



**PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII
COLLEGE- NAROK COUNTY-PHASE II
WP ITEM NO: D1202/NRK/RV/2401 JOB NO: 11426B
TENDER NO: KUC/54/2025/2026 & 2026/2027**

TENDER DOCUMENTS

CLIENT

THE CHIEF EXECUTIVE OFFICER

KENYA UTALII COLLEGE
P.O. BOX 31052-00600
NAIROBI, KENYA

PROJECT MANAGER

Works Secretary Ministry of
L, PW, H&UD
State Department for Public Works,
P.O. BOX 30743 – 00100
NAIROBI

ARCHITECT

Chief Architect,
Ministry of L, PW, H&UD
State Department for Public Works,
P.O. Box 30743-00100,
NAIROBI

QUANTITY SURVEYOR

Chief Quantity Surveyor,
Ministry of L, PW, H&UD
State Department for Public Works,
P.O. Box 30743-00100,
NAIROBI

ELECTRICAL ENGINEER

Chief Engineer (Electrical)
Ministry of L, PW, H&UD.
State Department for Public Works,
P.O. Box 30743-00100,
NAIROBI

MECHANICAL ENGINEER

Chief Engineer (Mechanical-BS)
Ministry of L, PW, H&UD,
State Department for Public Works,
P.O. Box 30743-00100,
NAIROBI

STRUCTURAL ENGINEER

Chief Engineer (Structural),
Ministry of L, PW, H&UD
State Department for Public Works,

P.O. Box 30743-00100
NAIROBI

INTERIOR DESIGNER

Chief Designer,
Ministry of L, PW, H&UD
State Department for Public Works,

P.O. Box 30743-00100
NAIROBI

FEBRUARY 2026

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Prepared by: -

Quantities and Contracts Department,
State Department for Public Works,
P.O Box 30743-00100
NAIROBI

The contract for the above-mentioned works entered into this day of**2026** by the undersigned refers to these Bills of Quantities and the Ministry of Works General Specification dated March, 1976 (together with any amendments issued thereto) shall be read and construed as part of the said contract.

.....
CONTRACTOR

.....
KENYA UTALII COLLEGE
P.O. BOX 31052-00600, NAIROBI

Date.....

Date.....

SPECIAL NOTES

- 1) The Contractor is required to check the numbers of the pages of these Bills of Quantities and should he find any missing or in duplicate or figures indistinct he must inform the, State Department for Public Works, Ngong Road, Nairobi at once and have the same rectified.
- 2) Should the Contractor be in doubt about the precise meaning of any item or figure for any reason whatsoever, he must inform the, Stated Department for Public Works, Ngong Road, Head Office in order that the correct meaning may be decided before the date for submission of tenders.
- 3) No liability will be admitted nor claim allowed in respect of errors in the Contractor's Tender due to mistakes in the Specifications which should have been rectified in the manner described above.

SIGNATURE PAGE AND NOTES



NAME: PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY-PHASE II

IDENTIFICATION OF TENDER: TENDER NO: KUC/54/2025/2026 & 2026/2027.

TENDER DOCUMENTS FOR PROCUREMENT OF WORKS (BUILDING AND ASSOCIATED CIVIL ENGINEERING WORKS)

1) NAME AND CONTACT ADDRESSES OF PROCURING ENTITY

Name: KENYA UTALII COLLEGE

Address: P.O. BOX 31052-00600, NAIROBI

Email: purchasing@utalii.ac.ke

2) Invitation to Tender (ITT) No:

3) Tender Name: PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY-PHASE II

INVITATION TO TENDER

PROCURING ENTITY:

KENYA UTALII COLLEGE

P.O. BOX 31052-00600, NAIROBI

CONTRACT NAME AND DESCRIPTION: *PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY. TENDER NO: KUC/54/2025/2026 & 2026/2027*

1. The KENYA UTALII COLLEGE- invites sealed tenders for the construction of **PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY-PHASE II**
2. Tendering will be conducted under open competitive method National using a standardized tender document. Tendering is open to all qualified and interested Tenderers.
3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours **0800 to 1700 hours** at the address given below.
4. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non- refundable fees of **Kshs.1,000** in cash or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically. Tender documents obtained electronically will be free of charge.
5. Tender documents may be viewed and downloaded for free from the websites <https://utalii.ac.ke//or egip>. Tenderers who download the tender document must forward their particulars form immediately to facilitate any further clarification or addendum.
6. Tenders shall be quoted be in Kenya Shillings and shall include all taxes. Tenders shall remain valid for **126 days** from the date of opening of tenders.
7. All Tenders must be accompanied by a tender Security inform of Cash, banker's cheque from a reputable bank or a Bank guarantee from a bank approved by Central Bank of Kenya or a guarantee by Insurance company registered and licensed by the Insurance Regulatory Authority of **Kshs 6,000,000.00**
8. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
9. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
10. Completed tenders must be delivered to the address below on or before **Tuesday 10th March,2026**. Electronic Tenders **will not** be permitted.
11. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below. This will be done at the **Kenya Utalii College Madaraka Hall**.
12. Late tenders will be rejected.
13. Pre tender site visit will be on **Friday,27th February,2026**
14. The addresses referred to above are:

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

**PRINCIPAL & CHIEF EXECUTIVE OFFICER
KENYA UTALII COLLEGE**

**P.O. BOX 31052-00600, NAIROBI
Tel: 254 733 600 584 / +254 722 205 492
Email: purchasing@utalii.ac.ke
<https://utalii.ac.ke/>
Address for Opening of Tenders.**

**PRINCIPAL & CHIEF EXECUTIVE OFFICER
KENYA UTALII COLLEGE
P.O. BOX 31052-00600, NAIROBI
MADARAKA HALL,
Email: purchasing@utalii.ac.ke**

**THE CHIEF EXECUTIVE OFFICER
KENYA UTALII COLLEGE**

Name _____
(Official of the Procuring Entity issuing the invitation)

Designation _____

Signature _____

Date _____

PART1: TENDERING PROCEDURES

SECTION I - INSTRUCTIONS TO TENDERERS

A GENERAL PROVISIONS

1.0 Scope of tender

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

1.2 Throughout this tendering document:

- a) The term “inwriting” means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the TDS, distributed or received through the electronic-procurement system used by the Procuring Entity) with proof of receipt;
- b) if the context so requires, “singular” means “plural” and vice versa;
- c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Procuring Entity. It excludes official public holidays.

2.0 Fraud and corruption

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

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

2.3 Tenderers shall permit and shall cause their agents (whether declared or not), subcontractors, sub-consultants, service providers, suppliers, and their personnel, to permit the Procuring Entity to inspect all accounts, records and other documents relating to any initial selection process, pre-qualification process, tender submission, proposal submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Procuring Entity.

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

3.0 Eligible tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agree mentor with the intent to enter in to such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender. The maximum number of JV members shall be specified in the **TDS**.

- 32** Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.
- 33** A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:
- a) Directly or indirectly controls, is controlled by or is under common control with an other tenderer;
 - b) Receives or has received any director indirect subsidy from another tenderer;
 - c) Has the same legal representative as an other tenderer;
 - d) Has a relationship with an other tenderer, directly or through common third parties, that puts it in a position to influence the tender of an other tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;
 - e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods or works that are the subject of the tender;
 - f) Any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as a consultant for Contract implementation;
 - g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document;
 - h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:
 - i) Are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or
 - ii) May be involved in the implementation or supervision of such Contract unless the conflicts stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.
- 34** A tenderer shall not be involved in corrupt, coercive, obstructive or fraudulent practice. A tenderer that is proven to have been involved in any of these practices shall be automatically disqualified
- 35** A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. Members of a joint venture may not also make an individual tender, be a sub-contractor in a separate tender or be part of another joint venture for the purposes of the same Tender. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender.
- 36** A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 37** A Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.

- 3.8** A Tenderer that is a state-owned enterprise or a public institution in Kenya may be eligible to tender and be awarded Contract(s) only if it is determined by the Procuring Entity to meet the following conditions, i.e. if it is:
- i) A legal public entity of Government and/or public administration,
 - ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and;
 - (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.
- 3.9** Firms and individuals shall be ineligible if their countries of origin are:
- (a) As a matter of law or official regulations, Kenya prohibits commercial relations with that country;
 - (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

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

- 3.11** Pursuant to the eligibility requirements of ITT 3.10, a tender is considered a foreign tenderer, If it is registered in Kenya and has less than 51 percent ownership by nationals of Kenya and if it does not subcontract to foreign firms or individuals more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms registered in Kenya have less 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

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

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

- 4.14** A kenyan tenderer shall be eligible to tender if it provides evidence of having fulfilled his/her tax obligations by producing valid tax compliance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

4.0 Eligible goods, equipment, and services

- 4.1** Goods, equipment and services to be supplied under the Contract may have their origin in any country that is not ineligible under ITT 3.9. At the Procuring Entity's request, Tenderers may be required to provide evidence of the origin of Goods, equipment and services.
- 4.2** Any goods, works and production processes with characteristics that have been declared by the relevant national environmental protection agency or by other competent authority as harmful to human beings and to the environment shall not be eligible for procurement.

5.0 Tenderer's responsibilities

- 5.1** The tenderer shall bear all costs associated with the preparation and submission of his/her tender, and the Procuring Entity will in no case be responsible or liable for those costs.
- 5.2** The tenderer, at the tenderer's own responsibility and risk, is encouraged to visit and examine and inspect 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 the tenderer's own expense.
- 5.3** The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the Procuring Entity against all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the examination and inspection.
- 5.4** The tenderer shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including charts, as necessary or required.

B. CONTENTS OF TENDER DOCUMENTS

6.0 Sections of Tender Document

- 6.1** The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 10.

PART 1: Tendering Procedures

Section I – Instructions to Tenderers

Section II – Tender Data Sheet (TDS)

Section III- Evaluation and Qualification

Criteria Section IV – Tendering Forms

PART 2: Works'

Requirements Section V -

Bills of Quantities Section VI

- Specifications Section VII -

Drawings

PART 3: Conditions of Contract and Contract Forms

Section VIII - General Conditions (GCC)

Section IX - Special Conditions of Contract

Section X- Contract Forms

- 6.2** The Invitation to Tender Notice issued by the Procuring Entity is not part of the Contract documents. Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. In case of any contradiction, documents

obtained directly from the Procuring Entity shall prevail.

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

70 Clarification of Tender Document, Site Visit, Pre-tender Meeting

- 71** A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting if provided for in accordance with ITT 7.2. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender documents in accordance with ITT 7.4, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents following the procedure under ITT 8 and ITT 22.2.

- 72** The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the site(s) of the required contracts and obtain all information that may be necessary for preparing a tender. The costs of visiting the Site shall be at the Tenderer's own expense. The Procuring Entity shall specify in the **TDS** if a pre-arranged Site visit and or a pre-tender meeting will be held, when and where. The Tenderer's designated representative is invited to attend a pre-arranged site visit and a pre-tender meeting, as the case may be. The purpose of the site visit and the pre-tender meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

- 73** The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later than the period specified in the **TDS** before the meeting.

- 74** Minutes of a pre-arranged site visit and those of the pre-tender meeting, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents. Minutes shall not identify the source of the questions asked.

- 75** The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the pre-arranged site visit and those of the pre-tender meeting at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.

80 Amendment of Tender Documents

- 81** At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.
- 82** Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from the Procuring Entity. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's website in accordance with ITT 7.5.

- 83 To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the dead line for the submission of Tenders, pursuant to ITT 22.2.

C. PREPARATION OF TENDERS

9. Cost of Tendering

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

10.0 Language of Tender

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

11.0 Documents Comprising the Tender

11.1 The Tender shall comprise the following:

- a) Form of Tender prepared in accordance with ITT 12;
- b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
- c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
- d) Alternative Tender, if permissible, in accordance with ITT 13;
- e) **Authorization:** written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
- f) **Qualifications:** documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
- g) **Conformity:** a technical proposal in accordance with ITT 16;
- h) Any other document required in the **TDS**.

11.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed JV Agreement. Change of membership and conditions of the JV prior to contract signature will render the tender liable for disqualification.

12.0 Form of Tender and Schedules

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

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

13. Alternative Tenders

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

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

140 Tender Prices and Discounts

- 141 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.
- 142 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.
- 143 The price to be quoted in the Form of Tender, in accordance with ITT 12.1, shall be the total price of the Tender, including any discounts offered.
- 144 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.
- 145 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.
- 146 Where tenders are being invited for individual lots (contracts) or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the same time.
- 147 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

150 Currencies of Tender and Payment

- 15.1** The currency(ies) of the Tender and the currency(ies) of payments shall be the same.
- 15.2** Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings.
- a) A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya (referred to as “the foreign currency requirements”) shall (if so allowed in the **TDS**) indicate in the Appendix to Tender the percentage(s) of the Tender Price (excluding Provisional Sums), needed by the Tenderer for the payment of such foreign currency requirements, limited to no more than two foreign currencies.
 - b) The rates of exchange to be used by the Tenderer in arriving at the local currency equivalent and the percentage(s) mentioned in (a) above shall be specified by the Tenderer in the Appendix to Tender and shall be based on the exchange rate provided by the Central Bank of Kenya on the date 30 days prior to the actual date of tender opening. Such exchange rate shall apply for all foreign payments under the Contract.
- 15.3** Tenderers may be required by the Procuring Entity to justify, to the Procuring Entity's satisfaction, their local and foreign currency requirements, and to substantiate that the amounts included in the unit rates and prices and shown in the Schedule of Adjustment Data in the Appendix to Tender are reasonable, in which case a detailed break down of the foreign currency requirements shall be provided by Tenderers.

16.0 Documents Comprising the Technical Proposal

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

17.0 Documents Establishing the Eligibility and Qualifications of the Tenderer

- 17.1** Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.
- 17.2** In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.
- 17.3** If a margin of preference applies as specified in accordance with ITT 33.1, national tenderers, individually or in joint ventures, applying for eligibility for national preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.
- 17.4** Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.
- 17.5** The purpose of the information described in ITT 17.4 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.
- 17.6** The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.4. The obligations to require this information shall continue for the duration of the procurement process and contract

performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

- 17.7** All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.
- 17.8** If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.
- 17.9** If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:
- i) If the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
 - ii) if the contract has been awarded to that tenderer, the contract award will be set aside depending on the outcome of (iii),
 - iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other person has committed any criminal offence.
- 17.10** If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences of ITT 17.8 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tenderer.

18.0 Period of Validity of Tenders

- 18.1.** Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 22). A tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.
- 18.2** In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 19, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender.

19.0 Tender Security

- 19.1** The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency **specified** in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.
- 19.2** If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

- I) cash;
- ii) a bank guarantee;
- iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;
- (iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.

193 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.

194 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.

195 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the TDS. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.

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

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

- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension there to provided by the Tenderer; or
- b) if the successful Tenderer fails to: -
 - i) sign the Contract in accordance with ITT 47; or
 - ii) furnish a Performance Security and if required in the TDS, and any other documents required in the TDS.

198 Where tender securing declaration is executed, the Procuring Entity shall recommend to the PPRA to debar the Tenderer from participating in public procurement as provided in the law.

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

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

200 Format and Signing of Tender

201 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 11 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 13, shall be clearly marked "ALTERNATIVE." In addition, the Tenderer shall submit copies of the Tender, in the number specified in the TDS and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

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

financially sensitive information.

- 203** The original and all copies of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Tenderer. This authorization shall consist of a written confirmation as specified in the **TDS** and shall be attached to the Tender. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Tender where entries or amendments have been made shall be signed or initialed by the person signing the Tender.
- 204** Incase the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 205** Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Tender.

D. SUBMISSION AND OPENING OF TENDERS

21.0 Sealing and Marking of Tenders

- 21.1** The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:
- a) in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11; and
 - b) in a nenvelope or package or container marked "COPIES", all required copies of the Tender; and
 - c) if alternative Tenders are permitted in accordance with ITT 13, and if relevant:
 - i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE TENDER", the alternative Tender; and
 - ii) in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity,
 - b) bear the name and address of the Tenderer; and
 - c) bear the name and Reference number of the Tender.
- 21.2** If an envelope or package or container is not sealed and marked as required, the *Procuring Entity* will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.
- 22.0 Deadline for Submission of Tenders**
- 22.1** Tenders must be received by the Procuring Entity at the address specified in the **TDS** and no later than the date and time also specified in the **TDS**. When so specified in the **TDS**, tenderers shall have the option of submitting their Tenders electronically. Tenderers submitting Tenders electronically shall follow the electronic Tender submission procedures specified in the **TDS**.
- 22.2** The Procuring Entity may, at its discretion, extend the deadline for the submission of Tenders by amending the Tender Documents in accordance with ITT 8, in which case all rights and obligations of the Procuring Entity and Tenderers previously subject to the deadline shall there after be subject to the deadline as extended.

23.0 Late Tenders

The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 22. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

24.0 Withdrawal, Substitution, and Modification of Tenders

- 24.1** A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:
- a) prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and
 - b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.
- 24.2** Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.
- 24.3** No Tender may be withdrawn, substituted, or modified in the interval between the deadline for submission of Tenders and the expiration of the period of Tender validity specified by the Tenderer on the Form of Tender or any extension thereof.

25. Tender Opening

- 25.1** Except in the cases specified in ITT 23 and ITT 24.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified **in the TDS**, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 22.1, shall be as specified in the **TDS**.
- 25.2** First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.
- 25.3** Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 25.4** Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 25.5** Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.
- 25.6** Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the

tender opening committee attending the opening.

- 257 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 258 The Procuring Entity shall prepare minutes of the Tender Opening that shall include, as a minimum: -
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security, if new as required;
 - e) number of pages of each tender document submitted.
- 259 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers.

E. EVALUATION AND COMPARISON OF TENDERS

26. Confidentiality

- 261 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.
- 262 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.
- 263 Notwithstanding ITT 26.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any matter related to the tendering process, it shall do so in writing.

27.0 Clarification of Tenders

- 27.1 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the tenderers, the Procuring Entity may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the tenders, in accordance with ITT 31.
- 27.2 If a tenderer does not provide clarifications of its tender by the date and time set in the Procuring Entity's request for clarification, its Tender may be rejected.

28.0 Deviations, Reservations, and Omissions

- 28.1 During the evaluation of tenders, the following definitions apply: -
- a) "*Deviation*" is a departure from the requirements specified in the tender document;
 - b) "*Reservation*" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and
 - c) "*Omission*" is the failure to submit part or all of the information or documentation required in the Tender document.

29.0 Determination of Responsiveness

- 29.1** The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 11.
- 29.2** A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:
- a) Affect in any substantial way the scope, quality, or performance of the Works specified in the Contract;
 - b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract;
 - c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.
- 29.3** The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 16, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.
- 29.4** If a tender is not substantially responsive to the requirements of the tender document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30.0 Non-material Non-conformities

- 30.1** Provided that a tender is substantially responsive, the Procuring Entity may waive any non-conformities in the tender.
- 30.2** Provided that a Tender is substantially responsive, the Procuring Entity may request that the tenderer submit the necessary information or documentation, within a reasonable period of time, to rectify non-material non-conformities in the tender related to documentation requirements. Requesting information or documentation on such non-conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.
- 30.3** Provided that a tender is substantially responsive, the Procuring Entity shall rectify quantifiable non-material non-conformities related to the Tender Price. To this effect, the Tender Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified **in the TDS**.

31.0 Arithmetical Errors

- 31.1** The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in any way by any person or entity.
- 31.2** Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis: -
- a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
 - b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
 - c) if there is a discrepancy between words and figures, the amount in words shall prevail
- 31.3** Tenderers shall be notified of any error detected in their bid during the notification of award.

32.0 Conversion to Single Currency

For evaluation and comparison purposes, the currency(ies) of the Tender shall be converted in to a single currency as specified in the **TDS**.

33.0 Margin of Preference and Reservations

33.1 A margin of preference may be allowed only when the contract is open to international competitive tendering where foreign contractors are expected to participate in the tendering process and where the contract exceeds the value/threshold specified in the Regulations.

33.2 A margin of preference shall not be allowed unless it is specified so in the **TDS**.

33.3 Contracts procured on basis of international competitive tendering shall not be subject to reservations exclusive to specific groups as provided in ITT 33.4.

33.4 Where it is intended to reserve a contract to as pecific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

34.0 Nominated Subcontractors

34.1 Unless otherwise stated in the **TDS**, the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected/nominated by the Procuring Entity. Incase the Procuring Entity nominates a subcontractor, the subcontract agreement shall be signed by the Subcontractor and the Procuring Entity. The main contract shall specify the working arrangements between the main contractor and the nominated subcontractor.

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

34.3 Domestic subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated so by the Procuring Entity in the **TDS** a scan be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractorsproposed by the Tenderer may be added to the qualifications of the Tenderer.

35. Evaluation of Tenders

35.1 The Procuring Entity shall use the criteria and methodologies listed in this ITT and Section III, Evaluation and Qualification Criteria No other evaluation criteria or methodologies shall be permitted. By applying the criteria and methodologies the Procuring Entity shall determine the Lowest Evaluated Tender in accordance with ITT 40.

35.2 To evaluate a Tender, the Procuring Entity shall consider the following:

- a) Price adjustment in accordance with ITT 31.1 (iii); excluding provisional sums and contingencies, if any, but including Day work items, where priced competitively;
- b) price adjustment due to discounts offered in accordance with ITT 14.4;
- c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 32;
- d) price adjustment due to quantifiable non material non-conformities in accordance with ITT 30.3; and

- e) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.

- 353 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be considered in Tender evaluation.
- 354 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers base done lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36.0 Comparison of tenders

The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 35.2 to determine the Tender that has the lowest evaluated cost.

37.0 Abnormally low tenders and abnormally high tenders

Abnormally Low Tenders

- 37.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.
- 37.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.
- 37.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

Abnormally high tenders

- 37.4 An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.
- 37.5 Incase of a nab normally high price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:
- i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
 - ii) If specifications, scope of work and/or conditions of contract are contributory to the

abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

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

38.0 Unbalanced and/ or front-loaded tenders

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

38.2 After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:

- a) accept the Tender;
- b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price;
- c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works;
- d) reject the Tender,

39.0 Qualifications of the tenderer

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

39.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 17. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Sub-contractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

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

40.0 Lowest evaluated tender

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

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

41.0 Procuring entity's right to accept any tender, and to reject any or all tenders.

The Procuring Entity reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without there by incurring any liability to Tenderers. Incase of annulment, all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. AWARD OF CONTRACT

42.0 Award criteria

The Procuring Entity shall award the Contract to the successful tenderer whose tender has been determined to be the Lowest Evaluated Tender.

43.0 Notice of Intention to Enter into a Contract/Notification of Award

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

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

44.0 Stand still Period

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

44.2 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter into a Contract with the successful Tenderer.

45.0 Debriefing by The Procuring Entity

45.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.

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

46.0 Letter of Award

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

47.0 Signing of Contract

- 47.1** Upon the expiry of the fourteen days of the Notification of Intention to enter in to contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.
- 47.2** Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.
- 47.3** The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period.

48.0 Performance Security

- 48.1** Within twenty-one (21) days of the receipt of the Letter of Award from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.
- 48.2** Failure of the successful Tenderer to submit the above-mentioned Performance Security and other documents required in the **TDS** or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Tender Security. In that event the Procuring Entity may award the Contract to the Tenderer offering the next Best Evaluated Tender.
- 48.3** Performance security shall not be required for contracts estimated to cost less than the amount specified in the Regulations.

49.0 Publication of Procurement Contract

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

- a) name and address of the Procuring Entity;
- b) name and reference number of the contract being awarded, a summary of its scope and the selection method used;
- c) the name of the successful Tenderer, the final total contract price, the contract duration;
- d) dates of signature, commencement and completion of contract;
- e) names of all Tenderers that submitted Tenders, and their Tender prices as readout at Tender opening.

50.0 Procurement related Complaints and Administrative Review

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

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

Section II - Tender Data Sheet (TDS)

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

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
A. General	
ITT 1.1	The name of the contract is: PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY-PHASE II The reference number of the Contract is: TENDER NO: KUC/54/2025/2026 & 2026/2027 The Procuring Entity is: KENYA UTALII COLLEGE The number and identification of lots (contracts) comprising this Invitation for Tender is: N/A
ITT 2.4	The Information made available on competing firms is as follows: - Standard tender documents - Bills of quantities - Specifications
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: State Department for Public Works, P.O.BOX 30743-00100, NAIROBI; The roles are defined as follows: Project Manager: Works Secretary Architect: Chief Architect Quantity Surveyor: Chief Quantity Surveyor Electrical Engineer: Chief Engineer Electrical Structural Engineer: Chief Engineer Structural Mechanical Engineer: Chief Engineer Mechanical (BS) Interior Designer: Chief Designer
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: open
B. Contents of Tender Document	
ITT 7.1	(i) The Tenderer will submit any request for clarifications in writing at the Address (ii) to reach the Procuring Entity not later than 7 days before Tuesday, 10th March, 2026 (iii) The Procuring Entity shall publish its response via www.utalii.ac.ke
ITT 7.2	(A) A pre-tender conference will not be held
ITT 7.3	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than 7 days before Tuesday, 10th March, 2026 .
ITT 7.5	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is N/A

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: A complete copy of the tender document as issued by the Procuring entity.
ITT 13.1	Alternative Tenders shall not be considered.
ITT 13.2	Alternative times for completion shall not be permitted.
ITT 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: shall not be permitted.
ITT 14.5	The prices quoted by the Tenderer shall not be fixed.
ITT 15.2 (a)	Foreign currency requirements not allowed.
ITT 18.1	The Tender validity period shall be 126 days .
ITT 18.2	(a) The Number of days beyond the expiry of the initial tender validity period will be 30 days. (b) The Tender price shall be adjusted by the following percentages of the tender price: N/A (i) By 0 % of the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and (ii) By 0% the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension. N/A
ITT 19.1	Tender Security inform of Cash, banker's cheque from a reputable bank or a Bank guarantee from a bank approved by Central Bank of Kenya or a guarantee by Insurance company registered and licensed by the Insurance Regulatory Authority of Ksh 6,000,000.00 valid for 156 days from tender opening date, The tender security shall be as per the prescribed forms.
ITT 20.1	In addition to the original of the Tender, the number of copies is: <u>ONE (1)</u>
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: Written power of attorney/Authorization letter where applicable

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
D. Submission and Opening of Tenders	
ITT 22.1	(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is: The Principal/CEO Kenya Utalii College Address: P O Box 31052 – 00600 NAIROBI Physical Address: Utalii College, Thika Super Highway NAIROBI The deadline for Tender Submission is: Date; Tuesday 10th March, 2026. Time: 10.00 am. Tenderers shall not have the option of submitting their Tenders electronically. The electronic Tendering submission procedures shall be: Not Applicable
ITT 25.1	The Tender opening shall take place at: Kenya Utalii College, Madaraka Hall. P.O Box 31052-00600 Nairobi
E. Evaluation, and Comparison of Tenders	
ITT 30.3	The adjustment shall be based on the average price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.
TT 32.1	The currency that shall be used for Tender evaluation and comparison purposes only to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is: Kenya shillings.
ITT 33.2	A margin of preference "shall not" apply.
ITT 33.4	The invitation to tender is extended to the following group that qualify for Reservations:
ITT 34.1	At this time, the Procuring Entity "intends" to execute certain specific parts of the Works by subcontractors selected in advance. N/A
ITT 34.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: 0% of the total contract amount. Tenderers planning to subcontract more than 0% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.
ITT 34.3	The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as following: NONE For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.
ITT 35.2 (e)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
F. Award of Contract	
ITT 41.1	The maximum percentage by which quantities may be increased is: N/A The maximum percentage by which quantities may be decreased is: Not Applicable.
ITT 41.1	The Procuring Entity shall increase or decrease the quantity of Goods and Related Services by an amount not exceed ---N/A-% and without any change in the unit prices or other terms and conditions of the Tender and the tendering document. Not Applicable.
ITT 47.3	Performance security if so required shall be 5% of the tender sum from a Reputable Bank or Insurance Company valid and renewable after one (1) year.
ITT 50.1	The procedures for making a Procurement-related Complaint are detailed in the “Notice of Intention to Award the Contract” herein and are also available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke. If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to: THE PRINCIPAL / CEO KENYA UTALII COLLEGE P O Box 31052 – 00600 NAIROBI Email: purchasing@utalii.ac.ke In summary, a Procurement-related Complaint may challenge any of the following (among others): (i) the terms of the Tender Documents; and (ii) the Procuring Entity’s decision to award the contract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

10 GENERAL PROVISIONS

11 This section contains the criteria that the Employer shall use to evaluate tender and qualify tenderers. No other factors, methods or criteria shall be used other than specified in this tender document. The Tenderer shall provide all the information requested in the forms included in Section IV, Tendering Forms. The Procuring Entity shall use **the Standard Tender Evaluation Document for Goods and Works** for evaluating Tenders.

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

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

13 EVALUATION AND CONTRACT AWARD CRITERIA

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

(1) Preliminary Evaluation

- a) Main Contractor
- b) Sub Contractors

(2) Technical Evaluation

- a) Main Contractor
- b) Sub Contractors

(3) Financial Evaluation

(4) Recommendation for award

2.0 PRELIMINARY EXAMINATION FOR DETERMINATION OF RESPONSIVENESS

Preliminary examination for Determination of Responsiveness

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other mandatory requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements provided for in the preliminary evaluation criteria outlined below. The Standard Tender Evaluation Report Document for Goods and Works for evaluating Tenders provides very clear guide on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered non- responsive and will not be

considered further.

(1) **Stage 1 MANDATORY REQUIREMENTS**

Mandatory Instructions to Tenderers:

MR	PRELIMINARY EVALUATION CRITERIA / MANDATORY REQUIREMENTS FOR MAIN CONTRACTOR
MR1	The “original” and “copy” of tender documents should be properly tape bound, paginated on all printed pages using Numerals, i.e. 1,2,3,4,5,6,7,8,9,10.... n (n being the last numerical page of the tender document), in the format issued by the procuring entity
MR2	Dully filled, signed and stamped form of tender prepared in accordance with ITT 12
MR3	Tender Security in accordance with ITT 19.1; inform of Cash, banker’s cheque from a reputable bank or a Bank guarantee from a bank approved by Central Bank of Kenya or a guarantee by Insurance company registered and licensed by the Insurance Regulatory Authority of Ksh 6,000,000.00 valid for 156 days from tender opening date, The tender security shall be as per the prescribed forms.
MR4	Valid Copy of Certificate of Incorporation/ Registration.
MR5	Attach CR12 form showing the list of directors /shareholding issued within the tendering period
MR6	Provide proof of registration with the National Construction Authority NCA category 3 and above only under Builders works category with current annual contractors practicing license.
MR 7	Provide proof of power of attorney (of tender signatory if not director of the company/ partner, signed and stamped by Commissioner for Oaths
MR 8	Bidders shall provide valid tax compliance and PIN certificates
MR9	Letter of authority from The Contractor to client granting permission to seek references from the Tenderer’s bankers.
MR10	Valid Copy of Current Single Business permit (for the year 2025) from any County
MR11	The bidder Must duly fill, sign and stamp Confidential Business Questionnaire in the format provided, clearly indicating Contact address: Physical, Postal, Telephone and Email address of the Firm
MR12	Must duly fill, sign and stamp Certificate of Independent Tender Determination in the format provided
MR13	Must duly fill, sign and stamp the Self-declaration form that the person/tenderer is not debarred in the matter of the Public Procurement and Asset Disposal Act 2015 in the format provided - Form SD1.
MR14	Must duly fill, sign and stamp the Self-declaration that the person/tenderer will not engage in any corrupt or fraudulent practice in the format provided- Form SD2
MR15	Must duly fill, sign and stamp Declaration and Commitment to The Code of Ethics in the format provided
MR16	Must duly fill, sign and stamp [Form Fin–3.1] [Form Fin – 3.2]
MR17	Domestic Contractor’s Agreement- A duly signed, stamped and Certified by a Commissioner for Oaths Agreement dated within the period of tender for this works between the Main contractor and the a) Mechanical Works b) Electrical Works (Not necessary if the main contractor is registered for specialist work)
NB	a) Any bidder who does not meet the above requirements will not be evaluated further and including its subcontractors b) The criteria for the subcontract bids shall be referred from the Electrical Works and Mechanical works folios respectively and should include the following in addition - Subcontractors are required to fill code of ethics and certificate of independent determination Order of evaluation of works will be as follows: - Preliminary evaluation of Main Works - Preliminary Evaluation of Mechanical Installation Works - Technical Evaluation of Main Works (Qualifiaction Form) - Technical Evaluation of Mechanical Works and Financial Evaluation Financial Evaluation -Arithmetic error check, consistency of rates

STAGE 2 QUALIFICATION FORM / TECHNICAL EVALUATION

Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer
1.	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments
2.	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax Exemption certificate issued by Kenya Revenue Authority in accordance with ITT 3.14.	Attachment
3.	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender
4.	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender
5.	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1 st January 2015	Form CON-2
6.	Suspension Based on Execution of Tender /Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 16.6	Form of Tender
7.	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	Form CON– 2
8.	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1 st January [2017].	Form CON– 2
1. Non-performance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non-performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted. 2. This requirement also applies to contracts executed by the Bidder as JV member.			
9.	Financial Capabilities	(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings 100,000,000 equivalent for the subject contract(s) net of the Tenderer's other commitments.	Form FIN – 3.1, with attachments

Item No.	Qualification Subject	Qualification Requirement	Document Completed To be by Tenderer														
		(ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments. The audited balance sheets or, if not required by the laws of the Tenderer’s country, other financial statements acceptable to the Procuring Entity, for the last [3] years shall be submitted and must demonstrate the current soundness of the Tenderer’s financial position and indicate its prospective long- term profitability. Attach evidence in form of letter from bank, overdraft facility, current bank statements for the last 6 months)															
10.	Average Construction Turnover	Minimum average construction turnover of Kenya Shillings 700,000,000 for the last 3 years, attach evidence in form of audited accounts (ICPAK REGISTERED)	Form FIN – 3.2														
11.	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor starting 1st January 2017 . A minimum number of 1 contract Provide Completion certificates/ Recommendation letter	Form EXP – 4.1														
12.	Specific Construction Contract Management Experience	A minimum number of 3 similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2018 and tender submission deadlinei.e.....3 (contracts, each of minimum value Kenya shillings..... 100,000,000.00 equivalent. [Bidders shall attach copies of the following: a) Letters of Award or b) Signed Contract and c) Completion Certificate for the respective projects.or d) For Completed projects provide Recommendation letter from clients or consultants	Form EXP 4.2(a)														
13.	Contractors Equipment	<table><tr><td>1. Concrete Mixers – Three (3)</td><td>Form EQU: Equipment</td></tr><tr><td>2. 15 Tonne Tipper Lorries- Two (2)</td><td>Form EQU: Equipment</td></tr><tr><td>3. Pick-ups- Two (2)</td><td>Form EQU: Equipment</td></tr><tr><td>4. Concrete Poker Vibrator – Five (5)</td><td>Form EQU: Equipment</td></tr><tr><td>5. Welding machine – Two (2)</td><td>Form EQU: Equipment</td></tr><tr><td>6. Mobile Hosting Crane– at least one (1)</td><td>Form EQU: Equipment</td></tr><tr><td>7. Excavator – at least one (1)</td><td>Form EQU: Equipment</td></tr></table>	1. Concrete Mixers – Three (3)	Form EQU: Equipment	2. 15 Tonne Tipper Lorries- Two (2)	Form EQU: Equipment	3. Pick-ups- Two (2)	Form EQU: Equipment	4. Concrete Poker Vibrator – Five (5)	Form EQU: Equipment	5. Welding machine – Two (2)	Form EQU: Equipment	6. Mobile Hosting Crane– at least one (1)	Form EQU: Equipment	7. Excavator – at least one (1)	Form EQU: Equipment	Form EQU: Equipment
1. Concrete Mixers – Three (3)	Form EQU: Equipment																
2. 15 Tonne Tipper Lorries- Two (2)	Form EQU: Equipment																
3. Pick-ups- Two (2)	Form EQU: Equipment																
4. Concrete Poker Vibrator – Five (5)	Form EQU: Equipment																
5. Welding machine – Two (2)	Form EQU: Equipment																
6. Mobile Hosting Crane– at least one (1)	Form EQU: Equipment																
7. Excavator – at least one (1)	Form EQU: Equipment																

Item No.	Qualification Subject	Qualification Requirement		Document Completed Tenderer	To be by
		8. Backhoe – at least One (1)	Form EQU: Equipment		
		9. Bar Bending & Cutting Machine	Form EQU: Equipment		
		10. Water pump	Form EQU: Equipment		
		11. Scaffoldings atleast 5sets	Form EQU: Equipment		
		Notes: -If the equipment is owned, must provide CLEAR copies of logbook or proof of ownership. -If equipment is hired or leased Provide a commitment letter from the lessor of the equipment addressed to KENYA UTALII COLLEGE P.O BOX 31052-00600 NAIROBI , indicating that the lessor shall avail the equipment upon award of the tender and submit a copy of a written agreement to lease between lessee and lessor indicating list of equipment and their corresponding copies of log books or proof of ownership by lessor; The equipment listed shall be available on site when required			
14.	Contractor's Representative and Key Personnel	a) Project Manager <u>Minimum qualifications and technical experience</u> -Bachelor's degree in Architecture, Quantity Surveying, Construction Management or Civil/Structural Engineering. -Registered Professional with the respective registration bodies Engineers Board of Kenya (EBK) or Board of Registration of Architects and Quantity Surveyors (BORAQS) with a valid practicing license - Mandatory -General Experience –10years. -Specific experience on Construction of building works – 8 years. b) 1 No. Site Agents <u>Minimum qualifications and technical experience</u> 1. Higher Diploma in Building Construction or equivalent. 2. Specific experience on Construction of building works – 5 years. c) Foreman <u>Minimum qualifications and technical experience</u> 1. Certificate-Building Construction, Electrical, Mechanical 2. Experience – 4 years d) Artisans 2No. <u>Minimum qualifications and technical experience</u> 1) Trade Test certificate in relevant field 2) Experience-5 years.		Form PER -1 G Form PER -2	

Item No.	Qualification Subject	Qualification Requirement	Document Completed Tenderer	To be by
		Registered with NCA or accredited by NITA e) Occupational Health and Safety Personnel Qualifications and technical experience 1.Certificate- Occupational Safety and Health 2.Experience – 5 years		
15.	Work Methodology and Work Programme	1) Provided a detailed Work Methodology: Procedure on execution of activities as outlined in the BoQs. 2) Provide a detailed Work programme on using Micro soft Project 3) Detailed Cashflow Projections		

STAGE 3 - FINANCIAL EVALUATION

Upon completion of the Technical Evaluation, a detailed Financial Evaluation of responsive bidders shall be undertaken in accordance with the Public Procurement and Asset Disposal Act, 2015 (Revised Edition 2022) and the Public Procurement and Asset Disposal Regulations, 2022.

The Financial Evaluation shall be conducted in the following stages:

a: ARITHMETICAL ERROR CHECK

The tender sum shall be treated in accordance with Section 82 of the Public Procurement and Asset Disposal Act, 2015 (Revised Edition 2022) and Clause 31(a) of the Standard Tender Document for Procurement of Small Works as follows:

- i) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the Main Summary of the Bills of Quantities, the amount stated in the Form of Tender shall prevail.
- ii) Pursuant to Section 82 of the Act, the tender sum as submitted and read out during tender opening shall be absolute and final and shall not be subject to correction, adjustment, or amendment in any way by any person or entity.
- iii) Tenders with arithmetic errors shall be disqualified in accordance with Clause 33.2(b) of the Standard Tender Document. Any errors arising from miscalculation of unit price, quantity, subtotal, or total bid price shall be treated as a major deviation affecting the substance of the tender and shall result in disqualification as non-responsive.

b: COMPARISON OF RATES

The Evaluation Committee shall compare the tendered rates for major components of the Works and record any significant deviations from prevailing market rates or engineer's estimates.

c: CONSISTENCY OF RATES

The Evaluation Committee shall assess the consistency of rates for similar or related items within the Bills of Quantities and record any inconsistencies identified.

STAGE 4: DUE DILIGENCE (POST-QUALIFICATION)

Where necessary, the Evaluation Committee may conduct due diligence pursuant to Section 83(1) of the Public Procurement and Asset Disposal Act, 2015 (Revised Edition 2022). This may include inspection of premises and verification of submitted documentation to confirm authenticity and compliance with tender requirements.

STAGE 5: RECOMMENDATION FOR AWARD

Award Criteria

The contract shall be awarded to the bidder with the lowest evaluated price among those determined to be substantially responsive, in accordance with Section 86(1) of the Public Procurement and Asset Disposal Act, 2015 (Revised Edition 2022).

SECTION IV - TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE

Pursuant to ITT 3.9, a foreign tenderer must complete this form to demonstrate that the tender fulfils this condition.

ITEM	Description of Work Item	Describe location of Source	COST in K. shillings	Comments, if any
A	Local Labor			
1				
2				
3				
4				
5				
B	Sub contracts from Local sources			
1				
2				
3				
4				
5				
C	Local materials			
1				
2				
3				
4				
5				
D	Use of Local Plant and Equipment			
1				
2				
3				
4				
5				
E	Add any other items			
1				
2				
3				
4				
5				
6				
	TOTAL COST LOCAL CONTENT		XXXXX	
	PERCENTAGE OF CONTRACT PRICE			

2. FORMEQU: EQUIPMENT

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

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

Omit the following information for equipment owned by the Tenderer.

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

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

1.	Title of position: Contractor's Representative	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
2.	Title of position:	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
3.	Title of position:	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
4.	Title of position:	
	Name of candidate:	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	
5.	Title of position:	
	Name of candidate	
	Duration of appointment:	
	Time commitment: for this position:	
	Expected time schedule for this position:	

4. **FORM PER - 2:**

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

Name of Tenderer

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

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

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

Declaration

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

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

Commitment	Details
Commitment to duration of contract:	
Time commitment:	

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

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

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

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

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

5.1 FORM ELI -1.1

Tenderer Information

Form

Date: _____

ITT No. and title: _____

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

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

Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6. ☐ In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.5. 2. Included are the organizational chart and a list of Board of Directors.

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria

☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.

☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1

☐ Contract(s) withdrawn since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1

Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria

☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.

☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: _____ Status of dispute: _____	

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Procuring Entity" or "Contractor"]</i> Reason(s) for Litigation and award decision <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

Include details relating to potential bid-rigging practices such as previous occasions where tenders were withdrawn, joint bids with competitors, subcontracting work to unsuccessful tenderers, etc.

Financial Situation and Performance

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

5.4.1. Financial Data

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

*Refer to ITT 15 for the exchange rate

5.4.2 Sources of Finance

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

No.	Source of finance	Amount (Kenya Shilling equivalent)
1		
2		
3		

5.4.3 Financial documents

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

- (a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).
 - (b) be independently audited or certified in accordance with local legislation.
 - (c) be complete, including all notes to the financial statements.
 - (d) correspond to accounting periods already completed and audited.
- ☐ Attached are copies of financial statements¹ for the _____ years required above; and complying with the requirements

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

Average Annual Construction Turnover

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

		Annual turnover data (construction only)	
Year	Amount Currency	Exchange rate	Kenya Shilling equivalent
<i>[indicate year]</i>			
Average Annual Construction Turnover *			

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

5.6 FORM FIN – 3.3:

Financial Resources

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

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

5.7 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

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

Current Contract Commitments					
No.	Name of Contract	Procuring Entity's Contact Address, Tel,	Value of Outstanding Work [Current Kenya Shilling /month Equivalent]	Estimated Completion Date	Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month]
1					
2					
3					
4					
5					

General Construction Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Page _____ of _____ pages

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

59 FORM EXP - 4.2(a)**Specific Construction and Contract Management Experience**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

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

5.9 FORM EXP - 4.2(a)**Specific Construction and Contract Management Experience**

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

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

E-mail:	

5.9 **FORM EXP - 4.2 (a) (cont.)**

Specific Construction and Contract Management Experience (cont.)

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

5.10 FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

Sub-contractor's Name² (as per ITT 34): _____

ITT No. and title: _____

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

1. Key Activity No One: _

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

² If applicable

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

OTHER FORMS

6. FORM OF TENDER

(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS

- i) *All italicized text is to help the Tenderer in preparing this form.*
- ii) *The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.*
- iii) *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (xxii) below.*

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

Tender Name and Identification:.....[insert identification]

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

To:..... [Insert complete name of Procuring Entity]

Date of this Tender submission: [insert date (as day, month and year) of Tender submission] **Request for Tender No.:** [insert identification] **Name and description of Tender** [Insert as per ITT] **Alternative No.:** [insert identification No if this is a Tender for an alternative]

To: [insert complete name of Procuring Entity]

Dear Sirs,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct and complete the Works and remedy any defects therein for the sum³ of Kenya Shillings [[Amount in figures]
_____ Kenya Shillings [amount in words] _____

The above amount includes foreign currency⁴ amount (s) of [state figure or a percentage and currency]
[figures] _____ [words] _____

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Architect notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.
3. We agree to adhere by this tender until _____ [Insert date], and it shall remain binding upon us and may be accepted at any time before that date.

³ This sum should be carried forward from the Summary of the Bills of Quantities.

⁴ The percentage quoted above should not include provisional sums, and not more than two foreign currencies are allowed.

4. We understand that you are not bound to accept the lowest or any tender you may receive.
5. We, the under signed, further declare that:
 - i) No reservations: We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
 - ii) Eligibility: We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
 - iii) Tender - Securing Declaration: We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;
 - iv) Conformity: We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works]*;
 - v) Tender Price: The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*
 - vi) Option 1, in case of one lot: Total price is: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]*; or
Option 2, in case of multiple lots:
 - (a) Total price of each lot *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and
 - (b) Total price of all lots (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]*;
 - vii) Discounts: The discounts offered and the methodology for their application are:
 - viii) The discounts offered are: *[Specify in detail each discount offered.]*
 - ix) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts]*;
 - x) Tender Validity Period: Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
 - xi) Performance Security: If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
 - xii) One Tender Per Tender: We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a sub-contractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;
 - xiii) Suspension and Debarment: We, along with any of our subcontractors, suppliers, Engineer, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

- xiv) State-owned enterprise or institution: *[select the appropriate option and delete the other] [We are not a state-owned enterprise or institution]/[We are a state-owned enterprise or institution but meet the requirements of ITT3.8];*
- xv) Commissions, gratuities, fees: We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity].*

Name of Recipient	Address	Reason	Amount

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

- xvi) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption; and
- xix) Collusive practices: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent Tender Determination” attached below.
- xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from (*specify website*) during the procurement process and the execution of any resulting contract.
- xxi) **Beneficial Ownership Information**: We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.
- xxii) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:
- Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are not in any conflict of interest.
 - Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.
 - Self-Declaration of the Tenderer - to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

Further, we confirm that we have read and understood the full content and scope of fraud and

corruption as informed in “**Appendix 1 - Fraud and Corruption**” attached to the Form of Tender.

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

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

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

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

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

Datesigned_____dayof_____,_____

Notes

** In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer.*

***Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.*

(a) TENDERER'S ELIGIBILITY-CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

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

(a) Tenderer's details

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

General and Specific Details

(b) Sole Proprietor, provide the following details.

Name in full _____ Age _____
Nationality _____ Country of Origin _____
Citizenship _____

(c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned

1				
2				
3				

(d) Registered Company, provide the following details.

- i) Private or public Company _____
 ii) State the nominal and issued capital of the Company _____

Nominal Kenya Shillings (Equivalent).....

Issued Kenya Shillings (Equivalent).....

- iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

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

- i) Are there any person/persons in.....(*Name of Procuring Entity*) who has/have an interest or relationship in this firm? Yes/No... If yes, provide details as follows.

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

(i) Conflict of interest disclosure

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

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

Certification

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

Full Name_____

Title or Designation_____

(Signature)

(Date)

b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

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

1. I have read and I understand the contents of this Certificate;
2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;
4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
 - a) Has been requested to submit a Tender in response to this request for tenders;
 - b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities or experience;
5. The Tenderer discloses that [check one of the following, as applicable]:
 - a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
 - b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;
6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - a) prices;
 - b) methods, factors or formulas used to calculate prices;
 - c) the intention or decision to submit, or not to submit, a tender; or
 - d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;
7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;
8. The terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name _____

Title _____

Date _____

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

(c) SELF- DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENT AND ASSET DISPOSAL ACT 2015.

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Senior Principal Officer/Direct or of
.....(*insert name of the Company*) who is a Bidder in respect of **Tender No.**
..... for (*insert tender title/description*) for.....(*insert name of the Procuring entity*) and duly authorized and competent to make this statement.
2. THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.
3. THAT what is deponed to here in above is true to the best of my knowledge, information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

Bidder Official Stamp

FORM SD2

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

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

1. THAT I am the Chief Executive/Managing Director/Senior Principal Officer/Director of
..... (insert name of the Company) who is a Bidder in respect of **Tender**
No..... for
..... (insert tender title/description) for(insert name of the Procuring entity) and
duly authorized and competent to make this statement.
2. THAT theafore said Bidder, its servants
and/oragents/subcontractorswillnotengageinanycorruptorfraudulent practice and has not been
requested to pay any inducement to any member of the Board, Management, Staff and/or employees
and/or agents of(insert name of the Procuring entity) which is the procuring entity.
3. THAT the aforesaid Bidder, its servants and/or agents /subcontractors have not offered any
inducement to any member of the Board, Management, Staff and/or employees and/or agents of
.....(name of the procuring entity).
4. THAT the aforesaid Bidder will not engage /has not engaged in any corrosive practice with other
bidders participating in the subject tender
5. THAT what is deponed to here in above is true to the best of my knowledge information and belief.

.....
(Title)

.....
(Signature)

.....
(Date)

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

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

Name of Authorized
signatory.....

Sign.....

Position.....
.

Office address.....

Telephone. E-

mail.....

Name of the Firm/Company.....

Date.....

(Company Seal/ Rubber Stamp where applicable)

Witness

Name.....

Sign.....

Date.....

(d) APPENDIX 1 - FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

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

2. Requirements

- 21 The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.
- 22 Kenya's public procurement and asset disposal act (*no. 33 of 2015*) under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behavior:
 - 1) A person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or as set disposal proceeding;
 - 2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
 - 3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
 - a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
 - b) if a contract has already been entered into with the person, the contract shall be voidable;
 - 4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;
 - 5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: -
 - a) Shall not take part in the procurement proceedings;
 - b) shall not, after a procurement contract has been entered in to, take part in any decision relating to the procurement or contract; and
 - c) shall not be a subcontractor or for the tender to whom was awarded contract, or a member of the group of tenderers to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
 - 6) An employee, agent or member described in subsection (1) who refrains from doing anything

prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;

- 7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.
3. In compliance with Kenya's laws, regulations and policies mentioned above, the Procuring Entity:

- a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
- i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - iv) "obstructive practice" is:
 - Deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.
- b) Defines more specifically, in accordance with the above procurement Act provisions set forth for fraudulent and collusive practices as follows:
- "fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal process or the exercise of a contract to the detriment of the procuring entity or the tenderer or the contractor, and includes collusive practices amongst tenderers prior to or after tender submission designed to establish tender prices at artificial non-competitive levels and to deprive the procuring entity of the benefits of free and open competition.
- c) Rejects a proposal for award¹ of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
 - d) Pursuant to the Kenya's above stated Acts and Regulations, may recommend to appropriate authority(ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;
 - e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect² all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
 - f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement

document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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

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

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

Beneficiary:_____

Request forTenders No:

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

1. We have been informed that_____ (here inafter called "the Applicant") has submitted or will submit to the Beneficiary its Tender (here inafter called" the Tender") for the execution of_____ under Request for Tenders No. ("the ITT").
2. Furthermore, we understand that, according to the Beneficiary's conditions, Tenders must be supported by a Tender guarantee.
3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(__) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:
 - (a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or
 - b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.
4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above onor before that date.

