the Architect. Where coloured tyrolean is required this shall be obtained by the addition to the mix of any approved colour pigment.

All plastering and rendering shall be executed in a neat workman like manner. All faces except circular work shall be true and flat and angles shall be straight and level or plumb. Plastering shall be neatly made good around pipes or fittings. Angles shall be rounded to 6 mm radius.

All tools, implements, vessels and surfaces shall be at all times kept scrupulously clean and strict precautions shall be taken to prevent the plaster or other materials from being contaminated by pieces of partially set material which would tend to retard or accelerate the setting time.

E CURING OF PLASTER

Each coat of plaster is to be maintained in a moist condition for at least three days after it has developed enough strength not to be damaged by water.

They shall be securely plugged, nailed or stapled as required at intervals not exceeding 450mm at both edges.

F ANGLE BEADS

Where required by the Architect, salient external angles of plastered walls shall be protected with galvanised mild steel angle beads complying with BS 1246 Fig.7 profile C3.

They shall be securely plugged, nailed or stapled as required at intervals not exceeding 450mm at both edges.

G PLASTER STOPS

Where shown on details, plasterwork shall be stopped against “expamet” glavanized steel plaster stop reference 565 which shall be securely nailed to wall in the positions indicated on the drawings.

SCREEDS

A CEMENT AND SAND SCREEDS

Screed shall be mixed and formed as described.

B GRANOLITHIC PAVING

The granolithic paving shall be laid by a specialist floor layer and constructed as follows:-

TILES , SLAB AND BLOCK FINISHINGS

A. VINYL ASBESTOS TILES

Vinyl asbsestos floor tiles shall comply with B.S 3260 of an approved manufacturer to patterns as directed by the Architect. Adhesives are to be recommended by the manufacturer in writing and approved by the Architect.

The tiles are to be laid and bedded direct in adhesive on to a cement and sand bed to make up the total paving thickness.

The cement and sand screed is to be finished with a steel trowel to a perfectly smooth surface before the application of the mastic and tiling.

On completion, vinyl asbestos tiles are to be sealed and polished with wax all in accordance with the manufacturer's printed instructions.

B CLAY TILE PAVING

Clay tile paving are to be in 150mm x 150mm tiles obtained from an approved manufacturer, and are to be laid on prepared screeds. The tiles are to be bedded in cement and sand (1:4) with straight joints in each direction. Upon completion grout in cement and wash and clean down. Tiles are to be cut with an electric tile cutting saw.

C GLAZED WALL TILES

Glazed wall tiles shall be in accordance with B.S1281 and shall be 150mm x 150mm x 6mm tiles from the standard colour range with cusion edges. Wall tiling shall be carried out in accordance with C. P.212.

D PRECAST CONCRETE PAVING SLAB

To be all in accordance with B.S.368. The slabs are to be of the sizes given herein and bedded, jointed and pointed in cement lime mortar. (1:2:9).

E RATES

The rates for tile, slab and block finishings shall include for rounded edge tiles and angles, cutting and fitting up to boundaries and around pipes, brackets, etc., and waste; for work in narrow widths, small and isolated areas and for all other incidental labours.

PART TEN

GLAZING

MATERIALS

A GENERAL

Glass used in glazing and for mirrors shall be best quality clear glass free from visible defects so as to afford uninterrupted vision or reflection as appropriate, and without obvious distortion.

B STANDARDS

Glass for glazing and mirrors shall be of approved manufacture and is to comply with B.S.952 in all respects free from flaws, bubbles, specks and other imperfections.

C CLEAR SHEET GLASS ETC.

The clear sheet glass shall be ordinary glazing (OG) quality.

D PLATE GLASS

To be of type described and as approved by the Architect.

E OBSCURED GLASS

To be of type described and as approved by the Architect.

I Putty

(a) The putty for glazing to wood sashes is to be linseed oil putty all as B.S.544.

(b) The putty for glazing to metal windows is to be gold size metal window putty specially designed for tropical use, or patent mastic putty if approved by the Architect.

(c) All putty shall be delivered on site in the original manufacturer's sealed cans or drums and used direct therefrom, with the addition only of pure linseed oil if necessary. No mineral or other oils may be used in the putty except genuine linseed oil.

A MIRRORS

Mirrors shall be polished float glass silverin quality, protected at back with electro-copper backing coated with shellac varnish and paint. The mirrors are to be fixed with chromium plated dome headed mirror screws with plastic or rubber distance pieces and washers unless otherwise stated and rates shall include for this.

WORKMANSHIP

B GENERAL

Glazing of all types and in all locations shall be carefully executed by artisans skilled in this type of work and in conformance with recommendations of C.P.152. Glazing shall be carefully fitted so that it is not subject to pressure and stress imposed by being an overtight fit within the framing.

C MEASUREMENTS

Each element (door, window etc.) to receive glass shall be accurately measured to ensure a perfect fit subsequently.

D SINGLE GLAZING

Single glazing shall be executed with glass of the various types described herein. Ordinary (non –safety) glass may be pre-cut or cut on site.

E WIRED GLASS

Wired glass shall be cut so that the wires embedded are truly vertical and horizontal (i.e at right angles to the cut edges).

F SAFETY GLASS

Safety glass shall be factory cut before delivery to site. Site cutting will not be permitted.

G STORAGE AND HANDLING

Glass shall be delivered to site in stout containers and clearly marked. The containers shall incorporate sling attachment points for lifting bridles. Glass shall be stored under cover so that the panes are truly vertical.

H PROTECTION

After fixing glass shall be boldly marked with paper or whitewash so that it is clearly visible. In positions where damage due to construction traffic or activity is likely to occur stout screens composed of hardboard or fibreboard on battens shall be arranged to protect the glass.

I GLASS THICKNESS

Glass thickness shall conform to the recommendations of C.P.152 and the manufacturer's recommendations for sizes of panes relative to the position in the building and the effects of wind pressure (both negative and positive).

J CLEANING

All window glazed panels and mirrors shall be cleaned both inside and out immediately prior to the handing over of the building to satisfaction of the Architect.

PART ELEVEN

SPECIFICATIONS PAINTING & DECORATING

PAINTING AND DECORATING

MATERIALS

A MANUFACTURERS

Except where stated all materials shall be obtained from approved manufacturers. The contractor shall state the name and address of the manufacturer whose materials he proposes to use. Once approval has been given the contractor shall not obtain materials from other sources without the prior written agreement of the Architect.

B GENERAL

Each succeeding coat of priming, undercoating and finishing (pigment) or clear coating shall be sufficiently different in colour as to be readily distinguishable.

All primers and paints in one system upon a particular surface shall be obtained from the same manufacturer.

The mixing of paints, etc, of difference brands before or during application will not be permitted.

C EMULSION PAINTS

Emulsion paints shall be matt to satin finish vinyl emulsion paint. The first (mist) coat shall be thinned in accordance with the manufacturer's instructions.

D GLOSS PAINT

Gloss paint shall be hard gloss finish oil paint.

E LEAD BASED PAINT

The use of lead based paints will not be permitted.

F CLEAR FINISHES

Clear finishes internally shall be clear polyurethane varnish (one pack).

G PRIMERS AND UNDERCOATS

Unless otherwise specified, primers and undercoats shall be the type recommended by the manufacture of the finishing coats specified for a particular surface. Primer for external bare metalwork surfaces shall comply with B.S 2523.

H KNOTTING

Shellac knotting shall comply with B.S 1336

PAINTING DECORATION SPECIFICATIONS

A WHITE SPIRIT

The white spirit shall comply with B.S. 245.

B TIMBER STAIN

Timber stain shall be oil based pigmented stain. The application of this materials shall be strictly in accordance with the manufacturers written instructions. Tint and degree of application shall be to the approval of the Architect.

C STOPPING

The stopping shall be as follows:-

(a) plasterwork shall be plaster based filler.

(b) Concrete and brick work shall be similar material to the background and finished in a similar texture.

(c) Internal woodwork, plywood and blockboard shall be putty complying with B.S.544.

(d) External woodwork shall be white lead paste complying with B.S 2029.

(e) Internal clear wood finishes: the stopping shall be that recommended by the clear lacquer manufacturer.

D FILLERS

The fillers for internal joinery shall be the type recommended by the paint manufacturer for use with his type of paint or lacquer.

Stopper and fillers shall be tinted to match the under coat, and shall be compatible with both undercoats and primers.

All materials shall be used strictly in accordance with manufacturer's instructions.

E TEXTURED COATING

Textured coating is to be of proprietary manufacture approved by the architect and of an approved colour.

Technical information concerning the coating is to be submitted to the Architect before ordering, but the minimum qualities of the coating are to as follows:-

(a) Suitable for application internally and externally, plastered, rendered, concrete, block stone, brick, asbestos and timber surfaces.