[signature(s)]

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

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

1. Whereas [*Name of the tenderer*] (hereinafter called “the tenderer”) has submitted its tender dated [*Date of submission of tender*] for the [*Name and/or description of the tender*] (hereinafter called “the Tender”) for the execution of __under Request for Tenders No. __ (“the ITT”).
2. KNOW ALL PEOPLE by these presents that WE of [**Name of Insurance Company**] having our registered office at (hereinafter called “the Guarantor”), are bound unto [*Name of Procuring Entity*] (hereinafter called “the Procuring Entity”) in the sum of (Currency and guarantee amount) for which payment well and truly to be made to the said Procuring Entity, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

Sealed with the Common Seal of the said Guarantor this ____ day of _____ 20 ____.

3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Applicant:
 - a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender (“the Tender Validity Period”), or any extension thereto provided by the Principal; or
 - b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers (“ITT”) of the Procuring Entity's Tendering document.

then the guarantee undertakes to immediately pay to the Procuring Entity up to the above amount upon receipt of the Procuring Entity's first written demand, without the Procuring Entity having to substantiate its demand, provided that in its demand the Procuring Entity shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) twenty-eight days after the end of the Tender Validity Period.
5. Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

[Date]

[Witness]

[Signature of the Guarantor]

[Seal]

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

FORM OF TENDER - SECURING DECLARATION

[The Bidder shall complete this Form in accordance with the instructions indicated]

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

Tender No. *[insert number of tendering process]*

To.....*[insert complete name of Purchaser]* I/We, the undersigned,

declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.
2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation(s) under the bid conditions, because we—(a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.
3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
 - a) Our receipt of a copy of your notification of the name of the successful Tenderer; or
 - b) thirty days after the expiration of our Tender.
4. I/We understand that if I am /we are/ in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed..... Capacity/title (director or partner or sole

proprietor, etc.) Name:.....

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Tenderer]*

Dated on day of, ...*[Insert date of signing]* Seal or stamp

Appendix to Tender

Schedule of Currency requirements

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

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

PART II - WORKS REQUIREMENTS

SECTION V - BILLS OF QUANTITIES

A. Notes and Sample Items for Preparing a Bill of Quantities

1. These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Tender Documents. Priced Bills of Quantities shall be part and parcel of the Contract Documents.
2. The objectives and purpose of the Bills of Quantities are to provide sufficient information on the specifications, descriptions and quantities of Works to be performed to enable tenders to be prepared efficiently and accurately and 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 clear as possible.
3. The Bills of Quantities should be divided generally into the following sections:
 - a) Preambles
 - b) Preliminary items
 - c) Work Items
 - c) Daywork Schedule; and
 - d) Provisional items
 - e) Summary.

4. NOTES TO PREPARING PREAMBLES

41. The Preambles should include only those items that constitute the cost of the works but would not be priced separately as they are expected to be included in the unit prices. Care should be taken to ensure that these items are not a part of the conditions of contract. The Preambles should indicate the inclusiveness of the unit prices and should state the methods of measurement that have been adopted in the preparation of the Bill of Quantities, that are to be used for the measurement of any part of the Works. The units of measurement and abbreviations should be defined and any mandatory national units defined and described. The methods of and procedure for re-measurement should be described in the Preambles.
42. Units of Measurement - The following units of measurement and abbreviations shall be used, unless other national units are mandatory in Kenya.

Unit	Abbreviation	Unit	Abbreviation
cubic meter	m ³ or cu m	millimetre	mm
hectare	ha	month	mon
hour	h	number	nr
kilogram	kg	square meter	m ² or sq m
lump sum	ls	square millimeter	mm ² or sq mm
meter	m	week	wk
metric ton	t		

43. The Bills of Quantities shall be read in conjunction with the Instructions to Tenders, General and

44. The quantities given in the Bills of Quantities are estimated and partly provisional and are given to provide a common basis for tendering. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Architect and valued at the rates and prices tender in the priced

Bills of Quantities, where applicable, and otherwise at such rates and prices as the Architect may fix within the terms of the Contract.

45. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
46. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
47. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
48. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documents shall be made before entering prices against each item in the priced Bills of Quantities.
49. Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Architect in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions of contract.
410. In preparing the Bills of Quantities, notes should be removed as they are intended to guide the person preparing the Tender Documents. The Contractor must allow in his rates for any costs associated with and complying with the requirements in the Preambles.
411. Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the item or items will be executed without any additional costs or without being treated like variations.

5. NOTES ON PREPARING BILLS OF QUANTITIES

51. The Preliminary Items should be limited to tangible items that should be priced by the tenderer, are identifiable and can be priced separately and included in the interim valuations precisely. Such items may include such items as site office, notice boards, 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.
52. The work 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. Such groups could be ground excavations, structures, external works, services, etc. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.
53. 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 where appropriate.

54 Where the measured items are deemed not to be exact because of the likelihood that the scope can change during the execution of the works, such items could be subject to re-measurement, the word “**provisional**” should be used to identify such cases. Where whole sections of the work items fall in this class, for example foundations, they should be labelled “Provisional Quantities” or “Provisional Items” so that the Tenderer/Contractor is advised up front that such items are subject to re-measurement to be done before such work is cover-up.

55 All items that have not been measured and therefore not subject to tenderers pricing should be listed in the Bills of Quantities as **Provisional Sums** for particular item or class of Work, which may be subject to a nominated subcontract or separate measurements at a later date during the execution of the works. For example, if it is deemed not possible to measure electrical works before going to tender because detail designs are not ready, a provisional sum can be allowed in the Bills of Quantities for “Installation of Electrical Works” to be executed later when actual design details are completed. To the extent not covered above, there should be in the Bills of Quantities a general provision for physical and financial contingencies made as a “

Contingencies” and “Provisional Sum for Fluctuations”. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises.

56 Provisional sums to cover specialized works normally carried out by Nominated Sub Contractors should be avoided and instead Bills of Quantities of the specialized 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 specialized 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.

57 A Daywork 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 Procuring Entity of the realism of rates quoted by the tenderers, the Daywork Schedule should normally comprise:

- i) A list of the various classes of labor, and materials for which basic.
- ii) Daywork rates and prices for various categories of labor 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 Daywork basis.
- iii) A percent to be entered by the tenderer against each basic Day work item.
- iv) Subtotal amount for labor, materials and plant representing the Contractor's profit, overheads, supervision and other charges.

58 The Summary should contain a tabulation of the separate parts of the Bills of Quantities carried forward, with provisional sums for Daywork, Provisional sums and Contingencies, and provision for Total Costing. The last line should allow for tenderer to indicate any discounts before arriving at a total cost carried forward to the Form of Tender.

BILLS OF QUANTITIES

(a) Preambles

1. The method of measurement of completed work for payment shall be in accordance with *[insert the name of a standard reference guide, or full details of the methods to be used]*.
2. The Site is situated in (*provide full description where the site is situated, coordinates from the nearest known landmark like a town and its size*)_____It is approximately_____Kilometers from NAIROBI Access to the site shall be through_____

Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.

3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.
4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entity or Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.
5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.
6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.
7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub- Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.
9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.
10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progress on all important items of each section or portion of the Works.

11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer. The Photographs shall provide a record of the Site and adjacent areas as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.
12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub- Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.
13. 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, waterpipes or other services in the area and he 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. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging if necessary, to locate precisely the position and details of the services which are likely to affect his operations.
14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.
15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.
16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.
17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub-contractors). If need be, he shall make arrangements with the Local Water Authority for the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.
18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.
19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Engineer.
20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard-rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend

work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.

21. The are as available to the Contractor for workyards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractor shall source them at town cost.
22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.
23. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existinand adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.
2. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.
3. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-upo f his rates.
4. The Contractor shall provide temporary sheds, offices meshrooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
5. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.
6. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.
7. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.
8. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
9. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
10. The Contractor shall take all necessary precautions such as temporaryf encing, hoarding fans, planked

footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.

11. Cover up all and protect from damage, including damage from inclement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.
12. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and to remove all paint and cement and all rubbish and dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection therewith.
13. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
14. The Contractors shall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer. The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.
15. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments exceeding Kshs..... for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting therefrom in the build-up of rates.
16. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.
17. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to oversee the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6th June 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.
18. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT 1.19 as instructed elsewhere.
19. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.
20. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.

21. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up of his rates.
22. The Contractor shall provide temporary sheds, offices meshrooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
23. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.
24. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.
25. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.
26. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
27. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
28. The Contractor shall take all necessary precautions such as temporaryf encing, hoarding fans, planked footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.
29. Cover up all and protect from damage, including damage from in clement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.
30. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and tore move all paint and cement all rubbis hand dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.
31. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
32. The Contractors hall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer. The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-

Contractors work.

33. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all in term payments exceeding Kshs..... for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.
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35. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to over see the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6th June 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.
36. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT1.19 as instructed else where.
37. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

BILL NO. 1 - PRELIMINARY ITEMS

ITEM No.	DESCRIPTION	AMOUNT
1.	The Contractor shall provide, or erect and maintain an approved lock-up office for the sole use of the Architect and his own site staff. The office, which will have a total floor area of not less than -- ----- square metres, will be divided into two separate interconnected offices. Services to be provided shall include a telephone, water sanitary and electrical supply and drainage. The offices shall be supplied with furniture and equipment that shall include: 4 No. desks with chairs; 1 No. large table with sufficient number of chairs; drawing table along the full length of one side with plan drawers and drawing stools: 4 No. waste paper baskets: sufficient number of pin boards: and any additional furniture and fittings as may reasonably be required during the Contract period. The Contractor shall provide the Architect and site staff with computer sets or laptops, printers and telephones all that are necessary for project use. The office furniture and equipment shall all be to the approval of the Engineer. The Contractor shall also provide all labor, equipment and consumable stores equipment throughout the currency of the contract.	
2	[OPTIONAL] Contractor shall provide a house for Engineers site agent, which shall be one bedroomed temporary house with a sitting room, toilet, bathroom and a kitchen complete with electrical and sanitary installations and provide maintenance and paying of bills of water and electricity up to and including end of the contract period.	
3	Provide a signboard not less than _____ square meters in size of a design type, and with lettering and coloring and in a position approved by the Engineer. The signboard shall be for the display of the Main Contractor's name and the names of all his Sub-Contractors, with the Procuring Entity's name painted thereon. All Consultants names be printed in letters not exceeding 50 mm high. No other signboard or advertising shall be allowed. The signboard shall be fully maintained during the Contract Period and shall be pulled down and removed at the end of the contract.	
4	Add others (if any)	
5		
6		
	TOTAL CARRIED TO GRAND SUMMARY	

BILL NO. 2: WORK ITEMS

(organized appropriately into work sections, such as foundations, walls/structure, finishes, doors and windows, mechanical installations. etc.

Bill No 2 - *(Name of Section e.g. Foundations).*

<i>Item no.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
Total for Bill No. 2 (carried forward to Summary, p.)					_____

Bill No. 3: Schedule of Daywork Rates - Labor

Item no.	Description	Unit	Nominal quantity	Rate	Amount
	Subtotal				
	Allow ____percent ^a of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 3 (b) above.				
	Total for Daywork (carried forward to Daywork Summary, p. ____)				

a. To be entered by the Tenderer.

Bill No. 4: Schedule of Daywork Rates - Materials

Item no.	Description	Unit	Nominal quantity	Rate	Extended amount
	Subtotal				
	Allow ____percent a. of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 4 (b) above.				
	Total for Daywork: Materials (carried forward to Daywork Summary, p. _____)				

a. To be entered by theTenderer.

Bill No. 5: Schedule of Daywork Rates - Contractor's Equipment

<i>Item no.</i>	<i>Description</i>	<i>Nominal quantity (hours)</i>	<i>Basic hourly rental rate</i>	<i>Extended amount</i>
	Allow _ percent ^a of Subtotal for Contractor's overhead, profit, etc., in accordance with paragraph 5 above.			
Total for Daywork: Contractor's Equipment (carried forward to Daywork Summary, p. ____)				

a. To be entered by the Tenderer.

Bill No. 6: Daywork Summary

	<i>Amount^a</i>	<i>% Foreign</i>	<i>Currency</i>
1. Total for Daywork: Labor			
2. Total for Daywork: Materials			
3. Total for Daywork: Contractor's Equipment			
Total for Daywork (Provisional Sum) (carried forward to Summary of Bills of Quantities, p. __)			

Bill No. 7: Provisional Sums

<i>Bill no.</i>	<i>Item no.</i>	<i>Description</i>	<i>Amount</i>
1			
2			
3			
4			
etc.			
Total for Specified Provisional Sums (carried forward to Grand Summary			

GRAND SUMMARY

SUMMARY ITEMS	<i>Page</i>	<i>Amount</i>
Bill No. 1: Preliminary Items		
Bill No. 2: Work Items		
Bill No 3: Daywork Summary		
Bill No 4: Provisional Sums		
Subtotal of Bills No 1-4		
Allow for any Discounts ⁱ		
TOTAL TENDER PRICE Carried forward to Form of Tender		

(i) If a percentage used, it should be indicated on which Bill No. items but on Bill No.4 – Provisional Sums.

SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

1. Specifications must be drafted to present a clear and precise statement of the required standards of materials, and workmanship for tenderers to respond realistically and competitively to the requirements of the Procuring Entity and ensure responsiveness of tenders. The Specifications should require that all materials, plant, and other supplies to be permanently incorporated in the Works be new, unused, of the most recent or current models, and incorporating all recent improvements in design and materials unless provided otherwise in the Contract. Where the Contractor is responsible for the design of any part of the permanent Works, the extent of his obligations must be stated.
2. Specifications from previous similar projects are useful and may not be necessary to re-write specifications for every Works Contract.
3. There are considerable advantages in standardizing **General Specifications** for repetitive Works in recognized public sectors, such as high ways, urban housing, irrigation and water supply. The General Specifications should cover all classes of workmanship, materials and equipment commonly involved in constructions, although not necessarily to be used in a particular works contract. Deletions or addenda should then adapt the General Specifications to the particular Works.
4. Care must be taken in drafting Specifications to ensure they are not restrictive. In the Specifications of standards for materials, plant and workmanship, existing Kenya Standards should be used as much as possible, otherwise recognized international standards may also be used.
5. The Procuring Entity should decide whether technical solutions to specified parts of the Works are to be permitted. Alternatives are appropriate in cases where obvious (and potentially less costly) alternatives are possible to the technical solutions indicated in tender documents for certain elements of the Works, taking into consideration the comparative specialized advantage of potential tenderers.
6. The Procuring Entity 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.
7. Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details. Technical alternatives permitted in this manner shall be considered by the Procuring Entity each on its own merits and independently of whether the tenderer has priced the item as described in the Procuring Entity's design included with the tender documents.

SECTION VII - DRAWINGS

Attached

PART III - THE CONDITIONS OF CONTRACT AND CONTRACT

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

[Name of Procuring Entity]

[Name of Contract]

[Architect Name and Address]

General Conditions of Contract

1 GENERAL PROVISIONS

1.1 Definitions

In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated below. Words indicating persons or parties include corporations and other legal entities, except where the context requires otherwise.

“Accepted Contract Amount” means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.

“Base Date” means a date 30 day prior to the submission of tenders.

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

tender. **“Completion Date”** means the date of completion of the Works as certified by the Engineer.

“Contract Price” means the price defined in the contract and there after as adjusted in accordance with the provisions of the Contract.

“Contract” means the agreement entered into between the Procuring Entity 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.

“Contractor's Documents” means the calculations, computer programs and other software, progress reports, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract.

“Contractor's Equipment” means all apparatus, machinery, vehicles and other things required for the execution and completion of the Works and the remedying of any defects. However, Contractor's Equipment excludes Temporary Works, Procuring Entity's Equipment (if any), Plant, Materials and any other things intended to form or forming part of the Permanent Works.

“Contractor's Personnel” means the Contractor's Representative and all personnel whom the Contractor utilizes on Site, who may include the staff, labor and other employees of the Contractor and of each Subcontractor; and any other personnel assisting the Contractor in the execution of the Works.

“Contractor's Representative” means the person named by the Contractor in the Contractor appointed from time to time by the Contractor who acts on behalf of the Contractor.

“Contractor” means the person(s) named as contractor in the Form of Tender accepted by the Procuring Entity.

“Cost” means expenditure reasonably incurred (or to be incurred) by the Contractor, whether on or off the Site, including overhead and similar charges, but does not include profit.

“Day” means a calendar day and **“year”** means 365 days.

“Dayworks” means Work inputs subject to payment on a time basis for labour and the associated materials and plant

“Defect” means any part of the Works not completed in accordance with the Contract.

“Defects Liability Certificate” means the certificate issued by Architect upon correction of defects by the Contractor.

“Defects Liability Period” means the period named in the Special Conditions of Contract and calculated from the Completion Date, within which the contractor is liable for any defects that may develop in the handed over works.

“Defects Notification Period” means the period for notifying defects in the Works or a Section (as the case may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over the days stated in the Special Conditions of Contract.

“Drawings” means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Procuring Entity in accordance with the Contract.

“Final Payment Certificate” means the payment certificate issued under Sub-Clause 14.13 [Issue of Final Payment Certificate].

“Final Statement” means the statement defined in Sub-Clause 14.11

[Application for Final Payment Certificate]. **“Force Majeure”** is defined in Clause 19 [Force Majeure].

“Foreign Currency” means a currency of another country (not Kenya) in which part (or all) of the Contract Price is payable, but not the Local Currency.

“Goods” means Contractor's Equipment, Materials, Plant and Temporary Works, or any of them as appropriate.

“Interim Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment], other than the Final Payment Certificate.

“Laws” means all national legislation, statutes, ordinances, and regulations and by-laws of any legally constituted public authority.

“Letter of Acceptance” means the letter of formal acceptance of a tender, signed by Procuring Entity, including any annexed memoranda comprising agreements between and signed by both Parties.

“Local Currency” means the currency of Kenya.

“Materials” means things of all kinds (other than Plant) intended to form or forming part of the Permanent Works, including the supply-only materials (if any) to be supplied by the Contractor under the Contract.

“Notice of Dissatisfaction” means the notice given by either Party to the other under Sub-Clause 20.3 indicating its dissatisfaction and intention to commence arbitration.

“Special Conditions of Contract” means the pages completed by the Procuring Entity entitled Special Conditions of Contract which constitute Part A of the Special Conditions.

“Party” means the Procuring Entity or the Contractor, as the context requires.

“Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment].

“Performance Certificate” means the certificate issued under Sub-Clause 11.9 [Performance Certificate].

“Performance Security” means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security]. **“Permanent Works”** means the permanent works to be executed by the Contractor under the Contract.

“Plant” means the apparatus, machinery and other equipment intended to form or forming part of the Permanent Works, including vehicles purchased for the Procuring Entity and relating to the construction or operation of the Works.

“Procuring Entity's Equipment” means the apparatus, machinery and vehicles (if any) made available by the Procuring Entity for the use of the Contract or in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Procuring Entity.

“Procuring Entity's Personnel” means the Engineer, the Engineer, the assistants and all other staff, labor and other employees of the Architect and of the Procuring Entity; and any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as Procuring Entity's Personnel.

“Procuring Entity” means the Entity named in the Special Conditions of Contract.

“Engineer” is the person named in the Appendix to Conditions of Contract (or any other competent person appointed by the Procuring Entity and notified to the Contractor, to act in replacement of the Engineer) 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.

“Engineer” means the person appointed by the Procuring Entity to act as the Architect for the purposes of the Contract and named in the Special Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor

“Provisional Sum” means a sum (if any) which is specified in the Contract as a provisional sum, for the execution of any part of the Works or for the supply of Plant, Materials or services under Sub-Clause 13.5 [Provisional Sums].

“Retention Money” means the accumulated retention moneys which the Procuring Entity retains under Sub-Clause 14.3 [Application for Interim Payment Certificates] and pays under Sub-Clause 14.9 [Payment of Retention Money].

“Schedules” means the document(s) entitled schedules, completed by the Contractor and submitted with the Form of Tender, as included in the Contract.

“Section” means a part of the Works specified in the Special Conditions of Contract as a Section (if any)

“Site Investigation Reports” are those reports that may be included in the tendering documents which a ref actual and interpretative about the surface and sub-surface condition sat the Site.

“Site” means the places where the Permanent Works are to be executed, including storage and working areas, and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.

“Specification” means the document entitled specification, as included in the Contract, and any additions and modifications to the specification in accordance with the Contract. Such document specifies the Works.

“Start Date” or “Commencement 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).

“Statement” means a statement submitted by the Contractor as part of an application, under Clause 14 [Contract Price and Payment], for a payment certificate.

“Subcontractor” means any person named in the Contract as a subcontractor, or any person appointed as a subcontractor, for a part of the Works.

“Taking-Over Certificate” means a certificate issued under Clause 10 [Procuring Entity's Taking Over].

“Temporary Works” means all temporary works of every kind (other than Contractor's Equipment) required on Site for the execution and completion of the Permanent Works and the remedying of any defects.

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

“Tender” means the Form of Tender and all other documents which the Contractor submitted with the Form of Tender, as included in the Contract.

“Tests after Completion” means the tests (if any) which are specified in the Contract and which are carried out in accordance with the Specification after the Works or a Section (as the case may be) are taken over by the Procuring Entity.

“Testson Completion” means the tests which are specified in the Contractor agreed by both Parties or instructed as a Variation, and which are carried out under Clause 9 [Tests on Completion] before the Works or a Section (as the case may be) are taken over by the Procuring Entity.

“Time for Completion” means the time for completing the Works or a Section (as the case may be) as stated in the Special Conditions of Contract (with any extension calculated from the Commencement Date.

“Unforeseeable” means not reasonably foreseeable by an experienced contractor by the Base Date.

“Variation” means any change to the Works, which is instructed or approved as a variation under Clause 13 [Variations and Adjustments].

“Works” means the items the Procuring Entity requires the Contractor to undertake as defined in the Appendix to Conditions of Contract. **“Works” may** also mean the Permanent Works and the Temporary Works, or either of them as appropriate.

12 Interpretation

In the Contract, except where the context requires otherwise:

- a) Words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

13 Communications

- 131 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests and discharges, these communications shall be:

- a) In writing and delivered by hand (against receipt), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Special Conditions of Contract; and
- b) delivered, sent or transmitted to the address or the recipient's communications as stated in the Special Conditions of Contract. However:
 - i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
 - ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

132 Approvals, certificates, consents and determinations shall not be unreasonably withheld or delayed. When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Engineer, a copy shall be sent to the Architect or the other Party, as the case may be.

14 Law and Language

141 The Contract shall be governed by the laws of **Kenya**.

142 The ruling language of the Contract shall be **English**.

15 Priority of Documents

- a) The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence: The Contract Agreement,
- b) The Letter of Acceptance,
- c) The Special Conditions – Part A,
- d) the Special Conditions – Part B
- e) the General Conditions of Contract
- f) the Form of Tender,
- g) the Specifications and Bills of Quantities
- h) the Drawings, and
- i) the Schedules and any other documents forming part of the Contract.

If an ambiguity or discrepancy is found in the documents, the Architect shall issue any necessary clarification or instruction.

16 Contract Agreement

The Parties shall enter into a Contract Agreement within 14 days after the Contractor receives the Contract Agreement, unless the Special Conditions establish otherwise. The Contract Agreement shall be based upon the form annexed to the Special Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Procuring Entity.

17 Assignment

The Contractor shall not assign the whole or any part of the Contract or any benefit or interest in or under the Contract. However, the contractor:

- a) May assign the whole or any part with the prior consent of the Procuring Entity, and
- b) may, as security in favor of a bank or financial institution, assign its right to moneys due, or to become due, under the Contract.

18 Care and Supply of Documents

181 The Specifications and Drawings shall be in the custody and care of the Procuring Entity. Unless

otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawings and Bills of Quantities shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

- 1.82 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.
- 1.83 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Procuring Entity's Personnel shall have the right of access to all these documents at all reasonable times.
- 1.84 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9 Timely provision of Drawings or Instructions

- 1.91 The Contractor shall give notice to the Architect whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.
- 1.92 If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Architect to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any other associated costs accrued, which shall be included in the Contract Price.
- 1.93 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 1.94 However, if and to the extent that the Architect failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, or costs accrued.

1.10 Procuring Entity's Use of Contractor's Documents

- 1.10.1 As agreed between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.
- 1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:
- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
 - b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
 - c) in the case of Contractor's Documents which are in the form of computer programs and other

software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

- 1.10.3 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Procuring Entity for purposes other than those permitted under Sub-Clause 1.10.2.

1.11 Contractor's Use of Procuring Entity's Documents

As agreed between the Parties, the Procuring Entity shall retain the copyright and other intellectual property rights in the Specification, the Drawings and other documents made by (or on behalf of) the Procuring Entity. The Contractor may, at his cost, copy, use, and obtain communication of these documents for the purposes of the Contract. They shall not, without the Procuring Entity's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the Contract.

1.12 Confidential Details

- 1.12.1 The Contractor's and the Procuring Entity's Personnel shall ensure confidentiality at all times. The confidentiality shall survive termination or completion of the contract. They shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.
- 1.12.2 The Contractor's and the Procuring Entity's Personnel shall also treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

The Contractor shall, in performing the Contract, comply with applicable Laws. Unless otherwise stated in the Special Conditions of Contract:

- a) The Procuring Entity shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specifications as having been (or to be) obtained by the Procuring Entity; and the Procuring Entity shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and

- b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Procuring Entity harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

1.14 Joint and Several Liability

If the Contractor constitutes (under applicable Laws) a joint venture, consortium or other unincorporated grouping of two or more persons:

- a) These persons shall be deemed to be jointly and severally liable to the Procuring Entity for the performance of the Contract;
- b) these persons shall notify the Procuring Entity of their leader who shall have authority to bind the Contractor and each of these persons; and
- c) the Contractor shall not alter its composition or legal status without the prior consent of the Procuring Entity.

1.15 Inspections and Audit by the Procuring Entity

Pursuant to paragraph 2.2(e). of Appendix B to the General Conditions, the Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Public Procurement Regulatory Authority, Procuring Entity and/or persons appointed or designated by the Government of Kenya to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Procuring Entity if requested by the Procuring Entity. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 15.6 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Procuring Entity's prevailing sanctions procedures).

2 THE PROCURING ENTITY

2.1 Right of Access to the Site

- 2.1.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Special Conditions of Contract**. The right and possession may not be exclusive to the Contractor. If, under the Contract, the Procuring Entity is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Procuring Entity shall do so in the time and manner stated in the Specification. However, the Procuring Entity may withhold any such right or possession until the Performance Security has been received.
- 2.1.2 If no such time is stated in the Special Conditions of Contract, the Procuring Entity shall give the Contractor right of access to, and possession of, the Site within such times as required to enable the Contractor to proceed without disruption in accordance with the programme submitted under Sub-Clause 8.3 [Programme].
- 2.1.3 If the Contractor suffers delay and/or incurs Cost as a result of a failure by the Procuring Entity to give any such right or possession within such time, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
 - a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

214 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

215 However, if and to the extent that the Procuring Entity's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

22 Permits, Licenses or Approvals

221 The Procuring Entity shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:

- a) Copies of the Laws of Kenya which are relevant to the Contract but are not readily available, and
- b) any permits, licenses or approvals required by the Laws of Kenya:
 - i) which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
 - ii) for the delivery of Goods, including clearance through customs, and
 - iii) for the export of Contractor's Equipment when it is removed from the Site.

23 Procuring Entity's Personnel

The Procuring Entity shall be responsible for ensuring that the Procuring Entity's Personnel and the Procuring Entity's other contractor son the Site:

- a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- b) take action ssimilar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

24 Procuring Entity's Financial Arrangements

The Procuring Entity shall make and maintain all necessary financial arrangements which will enable the Procuring Entity to pay the Contract Price punctually (as estimated at that time) in accordance with Clause14 [Contract Price and Payment].

3 THE ENGINEER

3.1 Architect Duties and Authority

311 The Procuring Entity shall appoint the Architect who shall carry out the duties as signed to him in the Contract. The Architect staff shall include suitably qualified Assistants and other professionals who are competent to carry out these duties. The Architect Name and Address shall be provided in the **Special Conditions of Contract**.

312 The Architect shall have no authority to amend the Contract.

313 The Architect May exercise the authority attributable to the Architect as specified in or necessarily to be implied from the Contract. If the Architectis required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the **Special Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

314 However, whenever the Architect exercises a specified authority for which the Procuring Entity's approvalis required, then (for the purposes of the Contract) the contractor shall require the

Architect to provide evidence of such approval before complying with the instruction.

315 Except as otherwise stated in these Conditions:

- a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Architect shall be deemed to act for the Procuring Entity;
- b) the Architect has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
- c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Architect (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
- d) any act by the Architect in response to a Contractor's request shall be notified in writing to the Contractor

316 The following provisions shall apply:

The Architect shall obtain the specific approval of the Procuring Entity before taking action under the following Sub-Clauses of these Conditions:

- a) Sub-Clause 4.12: agreeing or determining an extension of time and/or additional cost.
- b) Sub-Clause 13.1: instructing a Variation, except;
 - i) In an emergency situation as determined by the Engineer, or
 - ii) If such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the **Special Conditions of Contract**.
- c) Sub-Clause 13.3: Approving a proposal for Variation submitted by the Contractor in accordance with Sub Clause 13.1 or 13.2.
- d) Sub-Clause 13.4: Specifying the amount payable in each of the applicable three currencies.

317 Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forth with comply, despite the absence of approval of the Procuring Entity, with any such instruction of the Engineer. The Architect shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Procuring Entity.

32 Delegation by the Engineer

321 The Architect may from time to time assign duties and delegate authority to assistants and may also revoke such assignment or delegation. These assistants may include a resident Engineer, and/or independent inspectors appointed to inspect and/ or test items of Plant and/or Materials. The assignment, delegation or revocation shall be in writing and shall not take effect until copies have been received by both Parties. However, unless otherwise agreed by both Parties, the Architect shall not delegate the authority to determine any matter in accordance with Sub-Clause 3.5 [Determinations].

322 Each assistant, to whom duties have been assigned or authority has been delegated, shall only be authorized to issue instructions to the Contractor to the extent defined by the delegation. Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by an assistant, in accordance with the delegation, shall have the same effect as though the act had been an act of the Engineer. However:

- a) Any failure to disapprove any work, Plant or Materials shall not constitute approval, and shall therefore not prejudice the right of the Architect to reject the work, Plant or Materials;
- b) If the Contractor questions any determination or instruction of an assistant, the Contractor may refer the matter to the Engineer, who shall promptly confirm, reverse or vary the determination or instruction.

33 Instructions of the Engineer

331 The Architect may issue to the Contractor (at anytime) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under Clause 3.2.1.

332 The Contractor shall comply with the instructions given by the Architect or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Architect or a delegated assistant:

- a) Gives an oral instruction,
- b) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- c) does not reply by issuing a written rejection and/or instruction within two working days after receiving the confirmation,

Then the confirmation shall constitute the written instruction of the Architect or delegated assistant (as the case may be).

34 Replacement of the Engineer

If the Procuring Entity intends to replace the Engineer, the Procuring Entity shall, in not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended person to replace the Engineer.

35 Determinations

351 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Architect shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Architect shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.

3.5.1 The Architect shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4 THE CONTRACTOR

4.1 Contractor's General Obligations

4.1.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Architect instructions, and shall remedy any defects in the Works.

4.1.2 The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.

4.1.3 All equipment, material, and services to be incorporated in or required for the Works shall have

their origin in any eligible source country.

- 4.14 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (i) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design specification of the Permanent Works.
- 4.15 The Contractor shall, whenever required by the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer.
- 4.16 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Special Conditions:
- a) The Contractor shall submit to the Architect the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
 - b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Architect to add to the Drawings for co-ordination of each Party's designs;
 - c) the Contractor shall be responsible for this part and it shall, when the Works are completed, befit for such purposes for which the part is intended as are specified in the Contract; and
 - d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Architect the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Procuring Entity to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

4.2 Performance Security

- 4.21 The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **Special Conditions of Contract** and denominated in the currency (ies) of the Contract or in a freely convertible currency acceptable to the Procuring Entity. If an amount is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.
- 4.22 The Contractor shall deliver the Performance Security to the Procuring Entity within 30 days after receiving the Notification of Award and shall send a copy to the Engineer. The Performance Security shall be issued by a reputable bank selected by the Contractor and shall be in the form annexed to the Special Conditions, as stipulated by the Procuring Entity in the Special Conditions of Contract, or in another form approved by the Procuring Entity.
- 4.23 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.
- 4.24 The Procuring Entity shall not make a claim under the Performance Security, except for amounts to which the Procuring Entity is entitled under the Contract.
- 4.25 The Procuring Entity shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Procuring Entity was not entitled to make the

claim.

- 426 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 427 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Architect determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Architect request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

43 Contractor's Representative

- 431 The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor's Representative's Name and Address shall be provided in the **Special Conditions of Contract**.
- 432 Unless the Contractor's Representative **is named in the Contract**, the Contractor shall, prior to the Commencement Date, submit to the Architect for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.
- 433 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 434 The whole time of the Contractor's Representative shall be given to directing the Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Architect prior consent, and the Architect shall be notified accordingly.
- 435 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].
- 436 The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Architect has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.
- 437 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make a competent interpreter available during all working hours in a number deemed sufficient by the Engineer.

44 Sub-contractors

- 441 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.
- 442 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were acts or defaults of the Contractor. Unless otherwise stated in the Special Conditions:
- a) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
 - b) The prior consent of the Procuring Entity shall be obtained to other proposed Subcontractors;

- c) the Contractor shall give the Procuring Entity not less than 14 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
- d) each subcontract shall include provisions which would entitle the Procuring Entity to require the subcontract to be assigned to the Procuring Entity under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity].

443 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.

444 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

4.5 Assignment of Benefit of Subcontract

If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Engineer, prior to this date, instructs the Contractor to assign the benefit of such obligations to the Procuring Entity, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Procuring Entity for the work carried out by the Subcontractor after the assignment takes effect.

4.6 Co-operation

461 The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow appropriate opportunities for carrying out work to:

- a) The Procuring Entity's Personnel,
- b) Any other contractors employed by the Procuring Entity, and
- c) The personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.

462 Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.

463 If, under the Contract, the Procuring Entity is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Architect in the time and manner stated in the Specification.

4.7 Setting Out of the Works

471 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contract notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

472 The Procuring Entity shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.

4.73 If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such costs accrued, which shall be included in the Contract Price.

4.7.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this.

48 Safety Procedures

The Contractor shall:

- a) Comply with all applicable safety regulations,
- b) Take care for the safety of all persons entitled to be on the Site,
- c) Use reasonable efforts to keep the Site and Works clear of unnecessary obstruction so as to avoid danger to these persons,
- d) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause 10 [Procuring Entity's Taking Over], and
- e) provide any Temporary Works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the Works, for the use and protection of the public and of owners and occupiers of adjacent land.

49 Quality Assurance

49.1 The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Architect shall be entitled to audit any aspect of the system.

49.2 Details of all procedures and compliance documents shall be submitted to the Architect before each design and execution stage is commenced. When any document of a technical nature is issued to the Engineer, evidence of the prior approval by the Contractor itself shall be apparent on the document itself.

Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

4.10 Site Data

4.10.1 The Procuring Entity shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Procuring Entity's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Procuring Entity shall similarly make available to the Contractor all such data which come into the Procuring Entity's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

4.10.2 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

- a) The form and nature of the Site, including sub-surface conditions,
- b) the hydrological and climatic conditions,
- c) the extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
- d) the Laws, procedures and labour practices of Kenya, and

- e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

4.11 Sufficiency of the Accepted Contract Amount

4.11.1 The Contractor shall be deemed to:

- a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
- b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].

4.11.2 Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

4.12 Unforeseeable Physical Conditions

4.12.1 In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Architect as soon as practicable.

4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Architect and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Architect may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

4.12.4 If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost, which shall be included in the Contract Price.

4.12.5 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.

4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under

sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.

- 4.12.7 The Architect shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

4.13 Rights of Way and Facilities

Unless otherwise specified in the Contract the Procuring Entity shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purposes of the Works.

4.14 Avoidance of Interference

- 4.14.1 The Contractor shall not interfere unnecessarily or improperly with:

- a) The convenience of the public, or
- b) The access to and use and occupation of all roads and foot paths, irrespective of whether they are public or in the possession of the Procuring Entity or of others.

- 4.14.2 The Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15 Access Route

- 4.15.1 The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

- 4.15.2 Except as otherwise stated in these Conditions:

- a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- c) the Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- d) the Procuring Entity does not guarantee the suitability or availability of particular access routes; and
- e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16 Transport of Goods

Unless otherwise stated in the Special Conditions:

- a) the Contractor shall give the Architect not less than 21 days' notice of the date on which any Plant or a major item of other Goods will be delivered to the Site;
- b) the Contractor shall be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and
- c) the Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport

of Goods and shall negotiate and pay all claims arising from their transport.

4.17 Contractor's Equipment

The Contractor shall be responsible for all Contractor's Equipment. When brought on to the Site, Contractor's Equipment shall be deemed to be exclusively intended for the execution of the Works. The Contractor shall not remove from the Site any major items of Contractor's Equipment without the consent of the Engineer. However, consent shall not be required for vehicles transporting Goods or Contractor's Personnel off Site.

4.18 Protection of the Environment

- 4.18.1 The contractor shall comply with the applicable environmental laws, regulations and policies.
- 4.18.2 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.
- 4.18.3 The Contractors shall ensure that emissions, surfaced is charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

4.19 Electricity, Water and Gas

- 4.19.1 The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.
- 4.19.2 The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specifications. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.
- 4.19.3 The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

4.20 Procuring Entity's Equipment and Free-Issue Materials

- 4.20.1 The Procuring Entity shall make the Procuring Entity's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:
 - a) The Procuring Entity shall be responsible for the Procuring Entity's Equipment, except that
 - b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- 4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.
- 4.20.2 The Procuring Entity shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Procuring Entity shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Architect of any shortage, defect or default in

these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defector default.

- 4203 After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Procuring Entity of liability for any shortage, defect or default not apparent from a visual inspection.

4.21 Progress Reports

- 421.1 Unless otherwise stated in the Special Conditions, monthly progress reports shall be prepared by the Contractor and submitted to the Architect in six copies. The first report shall cover the period up to the end of the first calendar month following the Commencement Date. Reports shall be submitted monthly thereafter, each within 7 days after the last day of the period to which it relates.
- 421.2 Reporting shall continue until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works. Each report shall include:
- a) charts and detailed descriptions of progress, including each stage of design (if any), Contractor's Documents, procurement, manufacture, delivery to Site, construction, erection and testing; and including these stages for work by each nominated Subcontractor (as defined in Clause 5 [NominatedSubcontractors]),
 - b) photographs showing the status of manufacture and of progress on the Site;
 - c) for the manufacture of each main item of Plant and Materials, the name of the manufacturer, manufacture location, percentage progress, and the actual or expected dates of:
 - i) commencement of manufacture,
 - ii) Contractor's inspections,
 - iii) tests, and
 - iv) shipment and arrival at the Site;
 - d) the details described in Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment];
 - e) copies of quality assurance documents, test results and certificates of Materials;
 - f) list of notices given under Sub-Clause 2.5 [Procuring Entity's Claims] and notices given under Sub-Clause 20.1 [Contractor's Claims];
 - g) safety statistics, including details of any hazardous incidents and activities relating to environmental aspects and public relations; and
 - h) comparison so factual and planned progress, with details of any events or circumstances which may jeopardize the completion in accordance with the Contract, and the measures being (or to be) adopted to overcome delays.

4.22 Security of the Site

Unless otherwise stated in the Special Conditions:

- a) The Contractor shall be responsible for keeping unauthorized persons off the Site, and
- b) authorized persons shall be limited to the Contractor's Personnel and the Procuring Entity's Personnel; and to any other personnel notified to the Contractor, by the Procuring Entity or the Engineer, as authorized personnel of the Procuring Entity's other contractors on the Site.

4.23 Contractor's Operations on Site

4231 The Contractor shall confine his operations to the Site, and to any additional areas which may be obtained by the Contractor and agreed by the Architect as additional working areas. The Contractor shall take all necessary precautions to keep Contractor's Equipment and Contractor's Personnel within the Site and these additional areas, and to keep them off adjacent land.

4232 During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

4233 Upon the issue of a Taking-Over Certificate, the Contractor shall clear away and remove, from that part of the Site and Works to which the Taking-Over Certificate refers, all Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works. The Contractor shall leave that part of the Site and the Works in a clean and safe condition. However, the Contractor may retain on Site, during the Defects Notification Period, such Goods as are required for the Contractor to fulfil obligations under the Contract.

4.24 Fossils

4241 All fossils, coins, articles of value or antiquity, and structures and other remains or items of geological or archaeological interest found on the Site shall be placed under the care and authority of the Procuring Entity. The Contractor shall take reasonable precautions to prevent Contractor's Personnel or other persons from removing or damaging any of these findings.

4242 The Contractor shall, upon discovery of any such finding, promptly give notice to the Engineer, who shall issue instructions for dealing with it. If the Contractor suffers delay and/or incurs Cost from complying with the instructions, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost, which shall be included in the Contract Price.
- After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

5 NOMINATED SUBCONTRACTORS

5.1 Definition of "nominated Subcontractor"

In this Contract, "nominated Subcontractor" means a Subcontractor:

- a) Who is nominated by the Procuring Entity, or
- b) Contractor has nominated as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].

5.2 Objection to Nomination

The Contractor shall not be under any obligation to employ a nominated Subcontractor against whom the Contractor raises reasonable objection by notice to the Procuring Entity as soon as practicable, with supporting particulars. An objection shall be deemed reasonable if it arises from (among other things) any of the following matters, unless the Procuring Entity agrees in writing to indemnify the Contractor against and from the consequences of the matter:

- a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or

- c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
 - ii) indemnify the Contractor against and from all obligations and liabilities arising under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities, and
 - iii) be paid only if and when the Contractor has received from the Procuring Entity payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

53 Payments to nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts shown on the nominated Subcontractor's invoices approved by the Contractor which the Architect certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with sub-paragraph (b) of Sub-Clause 13.5 [Provisional Sums], except as stated in Sub-Clause 5.4 [Evidence of Payments].

54 Evidence of Payments

54.1 Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Architect may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- (a) Submits this reasonable evidence to the Engineer, or
- (b)
 - i) Satisfies the Architect in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - ii) Submits to the Architect reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement, then the Procuring Entity may (at his sole discretion) pay, directly to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Procuring Entity, the amount which the nominated Subcontractor was directly paid by the Procuring Entity.

6 STAFF AND LABOR

6.1 Engagement of Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, feeding, transport, and, when appropriate, housing. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within Kenya.

6.2 Rates of Wages and Conditions of Labor

62.1 The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by Procuring Entity's whose trade or industry is similar to that of the Contractor.

622 The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in Kenya in respect of such of their salaries, wages, allowances and any benefits as are subject to tax under the Laws of Kenya for the time being in force, and the Contractor shall perform such duties in regard to such deductions there of as may be imposed on him by such Laws.

63 Persons in the Service of Procuring Entity

The Contractor shall not recruit, or attempt to recruit, staff and labour from amongst the Procuring Entity's Personnel.

64 Lab or Laws

The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, employment of children, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights. The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

65 Working Hours

Nowork shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **Special Conditions of Contract**, unless:

- a) Otherwise stated in the Contract,
- b) The Architect gives consent, or
- c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer, provided that work done outside the normal working hours shall be considered and paid for as overtime.

66 Facilities for Staff and Labor

Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities on site for the Contractor's Personnel. The Contractor shall also provide facilities for the Procuring Entity's Personnel as stated in the Specifications. The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

67 Health and Safety

67.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with loca lhealth authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

67.2 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide what ever is required by this person to exercise this responsibility and authority.

67.3 The Contractor shall send, to the Engineer, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Architect may reasonably require.

67.4 The Contractor shall conduct an awareness programme on HIV and other sexually transmitted diseases via an approved service provider and shall undertake such other measures taken to reduce the risk of the transfer of these diseases between and among the Contractor's Personnel and the

local community, to promote early diagnosis and to assist affected individuals.

6.8 Contractor's Superintendence

- 6.8.1 Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary super intendence to plan, arrange, direct, manage, inspect and test the work.
- 6.8.2 Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

6.9 Contractor's Personnel

- 6.9.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractors Key personnel shall be named in the Special Conditions of Contract. The Architect may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:
- a) Persists in any misconduct or lack of care,
 - b) Carries out duties in competently or negligently,
 - c) fails to conform with any provisions of the Contract,
 - d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
 - e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.
- 6.9.2 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

6.10 Records of Contractor's Personnel and Equipment

The Contractor shall submit, to the Engineer, details showing the number of each class of Contractor's Personnel and of each type of Contractor's Equipment on the Site. Details shall be submitted each calendar month, in a form approved by the Engineer, until the Contractor has completed all work which is known to be outstanding at the completion date stated in the Taking-Over Certificate for the Works.

6.11 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst the Contractor's Personnel, and to preserve peace and protection of persons and property on and near the Site.

6.12 Foreign Personnel

- 6.12.1 The Contractor shall not employ foreign personnel unless the contractor demonstrates that there are no Kenyans with the required skills.
- 6.12.2 The Contractor shall be responsible for the return of any foreign personnel to the place where they were recruited or to their domicile. In the event of the death in Kenya of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

6.13 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

6.14 Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

6.15 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of Kenya, onsite, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereof by Contractor's Personnel.

6.16 Prohibition of Forced or Compulsory Labour

The Contractor shall not employ forced labor, which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

6.17 Prohibition of Harmful Child Labor

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. Where the relevant labour laws of Kenya have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

6.18 Employment Records of Workers

The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included in the details to be submitted by the Contractor under Sub-Clause 6.10 [Records of Contractor's Personnel and Equipment].

6.19 Workers' Organizations

The Contractor shall comply with the relevant labor laws that recognize workers' rights to form and to join workers' organizations of their choosing without interference.

6.20 Non-Discrimination and Equal Opportunity

The Contractor shall base the labour employment on the principle of equal opportunity and fair treatment and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline.

7. PLANT, MATERIALS AND WORKMANSHIP

7.1 Manner of Execution

The Contractor shall carry out the manufacture/assembly of plant, the production and manufacture of Materials, and all other execution of the Works:

- a) In the manner (if any) specified in the Contract,
- b) in a proper workman like and careful manner, in accordance with recognized good practice, and
- c) with properly equipped facilities and non-hazardous Materials, except as otherwise specified in the Contract.

7.2 Samples

The Contractor shall submit the following samples of Materials, and relevant information, to the Architect for consent prior to using the Material sin or for the Works:

- a) manufacturer's standard samples of Materials and samples specified in the Contract, all at the Contractor's cost, and
- b) additional samples instructed by the Architect as a Variation.

Each sample shall be labeled as to origin and intended use in the Works.

7.3 Inspection

7.3.1 The Procuring Entity's Personnel shall at all reasonable times:

- a) Have full access to all parts of the Site and to all places from which natural Materials are being obtained, and
- b) during production, manufacture and construction (at the Site and elsewhere), be entitled to examine, inspect, measure and test the materials and workmanship, and to check the progress of manufacture of Plant and production and manufacture of Materials.

7.3.2 The Contractor shall give the Procuring Entity's Personnel full opportunity to carry out these activities, including providing access, facilities, permissions and safety equipment. No such activity shall relieve the Contractor from any obligation or responsibility.

7.3.3 The Contractor shall give notice to the Architect whenever any work is ready and before it is covered up, put out of sight, or packaged for storage or transport. The Architect shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the Contractor that the Architect does not require to do so. If the Contractor fails to give the notice, he shall, if and when required by the Engineer, uncover the work and there after reinstate and make good, all at the Contractor's cost.

7.4 Testing

7.4.1 This Sub-Clause shall apply to all tests specified in the Contract.

7.4.2 Except as otherwise specified in the Contract, the Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labor, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently. The Contractor shall agree, with the Engineer, the time and place for the specified testing of any Plant, Materials and other parts of the Works.

7.4.3 The Architect may, under Clause 13 [Variations and Adjustments], vary the location or details of specified tests, or instruct the Contractor to carry out additional tests. If these varied or additional tests show that the tested Plant, Materials or workmanship is not in accordance with the Contract, the cost of carrying out this Variation shall be borne by the Contractor, notwithstanding other provisions of the Contract.

7.4.4 The Architect shall give the Contractor not less than 24 hours' notice of the Architect intention to attend the tests. If the Architect does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be

deemed to have been made in the Architect presence.

- 7.4.5 If the Contractor suffers delay and/ or incurs Cost from complying with these instructions or as a result of a delay for which the Procuring Entity is responsible, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 7.4.6 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 7.4.7 The Contractor shall promptly forward to the Architect duly certified reports of the tests. When the specified tests have been passed, the Architect shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Architect has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5 Rejection

- 7.5.1 If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Architect may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.
- 7.5.2 If the Architect requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Procuring Entity to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity.

7.6 Remedial Work

- 7.6.1 Notwithstanding any previous test or certification, the Architect may instruct the Contractor to:
- a) Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
 - b) remove and re-execute any other work which is not in accordance with the Contract, and
 - c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseen event or otherwise.
- 7.6.2 The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).
- 7.6.3 If the Contractor fails to comply with the instruction, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity all costs arising from this failure.
- 7.6.4 If the contractor repeatedly delivers defective work, the Procuring Entity may consider termination in accordance with Clause 15.

7.7 Ownership of Plant and Materials

Except as otherwise provided in the Contract, each item of Plant and Materials shall become the property of the Procuring Entity at whichever is the earlier of the following times, free from liens and other encumbrances:

- a) When it is incorporated in the Works;
- b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-

7.8 Royalties

Unless otherwise stated in the Specification, the Contractor shall pay all royalties, rents and other payments for:

- a) Natural materials obtained from outside the Site, and
- b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-made), except to the extent that disposal as within the Site are specified in the Contract.

8 COMMENCEMENT, DELAYS AND SUSPENSION

8.1 Commencement of Works

8.1.1 Except as otherwise specified in the Special Conditions of Contract, the Commencement Date shall be the date at which the following precedent conditions have all been fulfilled and the Architect notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:

- a) Signature of the Contract Agreement by both Parties, and if required, approval of the Contract by relevant authorities of Kenya;
- b) except if otherwise specified in the Special Conditions of Contract, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works.
- c) Receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.

8.1.2 If the said Architect instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 6.2 [Termination by Contractor].

8.1.3 The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shall then proceed with the Works with due expedition and without delay.

8.2 Time for Completion

The Contractor shall complete the whole of the Works, and each Section (if any), within the Time for Completion for the Works or Section (as the case may be), including:

- a) Achieving the passing of the Test on Completion, and
- b) completing all work which is stated in the Contract as being required for the Works or Section to be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections].

8.3 Programme

8.3.1 The Contractor shall submit a detailed time programme to the Architect within 4 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5

[Nominated Subcontractors]),

- c) the sequence and timing of inspections and tests specified in the Contract, and
- d) a supporting report which includes:
 - i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
 - ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

832 Unless the Engineer, within 14 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Procuring Entity's Personnel shall be entitled to rely upon the programme when planning their activities.

833 The Contractor shall promptly give notice to the Architect of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works.

834 If, at anytime, the Architect gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contractor to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Architect in accordance with this Sub-Clause.

84 Extension of Time for Completion

841 The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:

- a) a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
- b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
- c) exceptionally adverse climatic conditions,
- d) Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
- e) any delay, impediment or prevention caused by or attributable to the Procuring Entity, the Procuring Entity's Personnel, or the Procuring Entity's other contractors.

842 If the Contractor considers itself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Architect in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Architect shall review previous determinations and may increase, but shall not decrease, the total extension of time.

85 Delays Caused by Authorities

If the following conditions apply, namely:

- a) The Contractor has diligently followed the procedures laid down by the relevant legally constituted public authorities in Kenya,
- b) These authorities delay or disrupt the Contractor's work, and
- c) the delay or disruption was Unforeseeable, then this delay or disruption will be considered as a cause of delay under sub-paragraph (b) of Sub-Clause 8.4 [Extension of Time for Completion].

8.6 Rate of Progress

- 8.6.1 If, at anytime:
- a) Actual progress is too slow to complete within the Time for Completion, and/or
 - b) Progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme], other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Architect may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.
- 8.6.2 Unless the Architect notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Procuring Entity to incur additional costs, the Contractor shall be subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity, in addition to delay damages (if any) under Sub-Clause 8.7 below.
- 8.6.3 Additional costs of revised methods including acceleration measures, instructed by the Architect to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Procuring Entity, without generating, however, any other additional payment benefit to the Contractor.

8.7 Delay Damages

- 8.7.1 If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall be subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to the Procuring Entity for this default. These delay damages shall be the sum stated in the **Special Conditions of Contract**, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Special Conditions of Contract.
- 8.7.2 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

8.8 Suspension of Work

- 8.8.1 The Architect may at anytime instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.
- 8.8.2 The Architect may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

8.9 Consequences of Suspension

- 8.9.1 If the Contractor suffers delay and/or incurs Cost from complying with the Architect instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Architect and shall be entitled, subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

b) Payment of any such Cost, which shall be included in the Contract Price.

8.92 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

8.93 The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in, making good the consequences of the Contractor's faulty design, workmanship or materials, or of the Contractor's failure to protect, store or secure in accordance with Sub-Clause 8.8 [Suspension of Work].

8.10 Payment for Plant and Materials in Event of Suspension

The Contractor shall be entitled to payment of the value (as at the date of suspension) of Plant and/ or Materials which have not been delivered to Site, if:

- a) The work on Plant or delivery of Plant and/ or Materials has been suspended for more than 30 days, and
- b) the Contractor has marked the Plant and/or Materials as the Procuring Entity's property in accordance with the Architect instructions.

8.11 Prolonged Suspension

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Architect permission to proceed. If the Architect does not give permission within 30 days after being requested to do so, the Contractor may, by giving notice to the Engineer, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

8.12 Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Architect shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after receiving from the Architect an instruction to this effect under Clause 13 [Variations and Adjustments].

9 TESTS ON COMPLETION

9.1 Contractor's Obligations

9.1.1 The Contractor shall carry out the Tests on Completion in accordance with this Clause and Sub-Clause 7.4 [Testing], after providing the documents in accordance with sub-paragraph (d) of Sub-Clause 4.1 [Contractor's General Obligations].

9.1.2 The Contractor shall give to the Architect not less than 21 days' notice of the date after which the Contractor will be ready to carry out each of the Tests on Completion. Unless otherwise agreed, Tests on Completion shall be carried out within 14 days after this date, on such day or days as the Architect shall instruct.

9.1.3 In considering the results of the Tests on Completion, the Architect shall make allowances for the effect of any use of the Works by the Procuring Entity on the performance or other characteristics of the Works. As soon as the Works, or a Section, have passed any Tests on Completion, the Contractor shall submit a certified report of the results of these Tests to the Engineer.

92 Delayed Tests

- 921 If the Tests on Completion are being unduly delayed by the Procuring Entity, Sub-Clause 7.4 [Testing] (fifth paragraph) and/ or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.
- 922 If the Tests on Completion are being unduly delayed by the Contractor, the Architect may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.
- 923 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

93 Retesting of related works

If the Works, or a Section, fail to pass the Tests on Completion, Sub-Clause 7.5 [Rejection] shall apply, and the Architect or the Contractor may require the failed Tests, and Tests on Completion on any related work, to be repeated under the same terms and conditions.

94 Failure to Pass Tests on Completion

- 941 If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Architect shall be entitled to:
- a) Order further repetition of Tests on Completion under Sub-Clause 9.3; or
 - b) if the failure deprives the Procuring Entity of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Procuring Entity shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 1.4 [Failure to Remedy Defects].

10. PROCURING ENTITY'S TAKING OVER

10.1 Taking Over of the Works and Sections

- 10.1.1 Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Procuring Entity when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.
- 10.1.2 The Contractor may apply by notice to the Architect for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.
- 10.1.3 The Architect shall, within 30 days after receiving the Contractor's application:
- a) Issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
 - b) reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

- 101.4 If the Architect fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 30 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

102 Taking Over of Parts of the Works

- 102.1 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.
- 102.2 The Procuring Entity shall not use any part of the Works (other than as a temporary measure which is either specified in the Contract or agreed by both Parties) unless and until the Architect has issued a Taking-Over Certificate for this part. However, if the Procuring Entity does use any part of the Works before the Taking-Over Certificate is issued:
- a) The part which is used shall be deemed to have been taken over as from the date on which it is used,
 - b) the Contractor shall cease to be liable for the care of such part as from this date, when responsibility shall pass to the Procuring Entity, and
 - c) if requested by the Contractor, the Architect shall issue a Taking-Over Certificate for this part.
- 102.3 After the Architect has issued a Taking-Over Certificate for a part of the Works, the Contractor shall be given the earliest opportunity to take such steps as may be necessary to carry out any outstanding Tests on Completion. The Contractor shall carry out these Tests on Completion as soon as practicable before the expiry date of the relevant Defects Notification Period.
- 102.4 If the Contractor incurs Cost as a result of the Procuring Entity taking over and/or using a part of the Works, other than such use as is specified in the Contract agreed by the Contractor, the Contractor shall (i) give notice to the Architect and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such accrued costs, which shall be included in the Contract Price. After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this accrued cost.
- 102.5 If a Taking-Over Certificate has been issued for a part of the Works (other than a Section), the delay damages there after for completion of the remainder of the Works shall be reduced. Similarly, the delay damages for the remainder of the Section (if any) in which this part is included shall also be reduced. For any period of delay after the date stated in this Taking-Over Certificate, the proportional reduction in these delay damages shall be calculated as the proportion which the value of the part so certified bears to the value of the Works or Section (as the case may be) as a whole. The Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these proportions. The provisions of this paragraph shall only apply to the daily rate of delay damages under Sub-Clause 8.7 [Delay Damages] and shall not affect the maximum amount of these damages.

103 Interference with Tests on Completion

- 103.1 If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Procuring Entity is responsible, the Procuring Entity shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.
- 103.2 The Architect shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Architect shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.
- 103.3 If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests

on Completion, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such accrued costs, which shall be included in the Contract Price.

10.3.4 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

10.4 Surfaces Requiring Reinstatement

Except as otherwise stated in a Taking-Over Certificate, a certificate for a Section or part of the Works shall not be deemed to certify completion of any ground or other surfaces requiring reinstatement.

11. DEFECTS LIABILITY

11.1 Completion of Outstanding Work and Remedying Defects

11.1.1 In order that the Works and Contractor's Documents, and each Section, shall be in the condition required by the Contract (fairwear and tear excepted) by the expiry date of the relevant Defects Notification Period or as soon as practicable there after, the Contractor shall:

- a) complete any work which is outstanding on the date stated in a Taking-Over Certificate, within such reasonable time as is instructed by the Engineer, and
- b) execute all work required to remedy defects or damage, as may be notified by (or on behalf of) the Procuring Entity on or before the expiry date of the Defects Notification Period for the Works or Section (as the case may be).

11.1.2 If a defect appears or damage occurs, the Contractor shall be notified accordingly by the Engineer.

11.2 Cost of Remedying Defects

11.2.1 All work referred to in sub-paragraph (b) of Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects] shall be executed at the risk and cost of the Contractor, if and to the extent that the work is attributable to:

- a) Any design for which the Contractor is responsible,
- b) Plant, Materials or workmanship not being in accordance with the Contract, or
- c) Failure by the Contractor to comply with any other obligation.

11.2.2 If and to the extent that such work is attributable to any other cause, the Contractor shall be notified promptly by (or on behalf of) the Procuring Entity, and Sub-Clause 13.3 [Variation Procedure] shall apply.

11.3 Extension of Defects Notification Period

11.3.1 The Procuring Entity shall be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to an extension of the Defects Notification Period for the Works or a Section if and to the extent that the Works, Section or a major item of Plant (as the case may be, and after taking over) cannot be used for the purposes for which they are intended by reason of a defect or by reason of damage attributable to the Contractor. However, a Defects Notification Period shall not be extended by more than two years.

11.3.2 If delivery and/ or erection of Plant and/ or Materials was suspended under Sub-Clause 8.8 [Suspension of Work] or Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work], the Contractor's obligations under this Clause shall not apply to any defects or damage occurring more than two years after the Defects Notification Period for the Plant and/ or Materials would

otherwise have expired.

11.4 Failure to Remedy Defects

- 11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.
- 11.4.2 If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Procuring Entity may (at his option):
- (a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity the costs reasonably incurred by the Procuring Entity in remedying the defect or damage;
 - (b) Require the Architect to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
 - (c) if the defect or damage deprives the Procuring Entity of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contractor otherwise, the Procuring Entity shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5 Removal of Defective Work

If the defect or damage cannot be remedied expeditiously on the Site and the Procuring Entity gives consent, the Contractor may remove from the Site for the purposes of repair such items of Plant as are defective or damaged. This consent may require the Contractor to increase the amount of the Performance Security by the full replacement cost of these items, or to provide other appropriate security.

11.6 Further Tests

- 11.6.1 If the work of remedying of any defect or damage may affect the performance of the Works, the Architect may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 14 days after the defect or damage is remedied.
- 11.6.2 These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7 Right of Access

Until the Completion Certificate has been issued, the Contractor shall have such right of access to the Works as is reasonably required in order to comply with this Clause, except as may be inconsistent with the Procuring Entity's reasonable security restrictions.

11.8 Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect or parts of the works that have already accepted, under the direction of the Engineer. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Cost of the search plus profit shall be agreed or determined by the Architect in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

11.9 Completion Certificate

- 11.9.1 Performance of the Contractor's obligations shall not be considered to have been completed until the Architect has issued the Completion Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.
- 11.9.2 The Architect shall issue the Completion Certificate within 30 days after the latest of the expiry dates of the Defects Liability Period, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Completion Certificate shall be issued to the Procuring Entity.
- 11.9.3 Only the Completion Certificate shall be deemed to constitute acceptance of the Works.

11.10 Unfulfilled Obligations

After the Completion Certificate has been issued, each Party shall remain liable for the fulfilment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of unperformed obligations, the Contract shall be deemed to remain in force.

11.11 Clearance of Site

- 11.11.1 Upon receiving the Completion Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- 11.11.2 If all these items have not been removed within 30 days after receipt by the Contractor of the Completion Certificate, the Procuring Entity may sell or otherwise dispose of any remaining items. The Procuring Entity shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 11.11.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Procuring Entity's costs, the Contractor shall pay the outstanding balance to the Procuring Entity.

12 MEASUREMENT AND DEVALUATION

12.1 Works to be Measured

- 12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.
- 12.1.2 Whenever the Architect requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:
- a) promptly either attend or send another qualified representative to assist the Architect in making the measurement, and
 - b) supply any particulars requested by the Engineer.
- 12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.
- 12.1.4 Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree her records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.
- 12.1.5 If the Contractor examines and disagrees the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Architect of the respects in which the records are asserted

to be inaccurate. After receiving this notice, the Architect shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Architect within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2 Method of Measurement

Except as otherwise stated in the Contract:

- a) Measurement shall be made of the net actual quantity of each item of the Permanent Works, and
- b) the method of measurement shall be in accordance with the Bill of Quantities or other applicable Schedules.

12.3 Evaluation

12.3.1 Except as otherwise stated in the Contract, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of work one by evaluating each item of work, applying the measurement agreed or determined in accordance with the above Sub-Clauses 12.1 and 12.2 and the appropriate rate or price for the item.

12.3.2 For each item of work, the appropriate rate or price for the item shall be the rate or price specified for such item in the Contractor, if there is no such item, specified for similar work.

12.3.3 Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.

12.3.4 However, for a new item of work, a new rate or price shall be appropriate for such item of work if:

- a) The work is instructed under Clause 13 [Variations and Adjustments],
- b) no rate or price is specified in the Contract for this item, and
- c) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.

12.3.5 Each new rate or price shall be derived from any relevant rates or prices in the Contract. If no rates or prices are relevant for the new item of work, it shall be derived from the reasonable Cost of executing such work, prevailing market rates, together with profit, taking account of any other relevant matters.

12.3.6 Until such time as an appropriate rate or price is agreed or determined, the Architect shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.

12.3.7 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price) / tender price X 100*.

12.4 Omissions

Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:

- a) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- b) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and

- c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Architect accordingly, with supporting particulars. Upon receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

13 VARIATIONS AND ADJUSTMENTS

13.1 Right to Vary

- 13.1.1 Variations may be initiated by the Architect at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. No Variation instructed by the Architect under this Clause shall in any way vitiate or invalidate the Contract.
- 13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Architect stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Architect shall cancel, confirm or vary the instruction.
- 13.1.3 Each Variation may include:
 - a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
 - b) changes to the quality and other characteristics of any item of work,
 - c) changes to the levels, positions and/ or dimensions of any part of the Works,
 - d) omission of any work unless it is to be carried out by others,
 - e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
 - f) changes to the sequence or timing of the execution of the Works.
- 13.1.4 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Architect instructs after obtaining approval of the Procuring Entity.

13.2 Variation Order Procedure

- 13.2.1 Prior to any Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:
 - a) A description of work, if any, to be performed and a programme for its execution, and
 - b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and
 - c) the Contractor's proposals for adjustment to the Contract Price.

Following the receipt of the Contractor's submission the Architect shall, after due consultation with the Employer and the Contractor, decide as soon as possible whether or not the variation shall be carried out. If the Architect decides that the variation shall be carried out, he shall issue a Variation Order clearly identified as such in accordance with the Contractor's submission or as modified by agreement.

If the Architect and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause 13.2.2 shall apply.

13.2.2 Disagreement on Adjustment of the Contract Price

If the Contractor and the Architecture unable to agree on the adjustment of the Contract Price, the

adjustment shall be determined in accordance with the rates specified in the Bills of Quantities or Schedule of Daywork Prices. If the rates contained in the Bills of Quantities or Dayworks Prices are not directly applicable to the specific work in question, suitable rates shall be established by the Architect reflecting the level of pricing in the Dayworks Prices. Where rates are not contained in the said Prices, the amount shall be such as is in all the circumstances reasonable, reflecting a market price. Due account shall be taken of any over-or under-recovery of overheads by the Contractor in consequence of the variation. The Contractor shall also be entitled to be paid:

- a) The cost of any partial execution of the Work rendered useless by any such variation,
- b) The cost of making necessary alterations to Plant already manufactured or in the course of manufacture or of any work done that has to be altered in consequence of such a variation,
- c) any additional costs incurred by the Contractor by the disruption of the progress of the Works as detailed in the Programme, and
- d) the net effect of the Contractor's financial costs, including interest, caused by the variation.

The Architect shall on this basis determine the rates or prices to enable on-account payment to be included in certificates of payment.

13.2.3 Contractor to Proceed

On receipt of a Variation Order, the Contractor shall forthwith proceed to carry out the variation and be bound to these Conditions in so doing as if such variation was stated in the Contract. The work shall not be delayed pending the granting of an extension of the Time for Completion or an adjustment to the Contract Price under Sub-Clause 13.3.

13.3 Value Engineering

13.3.1 The Contractor may, at anytime, submit to the Architect written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Procuring Entity of the completed Works, or (iv) otherwise be of benefit to the Procuring Entity.

13.3.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].

13.3.3 If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:

- a) The Contractor shall design this part,
- b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
- c) if this change results in a reduction in the contract value of this part, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
 - i) such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.8 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
 - ii) the reduction (if any) in the value to the Procuring Entity of the varied works, taking account of any improvement in quality, anticipated life or operational efficiencies.

13.3.4 However, if the amount established in item 13.2.3 (c) (i) is less than amount established in item 13.2.3 (c) (ii), there shall not be a fee. However, if the amount established in item 13.2.3 (c) (i) is more than amount established in item 13.2.3 (c) (ii), it shall result in a price variation to the Procuring Entity.

13.4 Variation Procedure for Value Engineering proposal

- 13.4.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:
- a) A description of the proposed work to be performed and a programme for its execution,
 - b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
 - c) the Contractor's proposal for evaluation of the Variation.
- 13.4.2 The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst waiting a response.
- 13.4.3 Each instruction to execute a Variation, with any requirements for the recording of Costs, shall be issued by the Architect to the Contractor, who shall acknowledge receipt.
- 13.4.4 Each Variation shall be evaluated in accordance with Clause 12 [Measurement and Evaluation], unless the Architect instructs or approves otherwise in accordance with this Clause.

13.5 Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

13.6 Provisional Sums

- 13.6.1 Each Provisional Sum shall only be used, in whole or in part, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Architect shall have instructed. For each Provisional Sum, the Architect may instruct:
- a) Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
 - b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
 - i) The actual amounts paid (or due to be paid) by the Contractor, and
 - ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in **the Special Conditions of Contract** shall be applied.
- 13.6.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

13.4 Dayworks

- 13.4.1 For work of a minor or incidental nature, the Architect may instruct that a Variation shall be executed on a daywork basis. The work shall then be valued in accordance with the Daywork Schedule included in the Contract, and the following procedure shall apply. If a Daywork Schedule is not included in the Contract, this Sub-Clause shall not apply.
- 13.4.2 Before ordering Goods for the work, the Contractor shall submit quotations to the Engineer. When

applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

- 1343 Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall deliver each day to the Architect accurate statements induplicate which shall include the following details of the resources used in executing the previous day's work:
- a) The names, occupations and time of Contractor's Personnel,
 - b) the identification, type and time of Contractor's Equipment and Temporary Works, and
 - c) the quantities and types of Plant and Materials used.

- 1344 One copy of each statement will, if correct, or when agreed, be signed by the Architect and returned to the Contractor. The Contractor shall then submit priced statements of these resources to the Engineer, prior to their inclusion in the next Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates].

135 Adjustments for Changes in Legislation

- 1351 The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of Kenya (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

- 1352 If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) payment of any such Cost, which shall be included in the Contract Price.

- 1353 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

- 1354 Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].

136 Adjustments for Changes in Cost

- 1361 In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.

- 1362 If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.

- 1363 The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae

Price Adjustment Formula

Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type specified below applies:

$$P = A + B \frac{I_m}{I_o}$$

where:

P is the adjustment factor for the portion of the Contract Price payable.

A and **B** are recoefficients **specified in the SCC**, representing then on adjustable and adjustable portions, respectively, of the Contract Price payable and

I_m is the index prevailing at the end of the month being invoiced and **I_o** is the index prevailing 30 days before Bid opening for inputs payable.

NOTE: The sum of the two coefficients A and B should be 1 (one) in the formula for each currency. Normally, both coefficients shall be the same in the formulae for all currencies, since coefficient A, for the non adjustable portion of the payments, is a very approximate figure (usually 0.15) to take account of fixed cost elements or other nonadjustable components. The sum of the adjustments for each currency are added to the Contract Price.

- 1364 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. Forth is purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.
- 1365 Incases where the “currency of index” is not the relevant currency of payment, each index shall be converted into the relevant currency of payment at the selling rate, established by the Central Bank of Kenya, of this relevant currency on the above date for which the index is required to be applicable.
- 1366 Until such time as each current cost index is available, the Architect shall determine a provisional index for the issue of Interim Payment Certificates. When a current cost index is available, the adjustment shall be recalculated accordingly.
- 1367 If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices there after shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to the Procuring Entity.
- 1368 The weightings (coefficients) for each of the factors of cost stated in the table(s) of adjustment data shall only be adjusted if they have been rendered unreasonable, unbalanced or in applicable, as a result of Variations.

14 CONTRACT PRICE AND PAYMENT

14.1 The Contract Price

14.1.1 Unless otherwise stated in the Special Conditions:

- The value of the payment certificate shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
- the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated

in Sub-Clause 13.7 [Adjustments for Changes in Legislation];

- c) any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:
 - i) of the Works which the Contractor is required to execute, or
 - ii) for the purposes of Clause 12 [Measurement and Evaluation]; and
- d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Architect may take account of the break down when preparing Payment Certificates but shall not be bound by it.

14.1.2 Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall not be exempt from the payment of import duties and taxes upon importation.

14.2 Advance Payment

14.2.1 The Procuring Entity shall make an advance payment, as an interest-free loan for mobilization and cashflow support, when the Contractor submits a guarantee in accordance with this Clause. The total advance payment, the number and timing of instalments (if more than one), and the applicable currencies and proportions, shall be as stated in the **Special Conditions of Contract**.

14.2.2 Unless and until the Procuring Entity receives this guarantee, or if the total advance payment is not stated in the Special Conditions of Contract, this Sub-Clause shall not apply.

14.2.3 The Architect shall deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Procuring Entity receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institutions elected by the Contractor and shall be in the form annexed to the Special Conditions or in another form approved by the Procuring Entity.

14.2.4 The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.

14.2.5 Unless stated otherwise in the **Special Conditions of Contract**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Architect in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:

- a) Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount less Provisional Sums; and
- b) deductions shall be made at the amortization rate stated in the **Special Conditions of Contract** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount less Provisional Sums has been certified for payment.

1426 If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 14.2.7 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

143 Application for Interim Payment Certificates

143.1 The Contractor shall submit a Statement (in number of copies indicated in the **Special Conditions of Contract**) to the Architect after the end of each month, in a form approved by the Engineer, showing in detail the amounts to which the Contractor considers itself to be entitled, together with supporting documents which shall include thereon the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].

143.2 The Statement shall include the following items, as applicable, which shall be expressed in the various currencies in which the Contract Price is payable, in the sequence listed:

- a) the estimated contract value of the Works executed and the Contractor's Documents produced up to the end of the month (including Variations but excluding items described in sub-paragraphs (b) to (g) below);
- b) any amounts to be added and deducted for changes in legislation and changes in cost, in accordance with Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost];
- c) any amount to be deducted for retention, calculated by applying the percentage of retention stated in **the Special Conditions of Contract** to the total of the above amounts, until the amount so retained by the Procuring Entity reaches the limit of Retention Money (if any) stated in **the Special Conditions of Contract**;
- d) any amounts to be added for the advance payment and (if more than one instalment) and to be deducted for its repayments in accordance with Sub-Clause 14.2 [Advance Payment];
- e) any amounts to be added and deducted for Plant and Materials in accordance with Sub-Clause 14.5 [Plant and Materials intended for the Works];
- f) any other additions or deductions which may have become due under the Contract otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and
- g) the deduction of amounts certified in all previous Payment Certificates.

144 Schedule of Payments

144.1 If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:

- a) The instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
- b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
- c) If these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more than that on which the instalments were previously based.

144.2 If the Contract does not include a schedule of payments, the Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

14.5 Plant and Materials intended for the Works

- 14.5.1 If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].
- 14.5.2 If the lists referred to in sub-paragraphs (b)(i) or (c)(i) below are not included in the Schedules, this Sub-Clause shall not apply.
- 14.5.3 The Architect shall determine and certify each addition if the following conditions are satisfied:
- a) The Contractor has:
 - i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - ii) submitted statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;and either:
 - b) the relevant Plant and Materials:
 - i) are those listed in the Schedules for payment when shipped,
 - ii) have been shipped to Kenya, enroute to the Site, in accordance with the Contract; and
 - iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Architect together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Procuring Entity in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or
 - c) the relevant Plant and Materials:
 - i) are those listed in the Schedules for payment when delivered to the Site, and
 - ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration and appear to be in accordance with the Contract.
- 14.5.4 The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Architect determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.
- 14.5.5 The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6 Issue of Interim Payment Certificates

- 14.6.1 No amount will be certified or paid until the Procuring Entity has received and approved the Performance Security. Thereafter, the Architect shall, within 30 days after receiving a Statement and supporting documents, deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate which shall state the amount which the Architect fairly determines to be due, with all supporting particulars for any reduction or withholding made by the Architect on the Statement if any.

1462 However, prior to issuing the Taking-Over Certificate for the Works, the Architect shall not be bound to issue an Interim Payment Certificate in an amount which would (after retention and other deductions) be less than the minimum amount of Interim Payment Certificates (if any) stated **in the Special Conditions of Contract**. In this event, the Architect shall give notice to the Contractor accordingly.

1463 An Interim Payment Certificate shall not be withheld for any other reason, although:

- a) if anything supplied or work done by the Contractor is not in accordance with the Contract, the cost of rectification or replacement may be withheld until rectification or replacement has been completed; and/or
- b) if the Contractor was or is failing to perform any work or obligation in accordance with the Contract, and had been so notified by the Engineer, the value of this work or obligation may be withheld until the work or obligation has been performed.

4.6.4 The Architect may in any Payment Certificate make any correction or modification that should properly be made to any previous Payment Certificate. A Payment Certificate shall not be deemed to indicate the Architect acceptance, approval, consent or satisfaction.

147 Payment

147.1 The Procuring Entity shall pay to the Contractor:

- a) The advance payment shall be paid within 60 days after signing of the contract by both parties or within 60 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub- Clause 14.2 [Advance Payment], which ever is later;
- b) The amount certified in each Interim Payment Certificate within 60 days after the Architect Issues Interim Payment Certificate; and
- c) the amount certified in the Final Payment Certificate within 60 days after the Procuring Entity Issues Interim Payment Certificate; or after determination of any disputed amount shown in the Final Statement in accordance with Sub-Clause 16.2 [Terminationby Contractor].

147.2 Payment of the amount due in each currency shall be made into the bank account, nominated by the Contractor, in the payment country (forth is currency) specified in the Contract.

148 Delayed Payment

148.1 If the Contractor does not receive payment in accordance with Sub-Clause 14.7 [Payment], the Contractor shall be entitled to receive financing charges (simple interest) monthly on the amount unpaid during the period of delay. This period shall be deemed to commence on the date for payment specified in Sub-Clause 14.7 [Payment], irrespective (in the case of its sub-paragraph (b) of the date on which any Interim Payment Certificate is issued.

148.2 These financing charges shall be calculated at the annual rate of three percentage points above the mean rate of the Central Bank in Kenya of the currency of payment, or if not available, the inter bank offered rate, and shall be paid in such currency.

148.3 The Contractor shall be entitled to this payment without formal notice and certification, and without prejudice to any other right or remedy.

149 Payment of Retention Money

149.1 When the Taking-Over Certificate has been issued for the Works, the first half of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate is issued for a Section or part of the Works, a proportion of the Retention Money shall be certified and paid. This proportion shall behalf (50%) of the proportion calculated by dividing the estimated contract value of the Section or part, by the estimated final Contract Price.

- 1492 Promptly after the latest of the expiry dates of the Defects Liability Periods, the outstanding balance of the Retention Money shall be certified by the Architect for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall be half (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.
- 1493 However, if any work remains to be executed under Clause 11 [Defects Liability], the Architects shall be entitled to withhold certification of the estimated cost of this work until it has been executed.
- 1494 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].
- 1495 Unless otherwise stated in the Special Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Engineer, the Contractor shall be entitled to substitute a Retention Money Security guarantee, in the form annexed to the Special Conditions or in another form approved by the Procuring Entity and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money.
- 1496 The Procuring Entity shall return the Retention Money Security guarantee to the Contractor within 14 days after receiving a copy of the Completion Certificate.

14.10 Statement at Completion

- 14.10.1 Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Architect three copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:
- a) the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
 - b) any further sums which the Contractor considers to be due, and
 - c) an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.
- 14.10.2 The Architect shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

14.11 Application for Final Payment Certificate

- 14.11.1 Within 60 days after receiving the Completion Certificate, the Contractor shall submit, to the Engineer, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Engineer:
- a) The value of all work done in accordance with the Contract, and
 - b) Any further sums which the Contractor considers to be due to him under the Contract otherwise.
- 14.11.2 If the Architect disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Architect may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Architect the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".
- 14.11.3 However, if, following discussions between the Architect and the Contractor and any changes to

the draft final statement which are agreed, it becomes evident that a dispute exists, the Architect shall deliver to the Procuring Entity (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Procuring Entity (with a copy to the Engineer) a Final Statement.

14.12 Discharge

When submitting the Final Statement, the Contractor shall submit a discharge which confirms that the total of the Final Statement represents full and final settlement of all moneys due to the Contractor under or in connection with the Contract. This discharge may state that it becomes effective when the Contractor has received the Performance Security and the outstanding balance of this total, in which event the discharge shall be effective on such date.

14.13 Issue of Final Payment Certificate

14.13.1 Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall deliver, to the Procuring Entity and to the Contractor, the Final Payment Certificate which shall state:

- a) The amount which he fairly determines is finally due, and
- b) After giving credit to the Procuring Entity for all amounts previously paid by the Procuring Entity and for all sums to which the Procuring Entity is entitled, the balance (if any) due from the Procuring Entity to the Contractor or from the Contractor to the Procuring Entity, as the case may be.

14.13.2 If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Architect shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14 Cessation of Procuring Entity's Liability

14.14.1 The Procuring Entity shall not be liable to the Contractor for any matter or thing under or in connection with the Contract or execution of the Works, except to the extent that the Contractor shall have included an amount expressly for it:

- a) in the Final Statement and also,
- b) (except for matters or things arising after the issue of the Taking-Over Certificate for the Works) in the Statement at completion described in Sub-Clause 14.10 [Statement at Completion].

14.14.2 However, this Sub-Clause shall not limit the Procuring Entity's liability under his indemnification obligations, or the Procuring Entity's liability in any case of fraud, deliberate default or reckless misconduct by the Procuring Entity.

14.15 Currencies of Payment

The Contract Price shall be paid in the currency or currencies named in the Schedule of Payment Currencies. If more than one currency is so named, payments shall be made as follows:

- a) If the Accepted Contract Amount was expressed in Local Currency only:
 - i) the proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Schedule of

- Payment Currencies, except as otherwise agreed by both Parties;
- ii) payments and deductions under Sub-Clause 13.5 [Provisional Sums] and Sub-Clause 13.7 [Adjustments for Changes in Legislation] shall be made in the applicable currencies and proportions; and
- iii) other payments and deductions under sub-paragraphs (a) to (d) of Sub-Clause 14.3 [Application for Interim Payment Certificates] shall be made in the currencies and proportions specified in sub-paragraph (a) (i) above;
- b) payment of the damages specified in the Special Conditions of Contract, shall be made in the currencies and proportions specified in the Schedule of Payment Currencies;
- c) other payments to the Procuring Entity by the Contractor shall be made in the currency in which the sum was expended by the Procuring Entity, or in such currency as may be agreed by both Parties;
- d) if any amount payable by the Contractor to the Procuring Entity in a particular currency exceeds the sum payable by the Procuring Entity to the Contractor in that currency, the Procuring Entity may recover the balance of this amount from the sums otherwise payable to the Contractor in other currencies; and
- e) if no rates of exchange are stated in the Schedule of Payment Currencies, they shall be those prevailing on the Base Date and determined by the Central Bank of Kenya.

15. TERMINATION BY PROCURING ENTITY

15.1 Notice to correct any defects or failures

If the Contractor fails to carry out any obligation under the Contract, the Architect may by notice require the Contractor to make good the failure and to remedy it within 30 days.

15.2 Termination by Procuring Entity

- 15.2.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor breaches the contract based on following circumstances which shall include but not limited to:
- a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
 - b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
 - c) without reasonable excuse fails:
 - i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
 - ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 30 days after receiving it,
 - d) subcontracts the major part or whole of the Works or assigns the Contract without the consent of the Procuring Entity,
 - e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
 - f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an induce mentor reward:
 - i) for doing or for bearing to do any action in relation to the Contract, or
 - ii) for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
 - iii) if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such induce mentor reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or

- g) If the contract or repeatedly fails to remedy delivers defective work,
- h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, incompetently for or in executing the Contract.

1522 In any of these events or circumstances, the Procuring Entity may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub- paragraph (e) or (f) or (g) or (h), the Procuring Entity may by notice terminate the Contract immediately.

1523 The Procuring Entity's election to terminate the Contract shall not prejudice any other rights of the Procuring Entity, under the Contract otherwise.

1524 The Contractor shall then leave the Site and deliver any required Goods, all Contractor's Documents, and other design documents made by or for him, to the Engineer. However, the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract, and (ii) for the protection of life or property or for the safety of the Works.

1525 After termination, the Procuring Entity may complete the Works and/ or arrange for any other entities to do so. The Procuring Entity and these entities may then use any Goods, Contractor's Documents and other design documents made by or on behalf of the Contractor.

1526 The Procuring Entity shall then give notice that the Contractor's Equipment and Temporary Works will be released to the Contractor at or near the Site. The Contractor shall promptly arrange their removal, at the risk and cost of the Contractor. However, if by this time the Contractor has failed to make a payment due to the Procuring Entity, these items may be sold by the Procuring Entity in order to recover this payment. Any balance of the proceeds shall then be paid to the Contractor.

15.3 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

15.4 Payment after Termination

After a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Procuring Entity may:

- a) Proceed in accordance with Sub-Clause 2.5 [Procuring Entity's Claims],
- b) withhold further payments to the Contractor until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any), and all other costs incurred by the Procuring Entity, have been established, and/ or
- c) recover from the Contractor any losses and damages incurred by the Procuring Entity and any extra costs of completing the Works, after allowing for any sum due to the Contractor under Sub-Clause 15.3 [Valuation at Date of Termination]. After recovering any such losses, damages and extra costs, the Procuring Entity shall pay any balance to the Contractor.

15.5 Procuring Entity's Entitlement to Termination for Convenience

The Procuring Entity shall be entitled to terminate the Contract, at any time at the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the

Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

15.6 Fraud and Corruption

The Contractor shall ensure compliance with the Kenya Government's Anti-Corruption Laws and its prevailing sanctions.

15.7 Corrupt gifts and payments of commission

15.7.1 The Contractor shall not;

- a) Offer or give or agree to give to any person in the service of the Procuring Entity any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for having done or for borne to do any act in relation to the obtaining or execution of this or any other Contract for the Procuring Entity or for showing or for bearing to show favor or disfavor to any person in relation to this or any other contract for the Procuring Entity.
- b) Enter into this or any other contract with the Procuring Entity 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 Procuring Entity.

15.7.2 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 and Asset Disposal Act (2015) and the Anti-Corruption and Economic Crimes Act (2003) of the Laws of Kenya.

16 SUSPENSION AND TERMINATION BY CONTRACTOR

16.1 Contractor's Entitlement to Suspend Work

16.1.1 If the Architect fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], or not receiving instructions that would enable the contractor to proceed with the works in accordance with the program, the Contractor may, after giving not less than 30 days' notice to the Procuring Entity, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

16.1.2 The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].

16.1.3 If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.

16.1.4 If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and

- b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

16.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

16.3 Termination by Contractor

16.3.1 The Contractor shall be entitled to terminate the Contract if:

- a) the Architect fails, within 60 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
- b) the Contractor does not receive the amount due under an Interim Payment Certificate within 90 days after the expiry of the time stated in Sub-Clause 4.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),
- c) the Procuring Entity substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract,
- d) a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- e) the Procuring Entity becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
- f) the Contractor does not receive the Architect instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

16.3.2 In any of these events or circumstances, the Contractor may, upon giving 14 days' notice to the Procuring Entity, terminate the Contract. However, in the case of sub-paragraph (f) or (g), the Contractor may by notice terminate the Contract immediately.

16.3.3 The Contractor's election to terminate the Contract shall not prejudice any other rights of the Contractor, under the Contract otherwise.

16.4 Cessation of Work and Removal of Contractor's Equipment

After a notice of termination under Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], Sub-Clause 16.2 [Termination by Contractor] or Sub-Clause 19.6 [Optional Termination, Payment and Release] has taken effect, the Contractor shall promptly:

- a) cease all further work, except for such work as may have been instructed by the Architect for the protection of life or property or for the safety of the Works,
- b) hand over Contractor's Documents, Plant, Materials and other work, for which the Contractor has received payment, and
- c) remove all other Goods from the Site, except as necessary for safety, and leave the Site.

16.5 Payment on Termination

After a notice of termination under Sub-Clause 16.2 [Termination by Contractor] has taken effect, the Procuring Entity shall promptly:

- a) Return the Performance Security to the Contractor,
- b) pay the Contractor in accordance with Sub-Clause 19.6 [Optional Termination, Payment and Release], and
- c) pay to the Contractor the amount of any loss or damage sustained by the Contractor as a result of this termination.

17. RISK AND RESPONSIBILITY

17.1 Indemnities

- 17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:
- a) Bodily injury, sickness, disease or death, of any person what so ever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and
 - b) damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.
- 17.1.2 The Procuring Entity shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease or death, which is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d)(i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property], unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the contractor, the contractor's Personnel, their respective agents, or anyone directly or indirectly employed by any of them.

17.2 Contractor's Care of the Works

- 17.2.1 The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Procuring Entity. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Procuring Entity.
- 17.2.2 After responsibility has accordingly passed to the Procuring Entity, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.
- 17.2.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.
- 17.2.4 The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3 Procuring Entity's Risks

The risks referred to in Sub-Clause 17.4 [Consequences of Procuring Entity's Risks] below, in so far as they directly affect the execution of the Works in Kenya, are:

- a) War hostilities (whether war be declared or not),
- b) rebellion, riot, commotion or disorder, terrorism, sabotage by persons other than the Contractor's Personnel,
- c) explosive materials, ionizing gradiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such explosives, radiation or radio-activity,
- d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,
- e) use or occupation by the Procuring Entity of any part of the Permanent Works, except as may be specified in the Contract,
- f) design of any part of the Works by the Procuring Entity's Personnel or by others for whom the Procuring Entity is responsible, and
- g) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

17.4 Consequences of Procuring Entity's Risks

- 17.4.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Architect and shall rectify this loss or damage to the extent required by the Engineer.
- 17.4.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - (b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (e) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.
- 17.4.3 After receiving this further notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

17.5 Intellectual and Industrial Property Rights

- 17.5.1 In this Sub-Clause, "infringement" shall refer to an infringement (or alleged infringement) of any patent, registered design, copyright, trade mark, trade name, trade secret or other intellectual or industrial property right relating to the Works; and "claim" shall refer to a claim (or proceedings pursuing a claim) alleging an infringement.
- 17.5.2 Whenever a Party does not give notice to the other Party of any claim within 30 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.
- 17.5.3 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:
- a) An unavoidable result of the Contractor's compliance with the Contract, or
 - b) A result of any Works being used by the Procuring Entity:
 - i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.
- 17.5.4 The Contractor shall indemnify and hold the Procuring Entity harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or

(ii) any design for which the Contractor is responsible.

1755 If a Party is entitled to be indemnified under this Sub-Clause, the indemnifying Party may (at its cost) conduct negotiations for the settlement of the claim, and any litigation or arbitration which may arise from it. The other Party shall, at the request and cost of the indemnifying Party, assist in contesting the claim. This other Party (and its Personnel) shall not make any admission which might be prejudicial to the indemnifying Party, unless the indemnifying Party failed to take over the conduct of any negotiations, litigation or arbitration upon being requested to do so by such other Party.

1756 For operation and maintenance of any plant or equipment installed, the contractor shall grant a non-exclusive and non-transferable license to the Procuring Entity under the patent, utility models, or other intellectual rights owned by the contractor or a third party from whom the contract or has received the rights to grant sub-licenses and shall also grant to the Procuring Entity a non-exclusive and non-transferable rights (without the rights to sub-license) to use the know how and other technical information disclosed to the contract or under the contract. Nothing contained here-in shall be construed as transferring ownership of any patent, utility model, trademark, design, copy right, know-how or other intellectual rights from the contractor or any other third party to the Procuring Entity.

17.6 Limitation of Liability

1761 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any indirect consequential loss or damage which may be suffered by the other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Procuring Entity's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

1762 The total liability of the Contractor to the Procuring Entity, under or in connection with the Contract other than under Sub-Clause 4.19 [Electricity, Water and Gas], Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], Sub-Clause 17.1 [Indemnities] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights], shall not exceed the sum resulting from the application of a multiplier (less or greater than one) to the Accepted Contract Amount, as stated in **the Special Conditions of Contract**, or (if such multiplier or other sum is not so stated) the Accepted Contract Amount.

1763 This Sub-Clause shall not limit liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

17.7 Use of Procuring Entity's Accommodation/Facilities

1771 The Contractor shall take full responsibility for the care of the Procuring Entity provided accommodation and facilities, if any, as detailed in the Specification, from the respective dates of hand-over to the Contractor until cessation of occupation (where hand-over or cessation of occupation may take place after the date stated in the Taking-Over Certificate for the Works).

1772 If any loss or damage happens to any of the above items while the Contractor is responsible for their care arising from any cause whatsoever other than those for which the Procuring Entity is liable, the Contractor shall, at his own cost, rectify the loss or damage to the satisfaction of the Engineer.

18. INSURANCE

18.1 General Requirements for Insurances

- 18.1.1 In this Clause, “insuring Party” means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.
- 18.1.2 Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Procuring Entity. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.3 Wherever the Procuring Entity is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.
- 18.1.4 If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Procuring Entity shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.
- 18.1.5 Each policy insuring against loss or damage shall provide for payments to be made in the currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.
- 18.1.6 The relevant insuring Party shall, within the respective periods stated in **the Special Conditions of Contract** (calculated from the Commencement Date), submit to the other Party:
- a) Evidence that the insurances described in this Clause have been affected, and
 - b) copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.1.7 When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Engineer.
- 18.1.8 Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.
- 18.1.9 Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.
- 18.1.10 If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contractor fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
- 18.1.11 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contract otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.

- 18.1.12 Procuring Entity in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.
- 18.1.13 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.
- 18.1.14 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

18.2 Insurance for Works and Contractor's Equipment

- 18.2.1 The insuring Party shall insure the Works, Plant, Material and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.
- 18.2.2 The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11 [Defects Liability]).
- 18.2.3 The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.
- 18.2.4 Unless otherwise stated in the Special Conditions, insurances under this Sub-Clause:
- a) shall be effected and maintained by the Contractor as insuring Party,
 - b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
 - c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],
 - d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Special Conditions** of Contract (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
 - e) may however exclude loss of, damage to, and reinstatement of:
 - i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - iii) a part of the Works which has been taken over by the Procuring Entity, except to the

extent that the Contractor is liable for the loss or damage, and

- iv) Goods while they are not in Kenya, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

1825 If, more than one year after the Base Date, the cover described in sub-paragraph (d) above ceases to be available at commercially reasonable terms, the Contractor shall (as insuring Party) give notice to the Procuring Entity, with supporting particulars. The Procuring Entity shall then (i) be entitled subject to Sub-Clause 2.5 [Procuring Entity's Claims] to payment of an amount equivalent to such commercially reasonable terms as the Contractor should have expected to have paid for such cover, and (ii) be deemed, unless he obtains the cover at commercially reasonable terms, to have approved the omission under Sub-Clause 18.1 [General Requirements for Insurances].

18.3 Insurance against Injury to Persons and Damage to Property

1831 The insuring Party shall insure against each Party's liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

1832 This insurance shall be for a limit per occurrence of not less than the amount stated in **the Special Conditions of Contract**, with no limit on the number of occurrences. If an amount is not stated in the **Special Conditions of Contract**, this Sub-Clause shall not apply.

1833 Unless otherwise stated in the Special Conditions, the insurances specified in this Sub-Clause:

- a) Shall be effected and maintained by the Contractor as insuring Party,
- b) shall be in the joint names of the Parties,
- c) shall be extended to cover liability for all loss and damage to the Procuring Entity's property (except things insured under Sub-Clause 18.2) arising out of the Contractor's performance of the Contract, and
- d) may however exclude liability to the extent that it arises from:
 - i) the Procuring Entity's right to have the Permanent Works executed on, over, under, in or
 - ii) through any land, and to occupy this land for the Permanent Works,
 - iii) damage which is an unavoidable result of the Contractor's obligations to execute the
 - iv) Works and remedy any defects, and
 - v) a cause listed in Sub-Clause 17.3 [Procuring Entity's Risks], except to the extent that cover is available at commercially reasonable terms.

18.4 Insurance for Contractor's Personnel

1841 The Contractor shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel.

1842 The insurance shall cover the Procuring Entity and the Architect against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Procuring Entity or of the Procuring Entity's Personnel.

1843 The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be effected by the Subcontractor, but the Contractor shall be responsible for compliance with this Clause.

19. FORCE MAJEURE

19.1 Definition of Force Majeure

19.1.1 In this Clause, "Force Majeure" means an exceptional event or circumstance:

- a) Which is beyond a Party's control,
- b) Which such Party could not reasonably have provided against before entering into the Contract,
- c) which, having arisen, such Party could not reasonably have avoided or overcome, and
- d) which is not substantially attributable to the other Party.

19.1.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
- c) riot, commotion, disorder, strike or lock out by persons other than the Contractor's Personnel,
- d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

19.2.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.

19.2.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.

19.2.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3 Duty to Minimize Delay

Each Party shall at all times use all reasonable endeavors to minimize any delay in the performance of the Contract as a result of Force Majeure. A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

19.4 Consequences of Force Majeure

19.4.1 If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/ or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in Kenya, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].

19.4.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

19.5 Force Majeure Affecting Subcontractor

If any Subcontractor is entitled under any contract or agreement relating to the Works to relief from force majeure on terms additional to or broader than those specified in this Clause, such additional or broader force majeure events or circumstances shall not excuse the Contractor's non-performance or entitle him to relief under this Clause.

19.6 Optional Termination, Payment and Release

19.6.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].

19.6.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:

- a) the amount payable for any work carried out for which a price is stated in the Contract;
- b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity's disposal;
- c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
- d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
- e) the Cost of repatriation of the Contractor's staff and lab or employed wholly in connection with the Works at the date of termination.

19.7 Release from Performance

Notwithstanding any other provision of this Clause, if any event or circumstance outside the control of the Parties (including, but not limited to, Force Majeure) arises which makes it impossible or unlawful for either or both Parties to fulfil its or their contractual obligations or which, under the law governing the Contract, entitles the Parties to be released from further performance of the Contract, then upon notice by either Party to the other Party of such event or circumstance:

- a) The Parties shall be discharged from further performance, without prejudice to the rights of either Party in respect of any previous breach of the Contract, and
- b) The sum payable by the Procuring Entity to the Contractor shall be the same as would have been payable under Sub-Clause 19.6 [Optional Termination, Payment and Release] if the Contract had been terminated under Sub-Clause 19.6.

20. SETTLEMENT OF CLAIMS AND DISPUTES

20.1 Contractor's Claims

- 20.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 20.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
- 20.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at an other location acceptable to the Engineer. Without admitting the Procuring Entity's liability, the Architect may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/ or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Architect to inspect all these records and shall (if instructed) submit copies to the Engineer.
- 20.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Architect fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/ or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:
- a) This fully detailed claim shall be considered as interim;
 - b) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/ or amount claimed, and such further particulars as the Architect may reasonably require; and
 - c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.
- 20.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Architect and approved by the Contractor, the Architect shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars but shall nevertheless give his response on the principles of the claim within the above defined time period.
- 20.1.7 Within the above defined period of 42 days, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.
- 20.1.8 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

- 20.1.9 If the Architect does not respond within the time frame defined in this Clause, either Party may consider that the claim is rejected by the Architect and any of the Parties may refer the dispute for amicable settlement in accordance with Clause 20.3.
- 20.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/ or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 20.3.

20.2 Procuring Entity's Claims

- 20.2.1 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.
- 20.2.2 The notice shall be given as soon as practicable and no longer than 30 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.
- 20.2.3 The particulars shall specify the Clause or other basis of the claim and shall include substantiation of the amount and/or extension to which the Procuring Entity considers itself to be entitled in connection with the Contract. The Architect shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/ or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].
- 20.2.4 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

20.3 Amicable Settlement

Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 20.1 above should move to commence arbitration after 60 days from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

20.4 Matters that may be referred to arbitration

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

- a) Whether or not the issue of an instruction by the Architect is empowered by these Conditions.
- b) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- c) Any dispute arising in respect risks arising from matters referred to in Clause 17.3 and Clause 19.
- e) 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 Procuring Entity and the Contractor agree otherwise in writing.

20.5 Arbitration

- 20.5.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration.
- 20.5.2 No arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 20.5.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 20.5.4 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 20.5.5 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision require mentor notice had been given.
- 20.5.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Engineer, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Architect from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.
- 20.5.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.
- 20.5.7 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Architect shall not be altered by reason of any arbitration being conducted during the progress of the Works.
- 20.5.8 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

20.6 Arbitration with National Contractors

- 20.6.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;
- i) Architectural Association of Kenya
 - ii) Institute of Quantity Surveyors of Kenya
 - iii) Association of Consulting Engineers of Kenya
 - iv) Chartered Institute of Arbitrators (Kenya Branch)
 - v) Institution of Engineers of Kenya
- 20.6.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.

20.7 Arbitration with Foreign Contractors

- 20.7.1 Arbitration with foreign contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.
- 20.7.2 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

20.8 Alternative Arbitration Proceedings

Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

20.9 Failure to Comply with Arbitrator's Decision

- 20.9.1 The award of such Arbitrator shall be final and binding upon the parties.
- 20.9.2 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

20.10 Contract operations to continue

Notwithstanding any reference to arbitration herein,

- 1.1.1 the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- 1.1.2 the Procuring Entity shall pay the Contractor any monies due the Contractor.

Section IX - Special Conditions of Contract

The following Special Conditions shall supplement the GCC. Whenever there is a conflict, the provisions here in shall prevail over those in the GCC.