(b) Minimum durability of 10 years even in exposed conditions

(c) Maintenance free

(d) Built- in mould resistant fungicide.

WORKMANSHIP

A GENERAL

Workmanship generally shall be carried out in accordance with B.S.C.P 231, unless otherwise specified. Before painting is commenced floors shall be swept and washed over; surfaces to be painted shall be cleaned before applying paint as specified, and all precautions taken to keep down dust whilst work is in progress. No paint shall be applied to surfaces structurally or superficially damp and all surfaces must be ascertained to be free from condensation, efflorescence, etc.., before the application of each coat. No painting shall be carried out externally during humid, rainy, damp, foggy or freezing conditions, or conditions where surfaces have attained excessively high temperatures or during dust storms. No new primed or undercoated woodwork and metal work shall be left in an exposed or unsuitable situation for an undue period before completing the process.

No dilution of paint materials shall be allowed except strictly as detailed by the manufacturer's own direction, either on the containers, or their literature, and with special permission of the Architect. For

external work dilution of paints will not be allowed whatsoever. For internal work, where permitted by the Architect, undercoats may be thinned by the addition of not more than 5% thinners. Gloss finish shall not be thinned at all.

Metal fittings suchs as ironmongery etc., not required to be painted shall first be fitted and then removed before the preparatory processes are commenced. When all paining is completed the fittings shall be cleaned as necessary and refixed in position.

B BRUSHWORK

Unless otherwise specified, all primers and paints shall be brush applied. Written permission must be obtained from the Architect's if an alternative method of application is to be used.

C STOPPING AND FILLING

Unless otherwise specified by the manufacturer all primers and undercoats shall be stopped flush and rubbed down to a smooth surface with an abrasive paper and all dust removed before each succeeding coat is applied. Care shall be taken to prevent burnishing of the surface.

D STIRRING

Unless otherwise specified by the paint manufacturer all paint materials shall be thoroughly mixed and/or stirred before and during use, and suitably strained as and when necessary.

E INSPECTION

No priming coats shall be applied until the surfaces have been inspected and the preparatory work has been approved by the Architect. No undercoats of finishing coats shall be applied until the previous coat has been similarly inspected and approve

TYPES

A VINYL EMULSION PAINT

Surfaces to be painted shall receive one mist coat followed by two full coats of vinyl emulsion paint. Application may be by means of rollers or brushes.

B GLOSS FINISH PAINT

Surfaces to be painted shall be primed then painted with two undercoats followed by one coat gloss finish paint.

C CLEAR POLYURETHANE VARNISH

Surface to be clear varnished shall be treated with two coats polyurethane varnish

D TEXTURED COATING

The manufacturer's instructions concerning application of the coating are to be strictly followed under the direction of the Architect.

All surfaces to receive textured coatings are to be clean and dry with surfaces scrapped and brushed before application of the coating.

Application of the coating is to be with textured roller or fibre brush as directed by the Architect with a minimum spreading capacity of 1 kilogramme per square metre. Under no circumstances is the coating to be thinned.

PART TWELVE

PLUMBING SPECIFICATIONS

PLUMBING

GENERAL

A REGULATIONS ETC.

The whole of the plumbing works is to be executed by a registered plumber and drainlayer in strict accordance with the regulations of the local Authorities and to the satisfaction of the Architect.

MATERIALS

B BLACK STEEL PIPE WORK

All black steel pipework up to 65 mm nominal bore shall be manufactured in accordance with B.S 21. All fittings shall be malleable iron and manufactured in accordance with B.S 143.

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

All black steel pipework, 80 mm nominal bore up to 150 mm nominal bore, shall be manufactured to comply in all respects with the specifications for 65 mm. Pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant.

All flanges shall comply with requirements of B.S. 10, to the relevant classifications contained hereinafter under section c of the specification.

C GALVANISED STEEL PIPEWORK

Galvanised steel pipework shall be manufactured to comply in all respects with the standards described for black steel pipework in paragraph (B) above.

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

D COPPER TUBING

All copper tubing shall be manufactured in accordance with B.S 2871 from C.160'Phosphorus Deoxidized Non-arsenical copper' in accordance with B.S 1172.

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

Short copper connection tubes between galvanised pipework and sanitary fitments shall not be used because of the risk of galvanic action. If, as may occur in certain circumstances, it is not possible to make the connections in any other way than by the use of copper tubing, then a brass straight connector shall be positioned between the galvanised pipe and the copper tube in order to prevent direct contact.

E. P.V.C. (HEAD) PRESSURE PIPE AND FITTINGS

All P.V.C pipes and fittings shall be manufactured in accordance with B.S 3505 1968.
side of these joints.

F. P.V.C SOIL SYSTEM

The sub-contractor shall supply and fix P.V.C soil pipe and fittings as indicated on the drawings and schedules. Pipes and fittings shall be in accordance with relevant British Standards, including B.S 4514, and fixed to the manufacturer's instructions, and B.S 5572.

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

Connections to W.C and pans shall be effected by the use of W.C connector, gasket and cover, sized to suit pan outlet.

Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres. The sub-contractor shall be responsible for the joint into the Gully Trap and Drain as indicated on the drawings.

VALVES

A DRAW-OFF TAPS AND STOP VALVES (UP TO 50 MM NOMINAL BORE)

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

B GATE VALVES

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

C GLOBE VALVES

All globe valves up to and including 65 mm nominal bore shall be of bronze 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.

D CHECK OR NON-RETURN VALVES

All check or non-return valves 80 mm 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 or non-return valve shall depend upon the pressure conditions pertaining to site of the works.

E 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 bronze or other corrosion resistant materials. These valves fall into three pressure classifications as follows:-

(i) Low Pressure - 3.58b maximum

(ii) Medium pressure - 7.72b maximum

(iii) High pressure - 12.62 maximum

The pressure classification required for each ball valve will be designated in the description of its associated equipment contained in section IV of the specification.

F STEEL AND COPPER PIPES AND TUBES

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

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

Size Minimal Bores	**Copper Tube To B.S 659**	**Steel Tub to B.S 1237**
15mm	1.25	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

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

PART THIRTEEN

SPECIFICATIONS DRAINAGE

DRAINAGE

GENERAL

A. REGULATIONS ETC.

The whole of the drainage is to be executed by a registered plumber and drainlayer in strict accordance with the Regulations of local Authorities and to the satisfaction of the Architect.

B. CEMENT, SAND ETC

The description of material and workmanship contained in the foregoing sections shall apply equally hereto.

MATERIALS

C. PITCH FIBRE PIPES

All pitch fibre pipes and fittings for external services shall be manufactured in accordance with the requirements of B.S 2760. Pipes shall be connected by means of purpose made tapered joints manufactured in accordance with B.S 2760.

D. PRECAST CONCRETE PIPES

Precast concrete pipes for surface water and sewage shall comply with the requirements of B.S. 556 class 1.

Where flexible spigot and socket type of flexible rebated type joints are specified, rubber gaskets complying with the requirements of B.S 2494 shall be used except where oil products are likely to be present, in which case gaskets shall comply with the requirements of B.S 3514.

Where ordinary spigot and socket type ordinary rebated type joints are specified, the joints shall be made with a cement mortar mix. Porous concrete pipes shall comply with the requirements of B.S 1194.

E P.V.C DRAIN PIPES

P.V.C drain pipes and fittings shall comply with the requirements of B.S 4660:1973.

F PRECAST CONCRETE MANHOLES

Concrete manhole ring sections shall be unreinforced ogee jointed complying with the requirements of B.S. 556. Shaft and chambers slabs shall be either mild steel reinforced heavy or light duty type, as specified.

G PRECAST CONCRETE OPEN CHANNELS

Precast concrete invert and sideblocks shall be of dense precast concrete free from cracks and spalls. The conrete used shall be nominal 1:2:4 mix.

Precast concrete invert and side blocks shall be cast in steel moulds. All arrises shall be true well defined.

H GULLIES

Precast concrete gullies shall be unreinforced and shall comply with the requirements of B.S 556.

Glazed ware gullies shall comply with the requirements of B.S 539. Cast iron gullies shall be of approved manufacture and shall conform with the dimensions and weight specified.

Gulley gratings and frames shall comply with the requirements of B.S 497.

I MANHOLE COVERS AND FRAMES

Manhole covers and frames shall be of cast iron in accordance with the requirements of B.S 497.

J MANHOLES LADDERS

Manhole ladders and fixings shall be of galvanised mild steel. The steel shall be mild steel grade 43 in accordance with B.S 4360 and shall be galvanised after manufacturer has been completed.

K MANHOLE SAFETY CHAINS

Manhole safety chains shall be of 10 mm galvanised mild steel short link chain and will comply with the requirements of B. S. 590.

One end of the chain shall securely attached to 16 mm diameter galvanised mild steel eyebolt and the other end shall have a galvanised hook of attaching to a similar eyebolt.