Conditions	Sub-Clause	Data
Part A - Contract Data		
Procuring Entity's name and address	Heading	KENYA UTALII COLLEGE P.O BOX 31052-00600 NAIROBI
Name and Reference No. of the Contract	Heading and 1.1	<i>PROPOSED CONSTRUCTION OF KILGORIS CAMPUS FOR KENYA UTALII COLLEGE- NAROK COUNTY-PHASE II WP ITEM NO: D1202/NRK/RV/2401 JOB NO: 11426B TENDER NO;KUC/54/2025/2026 & 2026/2027</i>
Engineers Name and address	Heading and 3.1.1	The Project Manager is: WORKS SECRETARY, STATE DEPARTMENT FOR PUBLIC WORKS, P.O.BOX 30743-00100 NAIROBI
Contractor's Representative's name	4.3.1	<i>[insert the name of the Contractor's Representative agreed by the Procuring Entity prior to Contract signature]</i>
Key Personnel names	16.9.1	<i>[insert the name of each Key Personnel agreed by the Procuring Entity prior to Contract signature]</i>
Time for Completion	1.1.	104 Weeks after commencement
Defects Notification Period	1.1	<u>6 Months</u>
Sections	1.1	<i>If Sections are to be used, refer to Table: Summary of Sections below</i>
Electronic transmission systems	1.3	N/A
Time for the Parties entering into a Contract Agreement	1.6	Within 30days
Commencement Date	8.1.1	The Site Possession Date Shall be as agreed with the Project Manager
Time for access to the Site	2.1.1	No later than the Commencement Date, and not ealier than _____14_____days before Commencement Date
Architect Duties and Authority	3.1.6 (b) (ii)	Variations resulting in an increase of the Accepted Contract Amount shall require approval of the Procuring Entity.
Performance Security	4.2.1	The performance security will be in the form of a performance bond in the amount(s) of 5% (percent) of the accepted contract amount and in the same currency (ies) of the accepted contract amount
Normal working hours	6.5	Normal working hours shall be 8:00 a.m. to 5:00 p.m. on weekdays, including lunch break from 1.00 p.m. p.m. and 8:00 a.m. to 1:00 pm on Saturdays, with Sunday being as a day of rest.
Delay damages for the Works	8.7 & 14.15(b)	0.002%% of the Contract Sum per day

Maximum amount of delay damages	8.7.1	5% of the final Contract Price.

Conditions	Sub-Clause	Data
Provisional Sums	13.6. (b)(ii)	<i>[If there are Provisional Sums, insert a percentage for adjustment of Provisional Sums]</i> _____%
Adjustments for Changes in Cost	13.9	As per The Public Procurement and Asset Disposal Act, 2015
Total advance payment	14.2.1	<u>Shall not be granted</u>
Repayment amortization rate of advance payment	14.2.5 (b)	___N/A___%
Percentage of Retention	14.3.2 (c)	___10___%
Limit of Retention Money	14.3.2 (c)	___5___% of the Accepted Contract Amount
Plant and Materials	14.5.3(b)(i)	If Sub-Clause 14.5 applies: Plant and Materials for payment when delivered to the Site
	14.5.3(c)(i)	Plant and Materials for payment when delivered to the Site
Minimum Amount of Interim Payment Certificates	14.6.2	as per workdone and material on site.
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	Annual rate of three percentage points above the mean lending rate of the Central Bank in Kenya of the currency of payment
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	<i>As per the policy</i>
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1.6	<i>[Insert period for submission of evidence of insurance and policy. Period may be from 14 days to 30days.]</i> ___14___days ___14___days
Maximum number of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	<i>As per the policy</i>
Minimum amount of third-party insurance	18.3.2	<i>As per the policy</i>
The place of arbitration	20.7.2	<i>Nairobi, Kenya</i>

SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM NO. 2 – REQUEST FOR REVIEW

FORM No. 3-LETTEROF AWARD

FORM No. 4 - CONTRACT AGREEMENT

FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee]

FORM No. 6- PERFORMANCE SECURITY [Option 2– Performance Bond]

FORM No. 7 - ADVANCE PAYMENT SECURITY

FORM No. 8 - RETENTION MONEY SECURITY

FORM No 1: NOTIFICATION OF INTENTION TO AWARD OF CONTRACT

This Notification of Award shall be sent to each Tenderer that submitted a Tender and was not successful. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative

- i) Name: *[insert Authorized Representative's name]*
- ii) Address: *[insert Authorized Representative's Address]*
- iii) Telephone: *[insert Authorized Representative's telephone/fax numbers]*
- iv) Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

2. Date of transmission: *[email]* on *[date]* (local time)

This Notification is sent by *(Name and designation)* _____

3. Notification of Award

- i) Procuring Entity: *[insert the name of the Procuring Entity]*
- ii) Project: *[insert name of project]*
- iii) Contract title: *[insert the name of the contract]*
- iv) ITT No: *[insert ITT reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender by submitting a Procurement-related Complaint in relation to the decision to award the contracts.

a) The successful tenderers

i) Name of successful Tender _____

ii) Address of the successful Tender _____

iii) Contract price of the successful Tender Kenya Shillings _____
(in words _____)

b) The reasons for your tender being unsuccessful are as follows:

c) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out.

SNo	Name of Tender	Tender Price as read out	Tender's evaluated price (Note a)	One Reason Why Not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

- a) DEADLINE: The dead line to request a debriefing expires at midnight on *[insert date]* (local time).
- b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
 - i) Attention: *[insert full name of person, if applicable]*
 - ii) Title/position: *[insert title/position]*
 - iii) Agency: *[insert name of Procuring Entity]*
 - iv) Email address: *[insert email address]*
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, *[insert date]* (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - i) Attention: *[insert full name of person, if applicable]*
 - ii) Title/position: *[insert title/ position]*
 - iii) Agency: *[insert name of Procuring Entity]*
 - iv) Email address: *[insert email address]*
- c) At this point in the procurement process, you may submit a Procurement-related Complaint

challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website www.ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

- e) There are four essential requirements:
- i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process and is the recipient of a Notification of Intention to Award.
 - ii) The complaint can only challenge the decision to award the contract.
 - iii) You must submit the complaint within the period stated above.
 - iv) You must include, in your complaint, all of the information required to support your complaint.

7. **Standstill Period**

- i) DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

FORM FOR REVIEW (r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

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

BETWEEN

..... APPLICANT

AND

.....RESPONDENT (Procuring Entity)

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

REQUEST FOR REVIEW

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

- 1.
- 2.

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

- 1.
- 2.

SIGNED(Applicant) Dated on.....day of/...20.....

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on.....day of 20.....

SIGNED

Board Secretary

FORM NO 3: LETTER OF AWARD

letterhead paper of the Procuring Entity]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is here by accepted by.....*(name of Procuring Entity)*.

You are requested to furnish the Performance Security within in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:

Name and Title of Signatory:

Name of Procuring Entity:

Attachment: *Contract Agreement*:

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the day of..... 20....., between.....
.....of..... (hereinafter “the Procuring
Entity”), of the one part, and_____of
_____ (hereinafter “the Contractor”), of the
other part:

WHEREAS the Procuring Entity desires that the Works known as_____should
be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and
completion of these Works and the remedying of any defects there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - a) The Notification of Award
 - b) the Form of Tender
 - c) the addenda Nos_____(if any)
 - d) the Special Conditions of Contract
 - e) the General Conditions of Contract;
 - f) the Specifications
 - g) the Drawings; and
 - h) the completed Schedules and any other documents forming part of the contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor here by covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity here by covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects there in, 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.

INWITNESS where of the parties here to have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by_____ (for the Procuring Entity)

Signed and sealed by_____ (for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: *[insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with (name of Procuring Entity) _____ (the Procuring Entity as the Beneficiary), for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *(in words)*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.
4. This guarantee shall expire, no later than the Day of, 20.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
.....

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹*The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.*

²*Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM No. 6- PERFORMANCE SECURITY

[Option 2– Performance Bond]

*[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]
[Guarantor letterhead or SWIFT identifier code]*

Beneficiary:

[insert name and address of Procuring Entity]

Date: _____ *[Insert date of issue]*

PERFORMANCE BOND No.: _____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond _____ as Senior Principal (hereinafter called “the Contractor”) and _____ as Surety (hereinafter called “the Surety”), are held and firmly bound unto _____ as Obligee (hereinafter called “the Procuring Entity”) in the amount of _____ for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.
2. WHEREAS the Contractor has entered into a written Agreement with the Procuring Entity dated the _____ day of _____, 20_____, for _____ in accordance with the documents, plans, specifications, and amendments there to, which to the extent here in provided for, are by reference made part here of and are here in after referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
 - a) Complete the Contract in accordance with its terms and conditions; or
 - b) Obtain a tender or tenders from qualified tenderers for submission to the Procuring Entity for completing the Contract in accordance with its terms and conditions, and upon determination by the Procuring Entity and the Surety of the lowest responsive Tenderers, arrange for a Contract between such Tenderer, and Procuring Entity and make a available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
 - c) Pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions upto a total not exceeding the amount of this Bond.
4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.
5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named here in or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.

6. In testimony whereof, the Contractor has here unto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly at tested by the signature of his legal representative, this day _____ of _____ 20____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ [Insert name and Address of

Procuring Entity] **Date:** _____ [Insert date of issue]

ADVANCE PAYMENT GUARANTEE No.: _____ [Insert guarantee reference number]

Guarantor: [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (in words _____) is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (in words _____)¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
 - a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
 - b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____.
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the ____ day of _____, 20____, ² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.

²Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee

FORM NO. 8 – RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys upto the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[insert the second half of the Retention Money]* is to be made against a Retention Money guarantee.
3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* *[insert amount in words _____]*¹ upon receipt by us of the Beneficiary's complying demands supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number at _____ *[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the Day of ², and any demand for payment under it must be received by us at the office indicated above on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹ *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.*

² *Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee*

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM**(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)****INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM**

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.

Tender Reference No.: _____ [insert identification

no] Name of the Tender Title/Description: _____ [insert name of the

assignment] to: _____ [insert complete name of Procuring Entity]

In response to the requirement in your notification of award dated _____ [insert date of notification of award] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

I) We here by provide the following beneficial ownership information.

Details of Beneficial ownership

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
1.	Full Name		Directly----	Directly.....	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes - ----No---- 2. Is this right held directly or indirectly?: Direct.....	1.Exercises significant influence or control over the Company body of the Company (tenderer) Yes ----No---- 2. Is this influence or control exercised
	National identity card number or Passport number		-----% of shares	% of voting rights		
	Personal Identification Number (where applicable)		Indirectly--	Indirectly-----		
	Nationality		-----% of shares	---% of voting rights		
	Date of birth					

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
	[dd/mm/yyyy]					directly or indirectly?
	Postal address				Indirect..... ..	Direct.....
	Residential address					Indirect.....
	Telephone number					
	Email address					
	Occupation or profession					
2.	Full Name		Directly--- -----% of shares	Directly.....% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes - ----No----	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes ----No----
	National identity card number or Passport number		Indirectly-- -----% of shares	Indirectly----- ---% of voting rights	2. Is this right held directly or indirectly?: Direct..... Indirect..... ..	2. Is this influence or control exercised directly or indirectly? Direct..... Indirect.....
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth [dd/mm/yyyy]					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					

	Details of all Beneficial Owners	% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
3. e. t. c					

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

- (a) holds at least ten percent of the issued shares in the company either directly or indirectly;
- (b) exercises at least ten percent of the voting rights in the company either directly or indirectly;
- (c) holds a right, directly or indirectly, to appoint or remove a director of the company; or
- (d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer: *[insert complete name of the Tenderer]_____

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

Designation of the person signing the Tender:..... [insert complete title of the person signing the Tender]

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

Date this [insert date of signing] day of..... [Insert month], [insert year]

Bidder Official Stamp

PART IV- BILLS OF QUANTITIES

BILL NO.1

PARTICULAR PRELIMINARIES

ITEM	DESCRIPTION	AMOUNT
A	EMPLOYER The Employer is Kenya Utalii College,P.O. BOX 31052-00600, NAIROBI. The term "Employer" and "Government" wherever used in the contract document shall be synonymous.	
B	PROJECT MANAGER The term "P.M" or "Project Manager" wherever used in these Bills of Quantities shall be deemed to imply the "Engineer" as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
C	ARCHITECT The term "Architect" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
D	QUANTITY SURVEYOR The term "Quantity Surveyor" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is the Ministry of Transport, Infrastructure, Housing and Urban Development & Public Works: State Department for Public Works, P.O.Box 30743-00100, NAIROBI	
E	STRUCTURAL ENGINEER The term "Structural Engineer" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
F	CIVIL ENGINEER The term "Civil Engineer" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	ELECTRICAL ENGINEER The term "Electrical Engineer" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government. MECHANICAL ENGINEER The term "Mechanical Engineer" shall be deemed to mean "the P.M" as defined above whose address, unless otherwise notified, is as defined in Condition 1 of the Conditions of Contract or such person or persons as may be duly authorised to represent him on behalf of the Government.	
C	DESCRIPTION OF THE WORKS SCOPE OF CONTRACT <u>Generally:</u> The work comprises of construction of Kilgoris Campus ,associated Civil works, electrical and mechanical engineering services. 2.1 Substructure Works Site clearance and stripping of topsoil. Excavation and foundation trenching. Concrete strip foundations. Foundation walling (approved masonry). Hardcore fill, compaction, and concrete ground slab. DPM, anti-termite treatment, and blinding. 2.2 Superstructure Works Walling in machine-cut dressed stone or concrete block. Reinforced concrete columns, beams, and suspended slabs Provision of door and window lintels. 2.3 Roofing Works Steel or timber roof truss fabrication and installation. Roofing sheets (gauge and profile per specification). Fascia boards, barge boards, and rainwater disposal systems. 2.4 Finishes Internal plaster to walls and ceilings. Screed or tile finishes to floors. Internal and external painting using approved paint system. Installation of blackboards/whiteboards and notice boards.	
	<i>Carried to Collection</i>	

ITEM	DESCRIPTION	AMOUNT
	2.5 Doors and Windows Supply and fix steel casement windows with burglar proofing. Installation of solid core flush doors or steel panel doors. Fitting of locks, hinges, and other ironmongery. 2.6 Electrical Installation Conduits and cabling for lighting and power. Switches, sockets, and light fittings. Provision for future ICT installations (as required). 2.7 Mechanical Installation (Plumbing & Drainage) Water piping to washrooms and hand wash areas. Installation of WCs, urinals, hand wash basins. Drainage piping, manholes, and connection to septic tank/soak pit. 2.8 External Works Paved walkways and ramps. Construction of drainage channels. Landscaping and planting (if applicable). Construction of septic tank and soak pit (if not connected to mains sewer). Elevated water tank structure and supply system (if applicable). 2.9 Completion Testing and commissioning of all services. Snagging, cleaning, and handing over. Provision of as-built drawings and operation manuals	
C	<u>FLOOR AREAS</u> Total Areas Administration Block =4120SM Power House =89SM <u>Note :</u> The above areas are given as a guide an no warranty is given for their accuracy.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	LOCATION OF SITE The site of the proposed works is ILLDOLISHO KILGORIS-NAROK COUNTY The Contractor shall be deemed to have visited the site and satisfied himself as to:- a) The nature, position, topography and access of the site b) The amount of the rubbish or debris to be cleared away before commencement c) The nature, current usage, proximity and size of adjoining property and buildings d) The availability of land for the erection and positioning of all temporary structures, plant and materials necessary for the execution of the works. The Contractor shall obtain approval from the relevant Local Authority in adherence to site access and erection of temporary structures and must ensure all matters relating to the requirements of these authorities. No claim will be allowed for travelling or other expenses which may be incurred by the Contractor in visiting the site or preparing the tender for the works. The Contractor is advised that the site is within a compound in use and all measures should be taken to avoid nuisance to the existing users. All occupation health and safety requirements must be met as required by law. This includes prevention/ minimizing noise, dust, fumes, providing access to public facilities as required (lifts, washrooms, staircases). Notices should be given prior to disruption of services. Where necessary the Contractor will provide temporary facilities for use as instructed by the Project Manager. MEASUREMENTS The works are measured in accordance with the Standard Method of Measurement of Building Works 2008 Edition, published by the Architectural Association of Kenya In the event of any discrepancies arising between the Bills of Quantities and the actual works, the site measurements shall generally take precedence. However, such discrepancies between any contract documents shall immediately be referred to the PROJECT MANAGER SIGNING OF THE TENDER DOCUMENTS	
C	The bidder shall append his / her signature and / or company's rubber stamp on each and every page of tender document.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	DEMOLITIONS AND ALTERATIONS The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs, etc as directed by the Project Manager and as necessary for the adequate propping and protection of existing property, finishes, workmen employed on the site, employer's agents and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the works and any necessary making good consequent upon this is to be executed to the satisfaction of the Project Manager. The works shall be propped, strutted and supported as necessary before any alteration or demolition work commences. Prices shall include for all cleaning and preparatory work to structure and finishes and for making good to all finishes on completion whether or not specifically described Unless described as set aside for re-use all arising debris and surplus materials shall be carefully removed from building and carted away from site. The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use during their removal unless it is certified by the Project Manager that such damage or breakage was inevitable as a result of the condition of the item concerned. MATERIALS FROM DEMOLITIONS Any materials arising from demolitions and not re-used shall become the property of the Ministry of Public Works. The Contractor shall allow in his rates the cost of transporting the demolished materials to where directed by the Project Manager., CLEARING AWAY The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains. The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project Manager.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	CLAIMS / COMPENSATION EVENTS A It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contract period. URGENCY OF THE WORKS B The Contractor is notified that these “ works are urgent” and should be completed within the period stated in the Conditions of Contract. The Contractor shall allow in his rates for any costs he/ she deems that he/she may incur by having to complete these works within the stipulated contract period. PREVENTION OF ACCIDENT, DAMAGE OR LOSS C The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other normal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accident WORKING CONDITIONS D The Contractor shall allow in his rates for any interference that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed. SIGNBOARD E Allow for providing, erecting, maintaining throughout the course of the Contract and afterwards clearing away a signboard as designed, specified and approved by the Project Manager. LABOUR CAMPS F The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the contract. PRICING RATES G The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
A	SECURITY The Contractor shall allow for providing adequate security for the works and the workers in the course of execution of this contract. No claim will be entertained from the Contractor for not maintaining adequate security for both the works and workers. EXISTING SERVICES Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned BID SECURITY The Bidder shall furnish, as part of his bid, a security in accordance with clause 19.1 of Instruction to Tenderers (Section I of the Tender Document) Guarantees issued as surety for the bid shall be valid for a period of One Hundred and Fifty Six (168) days from the date of Tender Opening. PERFORMANCE SECURITY A bond of 5% of the contract sum will be required in accordance with clause 48.0 of Instruction to Tenderers (Section I of the Tender Document) and Clause 4.2 of the General Conditions of Contract (Section VIII of the Tender Document). Note that no payments on account of works executed will be made to the Contractor until he has submitted the Performance Bond to the Project Manager, duly stamped signed and sealed by an approved bank or insurance company	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	INSURANCE A The Contractor shall insure as required in Condition No. 18 of the Conditions of Contract. No payment on account of the work executed will be made to the Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the PROJECT MANAGER shall from time to time ascertain that premiums are duly paid up by the Contractor who shall, if called upon to do so, produce the receipted premium renewals for the PROJECT MANAGER's inspection. TENDER DOCUMENTS B Tender documents are as listed in Clause 11 of Section I- Instruction to Tenderers of the Tender Document. VALUE ADDED TAX C The Contractor's attention is drawn to V.A.T PUBLIC NOTICE NO. 6 of 5th August, 1993 regarding the Finance Bill 1993 which expanded the V.A.T base to cover construction services amongst other items. The Contractor shall familiarise himself with the said notice and allow in all his Bills of Quantities rates for the net tax. (i.e less input tax where applicable) as required by law. The tenderer is advised that in accordance with Government Public Notice No.35 &36 dated 11th September 2003, operational from 1st October 2003, V.A.T will be deducted against the contract sum at the prevailing rate by the Employer and remitted directly to the Commissioner of V.A.T through all interim certificates. It should however be noted that this is not additional tax but a new mode of payment for V.A.T, any excess payment will be refundable once the Contractor has submitted monthly returns to the Commissioner of V.A.T who will do the refunds when satisfied that the V.A.T regulations have been complied with.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	<u>PROJECT MANAGEMENT EXPENSES</u>	
	<u>This sum is to cover expenses related to supervision, site visits, and administrative support during the implementation of the works. Disbursement will be subject to approval by the Project Manager.</u>	
A	Allow a Provisional Sum of Kenya Shillings Ten Million (Kshs. 10,000,000.00) only to cover Project Management Supervision Expenses.	
B	Allow for taxes, profits and overheads for the Item above (%)	
	<u>Resident Engineer /Clerk of Works Expenses.</u>	
C	Allow a provisional sum of Kenya Shillings Two Million (Kshs2,000,000.00) only for Resident Engineer /Clerk of Works Expenses.	
D	Allow for Profits,Taxes and Attendance (%)	
	<u>TECHNICAL TRAINING</u>	
E	Allow a provisional sum of Kenya Shillings Five Hundred Thousand (Kshs.500,000.00) only for Technical Training.	
F	Allow for Profits,Taxes and Attendance (%)	
	<u>Capacity Building Levy by PPRA</u>	
G	The Contractor's attention is drawn to section 24(5) d and 180 of the PPAD Act, Public Procurement Capacity building levy order, 2023, legal notice No.206 of 6th November, 2023, provides that "a procuring entity is mandated to ensure that there shall be a paid levy by the supplier on all procurement contracts signed between the supplier and the procuring entity at the rate of 0.03% of the value of the signed contract exclusive of applicable taxes."	
H	Allow for taxes, profits and overheads for the Item above (%)	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	<u>COLLECTION</u> 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 Brought forward from page PP/10	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO GRAND SUMMARY	

BILL NO.2

GENERAL PRELIMINARIES

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

ITEM	DESCRIPTION	AMOUNT
	A SUFFICIENCY OF TENDER The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the priced Bills of Quantities. Rates and prices quoted shall cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works B RECORDS The Contractor shall ensure proper records are kept and maintained for : Daily Reports on Personnel and Machinery; tracked programme; site photographs in digital camera; weather charts/reports; site instruction book and query book. a digital camera shall be provided for taking progress photos PLANT, TOOLS AND VEHICLES C Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub- Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work. TRANSPORT. D Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A MATERIALS AND WORKMANSHIP. All work is to be carried out in accordance with the Ministry of Works General Specifications for Building Works, 1976 Edition together with any amendments thereto. All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials. B SIGN FOR MATERIALS SUPPLIED. The Contractor will be required to sign a receipt for all articles and materials supplied by the CLIENT at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the CLIENT at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER C STORAGE OF MATERIALS The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER. Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.	
	Carried to collection	

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

ITEM	DESCRIPTION	AMOUNT
A	PUBLIC AND PRIVATE ROADS. The contractor shall maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the Project Manager. B EXISTING PROPERTY. The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the Project Manager. C OCCUPATIONAL HEALTH AND SAFETY MEASURES The Project Manager expects the contractor to adhere to strict safety measures. In this regard the contractor should ensure that all his workers, the consultants and his sub-contractors workmen are wearing Personal Protective Equipment (PPE) before commencement of any work where applicable including overalls with the company name clearly printed on the back each with clearly marked Identification Numbers stitched or imprinted on. The Contractor shall allow for providing all watching, lighting, barriers, signs, covering open trenches and protection of the works, including Sub-Contract works, as may be necessary for the safety of the works and for the protection of the public and his own and Sub-Contractors' employees. He shall also ensure provision of first aid staff, access to ambulance services at all worksites and arrangement to access local hospital/dispensary with qualified medical staff. The Project Manager expects full compliance to this regulation and no excuses will be entertained for non-compliance. OCCUPATIONAL HEALTH AND SAFETY PERSONEL D The contractor shall allow for Occupational Health and Safety personnel as directed and afford every reasonable facility for the performance of their duties.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A ACCESS TO SITE AND TEMPORARY ROADS. Means of access to the Site shall be agreed with the CLIENT prior to commencement of the work and Contractor must allow for building any necessary temporary access roads for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER B AREA TO BE OCCUPIED BY THE CONTRACTOR The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER C OFFICE FOR THE PROJECT MANAGER The contractor shall , if so instructed, supply, maintain, service, clean and light a fully furnished, suitable office, having an approximate floor area of not less than 50 sqm for exclusive use of the project. The office shall have a sample room, a toilet and bathroom, kitchen of suitable dimensions with clean running water and electricity connected to the approval of the Project Manager. The Contractor shall provide, erect and maintain a lock-up type water or bucket closet for the sole use of the PROJECT MANAGER including making temporary connections to the drain where applicable to the satisfaction of Government and Medical Officer of Health and shall provide services of cleaner and pay all conservancy charges and keep both office and closet in a clean and sanitary condition from commencement to the completion of the works and dismantle and make good disturbed surfaces. The office and closet shall be completed before the Contractor is permitted to commence the works. The Contractor shall make available on the Site as and when required by the "PROJECT MANAGER" a modern and accurate level together with levelling staff, ranging rods and 50 metre metallic or linen tape. On completion of the contract, the contents of the office specified above shall revert to the Client. The contractor shall be responsible throughout the contract period for provision of insurance cover, maintenance of the office equipment and furniture, providing all necessary staff and providing security and garbage disposal facilities	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A LIGHTING AND POWER The contractor shall provide at his own risk and cost all temporary artificial lighting and power for use on the works including all sub-contractors and specialists requirements and including all temporary connections, wiring, fittings etc. and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection therewith.	
	B WATER FOR THE WORKS The Contractor shall provide at his own risk and cost all necessary water required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. The contractor is to provide clean drinking water at the construction site for his workers at all times. All water shall be fresh, clean and pure, free from earthly vegetable or organic matter, acid or alkaline substance in solution or suspension.	
	C SANITATION OF THE WORKS The Sanitation of the works shall be arranged and maintained by the Contractor to the satisfaction of the Government and/or Local Authorities, Labour Department and the PROJECT MANAGER He may however be allowed use of the existing sanitation facilities but shall be responsible for the proper hygienic maintenance and any damage whatsoever. No guarantees are however given regarding the adequacy of the existing services The Contractor will be required to pay all conservancy charges and shall ensure clean daily maintenance and disinfecting of the latrines, and not less than once per week, the whole area shall be sprayed with disinfectant and insecticides and any temporary drains shall be removed and all works and surfaces disturbed made good and then the whole area disinfected and left clean and free from pollution to the satisfaction of the Architect and local authorities.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A SUPERVISION AND WORKING HOURS The works shall be executed under the direction and to the entire satisfaction in all respects of the PROJECT MANAGER who shall at all times during normal working hours have access to the works and to the yards and workshops of the Contractor and sub-Contractors or other places where work is being prepared for the contract. B PROVISIONAL SUMS. The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement. Such sums are net and no addition shall be made to them for profit. C PRIME COST (OR P.C.) SUMS. The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement . Persons or firms nominated by the Project Manager to execute work or to provide and fix materials or goods are described herein as Nominated Sub-Contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers. D PROGRESS CHART. The Contractor shall provide within two weeks of Possession of Site and in agreement with the PROJECT MANAGER a Progress Chart for the whole of the works including the works of Nominated Sub-Contractors ; one copy to be handed to the PROJECT MANAGER and a further copy to be retained on Site. Progress to be recorded and chart to be amended as necessary as the work proceeds.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A ADJUSTMENT OF P.C. SUMS. In the final account all P.C. Sums shall be deducted and the amount properly expended upon the PROJECT MANAGER'S order in respect of each of them added to the Contract sum. The Contractor shall produce to the PROJECT MANAGER such quotations, invoices or bills, properly receipted, as may be necessary to show the actual details of the sums paid by the Contractor. Items of profit upon P.C. Sums shall be adjusted in the final account pro-rata to the amount paid. Items of "attendance" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them. Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor. B ADJUSTMENT OF PROVISIONAL SUMS. In the final account all Provisional Sums shall be deducted and the value of the work properly executed in respect of them upon the PROJECT MANAGER's order added to the Contract Sum. Such work shall be valued , but should any part of the work be executed by a Nominated Sub- Contractor or the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added. C NOMINATED SUB-CONTRACTORS When any work is ordered by the PROJECT MANAGER to be executed by nominated sub-contractors, the Contractor shall enter into sub-contracts and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the Contractor is to provide for such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	DIRECT CONTRACTS A Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum in the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed. ATTENDANCE UPON OTHER TRADESMEN, ETC. B The Contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The Contractor, however, shall not be required to erect any special scaffolding for them. The Contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the PROJECT MANAGER and the work will be measured and paid for to the extent executed at rates provided in these Bills. PROVISIONAL WORK C All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment will be made. All "Provisional" and other work liable to adjustment under this Contract shall be left uncovered for a reasonable time to allow all measurements needed for such adjustment to be taken by the PROJECT MANAGER. Immediately the work is ready for measuring, the Contractor shall give notice to the PROJECT MANAGER. If the Contractor makes default in these respects he shall, if the PROJECT MANAGER so directs, uncover the work to enable all measurements to be taken and afterwards reinstate at his own expense.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	ALTERATIONS TO BILLS, PRICING, ETC. A Any unauthorized alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The Contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted. BLASTING OPERATIONS B Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives. MATERIALS ARISING FROM EXCAVATIONS C Materials of any kind obtained from the excavations shall be the property of the Client. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER. Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A PROTECTION OF THE WORKS. Provide protection of the whole of the works contained in the Bills of Quantities, including casing , casing up, covering or such other means as may be necessary to avoid damage to the satisfaction of the PROJECT MANAGER and remove such protection when no longer required and make good any damage which may nevertheless have been done at completion free of cost to the Client. B WORKS TO BE DELIVERED UP CLEAN Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the PROJECT MANAGER C GENERAL SPECIFICATION. For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.	
	Carried to collection	

ITEM	DESCRIPTION	AMOUNT
	A TRAINING LEVY The Contractor's attention is drawn to legal notice No. 237 of October, 1971, which requires payment by the Contractor of a Training Levy at the rate of 1/4 % of the Contract sum on all contracts of more than Kshs. 50,000.00 in value. B MATERIALS ON SITE All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers. C HOARDING The Contractor shall enclose the site or part of the works under construction with a hoarding 2400 mm high consisting of iron sheets on 100 x 50 mm timber posts firmly secured at 1800 mm centers with two 75 x 50 mm timber rails. The Contractor is in addition required to take all precautions necessary for the safe custody of the works, materials, plant, public and Employer's property on the site. D CONTRACTOR'S SUPERINTENDENCE/SITE AGENT The Contractor shall constantly keep on the works a literate English speaking Agent or Representative, competent and experienced in the kind of work involved who shall give his whole experience in the kind of work involved and shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor all directions and instructions from the Project Manager and such directions shall be deemed to have been given to the Contractor in accordance with the Conditions of Contract.	
	Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
	<u>COLLECTION</u> Brought Forward From Page GP/1 Brought Forward From Page GP/2 Brought Forward From Page GP/3 Brought Forward From Page GP/4 Brought Forward From Page GP/5 Brought Forward From Page GP/6 Brought Forward From Page GP/7 Brought Forward From Page GP/8 Brought Forward From Page GP/9 Brought Forward From Page GP/10 Brought Forward From Page GP/11 Brought Forward From Page GP/12 Brought Forward From Page GP/13	
	TOTAL CARRIED TO GRAND SUMMARY	

SUMMARY OF PRELIMINARIES

SUMMARY OF PRELIMINARIES

BILL NO	BILL TITLE	PAGE NO.	AMOUNT
1	PARTICULAR PRELIMINARIES	PP /11	
2	GENERAL PRELIMINARIES	GP /14	
TOTAL FOR PRELIMINARIES CARRIED TO GRAND SUMMARY			

BILL NO.3
BUILDERS' WORKS

GROUND FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 1:</u>				
	<u>SUBSTRUCTURES</u>				
	<u>All Provisional</u>				
	<u>Site Preparation</u>				
A	Clear site of grass, bushes, shrubs and small trees not exceeding 300mm girth, including grubbing up roots, burning or carting away all arisings as directed	1843	SM		
	<u>EXCAVATIONS AND EARTHWORKS:</u>				
B	Excavate and remove topsoil to an average depth of 200mm to remove vegetable soil, and deposit/store as directed on site for reuse or disposal	1843	SM		
C	Excavate oversite to reduce levels in normal soil not exceeding 1.50 metres deep from stripped level, including loading, carting away surplus excavated material to spoil or dumping area as directed, and levelling and compacting the formation	2765	CM		
D	Ditto over 1.50 metres but not exceeding 3.00 metres	2765	CM		
E	Excavate for strip footing foundations not exceeding 1.50 metres deep, starting from reduced levels.	810	CM		
F	Excavate for column bases not exceeding 1.5 metres deep starting from reduced levels.	560	CM		
G	Excavate for retaining wall not exceeding 1.5 metres deep starting from reduced levels.	119	CM		
H	Excavate base for lift foundation not exceeding 1.5 metres starting from reduced levels.	22	CM		
J	<u>Extra over</u> all descriptions of excavations and removal from site for breaking up rocks; irrespective of class	856	CM		
K	<u>Extra over</u> levelling and compacting bottom of excavations.	1264	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	Allow for keeping excavations free from water and mud by pumping, bailing or other approved method.		ITEM		
B	Allow for maintaining and supporting sides of all excavations and keeping same free from fallen material.		ITEM		
	<u>Disposal:</u>				
C	Return, fill and ram with selected and suitable excavated material in and around foundations.	2480	CM		
D	Load and cart away surplus excavated materials from site to a dumping site approved by the Local Authority.	5786	CM		
	<u>Filling:</u>				
E	Approved hand packed hardcore filling to make up levels: compacted in layers not exceeding 150mm thick : to the satisfaction of the Structural Engineer.	2268	CM		
F	Approved Imported murram fillings to make up levels : compacted in layers not exceeding 150mm Thick : to the satisfaction of the Structural Engineer.	3780	CM		
G	300mm Thick Approved hand packed hardcore: compacted in layers not exceeding 150mm Thick : to the satisfaction of the Structural Engineer.	1260	SM		
H	50 mm Thick Quarry dust blinding to surfaces of hardcore filling, levelled and compacted to approval.	1260	SM		
	<u>Anti-Termite Treatment:</u>				
I	Insecticide treatment on top of blinded hardcore and over foundation walls applied as per manufacturer's instruction with a 10 year guarantee .	1260	SM		
	<u>Damp proof mebrane</u>				
J	Single layer of 1000 gauge polythene sheeting laid on blinded hardcore with 150 mm side laps to receive concrete.	1260	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>CONCRETE WORKS:</u>				
	<u>Plain concrete (1:3:6) in:-</u>				
A	50 mm Thick blinding in column bases.	467	SM		
B	Ditto: strip footing.	675	SM		
C	Ditto: Retaining wall bases.	107	SM		
D	Ditto: Lift foundation base.	15	SM		
	<u>Vibrated Reinforced Concrete Class 25 in:-</u>				
E	Column bases	187	CM		
F	Foundation Columns.	60	CM		
G	Strip footing foundations	135	CM		
H	Retaining wall base	32	CM		
I	Lift foundation Base	9	CM		
J	200 mm Lift walls	20	SM		
K	300 mm Retaining walls	180	SM		
L	Entrance steps at ground floor.	34	CM		
M	200 Thick entrance ramps ground floor.	133	SM		
N	150 mm Thick horizontal floor bed	1260	SM		
O	Ground Beams	69	CM		
	<u>REINFORCEMENT STEEL (Provisional):</u>				
	<u>Deformed high yield ribbed bars reinforcement to BS 4449: 1997 with yield strength of 460N/mm² : cut, bend and fix as directed : tenderers to allow in their unit rate, cost for cutting, bending, hoisting and fixing including all necessary tying wires, distance blocks, templates and spacer stools</u>				
P	8 mm bars.	14637	KG		
Q	10 mm ditto.	21956	KG		
R	12 mm ditto.	7319	KG		
S	Assorted bars 16-20mm.	29274	KG		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>B.R.C. Mesh</u>				
A	Supply and fix BRC fabric mesh reinforcement type A142 including cutting, laying, laps, tying wire, supports/spacers and all necessary accessories; all as per structural drawings.	1260	SM		
B	Ditto ramp ditto.	133	SM		
	FORMWORK				
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
C	Sides of column bases.	288	SM		
D	Vertical sides of Foundation Columns.	399	SM		
E	Strip footing foundations	450	SM		
F	Retaining wall base	68	SM		
G	Lift foundation base	10	SM		
H	Vertical sides of retaining wall	360	SM		
J	Vertical sides of lift walls	40	SM		
K	Edges of floor bed girth 75 - 150 mm High	205	LM		
L	Edges of risers girth 75 - 150 mm girth for the Entrance steps.	34	LM		
M	Edges of ramp girth 150-225 mm girth.	34	LM		
N	Sides of ground Beams	920	SM		
	<u>Foundation Walling</u>				
	200mm Thick approved natural stone; local; roughly squared to foundation walling; bedding and jointing in cement sand (1:3) mortar and reinforced with 25mm wide x 20 gauge hoop iron in alternate courses as described in:				
O	200 mm Thick Walling	2813	SM		
	Skin walling				
P	200 mm Thick Skin walling	180	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Expansion joint filler as described to:</u>				
A	Form or leave 25 mm thick joint in 200 mm thick reinforced concrete slab (m/s) including all necessary formwork and forming holes.	108	LM		
B	25mm Thick "STYROPOR" or other equal and approved expansion material.	43	SM		
C	25 mm x 25 mm deep " NITOSEAL MS 100 " or other equal and approved expansion joint filler in joint with 60 x 60 x 4 mm angle lugs.	108	LM		
	<u>WATER-PROOFING:</u>				
	<u>Insitu cement and sand (1:3) plaster with steel trowelled finish , on masonry wall .</u>				
D	Lift walls	40	SM		
E	Retaining walls	180	SM		
	<u>Waterproof coating:</u>				
	<u>Penetron two part cementitious capillary waterproof coating or other equal and approved material; applied as per the manufacturer's printed instructions under a ten-year guarantee and provide guarantee certificate; all to B.S 1097 as described to:</u>				
F	Lift walls	40	SM		
G	Retaining walls	180	SM		
	<u>40 mm thick cement and sand (1:4) with "Sika-1" or other equal and approved integral waterproofing additive applied to manufacturer's printed instructions; to receive waterproofing</u>				
H	Lift walls	40	SM		
J	Retaining walls	180	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 2:</u>				
	<u>REINFORCED CONCRETE WORK:</u>				
	<u>CONCRETE WORK:</u>				
	<u>Vibrated reinforced concrete Class 25/20 with approved admixtures</u>				
A	Beams	254	CM		
B	Columns	75	CM		
C	200 mm Thick lift walls	30	SM		
D	175 mm Thick suspended floor slab	628	SM		
	<u>Hollow block suspended floors ; all to Structural Engineer's detail</u>				
E	Construct 380mm thick overall hollow pot slab comprising 300 x 225 x 375mm deep precast concrete hollow pots stuffed with polystyrene pellets, 500 x 300mm reinforced concrete ribs at 530mm centres, and 75mm thick in-situ reinforced concrete Class 25/20 topping	632	SM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
F	8 mm diameter bars	10535	KG		
G	10 mm diameter bars	9296	KG		
H	12 mm ditto	9916	KG		
J	16 mm ditto	14254	KG		
K	Assorted bars 20 -32mm.	17972	KG		
	<u>Steel mesh fabric reinforcement to B.S. 4483</u>				
L	Supply, deliver and fix BRC mesh reinforcement type A142, in floor beds, slabs or as directed,Laid with minimum 150 mm side and end laps,Properly secured with tying wire,Including all necessary supports, spacers, laps, cutting, wastage, and tying wire	632	SM		
M	200mm wide x 200mm deep lintel reinforced with and including -4No. 10mm diameter high tensile bars with Hooked ends including -handling bars	58	LM		
	<u>Carried to collection</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Formwork</u>				
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
A	Sides and soffits of beams	2025	SM		
B	Sides of columns	500	SM		
C	Sides of lift walls	60	SM		
D	Horizontal soffits of Solid suspended slab	628	SM		
E	Horizontal soffits of hollow pot suspended slab	632	SM		
F	Formwork to edges of slab, vertical, not exceeding 150mm high	256	LM		
G	Boxing in formwork to form lift door opening ; size 1400 x 2000 mm High : 200 mm Thick walls	2	NO		
	<u>Expansion joint filler as described to:</u>				
H	Form or leave 25 mm thick joint in 200 mm thick reinforced concrete slab (m/s) including all necessary formwork and forming holes.	108	LM		
J	25mm Thick "STYROPOR" or other equal and approved expansion material.	43	SM		
K	25 mm x 25 mm deep " NITOSEAL MS 100 " or other equal and approved expansion joint filler in joint with 60 x 60 x 4 mm angle lugs.	108	LM		
	<u>Carried to collection</u>				
	<u>COLLECTION</u>				
	Brought forward from page GF/8				
	Brought forward from above				
	<i>Amount carried to summary</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 3</u>				
	<u>STAIRCASES</u>				
	<i>The Following in 3 No. Staircases</i>				
	<u>Vibrated Reinforced Concrete Class 25 in:-</u>				
A	Steps , stringers and waist	8	CM		
B	150 mm Thick landing	15	SM		
C	Stair beam.	2	CM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
D	8 mm diameter bars	978	KG		
E	10 mm ditto	217	KG		
F	12 mm ditto	1125	KG		
G	16 mm ditto	675	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
H	Horizontal soffits of landing	15	SM		
I	Sloping soffits of staircases	24	SM		
J	Sides and soffits of beams	12	SM		
K	Vertical edges of staircase over 150 mm and not exceeding 225 mm High	114	LM		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Railling</u>				
A	Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete	18	LM		
	<u>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint as "Crown" or other equal and approved manufacturer on:</u>				
B	Surfaces of open grind balcony/staircase balustrading (measured one side)	22	SM		
	<u>Carried to collection</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page GF/10 Brought forward from page GF/11 Brought forward from page GF/12				
	<i>Sub total for 1No. Staircase</i>				
	Multiply by 3 No.				
	<i>Total Amount Carried to Section Summary.</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.4</u>				
	<u>RAMP AND RAILING</u>				
	<u>Vibrated Reinforced Concrete Class 25 in:-</u>				
A	Beams.	12	CM		
B	175 mm Thick waist.	168	SM		
C	175 mm Thick ramp landing.	6	SM		
D	Thickening 600mm (average) wide x 300mm Thick: form sinking in hardcore bed.	2	LM		
	<u>Reinforcement bars</u>				
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
E	16 mm Diameter bars.	2106	KG		
F	8 mm Diameter bars.	1638	KG		
G	10 mm Diameter bars.	936	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
H	Sloping soffits of ramp	168	SM		
J	Horizontal soffits of landing	6	SM		
K	Vertical sides and soffits of beams	34	SM		
L	Open strings 300mm High (extreme)	64	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Ramp Finishes</u>				
	<u>20 mm Thick cement sand screed (1:3) including 20 x 4 mm Thick plastic terrazzo strips to approved pattern to receive terrazzo (m/s) ;for</u>				
A	Backing to ramp to receive Terrazzo (m.s)	168	SM		
B	Ditto; landing.	6	SM		
C	20 x 100 mm Skirting	168	LM		
	<u>Polished Terrazzo</u>				
	<u>Polished terrazzo consisting of cement and sand (1:3) screed (m.s)or backing finished with a layer of white cement with approved colour additive, sand and approved marble/granite chippings (1:4:2), 20 mm Thick horizontally and minimum 10mm Thick vertically, trowelled to a smooth and even finish and machine polished and waxed to approval</u>				
D	20 mm Thick paving to Ramp..	168	SM		
E	Ditto;Landings.	6	SM		
F	25 x 100 mm High skirting.	168	LM		
	<u>12mm Thick cement/lime/sand (1:1:6) plaster as described in:</u>				
G	Soffits of landing	6	SM		
H	Ditto sloping exceeding 15° from horizontal	168	SM		
J	Sloping open edges of staircase.	56	SM		
	<u>Prepare and apply one undercoat and two finishing coats of exterior quality emulsion paint or equal and approved paint as per architect details and approval to:-</u>				
K	Plastered soffits of ramp.	168	SM		
L	Ditto landing.	6	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Balustrades</u> <u>Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete</u>				
A	Balustrading to Ramp.	88	Lm		
	<u>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint on:</u>				
B	General surfaces of metal measured on both sides.	176	SM		
TOTAL CARRIED TO SUMMARY					
	<u>COLLECTION</u> Brought forward from page GF/14 Brought forward from page GF/15 Brought down from above				
CARRIED TO COLLECTION					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.5</u>				
	<u>WALLING</u>				
	<u>EXTERNAL WALLING</u>				
	<i>Approved Natural local stone of the approved colour; squared ; bush hammered ; in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
A	200 mm Thick walling.	502	SM		
	<i>Three- ply bituminous felt damp proof course</i>				
B	200mm wide under walls	205	LM		
	<u>INTERNAL WALLING</u>				
	<i>Machine cut local stone walling in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
C	200 mm Thick walling.	435	SM		
D	100 mm Thick walling.	75	SM		
	<i>Three- ply bituminous felt damp proof course</i>				
E	200mm wide under walls	145	LM		
F	100mm wide under walls	25	LM		
G	Construct coloured patterned perforated concrete block wall, to detail, comprising:Precast concrete decorative ventilated blocks, coloured and patterned as approved (e.g., star, diamond, square, etc.), nominal size [e.g., 290x290x100mm], bedded and jointed in cement sand mortar (1:4), laid true to line and level, overall wall thickness approximately 100mm,Including 50mm thick x 450mm wide decorative plaster band (horizontal or vertical as per detail), formed in cement- sand (1:3) render, with approved trowel-textured or smooth finish, pigmented or painted as directed,All to be constructed as per Architect's elevations and detailing, including reinforcement (if specified), jointing profiles, movement joints (if required), and forming openings or junctions as shown.	126	SM		
	Total Amount Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.6</u>				
	<u>WINDOWS:</u>				
	<u>Window Cill</u>				
A	Supply and Fix 275x50mm Thick window cill once rebated and throated laid and jointed in cement and sand (1:3) mortar.	76	LM		
	<u>Window Board</u>				
	<u>Mahogany: selected and kept clean</u>				
B	200 x 25 mm Window board; plugged	76	LM		
C	35 x 35 mm decorated beading	76	LM		
	<u>Supply, fabricate and fix purpose-made multisash steel sliding casement window with fixed transom sashes, comprising:Outer frame constructed from 75mm x 75mm x 3mm thick mild steel square hollow section (SHS), with transoms and vertical mullions as required for sash divisions and structural stability.Sliding sash panels (minimum 4No. panels), fabricated from 40mm x 40mm x 3mm steel box section, mounted on heavy-duty steel tracks with rollers for smooth horizontal sliding.Top fixed transom sashes (approx. 400mm high) made from 40mm x 40mm x 3mm box section, non-operable, fully glazed.Glazing: All panels fitted with 6mm thick clear sheet glass, fixed with mild steel glazing beads and secured using putty or rubber gasket system.Include all necessary ironmongery: sliding rails, handles, stoppers, interlocks, and lockable fasteners.Finish: All steelwork to be cleaned, primed with red oxide primer, and finished with two coats gloss oil paint or powder-coated in Architect's approved colour.Fix securely to structural openings using steel lugs and anchor bolts, including mastic sealant around perimeter for weatherproofing.All welds to be ground smooth and joints cleaned.</u>				
D	Window, overall size 7700 x 1700 mm High	7	NO		
E	Ditto; 1800 x 450 High	4	NO		
F	Ditto; 1800 x 1000 High	6	NO		
G	Ditto; 1200 x 1800 High	3	NO		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Glass and glazing</u>				
	<u>Supply and fix 6mm thick clear sheet glass glazed to metal frames using linseed oil-based putty, including all cutting to size, fixing, sealing, cleaning, and waste, all as per Architect's details:</u>				
A	Panes not exceeding 0.09 square meters.	90	SM		
	<u>Supply and fix 6 mm Thick obscure sheet glass and glazing to metal with putty as before described in:</u>				
B	Panes not exceeding 0.09 square meters.	23	SM		
	<u>Prepare, prime with one coat of rust-inhibiting primer and Spray one undercoat and two finishing coats of gloss oil paint as described on:</u>				
C	General metal surfaces(measured over one side)	180	SM		
	<i>Carried to Collection</i>				
	<u>COLLECTION</u> Brought forward from page GF/18 Brought down from above				
	Total Amount Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.7</u>				
	<u>DOORS</u>				
	<u>Frames & Finishings</u>				
	<u>Supply and fix Wrot Mahogany; plugged, screwed and pelleted</u>				
A	250 x 50mm frame with three labours : moulded screwed and pelleted.	68	LM		
B	250 x 45mm thick transome with four labours	32	LM		
C	150 x 50mm frame with two labours; chamfered edges; plugged	103	LM		
D	Architrave to detail size, 75 x 25mm	171	LM		
E	Quadrant bead, diameter 25mm	171	LM		
	<u>Solid Flush doors</u>				
	<u>Supply and Fix 45 mm (finished) solid core flush door faced on both sides with 5mm Thick mahogany veneer and 15 mm x 15 mm hardwood beadings pinned and glued to door on both faces to form grids to architect's details and approval: hardwood lipped on all edges to approval:</u>				
F	Single leaf door size 900 x 2000mm High.	16	NO		
G	Double leaf door size 1000 x 2400mm High.	2	NO		
	<u>Mahogany panel door</u>				
	<u>50mm thick wrot mahogany panelled doors comprising of 75x 50mm thick stiles and top rail; 75 x 50mm thick middle and bottom rail and with fanlight</u>				
F	Single leaf door size 1000 x 2400mm High.	2	NO		
G	Double Swing door size 1200 x 2400mm High.	5	NO		
H	Double Swing door size 1800 x 2400mm High.	4	NO		
	<u>Steel Louvered Duct doors</u>				
K	Double leaf door 1000x3000mm double leafed door with 4No 290x500mm aluminium louvres including frames, handles, ball catch and locking mechanism complete	3	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Steel Doors</u> <u>Supply, fabricate and fix double leaf steel framed and grilled door, overall size 1200mm wide x 2550mm high, comprising 50mm x 50mm x 3mm thick mild steel box section frame and shutter, each leaf infilled with 12mm diameter solid steel bars at 100mm centres both ways to form grilled panels. Door to include 3No. heavy-duty butt hinges per leaf, central sliding bolt, hasp and staple for padlocking, drop bolts, D-type handles to both leaves, all necessary lugs and fixing accessories. Primed with red oxide primer and finished with two coats gloss oil paint to Architect's colour choice. All welding joints to be ground smooth, and door fixed securely to concrete or masonry opening with M10 anchor bolts.</u>				
A	Double leaf Door overall size 1200x2400mm High.	5	NO		
B	Supply, fabricate and fix purpose-made steel framed grilled and glazed entrance door, overall size 5700mm wide x 3000mm high, comprising: Main structural frame fabricated from 100mm x 100mm x 3mm thick mild steel square hollow section (SHS), including full perimeter frame and vertical intermediate mullions as required for strength and support. Double leaf grilled door (central), approx. 2400mm wide x 3000mm high, each leaf framed in 50mm x 50mm x 3mm SHS, infilled with 12mm diameter mild steel solid bars at 100mm centres horizontally and vertically, with glazed panels of 6mm thick clear toughened safety glass as per Architect's detail. Sidelights on either side (approx. 1650mm wide each), framed in matching 50mm x 50mm x 3mm SHS, grilled with 12mm bars, and glazed with 6mm thick clear toughened safety glass fixed with rubber gaskets and silicone sealant. Door to be hung on 3No. heavy-duty butt hinges per leaf, fitted with D-type pull handles, drop bolts, padlock hasp and staple, and all necessary ironmongery. All steelwork to be cleaned, primed with red oxide primer and finished with two coats gloss oil paint (or powder-coated in Architect's approved colour). All welding to be smooth ground; all fixing lugs, anchor bolts, sealants and accessories included.	1	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Ironmongery</u>				
	<u>Supply and fix the following ironmongery including all necessary matching screws.</u>				
A	Heavy duty stainless steel hinges with washers	60	PRS		
B	40mm Diameter rubber door stops	45	NO		
C	3-Lever High quality mortice lock complete with pair of brass lever handleas	11	NO		
D	Ditto but 2 lever	18	NO		
E	Supply and fix stainless steel kickboard 1.2mm thick, grade 304 stainless steel plate, brushed satin finish, overall size 150mm high x 1200mm, fixed with stainless steel screws or approved adhesive, including rounding of edges and corners, all to Architect's approval and to manufacturer's specifications.	19	NO		
F	Supply and fix occupancy indicator latch	18	NO		
G	240 x 50mm door signage in printed vinyls	18	NO		
	<u>Knot, prime, stop prepare and apply one undercoat and two finishing coats of 'Two Pack' polyurethane vanish as crown paints or other equal and approved manufacturer</u>				
H	General surfaces of wood work (m.o.b.s)	142	SM		
I	Frames; over 100mm-200mm girth;	171	LM		
J	Frames not exceeding 100mm girth; internal.	171	LM		
	<u>Prime backs of wood before fixing with aluminium or other approved primer on:</u>				
K	Surfaces exceeding 100- 200 mm girth	171	LM		
	CARRIED TO COLLECTION				
	COLLECTION				
	Brought forward from page GF/20				
	Brought forward from page GF/21				
	Brought forward from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.8</u>				
	<u>FINISHES:</u>				
	<u>INTERNAL FINISHES:</u>				
	<u>FLOOR FINISHES</u>				
	<u>Supply and apply cement and sand screed (1:3) to concrete surfaces as described, trowelled smooth, including all surface preparation, laying, curing, and finishing to the approval of the Architect.</u>				
A	30 mm Thick screed to receive ceramic floor tiles(measured separately)	1260	SM		
	<u>Entrance steps and Ramps</u>				
B	20mm Thick backing to receive receive Tiles.	133	SM		
C	Ditto to risers 150-225 mm girth.	42	LM		
D	Ditto to treads 225-300 mm girth.	42	LM		
	<u>Ceramic Tiles</u>				
	<u>Supply and fix non-slip ceramic floor tiles with approved tile adhesive in accordance with manufacturer's instructions, jointed and grouted in matching colour cement mortar, including spacers, expansion joints, cleaning, and all to Architect's detail and approval (screed measured separately).</u>				
E	450X 450x 10 mm Thick to floor	1260	SM		
F	Ditto: 100 mm High skirting	545	LM		
	<u>Prepare and apply 12mm thick cement:sand plaster in 1:4 mix to internal block/stone/concrete walls, finished smooth with wood float, including all surface preparation, arises, corners, and junctions, all to Architect's approval.</u>				
G	Walls	1522	SM		
H	Beams.	2025	SM		
J	Columns.	500	SM		
K	Reveals not exceeding 100mm girth	272	LM		
L	Horizontal soffites of concrete slab	1260	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Wall tiles</u> <u>Prepare and apply backing of cement and sand (1:3) mortar with approved integral dust-proofing additive, wood-floated to a uniform finish, including surface preparation and curing, all to Architect's detail and approval.</u>				
A	15 mm Thick to receive ceramic tiles(m/s) <u>Supply and fix 600 x 200 x 8 mm thick coloured ceramic wall tiles or other equal and approved, jointed and pointed with matching colour cement mortar, including all cutting, laying to pattern, cleaning, spacers, and finishing to Architect's detail and approval (backing measured separately).</u>	240	SM		
B	Walls <u>Painting & Decoration</u> <u>Skimming</u>	240	SM		
C	Carefully prepare the plastered surface by sanding and skimming with gypsum powder to achieve the smooth surface. <u>Apply three coats of premium quality silk vinyl paint to Plastered:-</u>	5307	SM		
D	Walls	1522	SM		
E	Beams.	2025	SM		
F	Columns.	500	SM		
G	Soffites of Slab.	1260	SM		
H	Reveals not exceeding 100mm girth Expansion Joint Treament	272	LM		
L	200 mm wide PVC waterstop; centrally placed in expansion joints; including welding at laps and junctions, fixed in position during concrete works.	33	LM		
M	20 mm thick bitumen impregnated fibreboard expansion joint filler; cut, fitted, and fixed in vertical or horizontal concrete surfaces.	66	SM		
N	Prepare and seal expansion joints with approved two-part polysulphide sealant, applied over bond breaker tape and backing rod; finished flush with surface.	33	LM		
P	150 mm wide anodized aluminium floor expansion joint cover plate; mechanically fixed with countersunk screws and PVC inserts; complete as per manufacturer's detail.	33	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>EXTERNAL WALL FINISHES</u>				
A	Extra over walling for horizontal recessed key pointing in 10mm thick cement:sand mortar (1:3), including raking out joints, preparing surfaces, and finishing neatly to Architect's approval. <i><u>Prepare and apply 15mm thick cement:sand plaster in 1:3 mix to external walls, finished with a sponge float, including hacking, dubbing out, arises, corners, junctions, and curing, all to the Architect's detail and approval.</u></i>	379	SM		
B	Walls	123	SM		
C	Beams.	185	SM		
D	Columns.	123	SM		
	<u>Painting and Decorating</u>				
	<u>Textured external wall finish; specialist applied; as "Ruff & Tuff" or equal and approved; pattern and colour as selected by the architect applied with a steel trowel or roller by specialist on backing render (m.s).</u>				
E	Rendered stone wall and concrete surfaces	431	SM		
F	Supply and fix brick cladding using approved facing bricks (e.g., burnt clay or concrete type), 110mm thick or as specified, bedded and jointed in 1:3 cement:sand mortar, including bonding ties to backing wall (measured separately), all necessary cutting, pointing in recessed or flush finish,	145	SM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u>				
	Brought forward from page GF/23				
	Brought forward from page GF/24				
	Brought forward from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.9</u>				
	<u>JOINERY,FITTINGS AND FIXTURES</u>				
	<u>Vibrated reinforced concrete</u>				
A	75mm Thick Suspended slabs.	12	SM		
B	Fabric mesh reinforcement to B.S. 4483 ref: A142 weighing 2.22 kg/sm:	12	SM		
	<u>Fair Face formwork: to</u>				
C	Soffits of slabs	12	SM		
D	Edges of slabs,etc not exceeding 75mm High	12	LM		
E	Boxing to form pocket,size 500 x 400 x 75mm	11	NO		
	<u>Solid concrete block walling in cement mortar</u>				
F	100mm Thick Walling	8	SM		
	<u>Cement and sand 1:4 rendering</u>				
G	18mm Thick Rendering to top of slab finished with a steel trowel.	12	SM		
	<u>Plaster; 9mm first coat of cement, lime putty and sand (1:2:9); 4mm second coat of cement lime putty and sand (1:1:6); Steel trowelled</u>				
H	Plaster to soffits	12	SM		
	<u>Granite tops</u>				
J	20mm Thick granite top in approved colour fixed of Concrete to shape and set in one piece to the approval of architects	12	SM		
K	Ditto;but facia 250mm wide	12	LM		
	CARRIED TO COLLECTION				