PART FOURTEEN

ROAD WORKS SPECIFICATIONS

A. CLASSIFIED ROADS

All classified roads shall be done in accordance with the "Standard Specification for Road and Bridge Construction 1996" (Published by the Ministry of Transport and Communication of the Republic of Kenya) except as supplemented, modified or revised in the specification of particular application.

B. UNCLASSIFIED ROADS

All unclassified roads shall be done in accordance with the specification given by the Design Engineer in the contract drawing except as amended, modified or revised in accordance with the contract.

C. CONCRETE BLOCK PAVING

1. **Definition**

a. "Block paving" is the term applied to flexible surfacing consisting of precast concrete paving blocks laid on a laying course.

b. "Laying course" is the layer of material on which paving blocks are bedded.

c. "Surface course" is the layer of the precast concrete interlocking paving blocks.

d. "Edge restraint" is that part of the construction, such as a raised or flush kerb or channel, which prevents sideways movement of the blocks and prevents loss of material from the laying course.

2. **Materials**

a. Laying Course

Material for the laying course shall be naturally occurring sand or crushed rock fines with a grading curve falling within the following envelope:

Nominal Sieve Size (mm)	Percentage by mass passing (%)
10.00	100
5.00	95-100
2.36	80-100
1.18	50-85
600µm	25-60
300µm	10-30
150µm	5-15
75µm	0-10

ROAD FURNITURE

PERMANENT ROAD SIGNS

All permanent road signs shall comply with the requirements of the “Manual for Traffic Signs in Kenya” part II.

Road signs shall be obtained from a manufacturer approved by the Engineer and before placing any order for the manufacture of the road signs, the Contractor shall submit to the Engineer two copies of the following information:-

(a) Name of the firm from which he proposes to obtain the signs together with place of manufacture or fabrication.

(b) A description of the items to be supplied with manufacturer’s specification together with a description of quality, grade, weight and strength.

(c) Manufacturer’s ‘type’ test certificates, or recent test results carried out on similar items.

(d) A sample signpost and fittings which sample shall be stored on site for the Engineer.

All colours on the permanent road signs, with the exception of black and grey, shall be reflectorized, unless otherwise specified or instructed by the Engineer. The reflective sheeting shall comply with the requirements given in Section 2 of this Specification, and shall be applied by mechanical vacuum heat application method to the approval of the Engineer. The sign plate shall be covered by clear lacquer of a make recommended by the manufacturer of the reflective material.

Permanent road signs shall comply with the requirements of BS 873 Parts 2,6 and 7 in respect of quality including the pre-treatment, preparation and protective coatings for the frame, posts and fittings. Unless directed otherwise posts, frames, fittings and the backs of signs shall be painted with a finish coat of grey. Bolts and nuts shall be spot welded after erection to prevent theft, and a grey epoxy paint shall be applied to all areas so treated.

Finished sign plates (with sign face attached) shall be clearly and durably marked on the back, with the following information:-

ROAD FURNITURE

PERMANENT ROAD SIGNS

(a) The number of the British Standard to which they have been manufactured.

(b) The name, trademark or other means of identification of the manufacturer or vendor.

(c) The classification of any retro-reflective material used in the manufacture of the sign face.

(d) The month and year of assembly.

These markings shall be in character legible at a normal reading distance such that the total area of the marking does not exceed 30 cm² and shall be sufficiently durable to last the expected life of the sign plate to which it is applied.

The manufacturer or vendor shall make available the following information:-

(a) Instructions on the Assembly and erection of the sign.

(b) Details of any limitations in location or usage.

(c) Instructions on the operation and maintenance of the sign.

The Contractor shall excavate in any material for the foundation of the road signs, provide and place concrete Class 15/20, embedded all round and under the posts and backfill the remaining excavation all as shown on the Drawings or directed by the Engineer. Foundations for signs of areas over 5m² shall not be covered up until they have been approved by the Engineer.

The Contractor shall cut back trees and vegetation to permit visibility and shall not permit material to be dumped so as to obscure the signs.

All signs shall be maintained in a clear and legible condition and shall be washed down when necessary.

ROAD MARKING

(a) General

Road marking shall comply with the requirements of the “Manual for Traffic Signs in Kenya”, Part 1. Markings shall be white or yellow as instructed by the Engineer.

Paint and hot applied thermoplastic material shall comply with Section 2 of this Specification.

Balloting heads shall be mixed with the paint before application or applied to the painted areas immediately after painting, as instructed by the Engineer.

Lines and letters shall be painted on the road as shown on the drawings or as instructed by the Engineer. The setting out of lines shall be made by the Contractor. Words and symbols shall be set out by the Contractor, by means of stencils and shall be in accordance with drawings provided.