[illegible]

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Boards</u> <u>Supply and fix standard white magnetic dry-erase whiteboard, size 1200 x 2400mm (or as specified), complete with aluminium frame, concealed fixing brackets, marker tray, and all necessary accessories; fixed to wall using approved screws and wall plugs; all to the satisfaction of the Architect/Project Manager.</u>				
A	White board; Overall Length 6000mm x 1200mm High	5	NO		
B	Graph board; Overall Length 1800mm x 1200mm High	5	NO		
	<u>Notice Board.</u> <u>Provide and fix pin-up notice board comprising 12 mm thick softboard faced with approved fabric/vinyl finish, overall thickness not less than 25 mm, set in 50 x 25 mm seasoned hardwood frame, mitred and polished/painted to Architect's approval, complete with fixing lugs, screws, plugs, and all necessary accessories for wall mounting."</u>				
C	Overall Size 1200mm x 1200mm High	5	NO		
	<u>Dado Rail</u>				
D	Supply and fix 250 x 25 mm thick wrot cypress moulded dado rails; secured to walls	210	LM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u> <u>FITTINGS</u> Brought forward from page GF/26 Brought forward from page GF/27 Brought forward from above				
	TOTAL CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.10</u>				
	<u>BUILDER'S WORKS IN CONNECTION WITH SPECIALIST SERVICES (provisional)</u>				
	<u>PLUMBING & INTERNAL DRAINAGE</u>				
A	Chase and make good wall or floor for small pipes	78	LM		
B	Ditto for large pipes	45	LM		
C	Build large pipe through 200mm wall including sleeve and make good	23	NO		
D	Build small pipe through 150mm wall including sleeve and make good	24	NO		
E	Build large pipe ditto	23	NO		
F	Build small pipe through 100mm wall ditto	54	NO		
G	Ditto large pipe ditto	23	NO		
H	Make or leave hole for large pipe through 150mm thick suspended slab	20	NO		
J	Build large pipe through 150mm floor bed and make good disturbed areas	23	NO		
	<u>ELECTRICAL, SECURITY AND SIGNAGE INSTALLATION</u>				
K	25 x 25mm deep chase in solid concrete block or stone walling for conduits	134	LM		
L	50 x 50mm deep ditto	167	LM		
M	75 x 75 x 50 mm deep recess in solid concrete block or stone walling for switches, sockets etc	256	NO		
N	300 x 200 x 150mm ditto for submain cables	6	NO		
P	450 x 300 x 100mm ditto for distribution boards	6	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SECTION SUMMARY:</u>				
	<u>Element No:</u>	<u>Page No</u>			
1	SUBSTRUCTURES (ALL PROVISIONAL)	GF/7	Shs		
2	REINFORCED CONCRETE WORKS	GF/9	Shs		
3	STAIRCASES	GF/13	Shs		
4	RAMP AND RAILING	GF/16	Shs		
5	WALLING	GF/17	Shs		
6	WINDOWS	GF/19	Shs		
7	DOORS	GF/22	Shs		
8	FINISHES	GF/25	Shs		
9	JOINERY,FITTINGS AND FIXTURES	GF/28	Shs		
10	BWIC IN CONNECTION TO SPECIALIST SERVICES	GF/30	Shs		
	Total Amount Carried to Builders Works Summary		Shs		

FIRST FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 1:</u>				
	<u>REINFORCED CONCRETE WORK:</u>				
	<u>CONCRETE WORK:</u>				
	<u>Vibrated reinforced concrete Class 25/20 with approved admixtures</u>				
A	Beams	254	CM		
B	Columns	75	CM		
C	175 mm Thick suspended floor slab	628	SM		
D	200 mm Thick lift walls	30	SM		
	<u>Hollow block suspended floors ; all to Structural Engineer's detail</u>				
E	Construct 380mm thick overall hollow pot slab comprising 300 x 225 x 375mm deep precast concrete hollow pots stuffed with polystyrene pellets, 500 x 300mm reinforced concrete ribs at 530mm centres, and 75mm thick in-situ reinforced concrete Class 25/20 topping	632	SM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm²; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
F	8 mm diameter bars	10535	KG		
G	10 mm diameter bars	9296	KG		
H	12 mm ditto	9916	KG		
J	16 mm ditto	14254	KG		
K	Assorted bars 20 -32mm.	17972	KG		
L	Supply, deliver and fix BRC mesh reinforcement type A142, in floor beds, slabs or as directed,Laid with minimum 150 mm side and end laps,Properly secured with tying wire,Including all necessary supports, spacers, laps, cutting, wastage, and tying wire	632	SM		
G	200mm wide x 200mm deep lintel reinforced with and including -4No. 10mm diameter high tensile bars with Hooked ends including -handling bars	58	LM		
	<u>Carried to collection</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Formwork</u>				
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
A	Sides and soffits of beams	2025	SM		
B	Sides of columns	500	SM		
C	Sides of lift walls	60	SM		
D	Soffits of suspended slab	628	SM		
E	Horizontal soffits of hollow pot suspended slab	632	SM		
F	Formwork to edges of slab, vertical, not exceeding 150mm high	256	LM		
G	Boxing in formwork to form lift door opening ; size 1400 x 2000 mm High : 200 mm Thick walls	2	NO		
	<u>Expansion joint filler as described to:</u>				
H	Form or leave 25 mm thick joint in 200 mm thick reinforced concrete slab (m/s) including all necessary formwork and forming holes.	108	LM		
J	25mm Thick "STYROPOR" or other equal and approved expansion material.	43	SM		
K	25 mm x 25 mm deep " NITOSEAL MS 100 " or other equal and approved expansion joint filler in joint with 60 x 60 x 4 mm angle lugs.	108	LM		
	<u>Carried to collection</u>				
	<u>COLLECTION</u>				
	Brought forward from page FF/1				
	Brought forward from above				
	<u>Amount carried to summary</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 2</u>				
	<u>STAIRCASES</u>				
	<i><u>The Following in 3 No. Staircases</u></i>				
	<u>Vibrated reinforced concrete Class 20/20 mm to BS 8110 as described in:</u>				
A	Steps , stringers and waist	8	CM		
B	150 mm Thick landing	15	SM		
C	Stair beam.	2	CM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
D	8 mm diameter bars	978	KG		
E	10 mm ditto	217	KG		
F	12 mm ditto	1125	KG		
G	16 mm ditto	675	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
H	Horizontal soffits of landing	15	SM		
I	Sloping soffits of staircases	24	SM		
J	Sides and soffits of beams	12	SM		
K	Vertical edges of staircase over 150 mm and not exceeding 225 mm High	114	LM		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Staircase finishes</u>				
	<u>Cement and sand (1:4) screed as described in:</u>				
A	30mm Thick paving finished to receive ceramic tile finish (m.s)	15	SM		
B	30mm Thick ditto but to 300mm wide treads	70	LM		
C	15mm Thick ditto to 150mm High risers	70	LM		
	<u>12mm Thick cement/lime/sand (1:1:6) plaster as described on:</u>				
D	Horizontal concrete soffits of landing	15	SM		
E	Slopping ditto of stairs	24	SM		
F	Sloping open edges of staircase	21	SM		
	<u>Ceramic tiles</u>				
G	600 X 600 X 10mm Thick Ceramic tiles laid in systematic pattern, bedded and jointed in cement (1:3) mortar, pointed in approved tile mortar.	39	SM		
H	100 x 10mm Thick horizontal skirting with rounded top and squared at junction with paving.	70	LM		
I	150mm Wide x 10mm Thick risers	70	LM		
J	Ditto skirting with rounded top and square at junction with paving including lining to profile of steps	70	LM		
K	300mm Wide x 10mm thick tread tile complete with rounded nosing and 4No. Anti- slip grooves to approval	70	LM		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	<u>Railling</u>				
	Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete	18	LM		
B	<u>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint as "Crown" or other equal and approved manufacturer on:</u>				
	Surfaces of open grind balcony/staircase balustrading (measured one side)	22	SM		
	<u>Carried to collection</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page FF/3 Brought forward from page FF/4 Brought forward from page FF/5				
	<i>Sub total for 1No. Staircase</i>				
	Multiply by 3 No.				
	<i>Total Amount Carried to Section Summary.</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.3</u>				
	<u>RAMP AND RAILING</u>				
	<u>Vibrated Reinforced Concrete Class 25 in:-</u>				
A	Beams.	12	CM		
B	175 mm Thick waist.	168	SM		
C	175 mm Thick ramp landing.	6	SM		
D	Thickening 600mm (average) wide x 300mm Thick: form sinking in hardcore bed.	2	LM		
	<u>Reinforcement bars</u>				
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
E	16 mm Diameter bars.	2106	KG		
F	8 mm Diameter bars.	1638	KG		
G	10 mm Diameter bars.	936	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
H	Sloping soffits of ramp	168	SM		
J	Horizontal soffits of landing	6	SM		
K	Vertical sides and soffits of beams	34	SM		
L	Open strings 300mm High (extreme)	64	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Ramp Finishes</u>				
	<u>20 mm Thick cement sand screed (1:3) including 20 x 4 mm Thick plastic terrazzo strips to approved pattern to receive terrazzo (m/s) ;for</u>				
A	Backing to ramp to receive Terrazzo (m.s)	168	SM		
B	Ditto; landing.	6	SM		
C	20 x 100 mm Skirting	168	LM		
	<u>Polished Terrazzo</u>				
	<u>Polished terrazzo consisting of cement and sand (1:3) screed (m.s)or backing finished with a layer of white cement with approved colour additive, sand and approved marble/granite chippings (1:4:2), 20 mm Thick horizontally and minimum 10mm Thick vertically, trowelled to a smooth and even finish and machine polished and waxed to approval</u>				
D	20 mm Thick paving to Ramp..	168	SM		
E	Ditto;Landings.	6	SM		
F	25 x 100 mm High skirting.	168	LM		
	<u>12mm Thick cement/lime/sand (1:1:6) plaster as described in:</u>				
G	Soffits of landing	6	SM		
H	Ditto sloping exceeding 15° from horizontal	168	SM		
J	Sloping open edges of staircase.	56	SM		
	<u>Prepare and apply one undercoat and two finishing coats of exterior quality emulsion paint or equal and approved paint as per architect details and approval to:-</u>				
K	Plastered soffits of ramp.	168	SM		
L	Ditto landing.	6	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Balustrades</u> <u>Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete</u>				
A	Balustrading to Ramp.	88	SM		
	<u>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint on:</u>				
B	General surfaces of metal measured on both sides.	176	SM		
	TOTAL CARRIED TO SUMMARY				
	<u>COLLECTION</u> Brought forward from page FF/7 Brought forward from page FF/8 Brought down from above				
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.4</u>				
	<u>WALLING</u>				
	<u>EXTERNAL WALLING</u>				
	<i>Approved Natural local stone of the approved colour; squared ; bush hammered ; in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
A	200 mm Thick walling. <i>Three- ply bituminous felt damp proof course</i>	483	SM		
B	200mm wide under walls <u>INTERNAL WALLING</u>	205	LM		
	<i>Machine cut local stone walling in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
C	200 mm Thick walling.	435	SM		
D	100 mm Thick walling. <i>Three- ply bituminous felt damp proof course</i>	75	SM		
E	200mm wide under walls	145	LM		
F	100mm wide under walls	25	LM		
G	Precast concrete coping, size 450x150 mm, with fair- faced finish, bedded and jointed in cement:sand mortar (1:3), including all necessary formwork, reinforcement	80	LM		
H	Construct coloured patterned perforated concrete block wall, to detail, comprising:Precast concrete decorative ventilated blocks, coloured and patterned as approved (e.g., star, diamond, square, etc.), nominal size [e.g., 290x290x100mm], bedded and jointed in cement sand mortar (1:4), laid true to line and level, overall wall thickness approximately 100mm,Including 50mm thick x 450mm wide decorative plaster band (horizontal or vertical as per detail), formed in cement-sand (1:3) render, with approved trowel-textured or smooth finish, pigmented or painted as directed,All to be constructed as per Architect's elevations and detailing, including reinforcement (if specified), jointing profiles, movement joints (if required), and forming openings or junctions as shown.	160	SM		
	Total Amount Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.5</u> <u>WINDOWS:</u> <u>Window Cill</u> A Supply and Fix 275x50mm Thick window cill once rebated and throated laid and jointed in cement and sand (1:3) mortar. <u>Window Board</u> <u>Mahogany: selected and kept clean</u>	90	LM		
B	200 x 25 mm Window board; plugged	90	LM		
C	35 x 35 mm decorated beading	90	LM		
	<u>Supply, fabricate and fix purpose-made multisash steel sliding casement window with fixed transom sashes, comprising:Outer frame constructed from 75mm x 75mm x 3mm thick mild steel square hollow section (SHS), with transoms and vertical mullions as required for sash divisions and structural stability.Sliding sash panels (minimum 4No. panels), fabricated from 40mm x 40mm x 3mm steel box section, mounted on heavy-duty steel tracks with rollers for smooth horizontal sliding.Top fixed transom sashes (approx. 400mm high) made from 40mm x 40mm x 3mm box section, non-operable, fully glazed.Glazing: All panels fitted with 6mm thick clear sheet glass, fixed with mild steel glazing beads and secured using putty or rubber gasket system.Include all necessary ironmongery: sliding rails, handles, stoppers, interlocks, and lockable fasteners.Finish: All steelwork to be cleaned, primed with red oxide primer, and finished with two coats gloss oil paint or powder-coated in Architect's approved colour.Fix securely to structural openings using steel lugs and anchor bolts, including mastic sealant around perimeter for weatherproofing.All welds to be ground smooth and joints cleaned.</u>				
D	Window, overall size 7700 x 1800 High	7	NO		
E	Ditto; 3600 x 1000 High	7	NO		
F	Ditto; 1800 x 450 High	4	NO		
G	Ditto; 1200 x 1800 High	3	NO		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Glass and glazing</u>				
	<u>Supply and fix 6 mm Thick clear sheet glass and glazing with linseed oil based putty to metal as described in:</u>				
A	Panes not exceeding 0.09 square meters.	98	SM		
	<u>Supply and fix 6 mm Thick obscure sheet glass and glazing to metal with putty as before described in:</u>				
B	Panes not exceeding 0.09 square meters.	34	SM		
	<u>Prepare, prime with one coat of rust-inhibiting primer and Spray one undercoat and two finishing coats of gloss oil paint as described on:</u>				
C	General metal surfaces(measured over one side)	196	SM		
	<i>Carried to Collection</i>				
	<u>COLLECTION</u>				
	Brought forward from page FF/11				
	Brought down from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.6</u>				
	<u>DOORS</u>				
	<u>Frames & Finishings</u>				
	<u>Supply and fix Wrot Mahogany; plugged, screwed and pelltated</u>				
A	250 x 50mm frame with three labours : moulded screwed and pelleted.	90	LM		
B	250 x 45mm thick transome with four labours	22	LM		
C	150 x 50mm frame with two labours; chamfered edges; plugged	80	LM		
D	Architrave to detail size, 75 x 25mm	170	LM		
E	Quadrant bead, diameter 25mm	170	LM		
	<u>Solid Flush doors</u>				
	<u>Supply and Fix 45 mm (finished) solid core flush door faced on both sides with 5mm Thick mahogany veneer and 15 mm x 15 mm hardwood beadings pinned and glued to door on both faces to form grids to architect's details and approval: hardwood lipped on all edges to approval:</u>				
F	Single leaf door size 800 x 2000mm High.	16	NO		
G	Double leaf door size 1000 x 2400mm High.	2	NO		
	<u>Mahogany panel door</u>				
	<u>50mm thick wrot mahogany panelled doors comprising of 150 x 50mm thick stiles and top rail; 150 x 50mm thick middle and bottom rail and with fanlight</u>				
H	Single leaf door size 1000 x 2400mm High.	2	NO		
G	Double Swing door size 1200 x 2400mm High.	5	NO		
H	Double Swing door size 1800 x 2400mm High.	4	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Ironmongery</u>				
	<i><u>Supply and fix the following ironmongery including all necessary matching screws.</u></i>				
A	Heavy duty stainless steel hinges with washers	56	PRS		
B	40mm Diameter rubber door stops	31	NO		
C	3-Lever High quality mortice lock complete with pair of brass lever handleas	31	NO		
D	Supply and fix stainless steel kickboard 1.2mm thick, grade 304 stainless steel plate, brushed satin finish, overall size 150mm high x 1200mm, fixed with stainless steel screws or approved adhesive, including rounding of edges and corners, all to Architect's approval and to manufacturer's specifications.	19	NO		
E	Supply and fix occupancy indicator latch	18	NO		
F	240 x 50mm door signage in printed vinyls	18	NO		
	<i><u>Prepare and apply one undercoat and two finishing coats High quality polyurethane clear lacquer to wooden surfaces as supplied by an approved Manufacturer : internally and/or externally : to</u></i>				
G	General surfaces of wood work (m.o.b.s)	72	SM		
H	Frames; over 100mm-200mm girth;	170	LM		
I	Frames not exceeding 100mm girth; internal.	170	LM		
	<i><u>Prime backs of wood before fixing with aluminium or other approved primer on:</u></i>				
J	Surfaces exceeding 100- 200 mm girth	170	LM		
	CARRIED TO COLLECTION				
	COLLECTION				
	Brought forward from page FF/13				
	Brought forward from page FF/14				
	Brought forward from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.7</u>				
	<u>FINISHES:</u>				
	<u>INTERNAL FINISHES:</u>				
	<u>FLOOR FINISHES</u>				
	<u>Supply and apply cement and sand screed (1:3) to concrete surfaces as described, trowelled smooth, including all surface preparation, laying, curing, and finishing to the approval of the Architect.</u>				
A	30 mm Thick screed to receive ceramic floor tiles(measured separately)	1260	SM		
	<u>Entrance steps and Ramps</u>				
B	20mm Thick backing to receive receive Tiles.	25	SM		
C	Ditto to risers 150-225 mm girth.	42	LM		
D	Ditto to treads 225-300 mm girth.	42	LM		
	<u>Ceramic Tiles</u>				
	<u>Supply and fix non-slip ceramic floor tiles with approved tile adhesive in accordance with manufacturer's instructions, jointed and grouted in matching colour cement mortar, including spacers, expansion joints, cleaning, and all to Architect's detail and approval (screed measured separately).</u>				
E	600X 600x 10 mm Thick to floor	1260	SM		
F	Ditto: 100 mm High skirting	545	LM		
	<u>Prepare and apply 12mm thick cement:sand plaster in 1:4 mix to internal block/stone/concrete walls, finished smooth with wood float, including all surface preparation, arises, corners, and junctions, all to Architect's approval.</u>				
G	Walls	1503	SM		
H	Beams.	2025	SM		
J	Columns.	500	SM		
K	Reveals not exceeding 100mm girth	234	LM		
L	Horizontal soffites of concrete slab	1260	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Wall tiles</u>				
	<i><u>Prepare and apply backing of cement and sand (1:3) mortar with approved integral dust-proofing additive, wood-floated to a uniform finish, including surface preparation and curing, all to Architect's detail and approval.</u></i>				
A	15 mm Thick to receive ceramic tiles(m/s)	240	SM		
	<i><u>Supply and fix 600 x 200 x 8 mm thick coloured ceramic wall tiles or other equal and approved, jointed and pointed with matching colour cement mortar, including all cutting, laying to pattern, cleaning, spacers, and finishing to Architect's detail and approval (backing measured separately).</u></i>				
B	Walls	240	SM		
	<u>Painting & Decoration</u>				
C	Skimming	5288	SM		
	<i><u>Apply three coats of premium quality silk vinyl paint to Plastered:-</u></i>				
D	Walls	1503	SM		
E	Beams.	2025	SM		
F	Columns.	500	SM		
G	Soffites of Slab.	1260	SM		
H	Reveals not exceeding 100mm girth	345	LM		
	<u>Expansion Joint Treament</u>				
L	200 mm wide PVC waterstop; centrally placed in expansion joints; including welding at laps and junctions, fixed in position during concrete works.	33	LM		
M	20 mm thick bitumen impregnated fibreboard expansion joint filler; cut, fitted, and fixed in vertical or horizontal concrete surfaces.	66	SM		
N	Prepare and seal expansion joints with approved two-part polysulphide sealant, applied over bond breaker tape and backing rod; finished flush with surface.	33	LM		
P	150 mm wide anodized aluminium floor expansion joint cover plate; mechanically fixed with countersunk screws and PVC inserts; complete as per manufacturer's detail.	33	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>EXTERNAL WALL FINISHES</u>				
A	Extra over walling for horizontal recessed key pointing in 10mm thick cement:sand mortar (1:3), including raking out joints, preparing surfaces, and finishing neatly to Architect's approval. <i><u>Prepare and apply 15mm thick cement:sand plaster in 1:3 mix to external walls, finished with a sponge float, including hacking, dubbing out, arises, corners, junctions, and curing, all to the Architect's detail and approval.</u></i>	360	SM		
B	Walls	123	SM		
C	Beams.	185	SM		
D	Columns.	123	SM		
	<u>Painting and Decorating</u>				
	<u>Textured external wall finish; specialist applied; as "Ruff & Tuff " or equal and approved; pattern and colour as selected by the architect applied with a steel trowel or roller by specialist on backing render (m.s).</u>				
E	Rendered stone wall and concrete surfaces	431	SM		
F	Supply and fix brick cladding using approved facing bricks (e.g., burnt clay or concrete type), 110mm thick or as specified, bedded and jointed in 1:3 cement:sand mortar, including bonding ties to backing wall (measured separately), all necessary cutting, pointing in recessed or flush finish,	245	SM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u>				
	Brought forward from page FF/16				
	Brought forward from page FF/17				
	Brought forward from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.8</u>				
	<u>JOINERY,FITTINGS AND FIXTURES</u>				
	<u>Vibrated reinforced concrete</u>				
A	75mm Thick Suspended slabs.	12	SM		
B	Fabric mesh reinforcement to B.S. 4483 ref: A142 weighing 2.22 kg/sm:	12	SM		
	<u>Fair Face formwork: to</u>				
C	Soffits of slabs	12	SM		
D	Edges of slabs,etc not exceeding 75mm High	12	LM		
E	Boxing to form pocket,size 500 x 400 x 75mm	11	NO		
	<u>Solid concrete block walling in cement mortar</u>				
F	100mm Thick Walling	8	SM		
	<u>Cement and sand 1:4 rendering</u>				
G	18mm Thick Rendering to top of slab finished with a steel trowel.	12	SM		
	<u>Plaster; 9mm first coat of cement, lime putty and sand (1:2:9); 4mm second coat of cement lime putty and sand (1:1:6); Steel trowelled</u>				
H	Plaster to soffits	12	SM		
	<u>Granite tops</u>				
J	20mm Thick granite top in approved colour fixed of Concrete to shape and set in one piece to the approval of architects	12	SM		
K	Ditto;but fascia 250mm wide	12	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Birch laminate MDF veneered on both sides</u>				
A	20mm medium density fibre board in birth laminate fitting grooved and chamfered in shelving and divisions	45	SM		
B	450 X 600 mm High doors	15	NO		
C	450 X 450 mm High doors	15	NO		
D	Drawer size 450 x550 x200 mm with 200 x20mm sides and back,220 x 20mm front and 6mm plywood bottom tongued all round	10	NO		
E	19 X19 mm lipping tongued in and glued to edges	45	LM		
F	12 X12 mm drawer runners finished	23	LM		
	<u>Supply and fix the following ironmongery</u>				
G	Marple hinges	34	NO		
H	Brass cupboard door lock	15	NO		
J	Brass D pull handles	24	NO		
K	Brass drawer knobs	14	NO		
L	Brass flush bolts	9	NO		
M	Apple MacBook Air Laptop Apple M2 Chip 8-Core CPU 13.6" Liquid Retina Display 8GB RAM 256GB SSD Storage Backlit Keyboard 1080p FaceTime HD Camera (MLY33HN/ MLXW3HN)	1	NO		
	<u>Prepare and apply three coats oil paint to woodwork</u>				
P	To wardrobe shelving	45	SM		
Q	Ditto doors	15	SM		
R	Ditto divisions	15	SM		
S	Surfaces of lipping n.e 100mm girth	25	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Boards</u> <u>Supply and fix standard white magnetic dry-erase whiteboard, size 1200 x 2400mm (or as specified), complete with aluminium frame, concealed fixing brackets, marker tray, and all necessary accessories; fixed to wall using approved screws and wall plugs; all to the satisfaction of the Architect/Project Manager.</u>				
A	White board; Overall Length 6000mm x 1200mm High	6	NO		
B	Graph board; Overall Length 1800mm x 1200mm High	6	NO		
	Notice Board. <u>12mm thick Chip board plugged to concrete or masonry with all the necessary fixing accessories; complete with aluminium framing all round</u>				
C	Overall Size 1200mm x 1200mm High	6	NO		
	Dado Rail				
D	Supply and fix 250 x 25 mm thick wrot cypress moulded dado rails; secured to walls	252	LM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u> <u>FITTINGS</u> Brought forward from page FF/19 Brought forward from page FF/20 Brought forward from above				
	TOTAL CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.9</u>				
	<u>BUILDER'S WORKS IN CONNECTION WITH SPECIALI ST SERVICES (provisional)</u>				
	<u>PLUMBING & INTERNAL DRAINAGE</u>				
A	Chase and make good wall or floor for small pipes	124	LM		
B	Ditto for large pipes	80	LM		
C	Build large pipe through 200mm wall including sleeve and make good	30	NO		
D	Build small pipe through 150mm wall including sleeve and make good	34	NO		
E	Build large pipe ditto	23	NO		
F	Build small pipe through 100mm wall ditto	54	NO		
G	Ditto large pipe ditto	23	NO		
H	Make or leave hole for large pipe through 150mm thick suspended slab	20	NO		
J	Build large pipe through 150mm floor bed and make good disturbed areas	23	NO		
	<u>ELECTRICAL, SECURITY AND SIGNAGE INSTALLATION</u>				
K	25 x 25mm deep chase in solid concrete block or stone walling for conduits	200	LM		
L	50 x 50mm deep ditto	200	LM		
M	75 x 75 x 50 mm deep recess in solid concrete block or stone walling for switches, sockets ets	300	NO		
N	300 x 200 x 150mm ditto for submain cables	6	NO		
P	450 x 300 x 100mm ditto for distribution boards	6	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SECTION SUMMARY:</u>				
	<u>Element No:</u>	<u>Page No</u>			
1	REINFORCED CONCRETE WORKS	FF/2	Shs		
2	STAIRCASES	FF/6	Shs		
3	RAMP AND RAILING	FF/9	Shs		
4	WALLING	FF/10	Shs		
5	WINDOWS	FF/12	Shs		
6	DOORS	FF/15	Shs		
7	FINISHES	FF/18	Shs		
8	JOINERY,FITTINGS AND FIXTURES	FF/21	Shs		
9	BWIC IN CONNECTION TO SPECIALIST SERVICES	FF/23	Shs		
	Total Amount Carried to Builders Works Summary		Shs		

SECOND FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 1:</u>				
	<u>REINFORCED CONCRETE WORK:</u>				
	<u>CONCRETE WORK:</u>				
	<u>Vibrated reinforced concrete Class 25/20 with approved admixtures</u>				
A	Ring Beams	254	CM		
B	Columns	75	CM		
C	175 mm Thick suspended floor slab	340	SM		
D	Concrete gutter	244	CM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
E	8 mm diameter bars	13280	KG		
F	10 mm diameter bars	11718	KG		
G	12 mm ditto	12499	KG		
H	16 mm ditto	17967	KG		
I	20 mm ditto	16404	KG		
J	Assorted bars 25 -32mm.	6250	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
K	Sides and soffits of beams	2025	SM		
L	Sides of columns	500	SM		
M	Soffits of suspended slab	340	SM		
N	Formwork to edges of slab, vertical, not exceeding 150mm high	110	LM		
P	Sides and soffits: Concrete gutters	1543	SM		
Q	Boxing in formwork to form lift door opening ; size 1400 x 2000 mm High : 200 mm Thick walls	2	NO		
G	200mm wide x 200mm deep lintel reinforced with and including -4No. 10mm diameter high tensile bars with Hooked ends including -handling bars	58	LM		
	Amount carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 2</u>				
	<u>STAIRCASES</u>				
	<i><u>The Following in 2 No. Staircases</u></i>				
	Vibrated reinforced concrete Class 20/20 mm to BS 8110 <u>as described in:</u>				
A	Steps , stringers and waist	8	CM		
B	150 mm Thick landing	15	SM		
C	Stair beam.	2	CM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
D	8 mm diameter bars	978	KG		
E	10 mm ditto	217	KG		
F	12 mm ditto	1125	KG		
G	16 mm ditto	675	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
H	Horizontal soffits of landing	15	SM		
I	Sloping soffits of staircases	24	SM		
J	Sides and soffits of beams	12	SM		
K	Vertical edges of staircase over 150 mm and not exceeding 225 mm High	114	LM		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Staircase finishes</u>				
	<u>Cement and sand (1:4) screed as described in:</u>				
A	30mm Thick paving finished to receive ceramic tile finish (m.s)	15	SM		
B	30mm Thick ditto but to 300mm wide treads	70	LM		
C	15mm Thick ditto to 150mm High risers	70	LM		
	<u>12mm Thick cement/lime/sand (1:1:6) plaster as described on:</u>				
D	Horizontal concrete soffits of landing	15	SM		
E	Slopping ditto of stairs	24	SM		
F	Sloping open edges of staircase	21	SM		
	<u>Ceramic tiles</u>				
G	600 X 600 X 10mm Thick Ceramic tiles laid in systematic pattern, bedded and jointed in cement (1:3) mortar, pointed in approved tile mortar.	39	SM		
H	100 x 10mm Thick horizontal skirting with rounded top and squared at junction with paving.	70	LM		
I	150mm Wide x 10mm Thick risers	70	LM		
J	Ditto skirting with rounded top and square at junction with paving including lining to profile of steps	70	LM		
K	300mm Wide x 10mm thick tread tile complete with rounded nosing and 4No. Anti- slip grooves to approval	70	LM		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Railling</u>				
A	Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete	18	LM		
	<u>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint as "Crown" or other equal and approved manufacturer on:</u>				
B	Surfaces of open grind balcony/staircase balustrading (measured one side)	22	SM		
	<u>Carried to collection</u>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page SF/2 Brought forward from page SF/3 Brought forward from page SF/4				
	<i>Sub total for 1No. Staircase</i>				
	Multiply by 2 No.				
	<i>Total Amount Carried to Section Summary.</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.3</u>				
	<u>WALLING</u>				
	<u>EXTERNAL WALLING</u>				
	<i>Approved Natural local stone of the approved colour; squared ; bush hammered ; in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
A	200 mm Thick walling.	543	SM		
B	200mm Thick Parapet wall 1000mm High.	100	SM		
C	Eave filling to 200mm Thick walls extreme height 300mm	200	LM		
	<u>INTERNAL WALLING</u>				
	<i>Machine cut local stone walling in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
D	200 mm Thick walling.	435	SM		
E	100 mm Thick walling.	75	SM		
F	Precast concrete coping, size 450x150 mm, with fair-faced finish, bedded and jointed in cement:sand mortar (1:3), including all necessary formwork, reinforcement	100	LM		
G	Construct coloured patterned perforated concrete block wall, to detail, comprising:Precast concrete decorative ventilated blocks, coloured and patterned as approved (e.g., star, diamond, square, etc.), nominal size [e.g., 290x290x100mm], bedded and jointed in cement sand mortar (1:4), laid true to line and level, overall wall thickness approximately 100mm,Including 50mm thick x 450mm wide decorative plaster band (horizontal or vertical as per detail), formed in cement-sand (1:3) render, with approved trowel-textured or smooth finish, pigmented or painted as directed,All to be constructed as per Architect's elevations and detailing, including reinforcement (if specified), jointing profiles, movement joints (if required), and forming openings or junctions as shown.	150	SM		
	Total Amount Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Structural Steel work</u>				
	<u>All provisional</u>				
	<u>Supply, cut to size, weld/connect and fix in position mild steel truss members and roof framing at approximately 20 m above ground, comprising various steel section members joined with nuts and bolts, hoisted to position, including one coat of red oxide primer before delivery and two coats of gloss oil paint after erection, all to Engineer's drawings and approval.</u>				
	<u>Truss Type T1</u>				
	<u>The following spanning 19M, hoisted 15M above the ground floor slab</u>				
	<u>External members</u>				
A	100 X 50X 4 mm thick RHS(8.92Kg/lm)	34342	KG		
	<u>Internal member</u>				
B	50x50mm X 3mm thick SHS (4.43Kg/lm)	17056	KG		
C	Allow for bolts, nuts,washers, cleats, plates and any other items in connection to the roof construction		ITEM		
	<u>Unframed Members</u>				
D	152.5 x 50.8 x 2 mm Zed purlins(4.44kg/m)	11900	KG		
E	100 X 50X 4 mm thick RHS(8.92Kg/lm) Free Members	3434	KG		
F	50x50mm X 3mm thick SHS (4.43Kg/lm)	1706	KG		
	<u>Sagrods</u>				
G	16mm diameter anti-sag rods(1.58kg/m)	899	KG		
	<u>Bracings</u>				
H	50x50x6mm angle bracings with nuts,washers etc	456	LM		
	<u>Sundries</u>				
J	300mm long 75 x 50 x 4mm angle cleats welded to truss rafter and bolted with 2no. M12 bolts to the Z - purlins	346	LM		
K	250 x 200 x 6 mm thick base plate welded to truss : drilled with 2 No. holes for 12 mm diameter bolts	140	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Support rails , purlins , bracings etc</u>				
A	16 mm diameter x 225 mm long bolts with head , nut and washers : fixed to concrete or masonry walls	560	NO		
B	16 mm diameter x 225 mm long bolts with head , nut and washers for sag rods	112	NO		
	<u>Painting</u>				
C	Prepare surface,apply primer,one under coat and two finishing coats quality 'crown' or other equal and approved gloss paint on all steel works after erection	69,337	KG		
	<u>Wrot Cypress, prime grade to Eaves boarding as described</u>				
D	25mm Thick tounge and grooved eaves boarding in 100mm wide strips on and including 50x50mm sawn cypress brandering at 600mm centres both directions	240	SM		
	<u>14 Gauge galvanized steel as described:</u>				
E	610 girth x 1.5 mm Box gutter with rolled edges including joints in running length fixed to rafters with and including approved brackets at 1200 mm rafter centres and one coat red oxide primer before fixing	45	LM		
	<u>Supply and fix the following Unplasticised PVC rainwater pipes and fittings;solvent welded joits)</u>				
F	100 mm Diameter downpipe fixed to masonry wall with and including all matching brackets and clips	288	LM		
G	Extra over gutters for 100 mm diameter outlet	16	NO		
H	Extra over down pipe for 100 mm swan- neck bend	16	NO		
J	Ditto for 100 mm shoe	16	NO		
K	Rainwater anti-splash shoe	16	NO		
	CARRIED TO COLLECTION				

[illegible]

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.5</u>				
	<u>WINDOWS:</u>				
	<u>Window Cill</u>				
A	Supply and Fix 275x50mm Thick window cill once rebated and throated laid and jointed in cement and sand (1:3) mortar.	90	LM		
	<u>Window Board</u>				
	<u>Mahogany: selected and kept clean</u>				
B	200 x 25 mm Window board; plugged	90	LM		
C	35 x 35 mm decorated beading	90	LM		
	<u>Supply, fabricate and fix purpose-made multisash steel sliding casement window with fixed transom sashes, comprising:Outer frame constructed from 75mm x 75mm x 3mm thick mild steel square hollow section (SHS), with transoms and vertical mullions as required for sash divisions and structural stability.Sliding sash panels (minimum 4No. panels), fabricated from 40mm x 40mm x 3mm steel box section, mounted on heavy-duty steel tracks with rollers for smooth horizontal sliding.Top fixed transom sashes (approx. 400mm high) made from 40mm x 40mm x 3mm box section, non-operable, fully glazed.Glazing: All panels fitted with 6mm thick clear sheet glass, fixed with mild steel glazing beads and secured using putty or rubber gasket system.Include all necessary ironmongery: sliding rails, handles, stoppers, interlocks, and lockable fasteners.Finish: All steelwork to be cleaned, primed with red oxide primer, and finished with two coats gloss oil paint or powder-coated in Architect's approved colour.Fix securely to structural openings using steel lugs and anchor bolts, including mastic sealant around perimeter for weatherproofing.All welds to be ground</u>				
D	Window, overall size 7700 x 1800 High	7	NO		
E	Ditto; 3600 x 1000 High	7	NO		
F	Ditto; 1800 x 450 High	4	NO		
G	Ditto; 1200 x 1800 High	3	NO		
	<i>Carried to collection</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Glass and glazing</u>				
	<u>Supply and fix 6 mm Thick clear sheet glass and glazing with linseed oil based putty to metal as described in:</u>				
A	Panes not exceeding 0.09 square meters.	98	SM		
	<u>Supply and fix 6 mm Thick obscure sheet glass and glazing to metal with putty as before described in:</u>				
B	Panes not exceeding 0.09 square meters.	34	SM		
	<u>Prepare, prime with one coat of rust-inhibiting primer and Spray one undercoat and two finishing coats of gloss oil paint as described on:</u>				
C	General metal surfaces(measured over one side)	264	SM		
	<i>Carried to Collection</i>				
	<u>COLLECTION</u>				
	Brought forward from page SF/12				
	Brought down from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.6</u>				
	<u>DOORS</u>				
	<u>Frames & Finishings</u>				
	<u>Supply and fix Wrot Mahogany; plugged, screwed and pelleted</u>				
A	250 x 50mm frame with three labours : moulded screwed and pelleted.	281	LM		
B	250 x 45mm thick transome with four labours	58	LM		
C	150 x 50mm frame with two labours; chamfered edges; plugged	45	LM		
D	Architrave to detail size, 75 x 25mm	326	LM		
E	Quadrant bead, diameter 25mm	326	LM		
	<u>Solid Flush doors</u>				
	<u>Supply and Fix 45 mm (finished) solid core flush door faced on both sides with 5mm Thick mahogany veneer and 15 mm x 15 mm hardwood beadings pinned and glued to door on both faces to form grids to architect's details and approval: hardwood lipped on all edges to approval:</u>				
F	Single leaf door size 800 x 2100mm High.	16	NO		
G	Double leaf door size 1000 x 2400mm High.	2	NO		
	<u>Mahogany panel door</u>				
	<u>50mm thick wrot mahogany panelled doors comprising of 150 x 50mm thick stiles and top rail; 150 x 50mm thick middle and bottom rail and with fanlight</u>				
H	Double leaf door size 1000 x 2400mm High.	2	NO		
J	Double Swing door size 1200 x 2400mm High.	7	NO		
	<u>Steel Louvered Duct doors</u>				
K	Double leaf door 1000x3000mm double leafed door with 4No 290x500mm aluminium louvres including frames, handles, ball catch and locking mechanism complete	3	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Steel Doors</u>				
	<u>Supply, fabricate and fix double leaf steel framed and grilled door, overall size 1200mm wide x 2550mm high, comprising 50mm x 50mm x 3mm thick mild steel box section frame and shutter, each leaf infilled with 12mm diameter solid steel bars at 100mm centres both ways to form grilled panels. Door to include 3No. heavy-duty butt hinges per leaf, central sliding bolt, hasp and staple for padlocking, drop bolts, D-type handles to both leaves, all necessary lugs and fixing accessories. Primed with red oxide primer and finished with two coats gloss oil paint to Architect's colour choice. All welding joints to be ground smooth, and door fixed securely to concrete or masonry opening with M10 anchor bolts.</u>				
A	Door overall size 1200x2400mm High.	5	NO		
	<u>Ironmongery</u>				
B	Heavy duty stainless steel hinges with washers	56	PRS		
C	40mm Diameter rubber door stops	31	NO		
D	3-Lever High quality mortice lock complete with pair of brass lever handleas	31	NO		
E	Supply and fix stainless steel kickboard 1.2mm thick, grade 304 stainless steel plate, brushed satin finish, overall size 150mm high x 1200mm.	19	NO		
F	Supply and fix occupancy indicator latch	18	NO		
G	240 x 50mm door signage in printed vinyls	18	NO		
	<u>Prepare and apply one undercoat and two finishing coats High quality polyurethane clear lacquer to wooden surfaces as supplied by an approved Manufacturer : internally and/or externally : to</u>				
H	General surfaces of wood work (m.o.b.s)	72	SM		
I	Frames; over 100mm-200mm girth;	326	LM		
J	Frames not exceeding 100mm girth; internal.	326	LM		
	<u>Prime backs of wood before fixing with aluminium or other approved primer on:</u>				
K	Surfaces exceeding 100- 200 mm girth	326	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION Brought forward from page SF/14 Brought forward from page SF/15				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.7</u> <u>FINISHES:</u> <u>INTERNAL FINISHES:</u> <u>FLOOR FINISHES</u> <u>Supply and apply cement and sand screed (1:3) to concrete surfaces as described, trowelled smooth, including all surface preparation, laying, curing, and finishing to the approval of the Architect.</u>				
A	30 mm Thick screed to receive ceramic floor tiles(measured separately) <u>Ceramic Tiles</u> <u>Supply and fix Non-slip Ceramic floor tiles fixed with approved quality tile adhesive in accordance with manufacturers instructions : bedded on screeds (measured separately) : jointed, pointed and grouted in matching colour cement mortar including all spacers and expansion joints : all in accordance with Architect's detail drawings and approval:</u>	1260	SM		
B	600X 600x 10 mm Thick to floor	1260	SM		
C	Ditto: 100 mm High skirting Prepare and apply 12mm thick cement:sand plaster in 1:4 mix to internal block/stone/concrete walls, finished smooth with wood float, including all surface preparation, arises, corners, and junctions, all to Architect's approval.	441	LM		
D	Walls	1563	SM		
E	Beams.	2025	SM		
F	Columns.	500	SM		
G	Reveals not exceeding 100mm girth	234	LM		
H	Horizontal soffites of concrete slab	340	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Wall tiles</u>				
	<i><u>Prepare and apply backing of cement and sand (1:3) mortar with approved integral dust-proofing additive, wood-floated to a uniform finish, including surface preparation and curing, all to Architect's detail and approval.</u></i>				
A	15 mm Thick to receive ceramic tiles(m/s)	240	SM		
	<i><u>Supply and fix 600 x 200 x 8 mm thick coloured ceramic wall tiles or other equal and approved, jointed and pointed with matching colour cement mortar, including all cutting, laying to pattern, cleaning, spacers, and finishing to Architect's detail and approval</u></i>				
B	Walls	240	SM		
	<i><u>Supply and fix 12.5mm suspended drywall ceiling as Rhinoboard Gypsum ceiling affixed to and including 53 x 32 mm U-section galvanised steel studs with rounded, smooth compound sanded edges, edge trims, plastered and finished in whitewater based SILK VINYL "as Crown Paint" paint finish to approval</u></i>				
C	Gypsum	1260	SM		
D	Extra over for stepped bulkhead or recessed ceiling detail including vertical gypsum face, framing, fixing and jointing	756	SM		
E	Supply and Install 100x25mm decorative cornice to Interior Designer`s details along gypsum ceiling	200	LM		
F	Form access door trap, size 450x450mm, using galvanized steel frame with gypsum infill, complete with hinge, lock/catch, and painting to match ceiling	6	NO		
	<u>Painting & Decoration</u>				
G	Carefully prepare the plastered surface by sanding and skimming with gypsum powder to achieve the smooth surface.	6338	SM		
	<i><u>Apply three coats of premium quality silk vinyl paint to Plastered:-</u></i>				
H	Walls	1563	SM		
J	Beams.	2025	SM		
K	Columns.	500	SM		
L	Soffites of Slab.	340	SM		
M	Surfaces of gypsum	1676	SM		
N	Reveals not exceeding 100mm girth	234	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>EXTERNAL WALL FINISHES</u>				
A	Extra over walling for horizontal recessed key pointing in 10mm thick cement:sand mortar (1:3), including raking out joints, preparing surfaces, and finishing neatly to Architect's approval. <u>Prepare and apply 15mm thick cement:sand plaster (1:3 mix) to external walls, finished with a sponge float, including hacking, dubbing out, and curing</u>	420	SM		
B	Walls	123	SM		
C	Beams.	185	SM		
D	Columns.	123	SM		
	<u>Painting and Decorating</u>				
E	Carefully prepare the plastered surface by sanding and skimming with gypsum powder to achieve the smooth surface. <u>Textured external wall finish; specialist applied; as "Ruff & Tuff " or equal and approved; pattern and colour as selected by the architect applied with a steel trowel or roller by specialist on backing render (m.s).</u>	431	SM		
F	Rendered stone wall and concrete surfaces <u>Supply and apply 4mm thick torch-on APP bituminous waterproofing membrane reinforced with polyester, including surface preparation, primer, overlaps, and sealing</u>	431	SM		
G	APP membrane applied to roof terrace slabs and lift roof <u>Lightweight water proofed screeds (1:5)</u>	772	SM		
H	50mm average screed laid to falls and crossfalls to roof slabs	772	SM		
J	25 mm Thick screed laid over waterproofing membrane; finished to receive tiles (m.s)	772	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Expansion Joint Treatment				
A	200 mm wide PVC waterstop; centrally placed in expansion joints; including welding at laps and junctions, fixed in position during concrete works.	33	LM		
B	20 mm thick bitumen impregnated fibreboard expansion joint filler; cut, fitted, and fixed in vertical or horizontal concrete surfaces.	66	SM		
C	Prepare and seal expansion joints with approved two-part polysulphide sealant, applied over bond breaker tape and backing rod; finished flush with surface.	33	LM		
D	150 mm wide anodized aluminium floor expansion joint cover plate; mechanically fixed with countersunk screws and PVC inserts; complete as per manufacturer's detail.	33	LM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u>				
	Brought forward from page SF/17				
	Brought forward from page SF/18				
	Brought forward from page SF/19				
	Brought forward from above				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.8</u>				
	<u>JOINERY,FITTINGS AND FIXTURES</u>				
	<u>Vibrated reinforced concrete</u>				
A	75mm Thick Suspended slabs.	12	SM		
B	Fabric mesh reinforcement to B.S. 4483 ref: A142 weighing 2.22 kg/sm:	12	SM		
	<u>Fair Face formwork: to</u>				
C	Soffits of slabs	12	SM		
D	Edges of slabs,etc not exceeding 75mm High	12	LM		
E	Boxing to form pocket,size 500 x 400 x 75mm	11	NO		
	<u>Solid concrete block walling in cement mortar</u>				
F	100mm Thick Walling	8	SM		
	<u>Cement and sand 1:4 rendering</u>				
G	18mm Thick Rendering to top of slab finished with a steel trowel.	12	SM		
	<u>Plaster; 9mm first coat of cement, lime putty and sand (1:2:9); 4mm second coat of cement lime putty and sand (1:1:6); Steel trowelled</u>				
H	Plaster to soffits	12	SM		
	<u>Granite tops</u>				
J	20mm Thick granite top in approved colour fixed of Concrete to shape and set in one piece to the approval of architects	12	SM		
K	Ditto;but fascia 250mm wide	12	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Birch laminate MDF veneered on both sides</u>				
A	20mm medium density fibre board in birth laminate fitting grooved and chamfered in shelving and divisions	45	SM		
B	450 X 600 mm High doors	15	NO		
C	450 X 450 mm High doors	15	NO		
D	Drawer size 450 x550 x200 mm with 200 x20mm sides and back,220 x 20mm front and 6mm plywood bottom tongued all round	10	NO		
E	19 X19 mm lipping tongued in and glued to edges	45	LM		
F	12 X12 mm drawer runners finished	23	LM		
	<u>Supply and fix the following ironmongery</u>				
G	Marple hinges	34	NO		
H	Brass cupboard door lock	15	NO		
J	Brass D pull handles	24	NO		
K	Brass drawer knobs	14	NO		
L	Brass flush bolts	9	NO		
M	Supply and deliver Epson Eco Tank L6490- A4 Ink tank with 3 sets of Ink / Tonner or Catridge and 10 Boxes of Papers	1	NO		
	<u>Prepare and apply three coats oil paint to woodwork</u>				
P	To wardrobe shelving	45	SM		
Q	Ditto doors	15	SM		
R	Ditto divisions	15	SM		
S	Surfaces of lipping n.e 100mm girth	25	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Boards</u>				
	<u>12mm Thick Medium Density Fibre board finihsed in white formica laminate plugged to concrete or masonry with all the necessary fixing accessories; complete with aluminium framing all round</u>				
A	White board; Overall Length 6000mm x 1200mm High	4	NO		
B	Graph board; Overall Length 1800mm x 1200mm High	4	NO		
	Notice Board.				
	<u>12mm thick Chip board plugged to concrete or masonry with all the necessary fixing accessories; complete with aluminium framing all round</u>				
C	Overall Size1200mm x 1200mm High	4	NO		
	Dado Rail				
D	Supply and fix 250 x 25 mm thick wrot cypress moulded dado rails; secured to walls	168	LM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u>				
	<u>FITTINGS</u>				
	Brought forward from page SF/21				
	Brought forward from page SF/22				
	Brought forward from above				
	TOTAL CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.9</u>				
	<u>BUILDER'S WORKS IN CONNECTION WITH SPECIALI ST SERVICES (provisional)</u>				
	<u>PLUMBING & INTERNAL DRAINAGE</u>				
A	Chase and make good wall or floor for small pipes	124	LM		
B	Ditto for large pipes	80	LM		
C	Build large pipe through 200mm wall including sleeve and make good	30	NO		
D	Build small pipe through 150mm wall including sleeve and make good	34	NO		
E	Build large pipe ditto	23	NO		
F	Build small pipe through 100mm wall ditto	54	NO		
G	Ditto large pipe ditto	23	NO		
H	Make or leave hole for large pipe through 150mm thick suspended slab	20	NO		
J	Build large pipe through 150mm floor bed and make good disturbed areas	23	NO		
	<u>ELECTRICAL,SECURITY AND SIGNAGE INSTALLATION</u>				
K	25 x 25mm deep chase in solid concrete block or stone walling for conduits	200	LM		
L	50 x 50mm deep ditto	200	LM		
M	75 x 75 x 50 mm deep recess in solid concrete block or stone walling for switches, sockets ets	300	NO		
N	300 x 200 x 150mm ditto for submain cables	6	NO		
P	450 x 300 x 100mm ditto for distribution boards	6	NO		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SECTION SUMMARY:</u>				
	<u>Element No:</u>	<u>Page No</u>			
1	REINFORCED CONCRETE WORKS	SF/1	Shs		
2	STAIRCASES	SF/5	Shs		
3	WALLING	SF/6	Shs		
4	ROOFING AND RAINWATER DISPOSAL	SF/11	Shs		
5	WINDOWS	SF/13	Shs		
6	DOORS	SF/16	Shs		
7	FINISHES	SF/20	Shs		
8	JOINERY,FITTINGS AND FIXTURES	SF/23	Shs		
9	BWIC IN CONNECTION TO SPECIALIST SERVICES	SF/25	Shs		
	Total Amount Carried to Builders Works Summary		Shs		