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	PROPOSED CLASSROOM BLOCK - BUILDERS WORKS				
	ELEMENT NO. 1				
	SUBSTRUCTURES (ALL PROVISIONAL)				
1.	**Excavations have been taken net of bases and Contractors are advised to allow in their rates any working space necessary for carrying out of the works in accordance with the Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa, Second Edition, Second Edition (June 2008), Published by The Architectural Association of Kenya, Quantity Surveyors Chapter, which is available for inspection at the offices of the Quantity Surveyors by appointment.**				
2.	**Contractors are advised to acquaint themselves on the new classification of concrete strength in conformity to the revised BS issued of 15th August, 2005 that supercedes any other BS Standard on concrete strength. (e.g. Class 25/20 in the earlier classification meant concrete of compressive strength of 25N/mm^2 at 28days, while on the revised classification, concrete of compressive strength of 25N/mm^2 at 28days of 150mm cubes is classified as Class C20/25).**				
	Carried to Collection				**-**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUBSTRUCTURES (ALL PROVISIONAL)				
	Site Clearance				
A	Clear site of small bushes, trees girth not exceeding 600mm, grass etc and grub roots and cart away from site as shall be directed	879	M2		
	Felling Down Trees				
B	Cut down trees girth exceeding 600mm but not exceeding 1200mm grub roots and cart away the roots from site as shall be directed	2	No		
C	Cut the fallen trees into small firewood sizes and store aside as shall be directed	2	No		
	Excavations including trimming sides and bottoms of excavations; maintaining and supporting sides; and keeping free from water, mud and fallen material; with and including destruction of termites nests within site of works,take out and destroy queens, impregnate holes and tunnels with insecticide and fill voids with approved material				
D	Excavate to remove vegetable top soil; average depth 200mm and spread or heap on site as directed for later use	879	M2		
E	Excavate to reduce levels; average depth not exceeding 1500mm from stripped level and cart away excavated materials to deposit as directed	467	M3		
F	Excavate pits for column bases depth not exceeding 1.5m from reduced level and cart away excavated materials to deposit as directed	144	M3		
G	Excavate trench for strip foundation depth not exceeding 1.5m from reduced level and cart away excavated materials to deposit as directed	101	M3		
H	Excavate trench for retaining wall footing depth not exceeding 1.5m from reduced level and cart away excavated materials to deposit as directed	57	M3		
	Compaction & Levelling				
I	Compact bottom of excavated surfaces including levelling to receive hardcore base layer as per Structural Engineers details and approval	337	M2		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Disposal of excavated materials				
A	Return fill and compact selected excavated materials around foundations	177	M3		
B	Load cart away surplus excavated material to deposit as directed	125	M3		
	Fillings				
D	Over 300mm thick redsoil filling rolled, levelled and compacted to make up levels	18	M3		
E	300mm thick murram filling rolled, levelled and compacted to make up levels	37	M2		
F	300mm thick hardcore filling rolled, levelled and compacted to make up levels	337	M2		
G	50mm Stone dust blinding to surface of hardcore	337	M2		
	Damp Proof Membrane				
H	Single layer of 1000 gauge polythene sheeting laid on blinded hardcore with 150 mm side laps to receive concrete	337	M2		
	Anti - termite treatment				
I	Treat surface of hardcore with 'Dieldrin' or similar approved ant-termite solution applied strictly in accordance with the manufacturer's instructions	337	M2		
	Concrete work				
	Plain concrete class C12/15 achieving characteristic compressive strength of 15N/mm2 at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in : -				
J	50mm blinding to column bases	96	M2		
K	50mm blinding to Strip foundation	67	M2		
L	50mm blinding to retaining wall footing	38	M2		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Vibrated Reinforced concrete class C20/25 achieving characteristic compressive strength of 25N/mm^2 at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-				
A	Column bases	42	M3		
B	Foundation columns	3	M3		
C	Strip foundations	13	M3		
D	Retaining wall footing	9	M3		
E	Retaining wall; 200mm thick	71	M2		
F	150mm Thick surface bed	337	M2		
	Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting spacers, stools and supporting all in position High yield ribbed bar reinforcement to B.S. 4661 :-				
G	Assorted	8,120	KG		
	Steel fabric mesh reinforcement to B.S. 4483				
H	BRC mesh fabric reinforcement ref A142 (weighing 2.2kg/m2) laid in slab (measured net-no allowance made for laps)	337	M2		
	Sawn Timber formwork including all necessary supports and jointing as described to: -				
I	Vertical sides to column bases	75	M2		
J	Ditto to columns	39	M2		
K	Ditto to strip foundation	45	M2		
L	Ditto to retaining wall footing	24	M2		
M	Ditto to retaining wall	142	M2		
N	Vertical edges of slab 75-150mm high	88	M1		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Foundation Walling				
	Approved hard natural stone walling bedded in cement and sand mortar and reinforced with hoop iron on every alternate course				
A	200mm Thick walling	168	M2		
	Cement/sand (1:3)				
B	12mm Thick external rendering to plinth surfaces finished smooth with a wood float	44	M2		
C	Prepare and apply two coats of bituminous paint to rendered surfaces externally	44	M2		
	Waterproofing				
	MASTERSEAL® 501/502 SYSTEM CRYSTALLINE WATERPROOFING				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor/supplier				
	All areas indicated shall be waterproofed by the MASTERSEAL® 501/502 system as manufactured by BASF, or equal and approved, to manufacturer's specifications and instructions as described:				
1	Two coat slurry application: MASTERSEAL® 501: 1kg per m² per coat, minimum 2 coats to seal all expansion joints, holes, repaired areas and angle fillet				
2	Application of render coat: MASTERSEAL® 502: 10kg per m² at 4.5mm thick on walls				
D	Sides of retaining walls	142	M2		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION				
	From page CB/1				
	From page CB/2				
	From page CB/3				
	From page CB/4				
	From page CB/5				
	Total for Substructures to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	R.C. SUPERSTRUCTURE				
	(ALL PROVISIONAL)				
	Vibrated Reinforced concrete class C20/25 achieving characteristic compressive strength of 25N/mm^2 at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-				
A	Beams generally	38	M3		
B	Columns	14	M3		
C	200mm thick wall	71	M2		
D	150mm thick suspended slab	316	M2		
	Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting spacers, stools and supporting all in position				
	High yield ribbed bar reinforcement to B.S. 4661 :-				
E	Assorted	10,224	KG		
	Fairfaced formwork as described in:-				
F	Vertical sides and soffits of beams	492	M2		
G	Horizontal soffits of suspended slab	316	M2		
H	Vertical sides of columns	182	M2		
I	Vertical sides of concrete walls	142	M2		
J	Vertical edges of slab 75-150mm high	80	M1		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Waterproofing				
	MASTERSEAL® 501/502 SYSTEM CRYSTALLINE WATERPROOFING				
	Provide a written guarantee of ten (10) years to the employer (effective from the date of application) for all water proofing works measured herein in these bills from an approved sub-contractor/supplier				
	All areas indicated shall be waterproofed by the MASTERSEAL® 501/502 system as manufactured by BASF, or equal and approved, to manufacturer's specifications and instructions as described:				
1	Two coat slurry application: MASTERSEAL® 501: 1kg per m² per coat, minimum 2 coats to seal all expansion joints, holes, repaired areas and angle fillet				
2	Application of render coat: MASTERSEAL® 502: 10kg per m² at 4.5mm thick on walls				
A	Sides of retaining walls	142	M2		
	Carried to Collection				
	COLLECTION				
	From page CB/7				
	From Above				
	Total for R.C Superstructure to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3				
	STAIRCASE & RAMPS				
	Vibrated Reinforced concrete class C20/25 achieving characteristic compressive strength of 25N/mm^2 at 28days of 150mm cubes as per BS Standard of 15th August, 2005 in :-				
A	Staircase waist	1	M3		
B	Steps	1	M3		
C	Ground beam	1	M3		
D	Suspended Ramps	15	M3		
E	150mm Thick Landing	4	M2		
	High tensile square twisted to BS 4461 as described in:-				
	Supply and fix steel bar reinforcement including bending, hooking, tying wire, cutting spacers, stools and supporting all in position				
	High yield ribbed bar reinforcement to B.S. 4661 :-				
F	Assorted	2,112	KG		
	Fairfaced formwork as described in:-				
G	Horizontal soffits of landing	4	M2		
H	Sloping soffites of ramps	86	M2		
I	Sloping soffites of staircases	7	M2		
J	Vertical edges of risers 150 - 225mm	23	M1		
K	Edges of landing and ramps 75 - 150mm high	64	M1		
L	Opening edge of string of 300 mm wide (extreme) including cutting to profile of treads and risers	12	M1		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Balustrading and Railing				
A	Supply materials for, fabricate and fix 1200mm high Mild Steel railing comprising 50 x 50 x 3mm thick SHS balustrades grouted to concrete at 600mm cc, 25 x 25 x 1.8mm thick SHS vertical members at 200 cc welded to handrail and bottom rail (ms); 50 x 50 x 3mm thick intermediate and bottom railing and 50mm diameter x 3mm thick CHS handrail fixed to masonry (ms) all welded to approved pattern and painted in one undercoat and two finishing coats of gloss oil paint to approval	6	M1		
	Finishes				
	Terrazzo Paving				
B	40mm Thick polished terrazzo paving to floors including dividing strips; on and including 20mm thick cement sand screed	90	M2		
C	20mm ditto to treads 300mm wide	20	M1		
D	Ditto to risers 150mm high	23	M1		
E	100 x 20 mm skirting with rounded top coved at junction with paving	88	M1		
F	Extra over tread for forming non-slip grooves to nosing	20	M1		
	Two coat lime plasterwork 15 mm thick to: -				
G	Closed or open edge of staircase,300 mm wide (extreme) and to profile of treads and risers	12	M1		
H	To soffit of staircases and rapms	93	M2		
I	To soffits of landing	4	M2		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	PAINTING AND DECORATION				
	Prepare and apply one undercaot and three finishing coats plastic emulsion paint as described:-				
	Internally on:-				
A	Plastered soffits of stairs and ramps	93	M2		
B	Plastered soffits of landing	4	M2		
C	Closed or open edge of staircase, 300 mm wide (extreme) and to profile of treads and risers	12	M1		
	Carried to Collection				
	COLLECTION				
	From page CB/9				
	From page CB/10				
	From Above				
	Total For Staircase to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	EXTERNAL WALLING				
	Approved natural, fairfaced on both sides machine cut stone walling achieving a stone strength of 7N/mm2 bedded and jointed in cement and sand (1:4) mortar including reinforcing with 25mm wide hoop iron every alternate course				
A	200mm thick walling	418	M2		
	Approved hessian based damp proof course				
B	200 mm Wide Hessian based bituminous felt damp proofing course laid and bedded on cement sand (1:4) mortar	75	M1		
	Balcony railings				
C	25mm Diameter RHS vertical members, 300mm high, fixed to masonry wall at 400mm centres using approved means and painted to architect's approval.	214	NO.		
D	50mm Diameter CHS handrail fixed to masonry/block walling on one side and concrete on the other side using approved means and painted to architect's approval	85	M1		
	Labour & Sundries				
E	Extra over for finishing one side with struck and keyed joints horizontally joints as per architects detail drawing	418	M2		
	Total for External Walling to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	INTERNAL WALLING				
	Approved natural, fairfaced on both sides machine cut stone walling achieving a stone strength of 7N/mm2 bedded and jointed in cement and sand (1:4) mortar including reinforcing with 25mm wide hoop iron every alternate course				
A	200mm Thick Walling	45	M2		
	Approved hessian based damp proof course				
B	200 mm Wide Hessian based bituminous felt damp proofing course laid and bedded on cement sand (1:4) mortar	23	M1		
	Labour & Sundries				
C	Extra over for finishing one side with struck and keyed joints horizontally joints as per architects detail drawing	463	M2		
	Collapsible Wall				
D	Supply and fix collaapsible wall comprising; sound proofed hardwood sliding and folding panels, fixed to and including heavy duty metal framing, heavy duty steel pocket door track to Manufacturer's specification and all necessary iron mongery; all to Architect's details and approval	96	M2		
	Total for Internal Walling to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	WINDOWS				
	Pre-cast Concrete Works:-				
A	Window cill size 200 x 50 mm once sunk, weathered and throated, to approval	49	M1		