THIRD FLOOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 1:</u>				
	<u>REINFORCED CONCRETE WORK:</u>				
	<u>CONCRETE WORK:</u>				
	<u>Vibrated reinforced concrete Class 25/20 with approved admixtures</u>				
A	Ring Beams	14	CM		
B	Columns	22	CM		
C	175 mm Thick suspended floor slab	340	SM		
D	Concrete gutter	66	CM		
	<u>Reinforcement to BS 4449:1997 , Grade 460B High strength type 2 Ribbed bars with proof stress of 460 N/mm2; Including all necessary cutting, bending fixing and provision of spacer blocks and stools to S.E's detail.</u>				
E	8 mm diameter bars	3391	KG		
F	10 mm diameter bars	2992	KG		
G	12 mm ditto	3192	KG		
H	16 mm ditto	4588	KG		
I	20 mm ditto	4189	KG		
J	Assorted bars 25 -32mm.	1596	KG		
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
K	Sides and soffits of beams	165	SM		
L	Sides of columns	144	SM		
M	Soffits of suspended slab	340	SM		
N	Formwork to edges of slab, vertical, not exceeding 150mm high	110	LM		
P	Sides and soffits: Concrete gutters	418	SM		
	<i>Amount carried to summary</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.2</u> <u>WALLING</u> <u>EXTERNAL WALLING</u> <i>Approved Natural local stone of the approved colour; squared ; bush hammered ; in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
A	200 mm Thick walling.	300	SM		
B	200mm Thick Parapet wall 1000mm High.	100	SM		
	<u>INTERNAL WALLING</u> <i>Machine cut local stone walling in 200mm course heights, bedded and jointed in cement sand mortar (1:3), reinforced with 20 gauge x 25mm wide hoop iron reinforcement and column wall ties in every alternate course</i>				
C	200 mm Thick walling.	144	SM		
D	Precast concrete coping, size 450x150 mm, with fair-faced finish, bedded and jointed in cement:sand mortar (1:3), including all necessary formwork, reinforcement	24	LM		
E	Supply and fix 200mm thick perforated coloured precast concrete blocks, including all cutting, bedding and jointing in cement:sand mortar (1:4), hoisting and setting in position, and raking out joints for plaster or pointing; all as per drawings and specifications.	36	SM		
	Total Amount Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.3</u>				
	<u>ROOF CONSTRUCTION AND FINISHES</u>				
	<u>Supply and apply APP (Atactic Polypropylene) modified bituminous waterproofing membrane, or other equal and approved, weighing not less than 4kg/m², with mineral surface finish, laid on approved bituminous primer by torch-on process, strictly in accordance with the manufacturer's instructions. Application to horizontal roof terraces laid to proper falls and crossfalls, including all laps, upstands, corner detailing, and sealing at junctions. Waterproofing to be executed by an approved specialist and to be covered by a 10-year written guarantee.</u>				
A	APP membrane applied to roof terrace slabs and lift roof	340	SM		
B	APP membrane applied to skirting; 200mm high	120	Lm		
C	Ditto to angle fillet 150mm high	120	Lm		
D	Dress membrane round 100mm rainwater outlet	8	No.		
	<u>Lightweight water proofed screeds (1:5)</u>				
E	50mm average screed laid to falls and crossfalls to roof slabs	364	SM		
F	20mm ditto to receive ceramic tiles (ms)	364	SM		
G	20 mm thick protective terrazzo finish laid over 30 mm thick screed, including dividing strips, grinding, polishing, sealing, and curing, all to the Architect's approval.	364	SM		
H	20 x 200mm ditto skirting	120	Lm		
	<u>"Key terrain" or other equal and approved UPVC rainwater pipes and fittings</u>				
I	100mm diameter downpipe	88	LM		
J	100mm diameter bends	8	No.		
K	100mm diameter shoe	8	No.		
L	100mm diameter fulbora outlet	8	No.		
	<i>Total Amount Carried to Section Summary.</i>				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
A	<u>ELEMENT NO.4</u>				
	<u>WINDOWS:</u>				
	<u>Window Cill</u>				
	Supply and Fix 275x50mm Thick window cill once rebated and throated laid and jointed in cement and sand (1:3) mortar.	31	LM		
	<u>Supply, fabricate and fix purpose-made multisash steel sliding casement window with fixed transom sashes, comprising:Outer frame constructed from 75mm x 75mm x 3mm thick mild steel square hollow section (SHS), with transoms and vertical mullions as required for sash divisions and structural stability.Sliding sash panels (minimum 4No. panels), fabricated from 40mm x 40mm x 3mm steel box section, mounted on heavy-duty steel tracks with rollers for smooth horizontal sliding.Top fixed transom sashes (approx. 400mm high) made from 40mm x 40mm x 3mm box section, non-operable, fully glazed.Glazing: All panels fitted with 6mm thick clear sheet glass, fixed with mild steel glazing beads and secured using putty or rubber gasket system.Include all necessary ironmongery: sliding rails, handles, stoppers, interlocks, and lockable fasteners.Finish: All steelwork to be cleaned, primed with red oxide primer, and finished with two coats gloss oil paint or powder-coated in Architect's approved colour.Fix securely to structural openings using steel lugs and anchor bolts, including mastic sealant around perimeter for weatherproofing.All welds to be ground smooth and joints cleaned.</u>				
B	Window, overall size 7700 x 1800 High <u>Glass and glazing</u> <u>Supply and fix 6 mm Thick clear sheet glass and glazing with linseed oil based putty to metal as described in:</u>	4	NO		
C	Panes not exceeding 0.09 square meters. <u>Prepare, prime with one coat of rust-inhibiting primer and Spray one undercoat and two finishing coats of gloss oil paint as described on:</u>	56	SM		
D	General metal surfaces(measured over one side)	112	SM		
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.5</u> <u>DOORS</u> <u>Steel Doors</u> <u>Purpose made steel door comprising 100 x 50 x 3 mm thick RHS external frame fishtail grouted into concrete/block/masonry walling; with 100 x 50 x 3mmthick SHS internal surround frames; 50 x 50 x 2mm SHS verticals at 600mm centres and horizontals at 638mm centres; infilled with 18 gauge mild steel diamond shape pressed metal plates; bearing type heavy duty pin type hinges; tower bolts, cleats, cleat boxes, pull handles, 300mm long mild steel slide bolt and 4 mm thick steel hasp and staple; all welding, ground to a smooth finish including for priming door with one coat red oxide primer; all necessary approved ironmongery; top 8No. panels infilled with 18 gauge cranked louvres fixed at 45 degrees at 60 mm centres including two undercoat and one gloss finishing enamel paint to metal work all to architect's details and approved sample to approval.</u>				
A	Door overall size 1200x2400mm High. <u>Prepare touch up primer and apply two undercoats and one finishing coat gloss oil paint on metal:</u>	6	NO		
B	General surfaces of wood work (m.o.b.s)	18	SM		
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO.6</u> <u>FINISHES:</u> <u>INTERNAL FINISHES:</u> <u>FLOOR FINISHES</u> <u>Supply and apply cement and sand screed (1:3) to concrete surfaces as described, trowelled smooth, including all surface preparation, laying, curing, and finishing to the approval of the Architect.</u>				
A	30 mm Thick screed to receive ceramic floor tiles(measured separately) <u>Ceramic Tiles</u> <u>Supply and fix Non-slip Ceramic floor tiles fixed with approved quality tile adhesive in accordance with manufacturers instructions : bedded on screeds (measured separately) : jointed, pointed and grouted in matching colour cement mortar including all spacers and expansion joints : all in accordance with Architect's detail drawings and approval:</u>	340	SM		
B	600X 600x 10 mm Thick to floor	340	SM		
C	Ditto: 100 mm High skirting <u>Prepare and apply 12mm thick cement:sand plaster (1:4 mix) to internal walls (block/stone/concrete), finished smooth with a wood float, including all arises, corners, junctions, and surface preparation.</u>	121	LM		
D	Walls	588	SM		
E	Beams.	165	SM		
F	Columns.	144	SM		
G	Reveals not exceeding 100mm girth	134	LM		
H	Horizontal soffites of concrete slab	340	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>EXTERNAL WALL FINISHES</u>				
A	Extra over walling for horizontal recessed key pointing in 10mm thick cement:sand mortar (1:3), including raking out joints, preparing surfaces, and finishing neatly to Architect's approval. <u>Prepare and apply 15mm thick cement:sand plaster (1:3 mix) to external walls, finished with a sponge float, including hacking, dubbing out, and curing</u>	177	SM		
B	Walls	123	SM		
C	Beams.	185	SM		
D	Columns.	123	SM		
	<u>Painting and Decorating</u>				
E	Carefully prepare the plastered surface by sanding and skimming with gysum powder to achieve the smooth surface. <u>Textured external wall finish; specialist applied; as "Ruff & Tuff " or equal and approved; pattern and colour as selected by the architect applied with a steel trowel or roller by specialist on backing render (m.s).</u>	431	SM		
F	Rendered stone wall and concrete surfaces Expansion Joint Treament	431	SM		
G	200 mm wide PVC waterstop; centrally placed in expansion joints; including welding at laps and junctions, fixed in position during concrete works.	33	LM		
H	20 mm thick bitumen impregnated fibreboard expansion joint filler; cut, fitted, and fixed in vertical or horizontal concrete surfaces.	66	SM		
J	Prepare and seal expansion joints with approved two-part polysulphide sealant, applied over bond breaker tape and backing rod; finished flush with surface.	33	LM		
K	150 mm wide anodized aluminium floor expansion joint cover plate; mechanically fixed with countersunk screws and PVC inserts; complete as per manufacturer's detail.	33	LM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page TF/6 Brought forward from page TF/7				
	TOTAL CARRIED TO SECTION SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SECTION SUMMARY:</u>				
	<u>Element No:</u>	<u>Page No</u>			
1	REINFORCED CONCRETE WORKS	TF/1	Shs		
2	WALLING	TF/2	Shs		
3	ROOF CONSTRUCTION AND FINISHES	TF/3	Shs		
4	WINDOWS	TF/4	Shs		
5	DOORS	TF/5	Shs		
6	FINISHES	TF/8	Shs		
	Total Amount Carried to Builders Works Summary		Shs		

POWER HOUSE

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 1</u>				
	<u>SUBSTRUCTURE WORKS</u>				
	Excavation and earthwork				
A	Clear site of grass, bushes, shrubs, and small trees not exceeding 300 mm girth, including grubbing up of roots and burning or carting away all arisings.	90	SM		
	<u>EXCAVATIONS AND EARTHWORKS:</u>				
B	Excavate topsoil to remove vegetable soil to an average depth of 200 mm and deposit as directed.	200	SM		
C	Mass excavation commencing at stripped level to a depth not exceeding 1.5 metres, and cart away excavated material as directed by the Project Manager.	200	CM		
D	Excavate for strip footing foundations from reduced levels to depths not exceeding 1.50 metres.	26	CM		
E	Excavate for column bases from reduced levels to depths not exceeding 1.5 metres.	17	CM		
F	<u>Extra over</u> all descriptions of excavations for breaking up and removing rock, irrespective of class, and carting away from site as directed.	4	CM		
	<u>Disposal</u>				
G	Return, fill, and ram with selected and suitable excavated material in and around foundations.	75	CM		
H	Load and cart away surplus excavated materials from site to a dumping site approved by the Local Authority.	173	CM		
J	Allow for keeping excavations free from all water by pumping or otherwise	1	Item		
K	Allow for plunking and strutting sides of excavation trenches	1	Item		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Fillings</u>				
A	Approved hardcore fill; well watered and compacted in 150mm thick layers to approval.	81	CM		
B	Imported murrum backfill beneath hardcore, watered and machine - compacted in layers not exceeding 100mm thick.	72	CM		
C	50mm thick quarry dust blinding on surfaces of hardcore	89	SM		
	Anti-termite treatment				
	<u>Chemical anti-termite treatment applied as per the manufacturer's printed instructions to:</u>				
D	Surface of filling	89	SM		
	Concrete work				
	<u>50mm plain concrete blinding class 10 to:</u>				
E	Foundation trench	32	SM		
F	Column bases	15	SM		
	<u>Vibrated reinforced concrete (class 25/20 mm) in:</u>				
G	Strip foundation bases	6	CM		
H	Columns bases	5	CM		
J	Columns	1	CM		
K	150mm Thick slab	89	SM		
L	Ditto; Access Ramps	24	SM		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Deformed high yield steel ribbed bars reinforcement to KS <u>2712:2017 for cutting, bending, hoisting and fixing including all necessary tying wires, distance blocks, spacers, templates and stools</u>				
A	8mm Diameter bars	471	KGS		
B	10mm Diameter bars	778	KGS		
C	12mm Diameter bars	320	KGS		
	<u>Double layer Fabric; reference A142 mesh; 200 x 200 mm; weighing 2.22 kg per square metre; B.S. 4483; including 400 mm laps, bends, tying wire and spacer blocks; to:</u>				
D	Floor bed Formwork <u>Fair faced finished formwork as marine board or equal and approved :</u>	113	SM		
E	Sides of strip foundation bases	22	SM		
F	Sides of column bases	29	SM		
G	Sides of columns	10	SM		
H	Edges of slab over 75mm but not exceeding 150mm thick <u>Polythene sheeting ; 500 gauge; 150 mm laps; laid on:</u>	47	LM		
J	Surfaces of hardcore filling Foundation walling <u>Approved local natural stone walling with a compressive strength of 7.0 N/mm² (Class A1); bedded and jointed in cement and sand (1:4) mortar, reinforced with 25mm x 20- gauge hoop iron at very alternate course as described in:</u>	113	SM		
K	200 mm Thick walls	80	SM		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Cable Reticulation Trenches</u>				
A	500 x 500mm deep (average internally) reinforced concrete class 25 open drain in 200mm bed and 50mm concrete wall, including necessary reinforcements and waterproofing to approval	27	LM		
	<u>Mild steel grating</u>				
B	500mm wide purpose made mild steel grating comprising 50x50x4mm angle framing and 6mm dia. anchor; 4 mm thick chequered plate weld on 50x50x4mm angle painted in three coats gloss oil paint to approval	27	LM		
	<u>Service reticulation Manholes</u>				
C	Manhole internal size 800 x 800mm x 1200mm deep, comprising of plain concrete class 15 in 150mm thick base slab, 200mm thick solid concrete block walling, 2mm Thick cement sand rendering to sides and bottoms, including all necessary excavations, formwork and reinforcement.	2	NO		
	<u>Manhole covers</u>				
D	800x800x50mm thick precast concrete manhole cover comprising 50x50x4mm double angle framing painted in three coats gloss oil paint to approval	2	NO		
	<u>12 mm Thick cement and sand (1:3) wood float render on:</u>				
E	Dressed stone wall and concrete surfaces of plinths. <u>Prepare and apply three coats bituminous paint to rendered plinths</u>	15	SM		
F	Rendered plinth surfaces.	15	SM		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUBSTRUCTURE WORKS</u> <u>COLLECTION</u> Carried from page PH/1 Carried from page PH/2 Carried from page PH/3 Carried from page PH/4				
	Total Element 1 - Substructures Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 2</u> <u>FRAME</u>				
	Concrete Works				
	<u>Vibrated reinforced concrete (class 25/20 mm) in:</u>				
A	Columns	3	CM		
B	Ring beams	6	CM		
C	Raised platform	5	CM		
	Reinforcement				
	<u>Deformed high yield steel ribbed bars reinforcement to KS</u> <u>573: 2014 for cutting, bending, hoisting and fixing</u> <u>including all necessary tying wires, distance blocks,</u> <u>spacers, templates and stools</u>				
D	10mm Diameter bars	272	KGS		
E	12mm Diameter bars	274	KGS		
F	16mm Diameter bars	195	KGS		
	Formwork				
	<u>Sawn formwork to:-</u>				
G	Sides of columns	27	SM		
H	Sides and soffits of beams	59	SM		
J	Sides of raised platform	4	SM		
	Total Element 2 - Frame Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 3</u>				
	<u>ROOFING AND RAINWATER DISPOSAL</u>				
	<u>The following in truss ; steel members of various sizes, hoisted a above ground level, comprising of steel section members joined with nuts and bolts , including priming with red oxide primer and painting with gloss oil paint. Thus; supply, cut to size, weld/connect mild steel sections in trusses and other roof members and fix in position at height of approximately 4meters</u>				
	Truss Type T1				
A	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	275	KG		
B	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	115	KG		
	Truss Type T2				
C	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	32	KG		
D	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	10	KG		
	Truss Type T3				
E	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	138	KG		
F	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	69	KG		
	Truss Type T4				
G	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	92	KG		
H	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	46	KG		
	Truss Type T5				
J	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	37	KG		
K	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	23	KG		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Truss Type T6				
A	50 x 50 x 3 mm SHS external members(4.57 Kg/m)	74	KG		
B	50 x 50 x 3 mm SHS internal members(4.57 Kg/m)	46	KG		
	Unframed members				
C	40 x40 x 3mm SHS purlins3.63 Kg/m)	567	KG		
	75 x 50 mm x 3 mm SHS Wall plate(5.75 Kg/m)	568	KG		
D	Prepare surface,apply primer,one under coat and two finishing coats quality 'crown' or other equal and approved gloss paint on all steel works after erection	2092	KG		
	<u>Supply and fix 26 Gauge pre-painted IT5 Box Profiled sheeting as Galsheet or approved equivalent including all accessories, fixed strictly in accordance with the manufacturer's written instructions;</u>				
E	Roof covering at 300 from the horizontal including all necessary fixtures	116	SM		
	<u>Accessories, fixing as necessary to roof sheets</u>				
F	300 mm Girth matching plain sheet ridge capping thrice bent and dressed over covering	22	LM		
G	Valley or hip cap	12	LM		
H	Extra over roofing sheets for raking cutting	12	LM		
J	400 x 150 x 2mm Thick 14 Gauge galvanized mild steel box gutter fixed to rafters (measured separately) with and including approved brackets.	44	LM		
	<u>Prepare and apply three coats of 'CROWN SOLO' or other equal and approved polyurethane varnish to:-</u>				
K	General surfaces of mild steel gutters	45	SM		
L	200 X200 X4mm Thick Mild steel plate	38	NO		
M	16mm holding down bolts	76	NO		
	Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 4</u>				
	<u>WALLING</u>				
	External walling				
	<u>Approved local machine cut natural stone walling; bedded and jointed in cement and sand (1:4) mortar, reinforced with 25 x 20gauge hoop iron at every alternate course as described</u>				
A	200mm Thick walls	165	SM		
	<u>Precast concrete louvered blocks jointed and bedded in cement sand (1:4); including copper wire tray fixed on to the wall block; to approved pattern and colour</u>				
B	200mm Thick walls	75	SM		
	Internal walling				
	<u>Approved local machine cut natural stone walling; bedded and jointed in cement and sand (1:4) mortar, reinforced with 25 x 20gauge hoop iron at every alternate course as described</u>				
C	200mm Thick walls	60	SM		
	<u>Three- ply bituminous felt damp proof course (DPC) bedded in cement and sand (1:3) mortar (measured net, no allowance for laps):-</u>				
D	200mm Thick wide DPC	80	LM		
	Total Element 4 - Walling Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 5</u> <u>DOORS</u> <i>Note: All doors as per Architect's door schedule</i> <u>Steel casement doors</u> <u>Supply, assemble and fix the following purpose made standard section steel Door to comply to B.S.990,obtained from an approved manufacturer, primed with red oxide primer before delivery to site complete with, hinges, handles, catches and building in lugs with the frames fishtailed and grouted to concrete block wall or concrete head;Complete:</u>				
A	Door overall size 2340 x 2970mm High	1	NO		
B	Ditto:2340 x1500 mm High	1	NO		
C	Ditto:2370 x2340 mm High	2	NO		
D	Louvered Door overall size 1000 x2300 mm High	3			
	<u>Prepare , Prime and apply one undercoat and two finishing coats of gloss oil paint on :-</u>				
E	General metal door surfaces (both sides measured)	57	SM		
	Total Element 5 - Doors Carried to Summary of Elements				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT 6</u>				
	<u>FINISHES</u>				
	Floor finishes				
A	40 mm Thick powerfloated screed; trowelled smooth and finished with concrete floor red oxide paint as per manufacturer's instructions; to floors	113	SM		
B	Ditto to sides of raised platform	14	SM		
C	Ditto to sides of raised platform	31	SM		
	External wall finishes				
	<u>15mm Thick cement and sand (1:3) render finished smooth with steel trowel to:</u>				
D	Masonry and concrete surfaces; Externally	165	SM		
	<u>Prepare and apply three coats of premium approved quality silk vinyl paint to:-</u>				
E	Rendered surfaces; Externally	165	SM		
	Internal Wall finishes				
	<u>9mm thick first coat cement and sand (1:4) plaster; 3mm thick second coat of cement and lime putty (1:5); steel trowel finish; to</u>				
F	Masonry and concrete surfaces	13	SM		
	<u>Skimming</u>				
G	Carefully prepare the plastered surface by sanding and skimming with gypsum powder to achieve the smooth surface.	13	SM		
	<u>Prepare and apply one universal under coat and two finishing coats of approved 1st quality emulsion paint to</u>				
H	Plastered surfaces	13	SM		
	Total Element 6 - Finishes				
	Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>SUMMARY</u>				
1	SUBSTRUCTURE WORKS				
2	FRAME				
3	ROOFING AND RAINWATER DISPOSAL				
4	WALLING				
5	DOORS				
6	FINISHES				
Total Amount Carried to Builders Works Summary					

PUMP HOUSE

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page PHS/1 Brought forward from page PHS/2 Brought forward from page PHS/3				
	TOTAL SUBSTRUCTURE CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3 EXTERNAL WALLING <u>Approved natural local stone of the approved colour; squared ; hand dressed one side to architect approval ; bedding, jointing in cement and sand mortar (1:4);including reinforcing with hoop iron in every alternative course</u>				
A	200 mm thick walling	12	SM		
B	Extra over walls for horizontal key finish	12	SM		
	Damp Proof Course <u>Damp proof course : bituminous felt : bedded in cement and sand mortar (1:3) : 300 mm laps (measured net-no allowance for laps)</u>				
C	Horizontal: 200 mm wide	12	LM		
	TOTAL WALLING CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO 5</u> <u>DOORS</u> <u>Steel Doors</u> <u>Mild steel casement doors, including all the necessary louvres; one coat manufacturer's primer; Include all necessary ironmongery; all welding ground to smooth finish</u>				
A	Door overall size 900 x 2100mm high	1	NO		
	TOTAL FOR DOORS CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>ELEMENT NO. 6</u> <u>FINISHES</u> <u>Internal Wall Finishes</u> <u>Plaster: 18mm thick, 2 No. coatwork, 15mm first coat of cement sand (1:3); 3mm second coat of cement and lime putty (1:9); steel trowelled to concrete or blockwork base generally to: -</u> A Walls, beams and columns; internally <u>Apply one undercoat and three coats of first quality emulsion paint to the following surfaces</u> B Walls, <u>Floor Finishes</u> <u>Beds or Backings</u> <u>Powerfloat finish treated with and including SIKA floor-cure hard 24 or equal approved to:-</u> C Concrete floor bed	12	SM		
		12	SM		
		9	SM		
	TOTAL FOR FINISHES CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	SUBSTRUCTURE (ALL PROVISIONAL)		PHS/ 4		
2	STEEL WORK		PH S/ 5		
3	WALLING		PHS / 6		
4	ROOF CONSTRUCTION AND FINISHES		PHS / 7		
5	DOORS		PHS / 8		
7	FINISHES		PHS / 9		
	TOTAL CARRIED TO BUILDERS WORKS SUMMARY				

TANK BASES

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>LOW LEVEL TANK BASE</u>				
	<u>Site Preparation</u>				
A	Clear site of all bushes, shrubs and grub up roots and remove from site	71	SM		
	<u>Excavations & Earthworks</u>				
B	Excavate oversite soil average 150 mm deep and cart away from site.	71	SM		
C	Mass excavation commencing from stripped level depth not exceeding 1.5 metres and cart away as directed by the project manager.	107	CM		
D	Ditto: exceeding 1.5 metres but not exceeding 3.0 metres deep and cart away.	107	CM		
E	Load and cart away excavated materials from site to a dumping site approved by the Local Authority.	36	CM		
F	Return, fill and ram selected excavated material around foundations, column, retaining wall or lift bases including compacting in 300mm thick layers to make up levels.	178	CM		
	<u>Hardcore Filling</u>				
G	300mm Thick Approved hand packed hardcore: compacted in layers not exceeding 150mm Thick : to the satisfaction of the Structural Engineer.	71	SM		
H	Approved hand packed hardcore: compacted in layers not exceeding 150mm Thick : to the satisfaction of the Structural Engineer.	142	CM		
	<u>Murram</u>				
J	50mm Thick murram blinding to surfaces of hardcore.	71	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Damp proof membrane</u>				
A	1000 Gauge polythene or other equal and approved damp proof membrane to BS 3012 laid over blinded hardcore (m.s) with 300 mm side and end laps (measured net-allow for laps).	71	SM		
	<u>Concrete Work</u>				
	<u>Insitu concrete mix (1:4:8): in</u>				
B	50 mm thick blinding Raft base	71	SM		
	<u>Insitu reinforced concrete: Class 25/20 vibrated in:-</u>				
C	Raft base	36	CM		
	<u>Reinforcement (Provisional)</u>				
D	Asoorted bars	1034	KG		
E	8 mm diameter	1757	KG		
F	10 mm diameter	1538	KG		
G	12 mm diameter	1098	KG		
	<u>Fair faced Sawn formwork to:-</u>				
H	Vertical: sides of raft	14	SM		
	<u>SHEAR WALLING</u>				
	<u>Insitu reinforced concrete: Class 25/20 vibrated in:-</u>				
J	Shear wall	21	CM		
	<u>Reinforcement (Provisional)</u>				
K	Assorted bars	2100	KG		
	<u>Fair faced Sawn formwork to:-</u>				
L	Vertical: sides of raft	210	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>COLLECTION</u> Brought forward from page TB/1 Brought forward from page TB/2				
	TOTAL CARRIED TO SUMMARY				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>HIGH LEVEL TANK BASE</u>				
	<u>SUBSTRUCTURES</u>				
	<u>(All provisional)</u>				
	<u>Site Preparation</u>				
A	Clear site of grass, bushes, shrubs and small trees not exceeding 300mm girth including grubbing up roots, burn or cart away arisings.	24	SM		
	<u>Excavation and Earthworks</u>				
B	Excavate oversite average 200mm deep to remove vegetable soil; load and dispose at approved dumping site.	24	SM		
C	Mass Excavation to reduce levels starting from reduced levels not exceeding 1.50 meters deep.	36	CM		
D	Ditto but from 1.5m not exceeding 3.0 meters deep.	36	CM		
E	<u>Extra over</u> all kinds of excavations for excavating in rock irrespective of type and depth.	3	CM		
F	<u>Extra over</u> excavation for levelling and compating bottom of excavations.	24	SM		
G	Ditto for levelling vertical surfaces.	58	SM		
	<u>Back Filling around Foundation</u>				
H	Return fill in and ram selected excavated material around foundations.	56	CM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Disposal of excavated material</u>				
A	Load and cart away excess excavated material to County approved dumping sites.	19	CM		
B	Planking and strutting to sides of all excavations: keep excavations free from all falling materials		ITEM		
C	Keep excavations free from all water including spring, underground and running water.		ITEM		
	<u>Concrete Works</u>				
	<i><u>Plain concrete class 15 (1:3:6) as described in:-</u></i>				
D	50mm Thick Concrete blinding	24	SM		
	<i><u>Vibrated reinforced concrete class 25/20mm in:-</u></i>				
E	Pad Foundation	15	CM		
F	Foundation Columns.	4	CM		
	<i><u>Supply and fix reinforcement bars including bending, hooks, tying wires, cutting spacers and supporting all in position as described:</u></i>				
G	10 mm ditto.	570	KG		
H	12 mm ditto.	1026	KG		
I	16 mm ditto.	684	KG		
	<u>Fair faced Sawn timber formwork to:-</u>				
J	Sides of Pad Footing	12	SM		
K	Sides of Substructure Columns.	32	SM		
	P				
L	Allow for accurately setting 16 No. 25mm diameter galvanised steel foundation bolts at 300mm centres on foundation column plinths		ITEM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY	PAGE			
1	LOW LEVEL TANK BASE	TB/3			
2	HIGH LEVEL TANK BASE	TB/6			
	TOTAL CARRIED TO BUILDERS WORKS SUMMARY				

**GATE AND ACCESS RAMP TO THE EXISTING GATE
HOUSE**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>RAMPS</u>				
A	Excavate trenches for foundation strip footings commencing at reduced level, not exceeding 1.50 metres deep	35	Cm		
B	Return, fill and ram selected excavated materials around foundations	28	Cm		
C	Load and cart away surplus excavated materials from site to approved County Government dumping site	7	Cm		
D	300mm thick approved hardcore fill well packed and compacted in layers not exceeding 150mm thick	56	SM		
E	50mm thick quarry dust blinding on surfaces of hardcore	56	SM		
	<u>Anti-Termite Treatment:</u>				
	<u>"Premise 200CC" insecticide treatment on top of hardcore filling and over foundation walls applied as per manufacturer's instruction with a 10 year guarantee .</u>				
F	Surfaces of filling	56	SM		
	Concrete work				
	<u>Plain concrete class 15 as described in:-</u>				
G	50mm thick blinding under foundation strip footing	34.8	SM		
	<u>Vibrated reinforced insitu concrete class 25 to:-</u>				
H	Foundation strip footings	7	Cm		
K	150mm thick Ramp	56	SM		
	<u>Fabric; reference A142 mesh; 200 x 200 mm; weighing 2.22 kg per square metre; B.S. 4483; including 400 mm laps, bends, tying wire and spacer blocks; in</u>				
L	In surface bed	56	SM		
	CARRIED TO COLLECTION				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>Fair faced finished formwork as marine board or equal and approved :</u>				
A	Vertical sides of strip footings	36	SM		
B	Risers	12	SM		
C	Edges of slab ; over 75mm but not exceeding 150mm wide <u>Damp proof mebrane</u>	58	LM		
D	Single layer of 1000 gauge polythene sheeting laid on blinded hardcore with 150 mm side laps to receive concrete. <u>200mm Thick approved natural stone; local; roughly squared to foundation walling; bedding and jointing in cement sand (1:3) mortar and reinforced with 25mm wide x 20 gauge hoop iron in alternate courses as described in:</u>	56	SM		
E	200 mm Thick. Plinth finishes <u>Cement and sand (1:4) as described; to:</u>	87	SM		
F	20mm thick to plinths <u>Prepare and apply two coats approved bituminous paint applied in strict accordance with the manufacturer's specifications, to:</u>	58	SM		
G	Rendered surfaces <u>FINISHES</u> <u>Cement and sand (1:3) as described in:</u>	58	SM		
H	30 mm Thick screed to receive ceramic floor tiles(measured separately) <u>Supply and lay Non-slip Ceramic floor tiles fixed with approved quality tile adhesive in accordance with manufacturers instructions : bedded on screeds (measured separately) : jointed, pointed and grouted in matching colour cement mortar including all spacers and expansion joints : all in accordance with Architect's detail drawings and approval:</u>	56	SM		
J	600X 600x 10 mm Thick to floor	56	SM		
K	Ditto: 100 mm High skirting	85	LM		

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	CARRIED TO COLLECTION				
	<u>Balustrades</u> <i>Supply and Fix Balustrading comprising 50 mm nominal diameter x 2mm Thick (5.03Kg/m) black pipe handrail, 2/25x 6 mm (1.207Kg/m) flat middle / bottom rail, 4/25 x 25 x 2 mm (1.36Kg/m) x 600 mm long inter-baluster uprights with both ends welded to metal, 50 x 25 x 2 mm Thick (2.15Kg/m) x 900 mm High balusters at 300 mm centres with one end welded to hand rail other built into and including 75 mm deep (avarage) mortice in concrete</i>				
A	Balustrading to Staircase	40	SM		
	<u>Painting and Decoration</u> <i>Touch up primer, prepare and apply one undercoat and two finishing coats first quality gloss oil paint from approved manufacturer on:</i>				
B	Surfaces of open grind staircase balustrading (measured on both sides).	40	SM		
C	Supply and install precast concrete drainage channel 150mm wide x 150mm deep with galvanized steel grating, set in 1:3 cement mortar, including bedding and haunching in concrete class 20/20	40	LM		
	CARRIED TO COLLECTION				
	<u>COLLECTION</u> Brought forward from page R/1 Brought forward from page R/2 Brought forward from above				
	CARRIED TO SUMMARY				

SUMMARY OF BUILDERS WORKS

ITEM	DESCRIPTION	PAGE NO.	AMOUNT
	<u>SUMMARY OF BUILDERS WORKS</u>		
A	GROUND FLOOR	GF/31	
B	FIRST FLOOR	FF/24	
C	SECOND FLOOR	SF/26	
D	THIRD FLOOR	TF/9	
F	POWER HOUSE	PH/13	
G	PUMP HOUSE	PH/10	
H	TANK BASES	TB/7	
J	GATE AND ACCESS RAMP TO THE EXISTING GATE HOUSE	R/3	
	TOTAL CARRIED TO GRAND SUMMARY		-

BILL NO.4
CIVIL WORKS

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

CIVIL WORKS PRELIMINARIES				
ITEM	DESCRIPTION	UNIT	RATE	AMOUNT KSHS.
A	Allow a Provisional Sum Kenya Shillings Five Hundred Thousand for Level Surveying works	SUM	1	500,000
B	Allow % for Contractor's Profits and Overheads	%	10	50,000
C	Allow a Provisional Sum of Kenya Shillings Two Hundred Thousand for Material Testing as instructed by the Project Civil Engineer	SUM	1	200,000
D	Allow % for Contractor's Profits and Overheads	%	10	20,000
	TOTAL CARRIED TO CIVIL SUMMARY PAGE			770,000

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO. 01 FOUL DRAINAGE SYSTEM					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	GENERAL ITEMS				
	<u>Provisional Sums</u>				
A	Allow a Provisional Sum for testing of the whole foul drainage system in the presence of the Engineer/Project Manager and make good any defects, retest as necessary and leave the whole foul drainage system perfect and to the satisfaction of the Engineer/Project Manager.	SUM	1		
	<u>SITE CLEARANCE</u>				
	<u>General Site Clearance</u>				
B	Clear 1.5m either side of centre line of the proposed sewerline of grass,bushes,small trees and obstructions and dispose as directed by the Project Manager.	SM	525		
	<u>MANHOLES</u>				
	<u>Manhole Excavation</u>				
C	Excavate pit in normal soil for Rectangular Manhole type 'A' as per drawing detail No. (50) 5300. Depth to invert max. 0.6m	CM	6		
D	Excavate pit in normal soil for Rectangular Manhole type 'B' as per drawing detail No. (50) 5301. Depth to invert max. 1.0m	CM	30		
E	Extra over excavation for excavation in Rock Class II	CM	2		
F	Excavate pit in normal soil for Rectangular Manhole type 'C' as per drawing detail No. (50) 5302. Depth to invert max. 1m.	CM	36		
G	Ditto n.l.t 1.0m but n.e 1.5m	CM	18		
I	Extra over excavation for excavation in Rock class II	CM	4		
J	Excavate pit in normal soil for Rectangular Manhole type 'D' as per drawing detail No. (50) 5303. Depth to invert max. 1m.	CM	12		
K	Ditto n.l.t 1.0m but n.e 1.5m	CM	6		
L	Ditto n.l.t 1.5m but n.e 2.0m	CM	6		
N	Extra over excavation for excavation in Rock class II	CM	3		
	<u>Manhole Construction</u>				
O	Provide, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8) as blinding for manholes. Cement to BS 12, 14mm aggregate to BS 882.	SM	76		
P	Provide, mix and place 150mm thick Concrete grade C20 (Mix Ratio 1:2:4) to construct 150mm thick manholes' bases. Cement to BS 12, 20mm aggregate to BS 882.	CM	12		
Q	Provide, mix and place 150mm thick concrete grade C20 (Mix Ratio 1:2:4) as cover slab for manholes. Cement to BS 12, 20mm aggregate to BS 882.	CM	7		
R	Provide all materials, mix and place conc. grade C15 (Mix Ratio 1:3:6) as benching for 160 mm, 200mm and 225mm diameter pipes. Include for forming as well as finishing benching to falls and building in pipes as per drawings. Cement to BS 12, 20mm aggregate to BS 882.	CM	12		
S	Provide materials for and erect 200mm thick masonry for manholes type 'A', 'B', 'C'and 'D' as per drawing details	SM	220		
	TOTAL CARRIED TO COLLECTION PAGE 4				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	<u>Manhole Construction Cont.</u>				
A	Provide 8mm diameter steel bars for cover slab of Rectangular Manhole Types 'B', 'C' and 'D' as per Drawing Detail No. 50 (5301), 50 (5302) and 50 (5303).	KG	400		
B	Provide and fix bitumen coated cast iron steps to B.S 1247 to detail 50 (5309) to Rectangular Manholes Types 'A', 'B', 'C' and 'D' as per Drawing Detail No. 50 (5300) , 50(5301),50 (5302) and 50(5303) respectively.	No.	160		
C	Provide 12mm thick cement and sand (mix 1:1) sulphate resisting rendering to the walls of the manholes.	SM	220		
D	Ditto but to cover slab	SM	74		
E	Ditto but to surface of benching.	SM	74		
F	Allow for keeping excavations free from both surface and underground water.	SUM	1		
	<u>C.I MH Cover and Frame To B.S 497 & B.S 556</u>				
G	Provide and fix 600 x 450mm Heavy duty C.I manhole cover & frame and grease to detail 50 (5313)	No.	40		
	<u>Circular Manhole units to be manufactured and checked for compliance with B.S 556 and approved by the Project Civil Engineer</u>				
H	Provide and place 1050mm internal diameter and 2000mm deep to invert level Pre-Cast Concrete Ring manhole made up of chamber Rings ogee jointed in multiples. Include 1220mm diameter;150mm thick Pre-Cast Reinforced Concrete Cover Slab with Heavy Duty Triangular with Concrete fil type Cast Iron Manhole Cover and Frame, 50mm thick Concrete Class 15 surround compacted to the satisfaction of the Project Civil Engineer	No.	3		
I	Concrete ring manhole and 2500mm deep made up of 1200mm diameter chamber rings in multiples with tapered top reduced to 675 mm using shaft rings in multiples.Taper diameter 1200/675mm. Including 150mm thick Pre-Cast Concrete Reducing slab and 150mm thick Concrete Class 15 (Mix 1:3:6) surround on tapered side and 675mm diameter;150mm thick Pre- Cast Reinforced Concrete Cover Slab with Heavy Duty Triangular with Concrete fil type Cast Iron Manhole Cover and Frame, 50mm thick Concrete Class 15 surround compacted to the satisfaction of the Project Civil Engineer	NO.	2		
	<u>SEWERLINE</u>				
J	Excavate trench in normal soil for 160mmØ, 200mmØ UPVC pipe (ISO class 41) and cart away surplus material as directed by the Engineer. Excavation measured from ground level to a depth n.e. 1.0m.	CM	200		
	TOTAL CARRIED TO COLLECTION PAGE 4				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	<u>SEWERLINE Cont.</u>				
A	Ditto n.l.t 1.0m but n.e 1.5m	CM	100		
B	Ditto n.l.t 1.5m but n.e 2.0m	CM	50		
D	Extra over excavation for excavation in Rock class 1	CM	5		
E	Allow for maintaining sides of all excavations vertical by planking and strutting using 25mm sawn timber	SM	700		
	<u>PIPE LAYING</u>				
F	Provide, lay and joint 160mm diameter uPVC pipes (ISO class 41) to BS 4660 on gravel bedding and surround	LM	50		
G	Provide, lay and joint 200mm diameter uPVC pipes (ISO class 41) to BS 4660 on gravel bedding and surround	LM	300		
H	Provide and compact 100mm approved quarry dust or sand bedding for uPVC pipes as per Drawing detail (50) 5310'E'	SM	350		
I	Ditto Concrete grade C20 (Mix Ratio 1:2:4) as surround around pipes as per Drawing detail (50) 5310'F'	CM	12		
J	Backfill and compact selected material in layers of 150mm thick	SM	1250		
K	Load and cart away all surplus excavated material as instructed by the Engineer/Project Manager	CM	100		
	Carried to Collection.....				
	<u>COLLECTION</u>				
	Brought Forward from Page..... 2				
	Brought Forward from Page..... 3				
	Brought Forward from Above.....				
	TOTAL CARRIED TO CIVIL WORKS SUMMARY PAGE				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 2: SEPTIC TANK					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>The following in 1 No septic tank</u>				
	<u>Earth works</u>				
A	Clear site of grass, bushes etc and cart away or burn arisings	SM	128		
B	Excavate for pit commencing from existing ground level n.e 1.50 m deep	CM	192		
C	Ditto 1.50 to 3.00 m ditto	CM	191		
D	Ditto 3.00 to 4.50 m ditto	CM	86		
E	Extra over all excavations for excavating in rock class I	CM	70		
F	Cart away surplus excavated materials from site	CM	210		
G	Return fill and ram selected excavated materials	CM	258		
	<u>Plain concrete (1:4:8) in:-</u>				
H	Blinding under base slab	SM	73		
	<u>Vibrated reinforced concrete (1:2:4)/20 mm in:-</u>				
I	300 mm thick bed	SM	4		
J	200 mm thick ditto	SM	69		
K	250 mm thick walls	SM	101		
L	200 mm thick ditto	SM	3		
M	150 mm thick scum baffle ditto	SM	11		
N	200 mm thick vertical division	SM	11		
O	200 mm thick cover slab	SM	76		
	<u>Reinforcement</u>				
P	8 mm diameter mild steel bars reinforcement to B.S 4449	KG	1		
Q	10 mm diameter high tensile square twisted reinforcement bars to B.S 4461	KG	228		
R	12 mm ditto	KG	2655		
S	16 mm ditto	KG	3781		
T	BRC Ref. 66 fabric mesh reinforcement	KG	11		
	TOTAL CARRIED TO COLLECTION PAGE 6				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 2: SEPTIC TANK					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>Sawn form work to:-</u>				
A	Vertical sides of walls	SM	252		
B	Soffitts of suspended slab	SM	65		
C	Edge of ground slab 225 - 300 mm high	LM	7		
D	Edge of ground slab 150 - 225 mm high	LM	36		
E	Ditto 75 - 150 mm ditto	LM	5		
F	Ditto suspended slab 150 - 225 mm ditto	LM	42		
G	Soffitts of baffle walls 75 - 150 mm girth	LM	14		
H	Boxing size 600 x 450 mm to form opening for mn hole cover	NO	4		
I	12 mm thick sulphate - resisting water proof render to concrete work	SM	222		
J	Supply and fix medium duty, cast iron manhole cover size 600 x 450 mm complete with frame including greasing before fixing	NO	4		
	<u>Sundries</u>				
K	Form or leave slot size 300 x 200 mm in 200 mm thick concrete wall	NO	3		
L	Ditto in 250 mm thick concrete wall for large pipe	NO	1		
M	Ditto in 200 mm ditto		2		
N	Supply and fix 200 mm diameter UPVC sleeve in 250 mm thick concrete wall	NO	1		
O	Ditto in 200 mm thick concrete wall	NO	2		
	COLLECTION.....				
	Brought Forward from page..... 5				
	Brought Forward from page..... 6				
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 3: SOAKAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SOAKAGE</u>				
	<u>SOAKPIT (14 NO.)</u>				
	Excavate pit for circular soak pit as per detail No.(50)5345,				
A	Depth n.e 6.0m from the existing ground level	CM	80		
B	Extra over excavation in rock class I	CM	20		
	<u>Concrete class 15 (mix 1:3:6)</u>				
C	50mm blinding for the strip footing.	CM	1		
	<u>Walling</u>				
D	150 mm thick dressed natural stone to detail 50(5345)	SM	35		
E	12 mm thick water proof cement rendering to vertical walls cement sand (mix1:1)	SM	40		
	TOTAL CARRIED TO COLLECTION PAGE 10				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 3: SOAKAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>SOAKAGE CONTD.</u>				
	<u>Vibrated reinforced concrete class 20/20</u>				
	<u>mix 1:2:4</u>				
A	150mm thick suspended cover slab.	CM	4		
	<u>High tensile Steel reinforcement bars to BS 4449</u>				
B	8mm diameter round bars to cover slab.	KG	500		
C	Provide 200 mm diameter stone blocks or hardcore in soak pits as directed by the Engineer.	CM	90		
D	Supply and fix medium duty, cast iron manhole cover size 600x450	NO	14		
	<u>DISTRIBUTION MANHOLES (7N0.)</u>				
	<u>Excavations</u>				
	Excavate pit for rectangular distribution manholes as per detailed drawing no. (50) 5351, partly backfill.				
	backfill after construction and cart away the surplus surplus material from site as directed.				
E	Depth n.e 1.5m starting from the existing ground level.	CM	10		
F	Extra over for excavation in rock class 1.	CM	2		
	<u>Construction</u>				
G	<u>Blinding</u> Provide all materials, mix and place 50mm thick	SM	10		
	<u>Manhole base slab</u>				
H	Provide all materials, mix and place 150mm thick class 15 (mix 1:3:6) base slab for manholes.	CM	2		
	TOTAL CARRIED TO COLLECTION PAGE 10				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 3: SOAKAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>DISTRIBUTION MANHOLES CONTD</u>				
	<u>Sawn Formwork to:</u>				
A	soffit of the cover slab.	SM	10		
B	Edges of cover slab between 75-150mm high.	LM	30		
C	Provide all materials, mix and place 100mm thick class 20 (mix 1:2:4) cover slab for manholes.	CM	1		
	<u>Benching</u>				
D	Provide all materials, mix and place concrete class 15 as benching for 160mm diameter forming the main				
	and branch channels as well as finishing benching to and built-in pipes as per detailed drawings	SM	10		
E	Provide, lay and joint 150mm thick approved dressed natural stone walling to manholes.	SM	50		
F	Supply and fix medium duty, cast iron manhole cover 600x450 complete with frame including greasing.	NO	7		
	<u>Rendering</u>				
G	Provide 12mm thick water proof cement and sand (mix 1:3) steel float finished to walls.	SM	50		
H	Ditto but to cover slab	SM	10		
I	Provide 10mm thick water proof cement and sand (mix 1:1) trowelled smooth to surface of benching.	SM	10		
	TOTAL CARRIED TO COLLECTION PAGE 10				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

	BILL NO 3: SOAKAGE				
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>FRENCH DRAINS</u>				
A	Excavate trench for agricultural pipe n.e 200mm in diameter for French drains to detailed drawing No. (50) 5344, backfill after laying of pipes and cart away surplus excavated material	CM	30		
B	Ditto to invert n.e 1.5m	CM	170		
C	Ditto, depth not less than 1.5m but n.e 2.0m	CM	70		
D	Ditto, depth not less than 1.5m but n.e 2.5m	CM	70		
E	Provide and lay 100mm diameter agricultural pipes in French drains. Include for all other materials as per drawing No. (50) 5344	LM	250		
F	Cultivate within soakage area, provide and spread 10mm thick layer of red soil mixed with manure (ratio manure red soil 1:6)	SM	600		
G	Provide and plant Kikuyu grass and maintain till well established	SM	600		
	Carried to collection below				
	COLLECTION				
	Brought Forward from page 7.....				
	Brought Forward from page 8.....				
	Brought Forward from page 9.....				
	Brought Forward from page 10.....				
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO. 4 ACCESS ROAD AND PARKING					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	<u>EARTHWORKS</u>				
A	Excavate over site to remove vegetation soil average 150mm deep.	SM	14,600		
B	Ditto mass excavation average depth 1500 mm in steps to landscaped level and stockpile for re use.	CM	17,600		
C	Lay and compact 1500mm average thick stockpiled soil in layers of 250mm thick fill to landscaped level. Compaction to 95% MDD	CM	3,500		
	<u>ACCESS ROAD AND PARKING</u>				
D	Allow a Provisional Sum for setting out the Road Works	SUM	1		
E	Excavate area of the road average 300 mm to formation level.	CM	960		
F	Extra over excavation for excavating in Rock class 1	CM	40		
G	Allow for trimming and compacting formation level to correct levels and crossfalls. Compaction to 100% MDD	SM	3,200		
H	Allow a provisional sum for adjusting the Moisture Content of the 300mm below formation by either mixing in water or drying out the material such that the Moisture Content during compaction is between 75-100% OMC .	SUM	1		
I	Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of the formation as per the manufacturer's specifications.	SM	3,200		
J	Provide, lay and compact 300mm average thick approved murram in layers of 150 mm thick fill as instructed by the Project Civil Engineer. Compaction to 95% MDD	CM	2,000		
K	Allow a provisional sum for adjusting the Moisture Content by either mixing in water or drying out the approved fill material such that the Moisture Content of the 150mm thick layer during compaction is between 75-105% OMC (AASHTO T99) as instructed by the Project Civil Engineer.	SUM	1		
L	Provide, lay and compact 300mm thick hand packed stones in layers of 150mm thick rolled to the satisfaction of the Engineer/Project Manager.	CM	960		
M	Provide lay and compact 50mm thick sand or quarry dust bedding to receive heavy duty precast concrete paving blocks.	SM	3,200		
N	Provide, lay and compact 80mm thick Heavy duty Pre-cast Concrete paving blocks (Minimum Strength 45-50 N/mm ²)	SM	3,200		
	<u>KERBS AND CHANNELS FOR ACCESS ROADS AND PARKING BAYS</u>				
	To be manufactured strictly in accordance with BS 340, Concrete grade to be C20/20) (Mix 1:2:4). Cement to BS 12, 20mm aggregate to BS 882				
O	Provide and place 450x100mm concrete bed and haunch in concrete grade C15 (mix 1:3:6) for Pre-Cast Concrete 250x125mm kerbs and 125x100mm channels. Include for all necessary formwork as per Drawing detail (50)5332 'B'. Cement to BS 12, 20mm aggregate to BS 882.	CM	60		
O	Provide, lay and joint 250x125mm Pre-Cast Concrete kerbs and 125x100mm channel in cement mortar (Mix Ratio 1:2) as per Drawing detail (50)5332 'B'.	LM	760		
	TOTAL CARRIED TO COLLECTION PAGE 12				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO:4 ACCESS ROAD AND PARKING					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	<u>FOOTHPATHS ADJACENT TO THE ACCESS ROADS AND PARKING BAYS</u>				
A	Excavate over site to remove vegetation soil average 150mm deep.	SM	2020		
B	Excavate area of the road average 150mm to formation level, trim and compact to correct levels and crossfalls.	SM	2020		
C	Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of formation as per the manufacturer's specifications.	SM	2020		
D	Provide, lay and compact 150mm thick approved Murram base rolled to the satisfaction of the Engineer	CM	300		
E	Provide, lay and compact 50mm thick approved quarry dust or sand as per drawing detail rolled to the satisfaction of the Engineer.	SM	2020		
F	Provide, lay and compact 50 mm thick medium duty Pre-cast Concrete paving blocks (Minimum Strength 45-50 N/mm ²)	SM	2020		
G	Provide all materials, mix, place and vibrate 475X200mm thick concrete bed and haunch in Concrete grade C15 (Mix Ratio 1:3:6) as instructed by the Engineer . Cement to BS 12, 20mm aggregate to BS 882.	CM	78		
H	Provide, lay and joint in cement mortar (Mix ratio 1:2) pre-cast concrete 125x100 channels as footpath edging to Drawing detail 50(532) 'C'.	NO	2170		
I	Ditto 125x100 mm radii	NO	5		
	<u>ROAD MARKING</u>				
J	Provide and apply three coats of approved reflective road marking paint white in colour in strips of 100mm wide as directed by the Engineer.	SM	400		
K	Ditto but yellow in colour.	SM	50		
	Carried to Collection.....				
	<u>COLLECTION</u>				
	Brought Forward from Page... 11				
	Brought Forward from Above.....				
	TOTAL CARRIED TO CIVIL SUMMARY PAGE				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO:5 FOOTPATHS AROUND BUILDINGS					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	FOOTPATHS AROUND BUILDINGS AND EXTERNAL WALKWAY				
A	Excavate over site to remove vegetation soil average 100mm deep.	SM	486		
B	Excavate to reduced levels not exceeding 250mm deep starting from the stripped level trim and compact to correct levels and crossfalls.	SM	486		
C	Provide non selective post emergence broad spectrum persistent herbicide as 'Round up' or equal and approved; and, apply on the surface of formation as per the manufacturer's specifications.	SM	486		
D	Provide, lay and compact 200mm thick approved Murram as sub-base as per drawing detail rolled to the satisfaction of the Engineer/Project Manager.	SM	486		
E	Provide, lay and compact 50mm thick approved quarry dust or sand as per drawing detail rolled to the satisfaction of the Engineer.	SM	486		
F	Provide, lay and joint, 600x600x50mm Pre-Cast Concrete slabs to Footpaths as instructed by the Engineer. Include for keying in all grooves and painting the grooves in black road marking paint.	SM	486		
G	Provide all materials, mix, place and vibrate 475x100mm concrete bed and haunch in Concrete Grade C15(mix Ratio 1:3:6) as instructed by the Engineer. Include for all necessary formwork as per Drawing detail (50)5332 'C'. Cement to BS 12, 20mm aggregate to BS 882.	CM	28		
H	Provide, lay and joint in cement mortar (Mix 1:2) pre-cast concrete 125x100 channels as per Drawing detail (50)5332 'C'.	no	675		
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO. 06 STORM WATER DRAINAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
	<u>OPEN STORM WATER DEEP INVERT BLOCK DRAIN</u>				
A	Excavate trench for 450x600x225mm external dimensions precast concrete IBD trim sides to slope and cart away excavated material depth not exceeding 1.2m (average depth 1.0m.)	CM	710		
B	Extra over for excavation in Rock Class I.	CM	5		
C	Provide, lay and compact 100mm thick approved murram at the base and side slopes of the trench as per drawing detail (50)5329 'B'	SM	2,080		
D	Provide, lay and joint 450x225mmx600mm external dimensions precast concrete IBD as per drawing detail (50)5329 'B'	LM	600		
E	Provide 200mm thick building stone, lay and joint in cement sand (1:3) mortar as stone pitching as per drawing detail (50)5329	SM	200		
F	Provide, lay and joint two 600x225x75mm side slabs as per drawing detail (50)5329 B	SM	660		
	<u>SHALLOW INVERT BLOCK DRAIN</u>				
G	Excavate trench for 125x390mm;(450mm overall) external dimensions Pre-Cast Concrete shallow IBD trim sides to slope and cart away excavated material depth not exceeding 0.5m (average depth 0.4m.)	CM	20		
H	Provide, lay and compact 100mm thick approved Murram as sub-base as per drawing detail (50)5330 rolled to the satisfaction of the Engineer.	SM	40		
I	Provide, mix and place 50mm thick concrete grade C15 (Mix Ratio1:3:6) as bedding for the shallow IBD. Cement to BS 12, 14mm aggregate to BS 882.	CM	4		
J	Provide, lay and joint 125x390mm; (405mm overall) precast concrete shallow IBD as per drawing detail (50) 5330.	LM	50		
	<u>CULVERTS & HEADWALL</u>				
	<u>HEADWALLS</u>				
K	Excavate trench for 200mm width headwall starting from ground level to depth not exceeding 1.0m	CM	10		
L	Provide all materials, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8) as blinding for headwall base. Cement to BS 12, 14mm aggregate to BS 882.	CM	2		
	TOTAL CARRIED TO COLLECTION PAGE 15				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO. 06 STORM WATER DRAINAGE					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>CULVERTS & HEADWALL</u>				
	<u>HEADWALLS Cont.</u>				
A	Provide all materials, mix and place 150mm concrete grade C20 (Mix Ratio 1:2:4) as foundation for headwalls. Cement to BS 12, 20mm aggregate to BS 882.	CM	3		
B	Provide and fix Fabric Mesh Reinforcent Type A to B.S 1483 B.R.C Mesh No.65 to B.S 1483	SM	24		
C	Provide all materials, mix and place 250mm thick Concrete grade C20/20 (Mix Ratio 1:2:4) as Headwall and Wingwalls as per Drawing Detail (50)5318. Cement to BS 12, 20mm aggregate to BS 882.	CM	8		
	<u>CULVERTS</u>				
	<u>Excavation</u>				
D	Excavate trench in normal soil for and 450mmØ precast concrete pipe and cart away surplus material as directed by the Engineer. Excavation measured from ground level to a depth n.e. 1.0m.	CM	30		
E	Ditto n.l.t 1.0m but n.e 1.5m	CM	12		
F	Extra over for excavation in rock class 1	CM	6		
	<u>Concrete Blinding</u>				
G	Provide, mix and place 50mm thick concrete grade C10 (Mix Ratio1:4:8) as blinding for culvert pipe. Cement to BS 12, 14mm aggregate to BS 882.	SM	30		
	<u>Concrete Bedding</u>				
H	Provide, mix and place concrete grade C20 (Mix Ratio 1:2:4) to construct 150mm thick bed for culvert pipe. Cement to BS 12, 20mm aggregate to BS 882.	CM	5		
	<u>Pre-cast Concrete Piping</u>				
I	Provide, lay and joint 450mm dia. precast concrete pipes on concrete bedding to correct fall.	LM	30		
J	Provide, mix and place concrete grade C20 (Mix Ratio 1:2:4) as concrete haunch and surround around pipes. Cement to BS 12, 20mm aggregate to BS 882. Including all the necessary formwork.	CM	10		
K	Backfill and compact after laying, jointing and surrounding of the pipes.	CM	2		
L	Load and cart away surplus excavated material from site.	CM	30		
	<u>Carried to collection.....</u>				
	<u>COLLECTION</u>				
	<u>Brought Forward from page..... 14</u>				
	<u>Brought Forward from above.....</u>				
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 7. RETAINING WALLS AND STONE PITCHING					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>RETAINING WALLS</u>				
	<u>Excavations & earthworks</u>				
	<u>(All Provisional)</u>				
	<u>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</u>				
A	Excavate for retaining wall foundation; commencing from original ground level exceeding 1.20 meters deep.	CM	1,400		
B	Trim surface to slope (150mm average) and compact surface	SM	1,050		
C	Extra-over all excavation for excavating rock irrespective of class	CM	18		
D	Return, fill-in and ram selected excavated materials around foundations	CM	1,400		
	<u>Antitermite treatment</u>				
J	Apply "Termidor" or any other similar and approved anti termite chemical treatment on blinded surfaces.	SM	1,050		
	<u>Concrete</u>				
K	50mm thick mass concrete class Q (1:3:6) to bottoms of foundations	SM	1,050		
	CARRIED TO COLLECTION PAGE 17...				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO 7. RETAINING WALL AND STONE PITCHING					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	Vibrated reinforced concrete class 25 waterproofed with and including 'Sika 1' or other equal and approved waterproofing compound in strict accordance with the manufacturer's instructions.				
A	Retaining wall base	CM	560		
B	Reinforced concrete wall	CM	560		
C	Extra over ditto for 50mm diameter weepholes in PVC pipes	NO	2,100		
	Deformed high yield steel ribbed bars reinforcement to KS 573: 2014 for cutting, bending, hoisting and fixing including all necessary tying wires, distance blocks, spacers, templates and stools				
D	12mm Diameter bars	KG	50,400		
E	20mm Diameter bars	KG	25,200		
	Sawn formwork:-				
F	To sides; vertical or battering of raft foundation base	SM	420		
G	To sides; vertical or battering of reinforced concrete wall	SM	3,500		
	STONE PITCHING				
H	Provide stone pitching and grout with mortar as specified or as directed by the engineer	SM	2,800		
	Carried to Collection				
	COLLECTION				
	Brought forward from page 16				
	Brought forward from above				
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

BILL NO. 8 STATIONERY					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT KSHS
A	Photocopying paper white A4 80g/M2 (Reams)	NO	20		
B	Photocopying paper size A3, 80g/cm3 white (Reams)	NO	5		
C	Conqueror paper Yellow A4 80g/M2 (Reams)	NO	2		
D	2TB SSD Disk	NO.	2		
E	Water Dispenser	No.	1		
	Ink Cartridge				
F	HP Laser Jet 85A	No.	4		
	TOTAL CARRIED TO CIVIL WORKS SUMMARY				

PROPOSED KENYA UTALII COLLEGE KILGORIS CAMPUS
CIVIL WORKS

CIVIL WORKS SUMMARY PAGE			
BILL NO	DESCRIPTION	AMOUNT (KSH)	AMOUNT (KSH)
PRE	PRELIMINARIES		
1	FOUL DRAINAGE SYSTEM		
2	SEPTIC TANK		
3	SOAKAGE		
4	ACCESS ROAD AND PARKING		
5	FOOTPATHS AROUND BUILDINGS		
6	STORM WATER DRAINAGE		
7	RETAINING WALL AND STONE PITCHING		
10	STATIONERY		
	SUB-TOTAL I		
	Add Kshs. Five Million as Contingency to be expended in whole or part or to be totally omitted at the discretion of the Project Manager)	5,000,000	
	SUB-TOTAL 2		
CIVIL WORKS TOTAL CARRIED TO GRAND SUMMARY			

BILL NO.5

LANDSCAPING WORKS

PROPOSED LANDSCAPING WORKS - KENYA UTALII COLLEGE- KILGORIS CAMPUS.					
ITEM	DESCRIPTION	QTY	UNIT	RATE	KSHS.
	<u>GROUND PREPARATION AND MANURE APPLICATION</u>				
1	<u>Clearing and Levelling</u>				
	Clear the site of all existing unwanted materials and scarify oversite commencing from main Contractor,s reduced levels, average 150 mm deep to allow for water seepage and retention remove all hardened ground, weeds and any deleterious materials; including carting away all arising wastes, raking and fine levelling of the ground.	3,134	SM		
A					
B	Do rough grading by way stripping and filling of all areas and spread the arisings including the material from excavation of planting pits and any other left over material.	1,567	CM		
	Supply of fumigant to fumigate all areas to be landscaped(To all existing lawn areas)	3,134	SM		
2	<u>Supply and application of Manure.</u>				
A	Supply of weed free Farm yard manure) and spread the mixture over all areas to be landscaped; A depth =100mm.	313	CM		
3	<u>Supply and Installation of Grass</u>				
A	Supply, plant, water, weed and tend well undermentioned grass sprigs untill fully established.				
	(i) Paspalum ditatum (Paspalum) sprigs to be planted 100mm x 100mm C to C.	2,700	SM		

L/1					
ITEM	DESCRIPTION	QTY	UNIT		
1	<u>Supply and Installation of Ground covers and Bedding Plants(APPX NO3,000)</u> <u>Pits excavation for Groundcovers</u> A) Excavate circular pits, average 200mm diameter, commencing at existing ground level but not exceeding 0.25 metres depth average 200mm deep and spread arisings evenly around. 150 CM <u>Backfilling of Planting pits</u> B) Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 3:1, 250mm deep. <u>Supply and Planting of Groundcovers and Bedding plants</u> Supply, plant, weed, water and tend well Assorted species of groundcovers ; 3,000 NO				
L/2					
ITEM	DESCRIPTION	QTY	UNIT		
1	<u>Supply and Installation of Shrubs:(APPX NO 1500)</u> <u>Pits excavation for Shrubs</u> A) Excavate pits of size 400mm diameter, commencing at existing ground level but not exceeding 0.5 metres depth average 400mm deep and put soils for later backfilling of planting pits aside arising good quality 300 CM <u>Backfilling of Planting pits</u> B) Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 4:1, 400mm deep. <u>Planting of Shrubs</u> Supply, plant, weed, water and tend well assorted species of Shrubs; 1,500 NO				

L/3					
ITEM	DESCRIPTION	QTY	UNIT		
1	<u>Supply and Installation of Palm Trees.(APPX NO30)</u>				
A)	<u>Pits excavation for Palms</u> Excavate pits of size 500 mm diameter, commencing at existing ground level but not exceeding 0.75 metres depth average 500mm deep and put soils for later backfilling of planting pits aside arising good quality	11	CM		
B)	<u>Backfilling of Planting pits</u> Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 4:1, 500mm deep.	11	CM		
C)	<u>Supply and Planting of palms</u> Supply the palm trees, plant and water to establishment <i>Roystonea regia - Royal palm trees</i>	15	NO		
D)	<i>Dypsis lutescens - Golden palm trees</i>	15	NO		

L/5					
ITEM	DESCRIPTION	QTY	UNIT		
1	LANDSCAPE ELEMENTS				
A)	Wooden Pergolas Supply and installation of wooden pergolas to L.As detail.	2	NO		
B)	Wooden benches. Supply and installation of wooden benches with steel arm rests 2000mm length 500mm wide to detail.	4	NO		
C)	Waste bins. Supply and installation of Mild steel waste receptacles average 1200mm high x 500mm diameter to detail.	2	NO		

L/6					
ITEM	TASK DESCRIPTION	QTY	UNIT		
1.00	<u>POTTED PLANTS</u>				
A	Supply and install approved finishing fibre glass troughs (1000mmx400mmx450mm fibre box planter.) . Each trough should comprise of one (3) main plant and atleast three or four different species of 'groundcovers' with a white pebble mulching.	20	NO		
B	Supply and instal approved finishing cylindrical fibre fiber glass flower pots (800mm x 450mm). Each pot should comprise of one (1) main plant and atleast one or two different species of 'groundcovers' with a white pebble mulching.	20	NO		
C	Supply and install approved garden compost manure mixed with approved red soil at at ratio of 3:1	80	BAGS		
D	Supply and install approved course pumice as planter base layer.	500	KGS		
E	Supply and install assorted river rocks as planter infill to L.A detail.	500	KGS		
F	Supply and install white pebbles mulch for potted plants.	400	KGS		
G	Supply and install the under mentioned assorted species of potted plants Spathiphyllum 'peace lily'	50	NO		
H	Aglaonema 'Silver Queen' + Chlorophytum comosum	50	NO		
I	Aglaonema 'Red Emerald'	50	NO		
J	Aglaonema 'Silver Queen'+Asparagus densiflorus 'myes'	50	NO		
S	Dracaena deremensis 'var.'+syngonium podophyllum	50	NO		
T	Anthurium	50	NO		
U	Pinanga palm	10	NO		
V	Strelitzia reginae - Bird of paradise	50	NO		

W	Sanseveria trifasciata	50	NO		
SL/7	Total carried to Collection				
ITEM	DESCRIPTION	QTY	UNIT		
1	<u>LANDSCAPE MAINTAINANCE</u> Provide landscape maintenance service to the landscaped garden for SIX (6) months upon practical completion in order to monitor plants growth;Maintenance works for plants and grass shall include; watering,weeding, spraying against pests and diseases, and mowing grass to acceptable height as outlined in the Landscape Specification document.	3,134	SM		
2	<u>CONTIGENCY</u> A Provide for Kenya Shillings Six Hundred Thousand only for contingency.				

L/8					
ITEM	DESCRIPTION				
1	<u>SUMMARY</u>				
A	Ground Preparation and Grassing	L1			
B	Ground Covers	L2			
C	Shrubs	L3			
D	Palm Trees.	L4			
E	Ornamental Trees	L5			
F	Landscape Elements	L6			
G	Potted Plants	L7			
H	Maintenance	L8			
L/8	CARRIED TO GRAND SUMMARY				

PROPOSED LANDSCAPING WORKS - KENYA UTALII COLLEGE- KILGORIS CAMPUS.					
ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>GROUND PREPARATION AND MANURE APPLICATION</u>				
1	<u>Clearing and Levelling</u>				
	Clear the site of all existing unwanted materials and scarify oversite commencing from main Contractor,s reduced levels, average 150 mm deep to allow for water seepage and retention remove all hardened ground, weeds and any deleterious materials; including carting away all arising wastes, raking and fine levelling of the ground.	3,134	SM		
A					
B	Do rough grading by way stripping and filling of all areas and spread the arisings including the material from excavation of planting pits and any other left over material.	1,567	CM		
	Supply of fumigant to fumigate all areas to be landscaped(To all existing lawn areas)	3,134	SM		
2	<u>Supply and application of Manure.</u>				
A	Supply of weed free Farm yard manure) and spread the mixture over all areas to be landscaped; A depth =100mm.	313	CM		
3	<u>Supply and Installation of Grass</u>				
A	Supply, plant, water, weed and tend well undermentioned grass sprigs untill fully established.				
	(i) Paspalum ditatum (Paspalum) sprigs to be planted 100mm x 100mm C to C.	2,700	SM		
L/1					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>Supply and Installation of Ground covers and Bedding Plants(APPX NO3,000)</u> <u>Pits excavation for Groundcovers</u>				
A	Excavate circular pits, average 200mm diameter, commencing at existing ground level but not exceeding 0.25 metres depth average 200mm deep and spread arisings evenly around.	150	CM		
	<u>Backfilling of Planting pits</u>				
B	Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 3:1, 250mm deep.				
	<u>Supply and Planting of Groundcovers and Bedding plants</u> Supply, plant, weed, water and tend well Assorted species of groundcovers ;	3,000	NO		
L/2					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>Supply and Installation of Shrubs:(APPX NO 1500)</u>				
	<u>Pits excavation for Shrubs</u>				
A)	Excavate pits of size 400mm diameter, commencing at existing ground level but not exceeding 0.5 metres depth average 400mm deep and put soils for later backfilling of planting pits aside arising good quality	300	CM		
	<u>Backfilling of Planting pits</u>				
B)	Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 4:1, 400mm deep.				
	<u>Planting of Shrubs</u>				
	Supply, plant, weed, water and tend well assorted species of Shrubs;	1,500	NO		
L/3					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>Supply and Installation of Palm Trees.(APPX NO30)</u>				
	<u>Pits excavation for Palms</u>				
A)	Excavate pits of size 500 mm diameter, commencing at existing ground level but not exceeding 0.75 metres depth average 500mm deep and put soils for later backfilling of planting pits aside arising good quality	11	CM		
	<u>Backfilling of Planting pits</u>				
B)	Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 4:1, 500mm deep.	11	CM		
	<u>Supply and Planting of palms</u>				
	Supply the palm trees, plant and water to establishment				
C)	<i>Roystonea regia</i> - Royal palm trees	15	NO		
D)	<i>Dypsis lutescens</i> - Golden palm trees	15	NO		
L/4					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>Supply and Installation of Ornamental trees</u> <u>Trees.(APPX NO30)</u> <u>Pits excavation for Trees.</u>				
A)	Excavate pits of size 900 mm diameter, commencing at existing ground level but not exceeding 1.2 metres depth average 900mm deep and put soils for later backfilling of planting pits aside arising good quality	32	CM		
	<u>Backfilling of Planting pits</u>				
B)	Backfill excavated planting pits with Approved imported Red soil mixed with farmyard manure at the ratio 4:1, 500mm deep.	32	CM		
	<u>Supply and Planting of ornamental trees.</u> Supply the palm trees, plant and water to establishment the under mentioned assorted species of trees for 6 months.	30	NO		
	Specification Tree Girth (at 1.0m)	Height			
	Light Standard (LS) 6-8cm	2.0-3.0m			
	Standard (S) 8-10cm	2.5-3.5m			
	Select Standard (SS) 10-12cm	3.00-4.0m			
	Heavy Standard (HS) 12-14cm	4.0-4.5m			
	Extra Heavy Standard (EHS) 14-16cm	4.0-5.0m			
	Advanced Heavy Standard (AHS) 16-18cm	4.5-5.5m			
	Semi matur (SM) 18-20cm +	5.0-6.0m			
L/5					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>LANDSCAPE ELEMENTS</u>				
A)	Wooden Pergolas				
	Supply and installation of wooden pergolas to L.As detail.	2	NO		
B)	Wooden benches.				
	Supply and installation of wooden benches with steel arm rests 2000mm length 500mm wide to detail.	4	NO		
C)	Waste bins.				
	Supply and installation of Mild steel waste receptacles average 1200mm high x 500mm diameter to detail.	2	NO		
L/6					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.00	<u>POTTED PLANTS</u>				
A	Supply and install approved finishing fibre glass troughs (1000mmx400mmx450mm fibre box planter.) . Each trough should comprise of one (3) main plant and atleast three or four different species of 'groundcovers' with a white pebble mulching.	20	NO		
B	Supply and instal approved finishing cylindrical fibre fiber glass flower pots (800mm x 450mm). Each pot should comprise of one (1) main plant and atleast one or two different species of 'groundcovers' with a white pebble mulching.	20	NO		
C	Supply and install approved garden compost manure mixed with approved red soil at at ratio of 3:1	80	BAGS		
D	Supply and install approved course pumice as planter base layer.	500	KGS		
E	Supply and install assorted river rocks as planter infill to L.A detail.	500	KGS		
F	Supply and install white pebbles mulch for potted plants.	400	KGS		
G	Supply and install the under mentioned assorted species of potted plants Spathiphyllum 'peace lily'	50	NO		
H	Aglaonema 'Silver Queen' + Chlorophytum comosum	50	NO		
I	Aglaonema 'Red Emerald'	50	NO		
J	Aglaonema 'Silver Queen'+Asparagus densiflorus 'myes'	50	NO		
S	Dracaena deremensis 'var.'+syngonium podophyllum	50	NO		
T	Anthurium	50	NO		
U	Pinanga palm	10	NO		
V	Strelitzia reginae - Bird of paradise	50	NO		
W	Sanseveria trifasciata	50	NO		
K	Supply and plant 2 rows of Kay Apple (Dovyalis caffra) seedlings, 450mm–600mm high, in prepared trench 600mm wide x 450mm deep, including digging, backfilling with topsoil mixed with manure in ratio 3:1, spacing at 300mm centres, watering, and applying approved insecticide and fertilizer as necessary, all to the approval of the landscape architect.	1,500	LM		
L	Allow for maintenance for untill the end of defect liability period				
SL/7	Total carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>LANDSCAPE MAINTAINANCE</u> Provide landscape maintenance service to the landscaped garden for SIX (6) months upon practical completion in order to monitor plants growth;Maintenance works for plants and grass shall include; watering,weeding, spraying against pests and diseases, and mowing grass to acceptable height as outlined in the Landscape Specification document.	3,134	SM		
2	<u>CONTIGENCY</u> Provide for Kenya Shillings Six Hundred Thousand only for contingency.				
L/8					

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<u>SUMMARY</u>				
A	Ground Preparation and Grassing	L1			
B	Ground Covers	L2			
C	Shrubs	L3			
D	Palm Trees.	L4			
E	Ornamental Trees	L5			
F	Landscape Elements	L6			
G	Potted Plants	L7			
H	Maintenance	L8			
L/8	CARRIED TO GRAND SUMMARY				

BILL NO.6

ELECTRICAL INSTALLATION WORKS

*PROPOSED CONSTRUCTION OF KENYA UTALII COLLEGE -KILGORIS CAMPUS PHASE 2
(ADMINISTRATION AND TUITION BLOCK)*

TENDER SPECIFICATIONS AND BILLS OF QUANTITIES FOR PROPOSED CONSTRUCTION OF
KENYA UTALII COLLEGE -KILGORIS CAMPUS PHASE 2 (ADMINISTRATION AND TUITION
BLOCK)

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SECTION A

TENDER EVALUATION CRITERIA

Note.

This criterion shall be used to evaluate the bidders proposed to carry out the specialized works who shall be domestic subcontractors to the main bidder on award of the contract.

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in 2 stages, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

Note: This criterion shall be used to evaluate sub contracts

STAGE 1: PRELIMINARY EVALUATION

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

These conditions shall include the following:

S/No	PRELIMINARY EVALUATION CRITERIA / MANDATORY REQUIREMENTS
Electrical Installation Works	
MR1	Company Certificate of incorporation/registration;
MR2	Valid Tax Compliance Certificate;
MR3	Current certificate of Registration with National Construction Authority (NCA 6 and above) in Electrical Installation Works;
MR4	Current and Valid NCA contractor's practicing licence
MR5	Current and Valid Licence with the Energy and Petroleum Regulatory Authority (EPRA) in Class C1 and above

Data and Voice Installation Works	
MR6	Company Certificate of incorporation/registration;
MR7	Valid Tax Compliance Certificate;
MR8	Current certificate of Registration with National Construction Authority (NCA 6 and above) in Both CCTV/Security Surveillance and Telecommunication and Structured Cabling Installations;
MR9	Current Annual NCA contractor's Practicing license;
MR10	Valid Communication Authority registration license as a telecommunication contractor
MR11	Valid Communication Authority compliance certificate as a telecommunication contractor
MR 12	Manufacturer's Authorization Letter for the CCTV Cameras, NVR and Network Switches being offered by the bidder.

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

STAGE 2: TECHNICAL EVALUATION

At this stage technical evaluation shall be done by comparing each tender to the technical requirements in the tender document

Item	Description	YES/NO
1.	Compliance with Technical Specifications (Note: See Compliance to Technical Specifications section on the next page)	
2.	Qualification and Experience of Key Personnel	
	Academic Qualification and Experience (Provide evidence)	
	a) Director of the firm Holder of at least a diploma with 5 years' experience in Electrical Engineering field	
	b) Project Manager Holder of at least a degree with 5 years' experience in Electrical Engineering field	
	c) At least 3 No artisans - Holder of at least a certificate with 5 years' experience in relevant Engineering field The tenderer MUST fill the forms listed below in the format provided and attach the necessary qualification certificates: - Form PER - 1 Contractor's Representative and Key Personnel Schedule - Form PER - 2 Resume and Declaration - Contractor's Representative and Key Personnel.	
3.	Experience of the firm in similar services: Electrical/CCTV/Structured Cabling/Access Control Installation Works/ a) Provide Three (5No.) projects of similar nature, complexity and magnitude) between the Period 2019 – 2024: (Provide evidence) The tenderer MUST fill the forms listed below in the format provided - Form EXP – 3.4 Current contract commitments/works in progress - Form EXP – 4.1 General Construction and contract Experience - Form EXP – 4.2.a Specific and Contract Management Experience - Form EXP – 4.2.b Construction Experience and Key Activities	
4.	Adequacy of tools and equipment The tenderer <u>must</u> show proof of ownership or leasing of the following equipment: - a) Relevant Transport (at least 3No.) Means of transport	

Item	Description	YES/NO
	b) Relevant Equipment (at least 3No.) <i>Electrical Works</i> • Phase Sequence meter; • Earth loop impedance Tester; • Earth resistance tester; • Insulation resistance tester; • Clamp meter/multimeter; <i>Data and Voice Installation Works</i> • Cable Qualification tester • Impact punch down tool; • Cable stripper; • Crimping tools; • Probe pics The tenderer MUST fill the forms listed below in the format provided. 1. Form EQU: Equipment	
	QUALIFIED YES / NO	

COMPLIANCE TO TECHNICAL SPECIFICATIONS

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.

Tenderers shall be required;

a) *On compliance with Technical Specifications, bidders shall supply equipment/items that comply with the technical specifications set out in the bid document. In this regard, the bidders will be required to submit relevant technical brochures/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/model of the proposed items. Such brochures/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:*

- (i) Standards of manufacture;*
- (ii) Performance ratings/characteristics/ features;*
- (iii) Material of manufacture;*
- (iv) Electrical power ratings; and*
- (v) All other requirements as indicated in the technical specifications of the bid.*

The bid will then be analyzed, using the information in the technical brochures, to determine compliance with key technical specifications for the works/items as indicated in the tender document.

The tenderer shall fill in the Technical Schedule as specified in the tender document for Equipment and Items indicating the Model/Make/Manufacturer and catalogue numbers of the Items/Equipments they propose to supply.

Bidders not complying with any of the key technical specifications shall be considered noncompliant to the technical specifications while those meeting all the key technical specifications shall be considered compliant.

Compliance in this section shall be as shown below:

Description	COMPLIANT / NON-COMPLIANT
Compliance with Technical Specifications <i>(Note:</i> <i>1) Tender Evaluation Committee to evaluate compliance to all technical specifications for all the Electrical Services Installation Works as detailed in the Particular specifications of this document</i> <i>2) Bidders who do not highlight catalogue number and model of the proposed items shall be considered non-compliant.</i> <i>3) Non-compliance to any of the specifications shall render the whole system non-compliant</i>	

SECTION B

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

PART 1. GENERAL SPECIFICATIONS OF WORKS

- 1.1 General
- 1.2 Standard of Materials
- 1.3 Workmanship
- 1.4 Procurement of Materials
- 1.5 Shop Drawings
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PART 2. GENERAL SPECIFICATIONS OF ELECTRICAL WORKS

- 2.1 Position of Electrical Plant and Apparatus
- 2.2 M.C.B Distribution Panels and Consumer Units
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- 2.5 Conduit Boxes and Accessories
- 2.6 Labels
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- 2.9 Armoured PVC Insulated and Sheathed Cables
- 2.10 Cable Supports; Markers and Tiles
- 2.11 PVC Insulated Cables
- 2.12 Heat Resisting Cables
- 2.13 Flexible Cords
- 2.14 Cable Ends and phase Colours
- 2.15 Cable Insulation Colours
- 2.16 Sub-circuit Wiring
- 2.17 Space Factor
- 2.18 Insulation

- 2.19 Lighting Switches
- 2.20 Sockets and Switched sockets
- 2.21 Fused Spur Boxes
- 2.22 Cooker Outlets
- 2.23 Connectors
- 2.24 Lamp holders
- 2.25 LED Lamps
- 2.26 lighting Fittings Street lighting Lanterns
- 2.27 Position of Points and Switches
- 2.28 Current Operated Earth leakage circuit breaker
- 2.29 MV Switchboard
- 2.30 Steel Conduits and Steel Trunking
- 2.31 Testing on Site

PART 1. GENERAL SPECIFICATIONS OF WORKS

1.1 GENERAL

This specification is to be read in conjunction with the drawings which are issued with it. Bills of quantities shall be the basis of all additions and omissions during the progress of the works.

1.2 STANDARD OF MATERIALS

Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the sub-contractor shall adhere.

Should the Sub-contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the Sub-contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the Sub-contractor. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

1.3 WORKMANSHIP

The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractors expense.

Permits, Certificates or Licenses must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licenses exist under Government legislation.

1.4 PROCUREMENT OF MATERIALS

The sub-contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

Sub-contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

1.5 SHOP DRAWINGS

Before manufacture or Fabrication is commenced the sub-contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent information including sizes, capacities, construction details, etc, as may be required to determine the suitability of the equipment for the approval of the Engineer.

Approval of the detailed drawings shall not relieve the sub-contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

1.6 RECORD DRAWINGS

These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.

The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.

Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.

One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

1.7 REGULATIONS AND STANDARDS

All work executed by the Sub-contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, and with the Regulations of the Local Electricity Authority.

Where the two sets of regulations appear to conflict, they shall be clarified with the Engineers. All materials used shall comply with relevant Kenya Bureau of Standards Specification.

1.8 SETTING OUT WORK

The sub-contractor at his own expenses; is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his Tender for all such modifications and for the provision of any such sketches or drawings related thereto.

PART 2. GENERAL SPECIFICATIONS OF ELECTRICAL WORKS

2.1 POSITIONS OF ELECTRICAL PLANT AND APPARATUS

The routes of cables and approximate positions of switchboards etc, as shown on the drawings shall be assumed to be correct for purpose of Tendering, but exact positions of all electrical Equipment and routes of cables must be agreed on site with the Engineer before any work is carried out.

2.2 MCB DISTRIBUTION PANELS AND CONSUMER UNITS

All cases of MCB Panels and consumer units shall be constructed in heavy gauge sheet with hinged covers.

Removable undrilled gland plates shall be provided on the top and bottom of the cases. Miniature circuit breakers shall be enclosed in moulded plastic with the tripping mechanism and arc chambers separated and sealed from the cable terminals.

The operating dolly shall be tripfree with a positive movement in both make and break position. Clear indication of the position of the handle shall be incorporated.

The tripping mechanism shall be on inverse characteristic to prevent tripping in temporary overloads and shall not be affected by normal variation in ambient temperature.

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of perspex, and held in position

with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart.

Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

Neutral cables shall be connected to the neutral bar in the same sequence as the phase cables are connected to the MCB's. This shall also apply to earth bars when installed.

2.3 FUSED SWITCHGEAR AND ISOLATORS

All fused switchgear and isolators whether mounted on machinery, walls or industrial panels shall conform to the requirements of KS 04 – 226 PART: 1: 1985.

All contacts are to be fully shrouded and are to have a breaking capacity on manual operations as required by KS 04 – 182: 1980.

Fuse links for fused switches are to be of high rupturing capacity cartridge type, conforming to KS 04 – 183: 1978.

Isolators shall be load breaking/fault making isolators.

Fused switches and isolators are to have separate metal enclosures. Mechanical interlocks are to be provided between the door and main switch operating mechanism so arranged that the door may not be opened with the switch in the 'ON' position. Similarly; it shall not be possible to close the switch with the door open except that provision to defeat the mechanical interlock and close the switch with the door in the open position for test purposes. The 'ON' and 'OFF' positions of all switches and isolators shall be clearly indicated by a mechanical flag indicator or similar device. In T.P & N fused switch units, bolted neutral links are to be fitted.

2.4 CONDUITS AND CONDUIT RUNS

Conduit systems are to be installed so as to allow the loop-in system of wiring:

All conduits shall be black rigid super high impact heavy gauge class 'A' PVC in accordance with KS 04 – 179: 1988 and IEE Regulations. No conduit less than 20mm in diameter shall be used anywhere in this installation.

Conduit shall be installed buried in plaster work and floor screed except when run on wooden or metal surface when they will be installed surface supported with saddles every 600mm. Conduit run in chases shall be firmly held in position by means of substantial pipe hooks driven into wooden plugs.

The Sub-contractor's attention is drawn to the necessity of keeping all conduits entirely separate from other piping services such as water and no circuit connections will be permitted between conduits and such pipes.

All conduits systems shall be arranged wherever possible to be self-draining to switch boxes and conduit outlet points for fittings:

The systems, when installed and before wiring shall be kept plugged with well fitting plugs and when short conduit pieces are used as plugs, they shall be doubled over and tied firmly together with steel wire; before wiring all conduit systems shall be carried out until the particular section of the conduit installation is complete in every respect.

The sets and bends in conduit runs are to be formed on site using appropriate size bending springs and all radii of bends must not be less than 2.5 times the outside diameter of the conduit. No solid or inspection bends, tees or elbows will be used.

Conduit connections shall either be by a demountable (screwed up) assembly or adhesive fixed and water tight by solution. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between the conduit and switch boxes, circular or non-screwed boxes, care shall be taken that no rough edges of conduit stick out into the boxes.

Runs between draw in boxes are not to have more than two right angle bends or their equivalent. The sub-contractor may be required to demonstrate to the Engineers that wiring in any particular run is easily withdrawable and the sub-contractor may, at no extra cost to the contract; be required to install additional draw-in boxes required. If conduit is installed in straight runs in excess of 6000mm, expansion couplings as manufactured by Egatube shall be used at intervals of 6000mm.

Where conduit runs are to be concealed in pillars and beams, the approval of the Structural Engineer, shall be obtained. The sub-contractor shall be responsible for marking the accurate position of all holes chases etc., on site, or if the Engineer so directs, shall provide the Main Contractor with dimensional drawings to enable him to mark out and form all holes and chases. Should the sub-contractor fail to inform the main contractor of any inaccuracies in this respect they shall be rectified at the sub-contractors expense.

It will be the Sub-contractors responsibility to ascertain from site, the details of reinforced concrete or structural steelwork and check from the builder's drawings the positions of walls, structural concrete and finishes. No reinforced concrete or steelwork may be drilled without first obtaining the written permission of the Structural Engineer.

The drawings provided with these specifications indicate the appropriate positions only of points and switches, and it shall be the Sub-Contractors responsibility to mark out and centre on site the accurate positions where necessary in consultation with the Architect and the Engineer. The sub-contractor alone shall be responsible for the accuracy of the final position.

2.5 CONDUIT BOXES AND ACCESSORIES

All conduit outlets and junction boxes are to be either malleable iron and of standard circular pattern of the appropriate type to suit saddles being used or super high impact PVC manufactured to KS 04 – 179 : 1983.

Small circular pattern boxes are to be used with conduits up to and including 25mm outside diameter. Rectangular pattern adaptable boxes are to be used for conduits of 32mm outside diameter and larger. For drawing in of cables in exposed runs of conduit, standard pattern through boxes are to be used:

Boxes are to be not less than 50mm deep and of such dimensions as will enable the largest appropriate number of cables for the conduit sizes to be drawn in without excessive bending.

Outlet boxes for lighting fittings are to be of the loop-in type where conduit installation is concealed and the sub-contractor shall allow one such box per fitting, except where fluorescent fittings are specified when two such boxes per fitting shall be fitted flush with ceiling and if necessary fitted with break joint rings. Pattresses shall be fitted where required to outlets on surface conduit runs.

Adaptable boxes are to of PVC or mild steel (of not less than 12swg) and black enamelled or galvanised finish according to location. They shall be of square or oblong shape location. They shall be of square or oblong shape complete with lids secured by four 2 BA brass roundhead screws; No adaptable box shall be less than 75mm x 75mm x 50mm or larger than 300mm x 300mm x 75mm

and shall be adequate in depth in relation to the size of conduit entering it. Conduits shall only enter boxes by means of conduit bushes.

2.6 LABELS

Labels fitted to switches and fuse boards; -

- (i) Shall be Ivorine engraved black on white.
- (ii) Shall be secured by R.H brass screws of same manufacturing throughout.
- (iii) Shall be indicated on switches: -
 - a) Reference number of switches
 - b) Special current rating
 - c) Item of equipment controlled
- (iv) Shall indicate on MCB panels
 - d) Reference number
 - e) Type of board, i.e., lighting, sockets, etc.,
 - f) Size of cable supplying panel
 - g) where to isolate feeder cable
- (v) Shall be generally not less than 75mm x 50mm.

2.7 EARTHING

The earthing of the installation shall comply with the following requirements;-

- (i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.
- (ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross-sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.
- (iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross-sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).
- (iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided
- (v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.
- (vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.
- (vii) Where an earth rod is specified (see Sub-clause (iii)) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6M. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

- (viii) Earth plates will not be permitted
- (ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.
- (x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.
- (xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.
- (xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.
- (xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.
- (xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

2.8 CABLES AND FLEXIBLE CORDS

All cables used in this Sub-Contract shall be manufactured in accordance with the current appropriate Kenya standard Specification which are as follows: -

P.V.C. Insulated Cables and Flexible Cords	---	Ks 04-192:1988
P.V.C Insulated Armoured Cables	---	Ks 04-194:1990
Armouring of Electric cables	---	Ks 04-290:1987

The successful Sub-Contractor will, at the Engineers discretion be required to submit samples of cables for the Engineers approval; the Engineer reserves the right to call for the cables of an alternative manufacture without any extra cost being incurred.

P.V.C. insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform to the details stated in the "Cable Braid and insulation Colours" Clause.

2.9 ARMOURED P.V.C. INSULATED AND SHEATHED CABLES:

Shall be 600/1000-volt grade manufactured to Ks 04-194:1988 and Ks 04-187/188 with copper stranded conductors.

The wire armour of the cable shall be used wholly as an earth continuity conductor and the resistance of the wire armour shall have a resistance not more than twice of the largest current carrying conductor of the cable.

P.V.C./S.W.A./P.V.C. cables shall be terminated using "Telecom" "B" type or approved equal or approved equal glands and a P.V.C. tapered sleeve shall be provided to shroud each gland.

2.10 CABLE SUPPORTS, MARKERS AND TILES

All PVC/SWA/PVC cables run inside the building shall be fixed in rising ducts or on ceilings by means of die cast cable hooks or clamps, of appropriate size to suit cables, fixed by studs and back nuts to their channel sections.

Alternatively, fixing shall be by BICC claw type cleating system with die-cast cleats and galvanized mild steel back straps or similar approved equal method. For one or two cables run together the cleats shall be fixed a special channel section supports or backstraps described above which shall in turn be secured to walls or ceilings of ducts by rawbolts.

In excessively damp or corrosive atmospheric conditions special finishes may be required and the Sub-contractor shall apply to the Engineer for further instructions before ordering cleats and channels for such areas.

The above type of hooks and clamps and channels or cleats and blackstraps shall also be used for securing cables in vertical ducts.

Cables supports shall be fixed at 600mm maximum intervals, the supports being supplied and erected under this Sub-contract. Saddles shall not be used for supporting cables nor any other type of fixing other than one of the two methods described above or other system which has received prior approval of the Engineer;

Cables are to be kept clear of all pipe work and the Sub-contractor shall work in close liaison with other services Sub-contractors.

The Sub-Contractor shall include for the provision of fixing of approved type coloured slip on cables end markers to indicate permanently the correct phase and neutral colours on all ends.

Provision shall be made for supplying and fixing approved non-corrosive metal cable markers to be attached to the outside of all PVC/SWA/PVC cables at 15mm intervals indicating cable size and distinction.

Where PVC/SWA/PVC cables are outside the building they shall be laid underground 750mm deep with protecting concrete interlocking cover tiles laid over which shall be provided and laid under this Sub-contract.

All necessary excavations and reinstatement of ground including sanding or trenches will be carried out by the Sub-Contractor, unless otherwise stated.

2.11 PVC INSULATED CABLES

Shall be of non-braided type as CMA reference 6491 x 600/1000/1000 volt grade cables, or equal approved.

PVC cables shall conform to the details of the "Cables and Flexible cords" and "Cable Braid and Insulation Colours" clauses.

2.12 HEAT RESISTING CABLES

Final connections to cookers, water heaters, etc., shall be made using butyl rubber insulated cable as CMA reference 610 butyl (Single core 600/1000 Volt).

This type of cable shall be used in all instances where a temperature exceeding 100°F, but not exceeding 150°F is likely to be experienced. Final connections to all lighting fittings (and other equipment where a temperature in excess of 150°C likely to be experienced) shall be made using silicon rubber insulated cable or equal and approved.

2.13 FLEXIBLE CORDS

Shall be in accordance with the "Cable and Flexible Cords" clause. No cord shall be less than 24/0.2mm in size unless otherwise specified.

Circular white twin TRS flex shall be used for plain pendant fittings up to 100 watts. For all other types of lighting fittings the flexible cable shall be silicone rubber insulated.

No polythene insulated flexible cable shall be used in any lighting fitting or other appliance (see "Heat Resisting Cables" Clause 30).

2.14 CABLE ENDS AND PHASE COLOURS

All cable ends connected up in switchgear, MCB panels etc,, shall have the insulation carefully cut back and the ends sealed with Hellerman rubber slip on cable end markers.

The markers shall be of appropriate phase colour for switch and all other live feeds to the details of the "Cable Insulation Colours" clause. Black cable with black end markers shall only be used for neutral cables.

2.15 CABLE INSULATION COLOURS

Unless otherwise stated in later clauses the insulation colours shall be in accordance with the following table.

Where other systems are installed the cable colours shall be in accordance with the details stated in the appropriate clause.

<u>SYSTEM</u>	<u>INSULATION COLOUR</u>	<u>CABLE END MARKER</u>
1) Main and Sub-Main		
a) Phase	Red	Red
b) Neutral	Black	Black
2) Sub-Circuits Single Phase		
a) Phase	Red	Red
b) Neutral	Black	Black

2.16 SUB-CIRCUIT WIRING

For all lighting and sockets wiring shall be carried out in the "looping in" system and there shall be no joints whatsoever. No lighting circuits shall comprise more than 20 points when protected by 10A MCB. Cables with different cross-section area of copper shall not be used in combination.

Lighting circuits P.V.C. cable.

- (i) 1.5mm² for all lighting circuits indicated on the drawing.

Power circuits P.V.C cable (minimum sizes).

- (i) 2.5mm² for one, two or three 5Amp sockets wired in parallel.
- (ii) 2.5mm² for one 15Amp socket.
- (iii) 2.5mm² for maximum of ten switched 13 Amp sockets wired from 30 Amp MCB.