	Supply and fix the following Windows to Architects approval				
	Steel Casement Windows				
	Supply, assemble and fix the following medium duty Z-section steel casement framed windows comprising small panes in various sizes in openable and fixed lights, with and including mild steel framed burglar proofing comprising 16mm diameterround bars with 25 x 4mm thick flat bars framing and vertical members, all primed before fixing, complete with 4mm thick tinted glass and all necessary approved ironmongery and fittings fixed to opening including fixing framing to concrete or masonry, making good disturbed surfaces and including two layers of 1 and 5mm mosquito gauze and painting in three coats of gloss oil paint all to architect's drawings and approval.				
B	Window overall size 900 x 600mm high; W1	12	No		
C	Window overall size 900 x 1500mm high; W2	16	No		
	Total for Windows to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7				
	DOORS				
	Supply and fix the following Doors to Architects approval and details as shown in the attached openings schedule				
	Steel Doors				
A	Medium duty metal casement door overall size 1200 x 2700mm high, in 2No.equal openable leaves; comprising of 100 x 50mm thick framing; top panel overall size 1200 x 600mm high in Equal panes of size 230 x 230mm infilled with 4mm thick clear glass and with 25mm wide mild steel flat burglar proofing ; openable panel overall size 1200 x 2100mm high infilled with 1.8mm thick mild steel sheet to approval with and including necessary iron mongery as busges, hinges, 2 No. steel tower bolts, 3 lever dead lock and padlock clasps and all other necessary iron mongery and fittingsas shall be directed; painted on both sides in three coats of gloss oil paint door type D1 all to architect's approval and details	8	NO		
	Total for Doors to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 8				
	ROOF CONSTRUCTION AND COVERING (PROVISIONAL)				
	STRUCTURAL STEELWORK (All provisional)				
	The Contractor to allow in his rate for welding, gusset plates, brackets, bolts etc to the structure connections, priming with red oxide primer and including hoisting approximately 6000mm above ground level; all to Engineers approval				
	The following in 12No.heavy gauge steel roof Truss type T1				
A	75 x 75 x 3mm thick SHS External Members	194	M1		
B	Ditto Internal Members	272	M1		
	The following in 12No.heavy gauge steel roof Truss type T2				
C	50 x 50 x 3mm thick SHS External Members	61	M1		
D	Ditto Internal Members	25	M1		
	Z Purlins				
E	150 x 50 x 20 x 2mm thick mild steel "Z" purlins bolted to cleats with 12 mm diameter mild steel bolts complete with head, nut and washers	288	M1		
	Sagrods				
F	10mm diameter R-bars welded to purlins and rafters	288	M1		
	Ridge Piece				
G	100 x 50 x 3mm thick RHS ridge piece	36	M1		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Sheet covering				
	Approved prepainted IT5 GCI roofing sheets gauge 28 (or other equal and approved) laid on zed purlins (ms) fixed as per manufacturers instructions including all required accessories as ends, barrels, trims, and flashings				
A	Roof covering	395	M2		
B	Ridge cap to match	36	M1		
C	250 x 2.5mm mild steel Fascia or barge board with one primer and painted in two coats of gloss oil paint	89	M1		
	Rainwater Disposal (All Provisional)				
	18 SWG galvanized mild steel rainwater goods primed before fixing with lapped riveted and soldered joints including all labours				
D	150 x 150mm box gutter fixed to fascia board with holder bats	72	M1		
E	100 mm Diameter down pipes fixed to wall with brackets at 1200c/c	36	M1		
	Extra - over for				
F	100 mm Diameter outlets	7	No.		
G	Rainwater swanneck bend	7	No.		
H	Stopped ends	14	No.		
I	Rainwater anti-splash shoe	7	No.		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION				
	From page CB/16				
	From page CB/17				
	Total for Roofing to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 9				
	EXTERNAL WALL FINISHES				
	15 mm thick cement and sand (1:4) as described to:-				
A	To concrete surfaces	190	M2		
B	To window and door reveals not exceeding 100 mm girth	166	M1		
	Prepare and apply one undercoat and two coats "WALL MASTER" (T6) or other equal and approved textured paint to:				
C	Externally rendered surfaces	190	M2		
D	Externally rendered surfaces not exceeding 100mm girth	166	M2		
	Total for External Wall Finishes to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 10				
	INTERNAL WALL FINISHES				
	12mm thick gauged lime plaster (1:2:9) as described to:-				
A	Sides of walls and concrete surfaces	255	M2		
B	Door and window reveals not exceeding 100mm girth	166	M1		
	PAINTING AND DECORATING				
	Prepare and apply one undercoat and three finishing coats first quality silk vinyl matt paint to :-				
C	Plastered walls	255	M2		
D	Door and window reveals not exceeding 100 mm girth	166	M1		
	Total for Internal Wall Finishes to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 10				
	FLOOR FINISHES				
	Cement and sand (1:4) screed as described in:-				
A	32 mm Thick backing to receive Non Slip Granito Floor Tiles	426	M2		
	Supply and fix approved non-slip granitto floor tiles on screed backing (m.s) with straight joints and pointing in matching grout as described in				
B	600 x 600 x 10mm Thick Tiling to floors	426	M2		
C	100mm high skirting	306	M1		
	Terrazzo Pavings				
D	40mm Thick polished terrazzo paving to floors including dividing strips on and including 20mm thick cement sand screed backing	162	M2		
E	100mm high skirting	70	M1		
	Precast concrete paving slabs				
F	600 x 600 x 50mm thick paving slabs joined in cement sand mortar (1:3) on and including 50mm thick sand bed	43	M2		
	Total for Floor finishes to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 11				
	CEILING FINISHES				
	15mm thick two coat gauged lime plaster to:-				
A	Horizontal soffits of suspended slab and beams	178	M2		
	Supply and fix Acoustic Ceiling as described				
B	Suspended "Armstrong Minaboard" accessibe tile sysytem: 600 x 600 x 15mm thick fine fissured mineral fibre tiles: Trulok F4 24mm exposed grid suspension sysytem; comprising 20 x 7mm x 24 gauge epoxy protected tee clips at 600mm cc; supported by piped tabs into 36 x 26mm x 24 gauge epoxy acrylic protected snap tee runners at 1200mm cc in 3 meters lengths; jointed with 29 x 20 x 24mm gauge edge trim; suspended on pre-straightened annealed iron wire hangers at maximum 1200mm cc; fixing with screws to backgrounds requiring plugging; measured over light fittings; including all necessary cutting, trimming to light fittings all to the approval of the Architect	426	M2		
	Chipboard Ceilings				
C	12.5mm Thick chipboard ceiling fixed to and including 50 x 50mm pressure impregnated timber brandering at 600mm centres both ways	140	M2		
	Wrot Cypress				
D	75mm wide cornice	179	M1		
	PAINTING AND DECORATING				
	Prepare and apply one undercoat and three finishing coats of interior quality paint as Crown Solo Pure Satin emulsion or other equal and approved to:				
E	Soffits of horizontal suspended slab	178	M2		
F	Chip Board Surfaces	140	M2		
	Prepare and apply three coats of polyeurethane woodseal to boarding, according to manafacturers specifications				
G	Surfaces of wood 0 - 100mm girth	179	M1		
	Total for Ceiling Finishes to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 12				
	ELECTRICAL INSTALLATIONS				
	Supply, install, test and commission the following:				
	Lighting points wired in 3x1.5mm^2 single core pvc insulated copper cables drawn in 20mm diameter heavy gauge pvc conduits concealed in building fabrics and roof space including accessories but without lighting switches				
A	One way switching system.	14	No		
B	Two way switching system	1	No		
	Supply, install test and commission 10amps lighting switches Elite types or approved equivalent.				
C	1 gang 2 way switches	10	No		
D	2gang 2 way switches	2	No		
E	Cost to supply, install,test and commission Security lighting points wired in 3x1.5mm2 single core pvc insulated copper cables as in East Africa Oringinal or approved equivalent drawn in 20mm diameter heavy gauge pvc conduits concealed in building fabrics and roof space including all acacesories but without lighting fittings and switches	30	Item		
	Supply, install, test and commission Lighting fittings complete with appropriate rated lamps				
F	1200mm, 1x15wts LED single batten bare fluorescent fittings ,Powermax or approved equivalent.	6	No		
G	5wts LED pin -type plastic bulk heads as in powermax or approved equivalent	4	No		
H	18wts circular pannel lights for all corridor lighting and staircases lighting in the second floor as in i-flux make or approved equivalent	24	No		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	6 by 6, 18 wts square pannel lights for all interior lighting, as in i-flux make or approved equivalent	32	No		
B	Supply, install and commission Power points ring wired in 3x2.5mm^2 single core pvc insulated copper cables drawn in 20mm heavy gauge pvc conduits concealed in building fabrics and roof space including all accessories but without socket outlets.	32	Item		
	Supply and install 13amps power points elite type or approved equivalent				
C	Twin socket outlets	32	No		
D	Cost to install, test and commission 10mm2, 2-core armored cable as in Metsec or approved equivalent	30	Mtrs		
E	Cost to supply, install, test and commission single phase 63Amps 6 way distribution board as in havells make Oringinal or approved equivalent, including all accessories but without circuit breakers.	2	No		
F	Cost to supply install test and commission 5Amps circuit breakers as in Havells Original or approved equivalent.	6	No		
G	Cost to supply install test and commission 32 Amps circuit breakers as in havells Oringinal Make or approved equivalent	6	No		
H	Cost to supply, install test and commission gauge 16 machine fabricated T- looping box including all accessories but without cut outs.	1	Item		
I	Cost to supply, install, test and commission twin cut-out as in Henry make or approved equivalent.	1	Item		
J	cost to supply, install test and commisssion earthing system in approximately 10 meters of 10 mm2 single core as in Metsec or approved equivalent, earth lead incuding bonding screw but without earthrod.	1	Item		
	Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	Cost to supply, install test and commission 5-feet copper earthod	1	Item		
B	Supply, install test and commisssion smoke detectors wired in turf cables drawn in 20mm diameter heavy gauge conduits concealed in building fabrics and roof space but without indicator pannel and smoke detectors.	8	No		
C	Supply, install test and commisssion smoke detectors as in Zeta type or approved equivalent	8	No		
D	Supply, install test and commission smoke detector pannel as in zeta type or approved equivalent.	1	No		
E	Supply , install test and commission sounder as in zeta or approved equivalent	4	No		
F	Supply install test and commisssion breaking glass as in zeta or approved equivalent	4	No		
G	Supply install test and commission 1x7 amps 12 volts Dc battery.	2	No		
H	Supply , install test and commission spur switch as in elite or approved equivalent	1	No		
	Carried to Collection				
	COLLECTION				
	From page CB/23				
	From page CB/24				
	From Above				
	Total for Electrical Installations to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 13				
	EXERNAL WORKS				
	Drainage				
A	Provide materials for and construct open drain channel comprising pre-cast concrete (1:2:4) invert block drain; fair faced finished; overall size 300 x250 mm x 50mm thick on and including 50mm thick class 15/20 concrete blinding; with 2 No. strips of 100mm thick side slabs laid on each side of trench and all jointed in cement sand (1:4) mortar including all excavations and trimming to Engineering drawings and approval	96	LM		
	Stone Pitching				
B	Laying of approved hardcore and joining with mortar (1:3) including excavations, trimming and weep holes.	14	SM		
	Culvert				
C	Supply and lay 450 mm Diameter PCC culverts laid on and including 100mm thick class 15/20 concrete blinding, including laying and jointing in cement sand (1:3) grout and 150mm thick class 20/20 concrete surround as per drawings and to engineer's approval	3	LM		
D	Excavate for, provide all materials and construct 100 mm thick class 20/20 concrete headwall and wingwall for concrete pipes 450mm dia.average size 1850mm long x 1000mm deep; all plastered in accordence with detailed drawings to engineer's approval	2	No		
	Total for External Works to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	CLASSROOM BLOCK				
	MAIN SUMMARY		**From page**		
1	SUBSTRUCTURES		SB/6		
2	R.C. SUPERSTRUCTURE		CB/9		
3	STAIRCASES		CB/11		
4	EXTERNAL WALLING		CB/12		
5	INTERNAL WALLING		CB/13		
6	WINDOWS		CB/14		
7	DOORS		CB/15		
8	ROOFING		CB/18		
9	EXTERNAL WALL FINISHES		CB/19		
10	INTERNAL WALL FINISHES		CB/20		
11	FLOOR FINISHES		CB/21		
12	CEILING FINISHES		CB/22		
13	ELECTRICAL INSTALLATIONS		CB/25		
14	EXTERNAL WORKS		CB/26		
	Total for Classroom Block to Carried Main Summary				

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
	P.C. & PROVISIONAL SUMS				
	PROVISIONAL SUMS				
	Internet Services				
A	Allow for a Provisional Sum of Kshs.500,000.00 only for Internet services to be expended at the discretion of the Client.		Sum		500,000.00
	Furniture				
B	Allow for a Provisional Sum of Kshs.1,000,000.00 only for Furniture to be expended at the discretion of the Client.		Sum		1,000,000.00
	Contingency Sum				
C	Allow for a Provisional Sum of Kshs.800,000.00 only for Contingencies to be expended at the discretion of the Client		Sum		800,000.00
	TOTAL for P.C & Provisional Sums to Main Summary				**2,300,000.00**

PROPOSED CLASSROOM BLOCK NEAR LEARNING CENTER FOR THE UNIVERSITY OF EMBU

ITEM	DESCRIPTION		AMOUNT
	PROPOSED CLASSROOM BLOCK		
	MAIN SUMMARY	**From Page**	
1	PARTICULAR PRELIMINARIES	PP/9	
2	GENERAL PRELIMINARIES	GP/13	
3	GENERAL SPECIFICATIONS	00/34	
4	CLASSROOM BLOCK	CB/27	
5	P.C & PROVISIONAL SUMS	PC/1	2,300,000.00
	TOTAL COST OF THE PROPOSED CLASSROOM BLOCK CARRIED TO FORM OF TENDER		

CONTRACTOR'S NAME:……..……

ADDRESS:……..…….

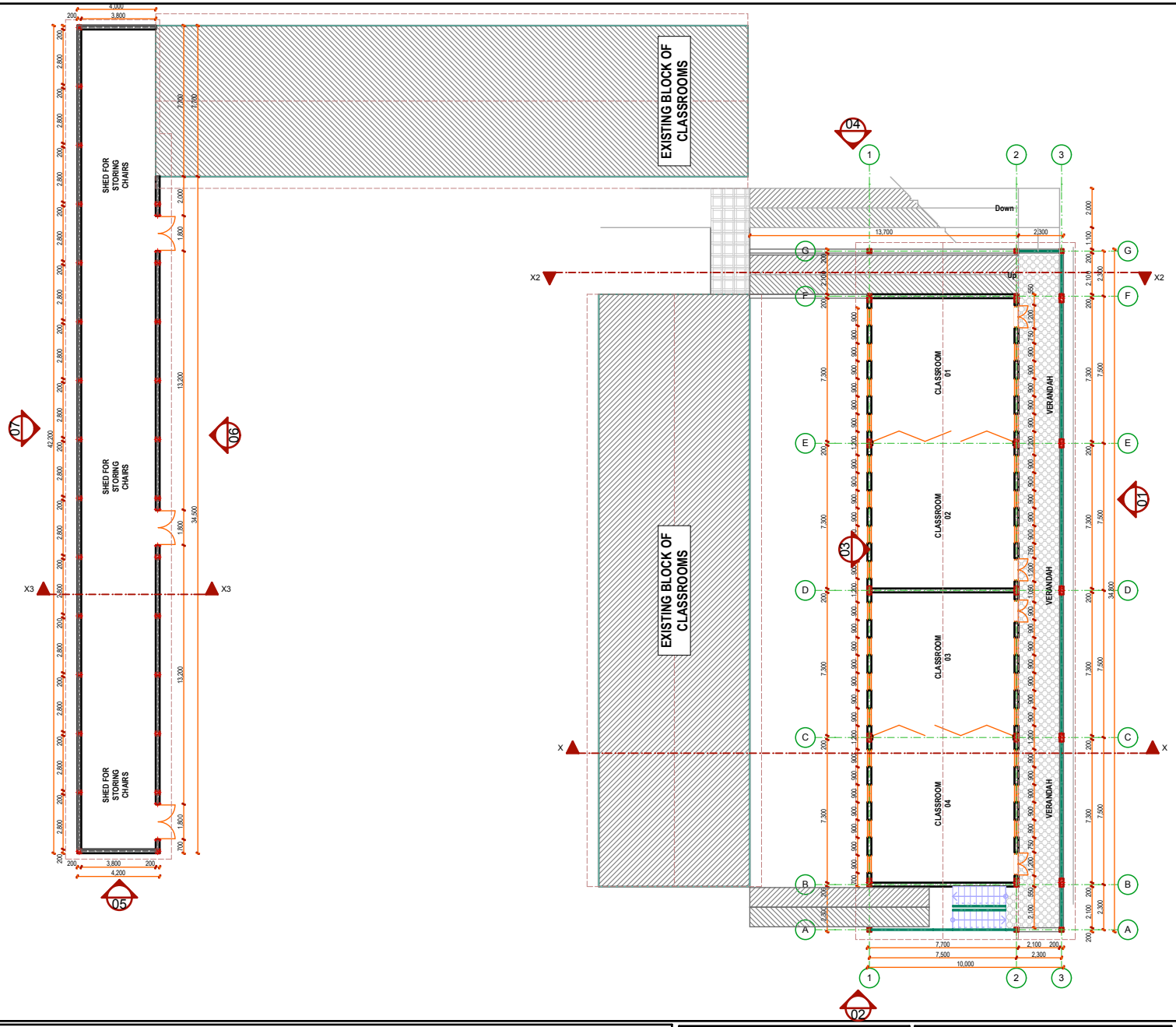
SIGNATURE:……...……..DATE:……..……

WITNESS'S NAME:……..……..

ADDRESS:……..…….

SIGNATURE:……...……..DATE:……..……

SITE LAYOUT



NOTES

1. This drawing is to be read in conjunction with all other relevant Architectural / Structural drawings.
2. Figured dimensions only to be taken and all dimensions are in milimetres unless stated otherwise.
3. Structural concrete to be class 25/20 (1:2:4 mix)
   Concete Cover to reinforcement including links;
   Foundations = 50mm
   Columns = 40mm
   Beams = 25mm
   Slab/Stair = 20mm
4. Reinforcement Steel to be ;
   Y- square twisted high yield bars to BS 4461.
   R- round mild bars to BS 4461
5. Foundation depth to be detemined on site but to be a minimum of 1500mm and must be to firm bearing strata . (Min. 100 KN/M2)
6. All timber to be well seasoned grade 2 cypress with an optimum moisture content of 13% - 15% to KS- 02:1997
7. Sample Trusses to be inspected and approved by the Engineer before mass fabrication of the others.
   Top Chord / Bottom = 150x50mm
   Internal struts/ties = 100x50mm
   Rafters / Wall plate = 150x50mm
   Timber splices = 150x25mm
8. Maximum truss spacing to be 1200mm with rafters at 600mm centres.Anchorage bolts, 12mm diameter, 300 mm long to be provided at intervals of 1000mm to anchor the wall plate in position.

Project Name:

Proposed Classrooms at LC facing dam 3 for University of Embu

Client

UNIVERSITY OF EMBU

P.O BOX 6 - 60100, EMBU

Architectural drawing

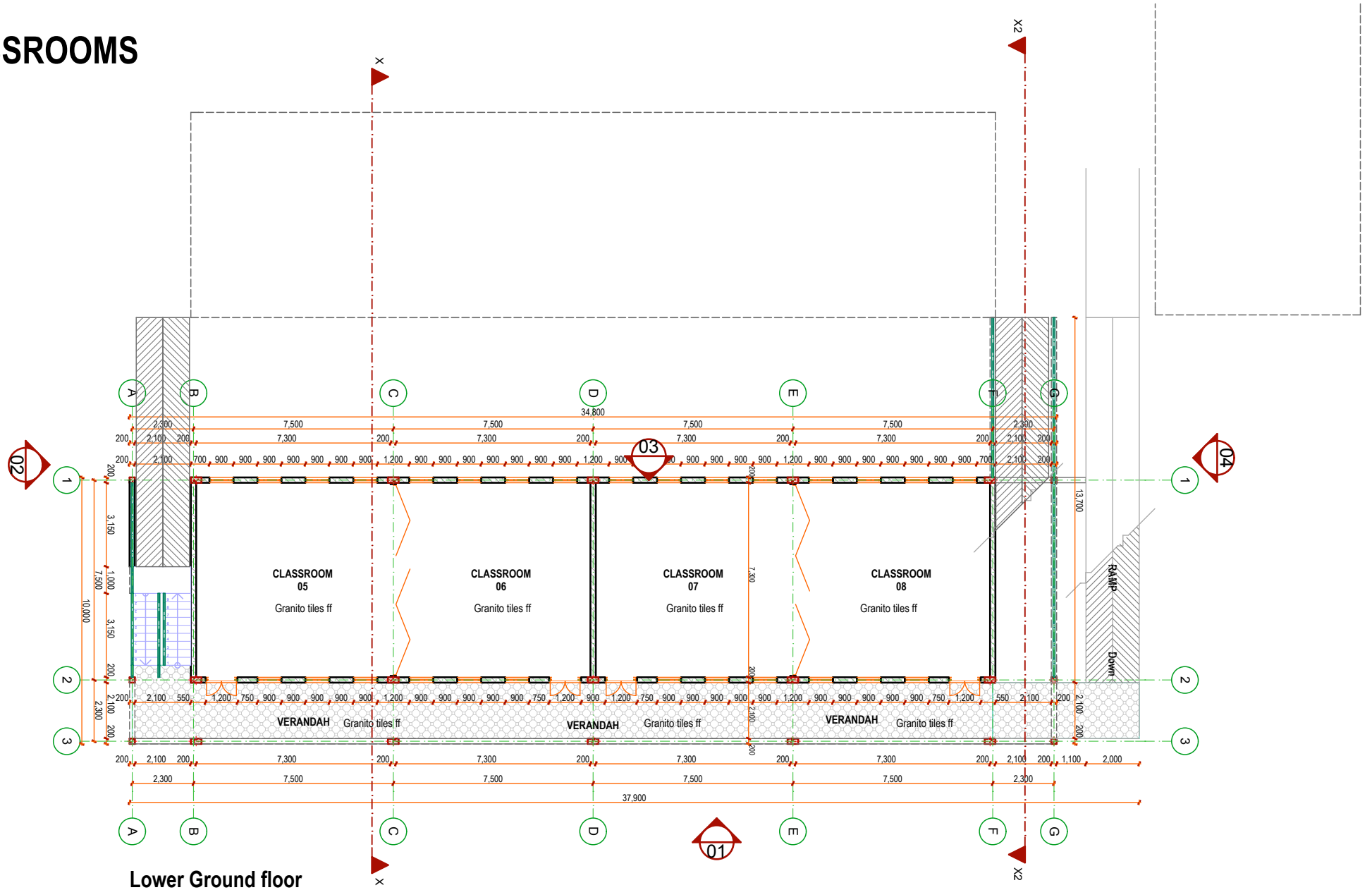
Date: Jan. 2019

Drawn By: M.K

Sheet No.:- 01 of 06

Checked by: Arch. Michael Kyeva Reg. Architect (A1605)

CLASSROOMS



Lower Ground floor

Scale 1:200

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Project Name:

Proposed Classrooms at LC facing dam 3 for University of Embu

Client

UNIVERSITY OF EMBU

P.O BOX 6 - 60100, EMBU

Architectural drawing

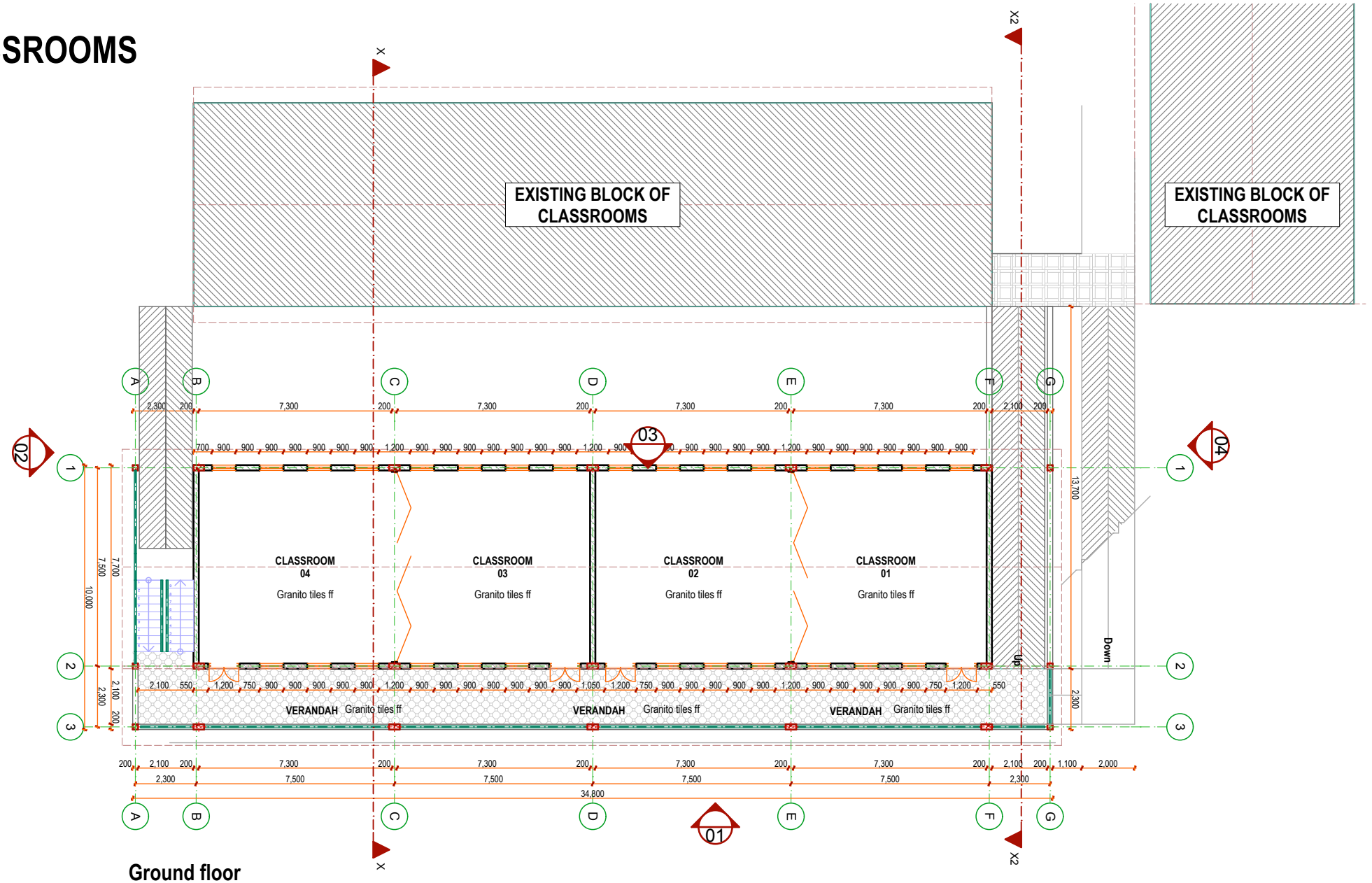
Date: Jan. 2019

Drawn By: M.K

Sheet No.:- 02 of 06

Checked by: Arch. Michael Kyeva Reg. Architect (A1605)

CLASSROOMS



Ground floor

Scale 1:200

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Project Name:

Proposed Classrooms at LC facing dam 3 for University of Embu

Client

UNIVERSITY OF EMBU

P.O BOX 6 - 60100, EMBU

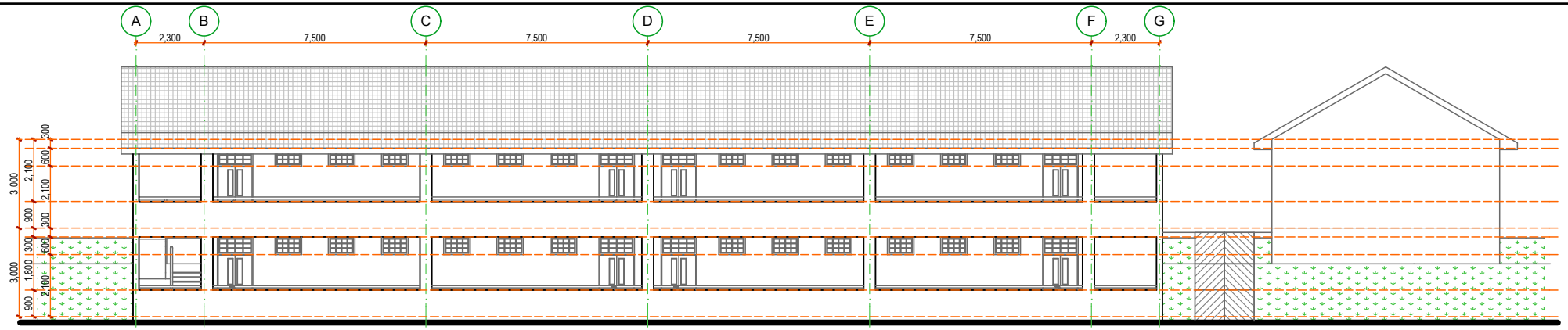
Architectural drawing

Date: Jan. 2019

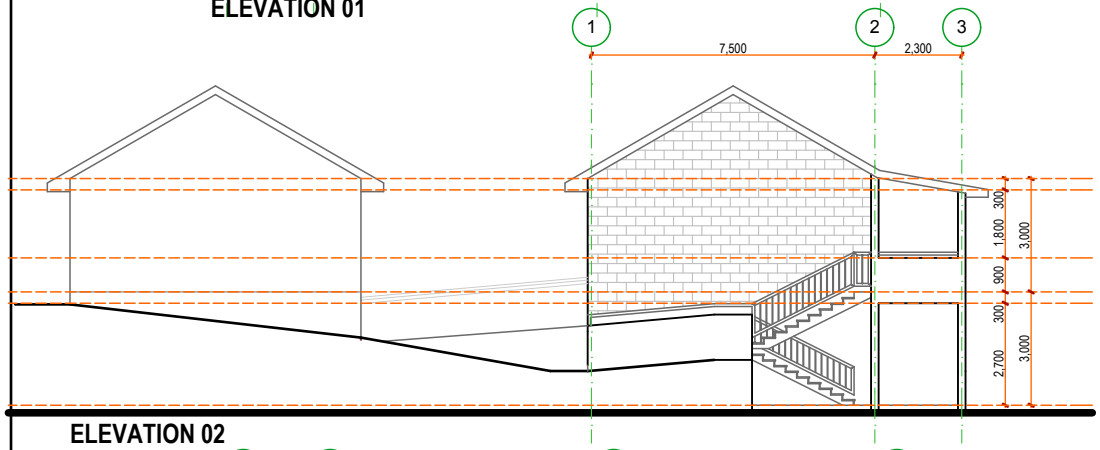
Drawn By: M.K

Sheet No.:- 03 of 06

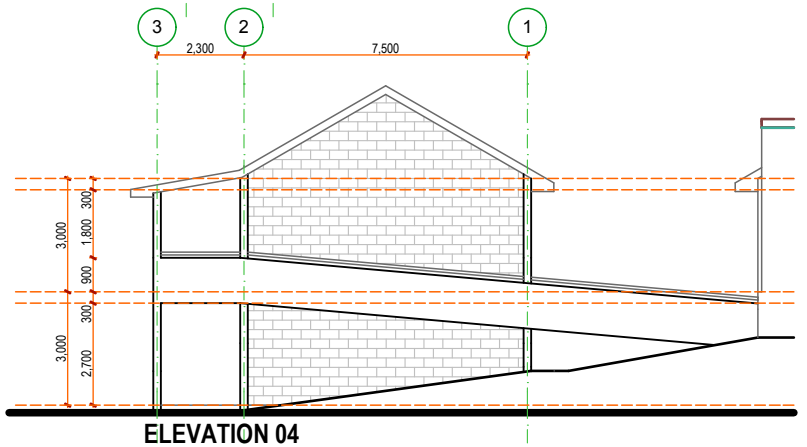
Checked by: Arch. Michael Kyeva Reg. Architect (A1605)



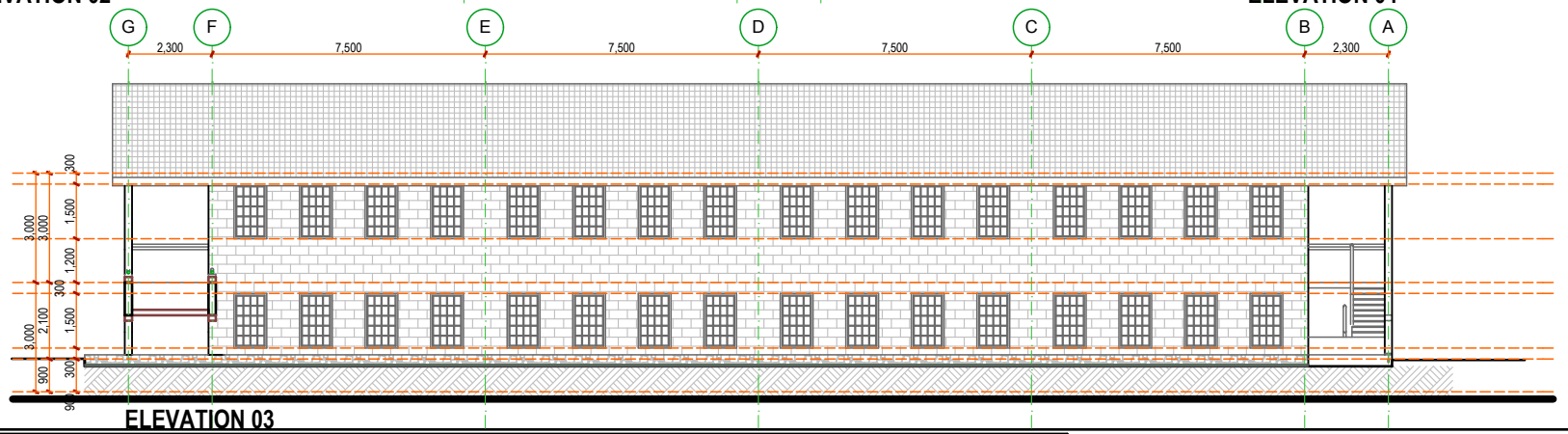
ELEVATION 01



ELEVATION 02



ELEVATION 04



ELEVATION 03

NOTES

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Project Name:

Proposed Classrooms at LC facing dam 3 for University of Embu

Client

UNIVERSITY OF EMBU

P.O BOX 6 - 60100, EMBU

Architectural drawing

Date: Jan. 2019

Drawn By: M.K

Sheet No.:- 04 of 06

Checked by: Arch. Michael Kyeva Reg. Architect (A1605)