The wiring sizes for lighting circuits and sockets are shown on the drawings. In such cases, the sizes shown on the drawings shall prevail over the sizes specified.

Wiring sizes for other appliances shall be shown on the drawing or specified in later clauses of this specification.

2.17 SPACE FACTOR

The maximum number of cables that may be accommodated in a given size of conduit or trunking or duct is not to exceed the number in Tables B.5 and B.6 or as stated in Regulation B.91, B.117 and B.118 of the I.E.E Regulations whichever is appropriate.

2.18 INSULATION

The insulation resistance to earth and between poles of the whole wiring system, fittings and lumps, shall not be less than the requirements of the latest edition of the I.E.E Regulations. Complete tests shall be made on all circuits by the Sub-contractor before the installations are handed over.

A report of all tests shall be furnished by the Sub-Contractor to the Engineer. The Engineer will then check test with his own instruments if necessary.

2.19 LIGHTING SWITCHES

These shall be mounted flush with the walls, shall be contained in steel or alloy boxes and shall be of the gangs' ratings and type shown in the drawings. They shall be as manufactured by M.K. Electrical Ltd., or other equal and approved to KS 04 – 247: 1988

2.20 SOCKETS AND SWITCHED SOCKETS

These shall be flush pattern in steel/pvc box and shall be of the gangs and type specified in the drawings.

They shall be 13- Amp, 3-pin, shuttered, switched and as manufactured by "M.K. Electrical Co. Ltd.", or other approved equal to KS 04 – 246: 1987

2.21 FUSED SPUR BOXES

These shall be flush, D.P switched as in steel/pvc box and of type and make specified in the drawings complete with pilot light and as manufactured by "M. K. Electrical Company Ltd", or other approved equal. KS 04 – 247: 1988

2.22 COOKER OUTLETS

These shall be flush mounted with 13-A switched socket outlet and neon indicator Lamps.

The cooker control units shall be as manufactured by "M.K. Electrical Company Ltd", or other approved equal KS 04 – 247: 1988

2.23 CONNECTORS

Shall be specified in the drawings and appropriate rating. These shall be fitted at all conduit box lighting point outlets for jointing of looped P.V.C cables with flexible cables of specified quality.

2.24 LAMPHOLDERS

Shall be of extra heavy H.O skirted and shall be provided for every specified lighting fitting and shall be B.C., E.S., or G.E.S as required. All E.S. and G.E.S. holders shall be heavy brass type (except for plain pendants where the reinforced bakelite type shall be used). The screwed cap of the E.S and G.E.S. holders shall be connected to the neutral.

Where lampholders are supported by flexible cable, the holders shall have "cord grip" arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.

The Sub-Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

2.25 LAMPS

All lamps shall be suitable for normal stated supply voltage and the number and sizes of lamps detailed on the drawings shall be supplied and fixed. The Sub-Contractor must verify the actual supply voltage with the supply authority before ordering the lamps.

Tungsten filament lamps shall be manufactured in accordance with KS 04 – 112:1978 for general service lamps and KS 04 – 307:1985 for lamps other than general services. Tubular fluorescent lamps shall comply with KS 04 – 464:1982

Pearl lamps shall be used in all fittings unless otherwise specified.

2.26 LIGHTING FITTINGS AND STREET LIGHTING LANTERNS

This Sub-Contract shall include for the provision, handling charges, taking the delivery, safe storage, wiring (including internal wiring) assembling and erecting of all lighting fittings shown on the drawings.

All fittings and pendants shall be fixed to the conduit boxes with brass R/H screws. These to be in line with metal finish of fittings. The lighting fittings are detailed for the purpose of establishing a high standard of finish and under no circumstances will substitute fittings be permitted.

In case of rectangular shaped ceiling fittings, the extreme ends of the fittings shall be secured to suitable support in addition to the central conduit box fittings. Supports shall be provided and fixed by the Sub-Contractor.

The whole of the metal work of each lighting fittings shall be effectively bonded to earth. In the case of ball and/or knuckle joints short lengths of flexible cable shall be provided, bonded to the metal work on either side of the joints. If the above provisions are not made by the manufacturers -, the Sub-contractor shall include cost of additional work necessary in his tender. See "Flexible Cords" clause for details of internal wiring of lighting fittings.

Minimum size of internal wiring shall be 20/0.20mm (23/0067). Each lighting fitting shall be provided with number type and size of lamps as detailed on the drawings. It is to be noted that some fittings are suspended as shown on the drawings.

Where two or more points are shown adjacent to each other on the drawings, e.g socket outlet and telephone outlet, they shall be lined up vertically or horizontally on the centre lines of the units concerned.

Normally, the units shall be lined up on vertical centre lines, but where it is necessary to mount units at low level they shall be lined up horizontally.

2.27 POSITIONS OF POINTS AND SWITCHES

Although the approximate positions of all points are shown on the drawings, enquiry shall be made as to the exact positions of all M.C.B panels, lighting points, socket outlets etc, before work is actually commenced. The Sub-contractor must approach the Architect with regard to the final layout of all lights on the ceiling and walls.

The Sub-contractor must consult with the Engineer in liaison with the Clerk of Works, or the General Foreman on site regarding the positions of all points before fixing any conduit etc. The Sub-Contractor shall be responsible for all alterations made necessary by the non-compliance with the clause.

2.28 CURRENT OPERATED EARTH LEAKAGE CIRCUIT BREAKER

Current operated earth leakage circuit breaker shall conform to B.S.S. 4293:68 rated at 240 volts D.P. 50 cycles A.C. Mains.

The breaker shall be provided with test switch and fitted in weather proof enclosure for surface mounting. The rated load current and earth fault operating current shall be as specified in the drawings. These shall be as manufactured by Crabtree, Siemens or other equal and approved. When switches are arranged in their formation all necessary horizontal and vertical barriers shall be provided to ensure segregation from adjacent units. Means of locking the switch in the "OFF" position shall be provided.

2.29 M.V. SWITCHBOARD AND SWITCHGEAR

The switchboard shall be manufactured in accordance with KS04-226 which co-ordinates the requirements for electrical power switchgear and associated apparatus. It is not intended that this K.S. should cover the requirements for specified apparatus for which separate Kenyan Standard exist. All equipment and material used in the switchboard shall be in accordance with the appropriate Kenya Standard.

The switchboard shall comprise the equipment shown on the drawings together with all current transformers, auxiliary fuses, labels, small wiring and interconnections necessary for the satisfactory operation of the switchboard.

The Switchboard shall be of the flush fronted, enclosed, metal clad type with full front or rear access as called for in the particular specifications, suitable for indoor use, sectionalized as necessary to facilitate transport and erection. The maximum height of the switchboard is to be approximately 2.0 metres. A suitable connection chamber containing all field terminals shall be provided at the top or bottom of the switchboard as appropriate.

Before manufacture, the Sub-Contractor shall submit to the consulting Engineer for approval of detailed drawings showing the layout, construction and connection of the switchboard.

All bus-bars and bus-bar connections shall consist of high conductivity copper and be provided in accordance with KS 04-226: 1985. The bus-bars shall be clearly marked with the appropriate phase and neutral colours which should be red, yellow, blue for the phases and black for neutral. The bus-bars shall be so arranged in the switchboard that the extensions to the left and right may be made in the future with ease should the need arise.

Small wiring, which will be neatly arranged and cleated, shall be executed in accordance with B.S. 158 and the insulation of the wiring shall be coloured according to the phase or neutral connection. Switches and fuse switches, shall be in strict accordance with KS04-183:1978 Class 2 switches. Means of locking the switch in the "OFF" position shall be provided.

All fuse switches shall comply with KS04-183:1978, PARTS 2 and 3 a fault rating at least equal to the fault rating of the switchboard in which they are installed. Cartridge fuse links to KS 04-183:1978 category A.C. 46, class Q1 and fusing factor not exceeding 1.5 shall be supplied with each fused switch.

Mounting arrangements shall be such that individual complete fuse switches may be disconnected and withdrawn when necessary without extensive dismantling work.

When switches are arranged in their formation all necessary horizontal and vertical barriers shall be provided to ensure segregation from adjacent units. Means of locking the switch in the "OFF" position shall be provided.

2.30 STEEL CONDUITS AND STEEL TRUNKING

Conduits shall be of heavy gauge class "B" welded to Standard specification KS 04-180:1985. In no case will conduit smaller than 20mm diameter be used on the works. Conduits installed within buildings shall be black enamelled finish except where specified otherwise. Where installed externally or in damp conditions they shall be galvanised. Conduit fittings, accessories or equipment used in conjunction with galvanised conduits shall also be galvanised or otherwise as approved by the service engineer.

Metal trunking shall be fabricated from mild steel of not less than 18 swg. All sections of trunking shall be rigidly fixed together and attached to the framework or fabric or the building at intervals of not less than 1.2m. Joint trunking shall not overhang fixing points by more than 0.5m.

All trunking shall be made electrically continuous by means of 25 x 3mm copper links across each joint and where the trunking is galvanised, the links shall be made by galvanised flat iron strips.

All trunking fittings (i.e. Bends, tees, etc) shall leave the main through completely clear of obstructions and continuously open except through walls and floors at which points suitable fire resisting barriers shall be provided as may be necessary. The inner edge of bends and tees shall be chamfered where cables larger than 35mm² are employed.

Where trunking passes through ceilings and walls the cover shall be solidly fixed to 150mm either side of ceilings and floors and 50mm either side of walls.

Screws and bolts securing covers to trunking or sections of covers together shall be arranged so that damage to cables cannot occur either when fixing covers or when installing cables in the trough.

Where trunking is used to connect switchgear of fuseboards, such connections shall be made by trunking fittings manufactured for this purpose and not by multiple conduit couplings.

Where vertical sections of trunking are used which exceed 4.5m in length, staggered tie off points shall be provided at 4.5m intervals to support the weight of cables.

Unless otherwise stated, all trunking systems shall be painted as for conduit.

Where a wiring system incorporates galvanised conduit and trunking, the trunking shall be deemed to be galvanised unless specified otherwise.

The number of cables to be installed in trunking shall be such as to permit easy drawing in without damage to the cables, and shall in no circumstances be such that a space factor of 45% is exceeded.

Conduit and trunking shall be mechanically and electrically continuous. Conduit shall be tightly screwed between the various lengths so that they butt at the socketed joints. The internal edges of conduit and all fittings shall be smooth, free from burrs and other defects.

Oil and any other insulating substance shall be removed from the screw threads; where conduits terminate in fuse-gear, distribution boards, adaptable boxes, non-spouted switchboxes, etc., they shall, unless otherwise stated, be connected thereto by means of smooth bore male brass bushes, compression washers and sockets. All exposed threads and abrasions shall be painted using an oil paint for black enameled tubing and galvanizing paint for galvanised tubing immediately after the conduits are erected. All bends and sets shall be made cold without altering the section of the conduit.

The inner radius of the bend shall not be less than four (4) times the outside diameter of the conduit. Not more than two right angle bends will be permitted without the inter-position of a draw-in-box. Where straight runs of conduit are installed, draw-in-boxes shall be provided at distances not exceeding 15mm. No tees, elbows, sleeves, either of inspection or solid type, will be permitted.

Conduit shall be swabbed out prior to drawing in cables, and they shall be laid so as to drain of all condensed moisture without injury to end connections.

Conduits and trunking shall be run at least 150mm clear of hot water and steam pipes, and at least 75mm clear of cold water and other services unless otherwise approved by the services engineer.

All boxes shall conform to KS 04 – 668: 1986, to be of malleable iron, and black enamelled or galvanised according to the type of conduit specified. All accessory boxes shall have threaded brass inserts.

Box lids where required shall be heavy gauge metal, secured by means of zinc plated or cadmium plated steel screws.

All adaptable boxes and lids of the same size shall be interchangeable.

Boxes used on surface work are to be tapped or drilled to line up with the conduit fixed in distance type saddles allowing clearance between the conduit and wall without the need for setting the conduit.

Where used in conjunction with mineral insulated copper sheathed cable, galvanized boxes shall be used and painted after erection.

Draw-in boxes in the floors are generally to be avoided but where they are essential they must be grouped in positions approved by the services engineer and covered and by the suitable floor traps, with non-ferrous trays and covers.

The floor trap covers are to be recessed and filled in with a material to match the floor surface.

The Sub-contractor must take full responsibility for the filling in of all covers, but the filling in material will be supplied and the filling carried out by the main building contractor.

Where buried in the ground outside the building the whole of the buried conduit is to be painted with two coats of approved bitumastic composition before covering up.

Where run on the surface, unpainted fittings and joints shall be painted with two coats of oil bound enamel applied to rust and grease free metalwork.

2.31 TESTING ON SITE

The Sub-contractor shall conduct during and at the completion of the installation and, if required, again at the expiration of the maintenance period, tests in accordance with the relevant section of the

current edition of the Regulations for the electrical equipment of buildings issued by the I.E.E of Great Britain, the Government Electrical Specification and the Electric Supply Company's By-Laws.

- (a) Tests shall be carried out to prove that all single pole switches are installed in the 'live' conductor.
- (b) Tests shall be carried out to prove that all socket outlets and switched socket outlets are connected to the 'live' conductor in the terminal marked as such, and that each earth pin is effectively bonded to the earth continuity system. Tests shall be carried out to verify the continuity of all conductors of each 'ring' circuit.
- (c) Phase tests shall be carried out on completion of the installation to ensure that correct phase sequence is maintained throughout the installation. Triplicate copies of the results of the above tests shall be provided within 14 days of the witnessed tests and the Sub-contractor will be required to issue to the service engineer the requisite certificate upon completion as required by the regulations referred to above.
- (d) Any faults, defects or omissions or faulty workmanship, incorrectly positioned or installed parts of the installation made apparently by such inspections or tests shall be rectified by the Sub-contractor at his own expense.
- (e) The Sub-contractor shall provide accurate instruments and apparatus and all labour required to carry out the above tests. The instruments and apparatus shall be made available to the services engineer to enable him to carry out such tests as he may require.
- (f) The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.
- (g) The Sub-contractor shall test to the services engineer's approval and as specified elsewhere in this specification or in standards and regulations already referred to, all equipment, plant and apparatus forming part of the works and before connecting to any power or other supply and setting to work.
- (h) Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. air conditioning system) the Sub-contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the service engineer's approval.

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The electrical sub-contractor shall comply with the following:-

1. Government Electrical Specifications No. 1 and No. 2.
2. All requirements of Kenya Power Company Limited

SECTION C
PARTICULAR SPECIFICATIONS
OF
MATERIALS AND WORKS

ITEM	CONTENTS
1.1	EXTENT OF WORKS
1.2	REGULATION AND STANDARDS
1.3	ELECTRICAL REQUIREMENTS
1.4	MANDATORY REQUIREMENTS
1.5	ELECTRICAL INSTALLATION WORKS

PARTICULAR AND TECHNICAL SPECIFICATIONS FOR ELECTRICAL INSTALLATION WORKS

1. SCOPE OF WORKS

The works to be carried out under this sub-contract comprise supply, installation, testing and commissioning of the following: -

a) Electrical Works

This shall include: _

- ❖ Conducting, Cabling, fittings and accessories;
- ❖ Structured Cabling Installation works
- ❖ Fire Alarm system
- ❖ CCTV Installation Works
- ❖ Generator Installation Works
- ❖ SOLAR sytem

2. MATERIALS FOR THE WORKS

Materials shall be as specified in Section C and in the Bills of Quantities of this document which shall be read in conjunction with contract drawings. Alternative materials shall be accepted only after approval by the Project Manager.

3. Extent of The Works

The works to be carried out include the supply, delivery, installation, testing, commissioning and leaving in servicing condition the Electrical works in the proposed Site as herein described in this specification. The works shall include, but not limited to the supply and installation of the following:

- Electrical cabling and fittings; Structured Cabling Installation works
- Fire Alarm system
- CCTV Installation Works
- Generator Installation Works

4. Regulation and Standard

The works shall comply with the provisions of the following as necessary and relevant:

- ISO/IEC, CCK, ATM CENELEC 11801
- ANSI/EIA/TIA 56
- Latest Edition of IEE Regulation
- Kenya Bureau of Standards (KEBS)
- Institution of Electrical Engineers (I.E.E) Wiring Regulations
- Current recommendation of CCITT and CC1R
- Electric Power Act and Rules made there under.

5. ELECTRICAL REQUIREMENTS

The equipment to be supplied shall be capable of being operated from 240V AC 50Hz power supply.

6. MANDATORY REQUIREMENTS

- A. All equipment and materials used shall be standard components that are regularly manufactured and used in the manufacturer's system.

- B. All systems and components shall have been thoroughly tested and proven in actual use.
- C. All systems and components shall be provided with the availability of a, 24-hour technical assistance program (TAP) from the manufacturer. The TAP shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.
- D. All systems and components shall be provided with a one-day turn around repair express and 24-hour parts replacement. The repair and parts express shall be guaranteed by the manufacturer on warranty and non-warranty items.
- E. The supplier shall be the manufacturer, or the manufacturer appointed agent (proof to be submitted).
- F. The Offered system has been installed and commissioned by the supplier in other locations.

A. ELECTRICAL INSTALLATION WORKS

MINIMUM TECHNICAL SPECIFICATIONS FOR LED LAMPS/ LIGHTING FITTINGS

LED TUBES, PANELS & BULBS LIGHT FITTING TECHNICAL SPECIFICATIONS IEC Compliant		
Item	Minimum Specifications	Proposed solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Operating	➤ Voltage range: 130-300 V ac ➤ Frequency range: 50/60Hz ➤ Power factor ≥ 0.9 lagging ➤ Total Harmonic Distortion (THD)<15% ➤ Ambient temperature range -10 to +35 °Operating ➤ Colour Consistency $\leq 5\text{SDCM}$	
Performance	➤ System efficacy $\geq 100\text{lm/W}$ ➤ Lamp colour temperature: 4000K - 6500K ➤ Colour Rendering Index ≥ 80 ➤ Median useful life $\geq 50000\text{ h}$	
Standards Compliance	CB/EMC/CE	
General	➤ Driver/power unit/transformer - PSU-E ➤ Optical cover/lens type - Polystyrene bowl/cover prismatic ➤ Protection class IEC - Safety class II (II)	

B. STRUCTURED CABLING AND CCTV WORKS

a) 24 PORT POE+ PORT SWITCH

Active control equipment at the LAN Edge should have the following features:

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Product type	Data floor Switch	
	Product Features ❖ Switching capacity of at least 56Gbps ❖ Stacking bandwidth of at least 80Gbps ❖ At least 16,000 MAC Addresses ❖ at least 512 Total Switched Virtual Interfaces (SVIs) ❖ Full Power over Ethernet Plus (PoE+) capability ❖ Modular uplinks of 4x 1G fixed uplinks or more ❖ 24 Ethernet 10/100/1000 Full PoE+ ports, ❖ 4x Gigabit Ethernet SFP Uplink Ports	
Memory	❖ Atleast 2GB DRAM ❖ Atleast 4GB flash	
Warranty	Comprehensive Manufacturer's Warranty (<i>Attach Manufacturer's Warranty Statement</i>) Minimum 3 Years	

b) PORT POE+ PORT SWITCH

Active control equipment at the LAN Edge should have the following features:

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Product type	Data floor Switch	
	Product Features ❖ Switching capacity of at least 104Gbps ❖ Stacking bandwidth of at least 80Gbps ❖ At least 16,000 MAC Addresses ❖ at least 512 Total Switched Virtual Interfaces (SVIs) ❖ Full Power over Ethernet Plus (PoE+) capability ❖ Modular uplinks of 4x 1G fixed uplinks or more ❖ 48 Ethernet 10/100/1000 Full PoE+ ports, ❖ 4x Gigabit Ethernet SFP Uplink Ports	
Memory	❖ Atleast 2GB DRAM ❖ Atleast 4GB flash	
Warranty	Comprehensive Manufacturer's Warranty (<i>Attach Manufacturer's Warranty Statement</i>) Minimum 3 Years	

c) Tender Specifications for Network Video Recorder

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.

ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Future	❖ Supports recording and configuring camera video analytic events such as Motion/face detection, timeline filtering, intrusion detection; ❖ Supports uploading still images at the time of the event through email; ❖ Supports PTZ control, MFZ control, digital zoom, Fisheye dewarping, and E- map	
Mounting	❖ Rack Mount	
❖ Ethernet	❖ 10/100/1000 Mbps Ethernet (RJ-45) x 2	
❖ PoE	❖ 16 independent 100 Mbps PoE network interfaces	
Channels	❖ 64 No.	
Storage	❖ 16TB HDDs	

Bidders MUST fill the proposed solution and attach HIGHLIGHTED datasheets/brochures to assess their conformity/compliance with each of the technical specifications.		
ITEM	MINIMUM SPECIFICATIONS	PROPOSED SOLUTION
Fault Tolerance	❖ 1 Drive Failure	
Record Resolution	❖ 12MP (Up to 8 MP (4K) resolution live view and playback)	
User	❖ 128 Simultaneous	
Output	❖ HDMI, VGA Video	
Incoming and outgoing Bandwidth	❖ 512Mbps and 16 Mbps (4k) mainstream outgoing per stream	
Video resolution	❖ 4K HD	
Output and Input	❖ Two-way audio input- 1-ch, RCA (2.0 Vp-p, 1kΩ)	
Compliance	❖ ONVIF	

d) IP Dome camera (CCTV CAMERA)

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Product type	IP Camera	
	Product Features ❖ Product Features ❖ 4MP resolution Vandal Proof Outdoor bullet camera ❖ progressive scanning system ❖ 2.8- 12mm varifocal lens, f/1.4 ❖ MicroSD Card slot supports up to 128GB ❖ IR Cut filter ❖ True day and night vision capability (ICR) ❖ Backlight compensation: BLC/HLC/DWDR/SSA ❖ Noise reduction:3DNR ❖ IP network capable ❖ PoE capability ❖ Analytics: Emended analytic Tampering detection, Loitering, Face Detection, Audio Detection, Motion detection, scene change, people counting, automatic recording to SD when Network disconnect, defog and event triggered alarm processing ❖ IP66 Water and dust resistance ❖ ONVIF protocol Compliant	
Memory	Accessible Edge Storage with internal 128GB MicroSD card slot and complete with a 128GB MicroSD card	
Warranty	Comprehensive Manufacturer's Warranty (Attach Manufacturer's Warranty Statement) Minimum 3 Years	

e) IP Bullet camera (CCTV CAMERA)

Item	Minimum Specifications	Proposed Solution
Brand	State the brand, model and attach Technical Brochure (Mandatory)	
Product type	IP Camera	
	Product Features ❖ 4MP resolution Vandal Proof Outdoor bullet camera ❖ progressive scanning system ❖ 2.8- 12mm varifocal lens, f/1.4 ❖ IR LED range up to 165' ❖ MicroSD Card slot supports up to 128GB ❖ IR Cut filter ❖ True day and night vision capability (ICR) ❖ Backlight compensation: BLC/HLC/DWDR/SSA ❖ Noise reduction:3DNR ❖ IP network capable ❖ PoE capability ❖ Analytics: Emended analytic Tampering detection, Loitering, Face Detection, Audio Detection, Motion detection, scene change, people counting, automatic recording to SD when Network disconnect, defog and event triggered alarm processing ❖ IP67 Weather and IK-10 vandal resistance ❖ ONVIF protocol Compliant	
Memory	❖ Accessible Edge Storage with internal 128GB MicroSD card slot and complete with a 128GB MicroSD card	
Warranty	Comprehensive Manufacturer's Warranty (<i>Attach Manufacturer's Warranty Statement</i>) Minimum 3 Years	

C. STANDBY GENERATOR

1 Location of Site

The site for the proposed Contract Works is at **KENYA UTALII COLLEGE-KILGORIS, NAROK COUNTY**

The generating set is required for **Standby duty**.

2 Climatic Condition

The following climatic conditions apply at the site of the Contract Works and the equipment, materials and installations shall be suitable for these conditions:

Mean Maximum Temperatures	26.48°C
Mean Minimum Temperature	11.8°C
Range of Relative humidity	38% - 80%
Atmospheric salt content:	Less than 0.002%
Dust in Atmosphere:	Relatively dusty conditions prevail
Longitude (approximately):	36° 51' 23''E
Latitude (approximately):	1° 14' 59'' S
Altitude:	1795m above sea level

3 Operating Conditions

The equipment and all components shall be suitable for the operation in ambient conditions of 5°C to 40°C and up to 100% relative humidity

- i) in an unheated ventilated building
- ii) in the open air as specified

Unless otherwise stated all ratings of equipment and components shall be interpreted as site rating and NOT sea level or other ratings

4. Functional Objectives

The set shall be capable of operating continuously and satisfactorily in a medium dust laden atmosphere as defined in BS 1701 and in accordance with BS 649.

The generating set is required for standby duty and will be connected to the switchboard through a circuit. It shall have an automatic mains failure control, appropriately interlocked with the other incoming supply. Provisions shall be made in the control circuit of the generator for automatic and remote push button control, including the terminals and cable glands for all external cables, which

will be supplied by others, where specified. It shall also be possible to start, operate and stop the set manually, independent of any automatic features.

Within the operating conditions specified in part 3 above the set shall be capable of starting and accepting full load within the shortest possible time, and in any case, in not more than 10 seconds. Any special features included to achieve this shall be stated in Section F.

5. Scope of the Contract Works

The work covered by this Specification includes the design, manufacture, supply, delivery, installation, commissioning and testing to the satisfaction of the Engineer and maintenance for a period of twelve months of 1No. New generating set complete with all necessary ancillary equipment.

The equipment to comprise 1No. **250KVA**, 415 volts/3 phase /50Hz prime rated diesel generator set with all integral accessories, and all necessary equipment for the safe and efficient working of the set. The diesel generator set will be site rated at level of 1067 metres, Kenya Datum.

Diesel generator set to include:

- a) Push button starting, starting battery and mains power supply trickle charger to be included.
- b) 72 hour operational running capacity auxiliary fuel oil storage tank, loose transfer pump and duplex oil strainer.
- c) An integral belly/ base fuel tank for daily service with an operational running capacity of 8 hours
- d) All interconnecting pipe work, valves and fittings between the storage tank, base tank and the diesel engine.
- e) An automatic generator control unit
- f) A diesel generator control cubicle
- g) Acoustic enclosure/ sound attenuated canopy
- h) All local wiring
- i) Maintenance tools and spare parts as specified.

6 Performance Objective

The output rating of the set in KVA, the voltage, the number of phases and the frequency shall be as specified in Bill No. 2 Schedule 1 of the Bills of Quantities.

Within the operating conditions specified the set, equipped with its standard air intake filters, shall be capable of delivering its rated output continuously at rated voltage and 0.8 lagging power factor and of delivering 10% in excess of the continuous maximum rating for a period of one hour in any 12 hour period.

The steady state voltage shall be maintained within 2 ½ % of the rated voltage under control of the voltage regulator between the cold start ambient conditions and the maximum working temperature, from no load to 10% overload and from unity to 0.8 lagging power factor. After any change of load, the voltage shall not vary by more than + 15% of the rated voltage and shall return to within +/- 3% within 3 seconds and to within 2 ½ % of rated voltage within 1 seconds. On starting the voltage overshoot shall not exceed 15% and shall return to within 3% in not more than 3 seconds.

The governing of the set shall be such that the steady load speed band shall not exceed 1% of rated speed. Sudden removal of the full load at rated frequency shall not cause the frequency to rise above 110% of the rated frequency and it shall return to within 105% of the rated frequency within 3 seconds. The resultant steady state frequency shall return to 104% within 15 seconds. If full load is then reimposed the frequency shall not fall below 94% of rated frequency and shall return to 99% within 3 seconds and to the rated frequency within 15 seconds. The cyclic irregularity of the set at full load shall not be worse than 1/150. The deviated interference shall be suppressed to the limit specified in BS 800 and BS 833

7. Generating Set Arrangement

Unless otherwise indicated the set and its auxiliaries shall be mounted on sufficiently substantial underbase. All items which must be held in correct relative alignment shall be located by means of dowels.

The set shall be designed and supplied for operation bolted to the floor on robust anti-vibration and shock absorbing devices. They shall have adjusting screws for optimum setting and levelling and be so designed and installed that no appreciable engine vibration shall be transmitted to the floor or to any surrounding.

Bearings shall be suitable for operation over long periods without the need for replacement of the lubricant. Oil lubricated bearings shall be fitted with a visible oil level gauge.

8. Diesel Engine

8.1 General

The engine shall comply in design and performance with BS.649 “Diesel Engines for General purposes” or its approved equivalent. The engine shall be designed for satisfactory operation on fuel oil and lubricating oils complying with BS. 2869.

The engine shall be totally enclosed, with forced lubrication from an integral pump having on the suction side a coarse strainer and on the delivery side a dual ‘full flow’ fine filter with a changeover cock incorporating pressure by-pass, so that the oil flow to the engine is maintained if the filter should choke. Alternatively, a single filter of the self-cleaning type fitted with a by-pass relief valve and having the same filtration performance may be provided. Manual lubrication of any part of the engine will not be accepted. The capacity of the lubricating oil system shall be sufficient to enable the engine to run continuously for 12 hours at any load without replacement.

A filter with a by-pass relief valve shall be inserted in the fuel line immediately before the pump(s). The fuel filter element shall be incapable of passing particles larger than micrometers. The fuel system shall be so arranged that fuel resulting from filter, pump or pipe spillage shall be incapable of entering the engine sump.

Air filters complying with KS 06-294: 1986, Grade ‘A’ and Grade ‘B’ suitable for use in a dusty atmosphere shall be fitted on the engine air intake(s)

No significant critical speed of the complete shaft system, including the generator, shall be within 15% of the rated speed.

A manually reset overspeed trip shall be fitted to stop the engine if its speed exceeds the rated speed by 15%. A mechanical trip is preferred but an electrical overspeed trip may be offered. Both types shall be equipped with a pair of contacts which close on operation of the trip. If the device is belt driven, at least two belts shall be provided and the drive shall be capable of carrying full load with one belt removed.

The set shall be arranged such that on shut-down the cooling water temperature shall not rise with residual heat so that the high water temperature lock-out operates. The engine may be naturally aspirated as pressure charged, or as indicated.

The starting shall be by means of electricity supplied from a starter battery. The starter motor shall be of axial type, de-energizing by a device operated from the engine. A means of manual starting shall also be provided.

Suitable means shall be provided for running by hand the engine main shaft and the associated generator to facilitate inspection and overhaul.

If weekly test runs are insufficient to prevent the drying out of the bearings, means shall be provided to ensure that the bearing surfaces are adequately and automatically wetted with lubricating oil either periodically or immediately prior to every start.

The engine shall be capable of being started from any crank position.
A thermostatically controlled 240-volt immersion heater may be fitted in the engine lubricating oil sump to facilitate starting. The heating surface loading of any lubricating oil heater(s) shall not exceed 0.015 watt per square millimeter to avoid carbonization of oil.

An efficient exhaust silencer with adequate draining facilities shall be supplied, and shall either be mounted on the set or installed in a generator room constructed as shown on the drawing indicated. The exhaust silencer system shall be so arranged that it may be readily relocated if required. Where any additional piping bends and fittings are specified, the manufacturer shall advise on any problems involved.

8.2 Fuel Oil System

An auxiliary cylindrical configuration standard outdoor fuel storage tank whose minimum capacity shall be sufficient to run the engine continuously on full load for 72 hours shall be installed in the position indicated in the contract drawing. It shall be supplied complete with supports.
The tank shall be fitted with a hand operated fuel with a flexible suction hose to permit filling from a drum on the floor.
A three way cock shall be fitted in the line from tank to the engine to enable the fuel to be supplied from a source other than the storage tank.

The position of the cock shall be clearly marked 'MANUAL, AUTOMATIC, OFF' as applicable.

A duplex oil filter shall be supplied between the storage tank and the diesel engine. The duplex filter shall be capable of being cleaned without dismantling, or in interruption of the fuel flow, and shall be easily maintainable. The tank shall be equipped with a graduated dipstick, a clearly visible contents' gauge (not of the site glass type) and with drain, vent, overflow and inlet and outlet connection.

The set shall also have an integral belly/base fuel tank for daily services with an operational running capacity of 8 hours.

8.3 Lubricating Oil System

An engine driven integral gear type lubricating oil pump shall be provided. The lubricating oil system shall include an oil cooler and fine mesh filters, together with devices to indicate lubricating oil pressure and to initiate a 240 volt A.C. Lubricating oil Low Pressure Alarm, Lubricating Oil High Temperature Alarm and Cooling Water High Temperature Alarm.

As separate 240 volt A.C. Motor driven automatic lubricating oil priming pump shall be provided for intermittent operation when the diesel is lying idle.

8.4 Starting of Engine

The diesel generator set shall have facilities for local and remote push button starting, with a Local/ Remote/ Automatic selector switch at the local panel.
On mains failure the engine shall be capable of being automatically started from battery located near the generator set.

The battery shall be complete with drip tray and trickle charger.
All necessary relays, contacts, switches and miscellaneous items for the starting sequence shall be supplied and installed in the local control panel.

The system shall be designed to give maximum reliability in starting.
The Contractor shall state in detail his proposals to ensure reliable starting and prevention of deterioration of the diesel engine, generator and exciter during idle periods.

All manually operated valves and controls on whose setting the correct operation of the automatic starting equipment depends shall be provided with locking devices.

8.5 Cooling System

The engine may be air or water cooled unless a preference is indicated.

8.5.1 Air Cooling of Engine

Cooling air for the engine and lubricating oil shall be provided by fan(s) mechanically driven from the engine. The cooling system shall be adequate for the total requirements of the engine when running on continuous full load and on 10% overload for one hour in accordance with BS 649 and under the conditions of Section 3.

The engine shall be so designed that the cooling air discharges into or is drawn through a reasonably airtight ducted assembly enclosing the lubricating oil cooler, the cylinder barrels and the cylinder heads of the engine.

This assembly shall terminate in a flanged outlet to which trunking may be readily attached when necessary, to enable hot air from the cooling system to be discharged outside the building.

Belt driven fans shall have at least two belts and the drive shall be capable of transmitting the full load with one belt removed. The cooling air temperature shall be controlled so as to maintain a safe working temperature of the cylinder head(s) and the engine shall shut down if the maximum is exceeded.

8.5.2 Water Cooling of Engine

A radiator of the air blast type shall be provided. It shall either have separate sections for water and for lubricating oil or be arranged for jacket water cooling only.

The radiator shall be mounted on the set and the fan(s) shall be mechanically driven from the engine. Where indicated the radiators shall be suitable for remote wall or floor mounting, in which case the fan shall be electric motor driven from a supply similar in voltage, phase and frequency to the alternator output and shall be started on line.

Where remotely mounted, the fan shall only operate when generating set is running and shall be controlled by a thermostat mounted in the radiator such that the fan motor will start on rising temperature 50°C and stop on falling temperature.

Belt driven fans shall be provided with at least two belts and the drive shall be capable of transmitting the full load with one belt removed. Circulation of the jacket water and lubricating oil through the respective radiator sections and /or heat exchanger shall be by means of pumps mechanically driven by the engine. Belt driven pumps shall be provided with at least two belts and drive shall be capable of transmitting the full load with one belt removed.

Circulation by thermo-syphon will be accepted provided the engine will operate under the conditions of section 6 and in accordance with BS 649.

An easily visible flow indicator provided with contacts shall be fitted in the water outlet from the engine; the contacts shall close in the 'no flow' condition and shut down the set.

Alternatively, in thermosyphon systems and sealed or pressurized radiator systems the flow indicator may be dispensed with providing the engine shuts down by the operation of the high temperature or low oil pressure safety devices in accordance with section 8.3.

A thermostatically controlled diverter valve shall be inserted in the engine water discharge pipe with a return to the circulating pipe section, to maintain the circulating water at the optimum temperature irrespective of the load. Alternatively, a thermostatic bypass will be accepted.

A radiator make-up/expansion tank, fitted with float control inlet, shall be provided. If a sealed or pressurized unit is offered the tank may be dispensed with. Where indicated provision shall be made on the radiator framework to permit the attachment of ducting for the discharge air.

A thermometer shall be mounted near the cylinder head(s) to indicate water temperature. Where a lubricating oil cooler is fitted, thermometers shall be mounted at the oil inlet too and outlet from the engine. Alternatively, thermocouple may be provided at all thermometer positions and taken to an instrument panel.

Adequate drains shall be provided at low points in the water and lubricating oil systems of the radiator and, where applicable, of the heat exchanger.

8.6 Governing System

Governing shall conform to B.S. 640 Class A. The governor shall control the frequency within the limits stated in Section 6 Part. Manual speed adjustment shall be provided over a range of +/-15% of the rated speed at any load. The governor system shall be of the mechanical or hydraulic type. In addition, the engine shall be fitted with an approved overspeed trip device which shall operate independently of the normal speed governor and shall act directly upon the fuel supply to the engine.

The overspeed shall act at a speed of 12% to 15% in excess of normal operating speed.

8.7 Exhaust System

The diesel engine shall be provided with a suitable exhaust system for horizontal discharge outside the diesel generator room.

The silencer shall be of spark arresting type and shall be equipped with cleaning and draining arrangements.

If an exhaust driven turbo-charger is supplied it shall include air intake filters, mani-folds and outlet manifolds.

All necessary ducting, piping, supports and lagging required for the system shall be included.

Weatherproof wall boxes permitting expansion shall be fitted where the exhaust piping passes through the building wall or roof. Pipe work shall be connected at site by butt weld connections or use of flanged joints. The use of screwed connectors shall be avoided.

Flanges shall conform to the appropriate Table of B.S.10: 1962. Welding of flanges at site shall be carried out in accordance with B.S.806. The faces of flanges shall be machined and the backs shall be machined or spot faced to receive the bolt heads.

Valves and fittings shall be of approved design and manufacture and shall be subject to the same tests as the highest pressure piping or vessel to which they are connected.

8.8 Engine Instruments

Unless otherwise indicated the following instruments shall be provided:

- (a) a lubricating oil pressure gauge
- (b) a running hours meter
- (c) a tachometer
- (d) a water thermometer
- (e) an exhaust gas pyrometer or thermometer mounted near the mani-fold
- (f) lubricating oil thermometers on the inlet to and outlet from the engine, when a lubricating oil cooler is fitted
- (g) Exhaust turbo-blower pressure gauge(s) as applicable

8.9 Pipe work, Valves and Fittings

All piping shall comply with requirements of KS-259:1989 for mild steel pipes. Provision shall be made for ready handing of all parts of the plant during assembly or disassembly of the unit.

Adequate provision shall be made for attaching lifting devices, slings and eyebolts.

1. The Generator (Alternator and Exciter)

9.1 General

The generator shall comply with B.S.2613:197, for service in tropical conditions, and shall withstand being idle for considerable periods without any harmful drop in the insulation resistance.

The generator shall have a prime rated net output of **250KVA** as specified in the schedules of the Bills of Quantities, at 0.8 lagging power factor, 415 volts, 3 phase, 4 wire, 50 Hertz with brushless rotating rectifier excitation system and voltage regulator. It shall be directly coupled to the engine and be sized such that it will accept the maximum output of the engine including overload. The output voltage shall be maintained within plus or minus 2 ½ % from no load to full load conditions. The alternator shall be capable of operating within the range of plus or minus 15% of the nominal voltage according to the automatic voltage regulator.

Three phase machines shall be star connected, and a diagram showing the terminal marking and phase rotation shall be provided in the terminal box. Cables connecting the machine winding and machine terminals shall not have a higher de-rating factor for temperature than the windings.

The insulation shall comply with BS 2757 excluding Classes Y and A. The insulation shall have an oil, moisture and fungus proof finish, with a surface which will not retain dust or condensation. It shall be possible to put the set in service after long periods in unheated storage without necessarily drying out the insulation.

The alternator shall be capable of withstanding a short circuit for three seconds when under the control of the automatic voltage regulator.

9.2 Excitation

Excitation shall be by means of brushless direct coupled exciter armature.

The alternators shall be designed for an excitation voltage at full load of not less than 50 Volts unless prior approval is given.

9.3 ELECTRICAL CONTROL PANEL

The Automatic Mains Failure control panel shall be provided and fitted with the following: -

- a) Two four pole contactors and two TP & N incoming MCCB's each of suitable rating for controlling the supply from the mains transformer and standby generator.
- b) An automatic voltage regulator for the set.
- c) Control equipments as necessary including phase failure protection relay for both the mains supply and the generator supply (with both under and over voltage protection) and phase sequence protection relay for the mains supply all to fulfill the functional requirements and automatic changeover as detailed in Part 9.3.2
- d) One ammeter and a selector switch to measure each phase current and neutral current
- e) One voltmeter and a selector switch to read line to line and line to neutral voltage
- f) A frequency meter

The meters shall comply with BS 89, table 7.

9.3.1 General

The set is to be used for mains failure duty and an automatic starting panel shall be provided which shall contain all necessary equipment for controlling the automatic starting and stopping of the set, lubricating oil priming (if necessary), all auxiliaries, fault warnings and shut downs. All faults, warning and shut-downs shall be separately indicated. There shall be test facilities for indication lamps, etc., preferably by means of a single test button.

Means shall be provided for isolating all supplies to the starting panel either by an isolating switch or by withdrawable fuses.

When the set is stopped other than under lock-out conditions, it shall be self-resetting ready for the next start.

The set shall be suitable for starting by manual means. e.g. by cranking or direct operation of the starter solenoid.

All switches and push buttons shall be clearly marked to indicate their function.

It shall be possible to operate the 'Start' and 'Stop' buttons and to see the 'Set Failure' indications without opening the panel doors.

9.3.2 Automatic Changeover Controls

The controls shall be installed and wired in the machine control panel.

The control shall be provided such that on failure of the normal electricity supply, it will automatically initiate the starting of and effect the transfer of load to the standby generator.

The schematic for the controls shall be approved by the Electrical Engineer before manufacture commences.

Where failure of the normal supply is referred to, it shall be defined as follows:

- a) Complete loss of voltage in one line Or in all the three lines
- b) Falling of voltage below 85% of the normal voltage between two lines or line and neutral
- c) Voltage overshoot to 110% of the normal voltage between two lines or line and neutral
- d) Incorrect phase sequence

On failure of the normal supply, the unit shall operate in the following manner:

- (a) After a delay, adjustable from 0 to 15 seconds (to avoid operation by a transient dip in voltage) a signal shall be given to start the standby generating set.
- (b) On receipt of a signal from the standby generating set that it is ready to take load, and providing that the failure of the normal supply still persists, the normal supply contactor in the control panel shall open and the standby contactor shall close. If the normal supply has been restored before the changeover has taken place, the contactor shall not operate and the starting relay contacts shall open to initiate the shutting down of the standby generating set.

When the standby supply is in operation and the normal supply is restored and remains within 10% of rated voltage on all phases for a pre-set time (adjustable up to 120 second) the standby contactor shall open and the normal supply contactor shall close; the starting relay contacts shall then open to shut down the generating set.

Provision shall be made so that automatic return to normal supply can be prevented if required.

Once a start signal has been sent to standby generating set, the engine starting sequence shall be allowed to continue until the set is ready to take the load before a stopping signal is sent.

A push button labelled 'Test' shall be provided to enable a failure of normal supply to be simulated. If the button is pressed and released the equipment shall complete the starting sequence, and when the set is ready to take load it shall be shut down. If the button is held depressed the equipment shall change over to the standby supply when the set is ready to take load.

Indicating lamps or illuminated panels shall be provided on the front of the panel. They shall be appropriately labelled, easily visible and shall give the following information:

- 'Main Supply Available'
- 'Generator Supply Available'
- 'Mains Supply on load'
- 'Generator Supply on load'

9.4 Lock out

9.4.1 General

The set shall stop and lock out to prevent further starting when:

- a) It fails to start when the electric starter motor has been in operation for 20 seconds under automatic start condition.
- b) The lubricating oil pressure falls to a value at which it would be unsafe to continue running the engine.
- c) The cooling water does not flow, when the engine is fitted with a visible flow indicator on the cooling water system.
- d) (i) In water cooled engines the cooling water temperature exceeds a predetermined limit.
 (ii) In air cooled engines the cylinder head temperature exceeds a safe maximum.
- e) The over speed trip has operated.

9.4.2 Failure of the circuits concerned in sub-section 9.4.1 (b) to 9.4.1(e) shall cause a set to shut down. Reset of lock out shall be by hand.

9.5 Fault indication

Each lock-out detailed in section 9.4.1 shall be indicated by a lamp on the panel together with an indication of the fault causing the shut-down. The fault warning lights shall be set to operate before the lock-out.

9.6 Starting Battery and Charger

The battery shall be 24 volts and capable of with-standing the loads imposed upon it by its specified duties. It may be of lead-acid or alkaline type and shall be of sufficient capacity for four starts in succession once in an eight-hour period. Auxiliary circuits connected to the battery shall be protected by fuses.

The battery shall be used to supply an automatic starting and control equipment, and relay operation shall not be impaired when the battery is supplying current to the starter motor.

A single phase supply for battery charging shall be available from the main M.V SWITCHBOARD.

A charger shall be provided which will recharge the battery after engine starting and maintain it in a charged condition when the set is standing or is in service. It may also supply the load of any

automatic starting and control equipment, and an additional load up to 24 watts when the set is running and in service.

An alternative quick charge rate shall be provided. The charger shall be fitted with an ammeter to measure the charger and discharge current excluding the starter motor current.

9.7.1 Wiring and Earthing

Power cables and small wiring cables interconnecting major components shall be of the heat and oil resistant type and shall be metal sheathed or run in metal ducts or metal conduit, which shall be coded and terminated with lugs or eyes or to be soldered, the terminations shall be clearly marked with the numbers and letters of the terminals to which they are connected. Terminals shall be numbered or lettered, easily accessible and fitted with individual insulating barriers or adequately spaced. Barriers shall be fitted to separate control terminals from power wiring terminals.

All metal work housing electrical equipment shall be bonded to a brass earthing terminal and connected to station Earth and as detailed in the schedule.

9.8 Contactors

Contactors shall have magnetic circuits designed for a.c or d.c operation and shall be rated in accordance with KS 04-182: 1982. Four pole- contactors shall be fitted for three phase-equipment and two-pole contactors for single phase equipments. Main and auxiliary contacts shall be silver faced or better.

9.9 Relays

Relays shall preferably be of sealed type mounted in approved plug-in bias with spring loaded retainers but if this is not practicable they shall be mounted on individual sub-bases and wired so that easy access is obtained to soldered connections. Unsealed relays shall be enclosed in individual or common dust protecting cases.

Time delays, if of the pneumatic type, shall operate on filtered air. The thermal type of time delay relay will not be accepted.

9.10 Fuses

Fuses shall comply with KS-183:1978. A spare fuse cartridge for each pole shall be mounted inside each equipment.

9.11 Rectifiers, Capacitors and solid State components

Rectifiers, capacitors and solid state components shall be suitable for any transient voltage and high currents likely to be encountered during the operation of the equipment and for the internal operating temperature of the enclosures at the specified maximum external ambient temperature.

9.12 Enclosures for Equipment

Enclosures for electrical and control equipment shall be drip proof and dust protecting, with adequate front and rear access as necessary for maintenance and repair. Special attention shall be given to the method of construction and to the mounting of the components to minimize the effect of vibration. Diagrams of connections in durable form shall be mounted inside the enclosures.

10 Lifting Gear and Handling.

Provision shall be made for ready handling of all parts of the plant during assembly or disassembly of the unit. Adequate provision shall be made for attaching lifting devices, slings and eyebolts.

11 Commissioning

The Contractor shall include for fully commissioning the set and its control equipment and for the purpose of the required tests, shall provide all necessary instruments, tools, fuel and lubricating oil.

The following tests and checks as applicable shall be carried out by the contractor in the presence of the electrical engineer or his representative.

- a) Check that the main frame is level in all directions, engine and generator shafts are in proper alignment and the vibration absorbing devices are properly installed and located.
- b) Check water and sump oil levels and that the water jacket and radiation eaters (if fitted) are in working order.
- c) Check the battery electrolyte levels and the specific gravity.
- d) Examine the containers in which the fuel and lubricating oils were delivered and check that the type and grade of oils are as recommended for the unit.
- e) Ensure that sufficient fuel oil is in the fuel tank for a two hours' test run.
- f) Check that all radiator and engine block water drain points are free from sludge and other blockages.
- g) Check engine bolts, main drive coupling, valve clearance, fuel pumps settings, governor settings, pipeline connections, water hose, exhaust couplings, flexible pipe work etc., and where a separate cooling water tank is fitted, that the water levels is satisfactory and the ball valve and overflow work.
- h) Check all outgoing connections on the generator and the control panel. All lugs for principal connections shall have clean and bright contact surfaces. A suitable abrasive shall be used where necessary.
- i) Check access panels and doors for proper opening and closing and for functioning of any interlocks fitted.
- j) With the set isolated from the main supply and the selector switch in the 'manual' position, start the engine by means of the 'start' push button and allow it to run up to normal speed. Check that the main battery charger is automatically switched off to avoid its being overloaded by the reduction in voltage across the battery. Where a battery charging dynamo is fitted, check that the main battery charger is disconnected by the operation of the auxiliary contact during the time the engine is running.
- k) Check instruments and gauges for normal operation and response and that the generator voltage is being maintained within the prescribed limits, making due allowance for no-load conditions. Compare the reading of the frequency meter with that of engine tachometer, where both are fitted.
- i) Stop engine by turning selector switch to off position and verify that the generator contactor opens at between 95% and 85% of normal voltage. Re-check water and oil levels.
- m) Turn selector switch to 'Auto' position. Disconnect the sensing circuit supply and check that the set starts, the mains contactor opens, and the generator contactor closes in correct order. Reconnect the sensing circuit to verify that the engine stops on restoration of the mains supply and the contactors operate correctly. Check voltage sensing and time delays on each phase in turn and also the push buttons for mains failure simulation and engine stopping operate correctly.

NOTE: Running of the engine for any length of time under no load condition is undesirable and tests calling for such operation should be carried out in as short time as possible consistent with thoroughness.

- n) Operate the necessary isolators and switches to put the set on standby for essential services network with the mains failure simulation push, verify that the set operates correctly with the appropriate time delay for taking up load and that the carrying of the load and its distribution over three phases are satisfactory.
- o) Run the set at various loads for periods totaling at least 30 minutes. Check that the voltage and frequency are being maintained within the required limits with large alterations of load. Note the rate of charge on the dynamo ammeter with the engine running (if a dynamo is fitted), and the rate of charge on the battery charging ammeter with the engine stopped. Check against manufacturers recommendations and adjust charging rates if necessary.
- p) Check that the various engine safeguards operate satisfactorily.
- q) Check the vibration absorbing devices for proper operation and that performance of all flexible connections, both mechanical and electrical, is satisfactory.
- r) When all tests are satisfactory and agreed with the Engineer or his representative, the lubricating oil and water levels shall be finally checked, the fuel oil tank replenished and set left in normal operating order.
- s) An initial supply of all lubricating oils and greases shall be provided by the Contractor.
- t) Additional lubricating oil shall be provided for recharging the engine sump once together with a supply of lubricating oils and greases to cover the normal use and serving of the set during the 12 months maintenance period referred to in Part 14 of Section D.

2. Standard Specification For Auxiliary Fuel Storage Tanks (UG/AG) Fabrication

The tank shall comply with **Kenya Bureau Standards, Specification for Storage Tanks for Petroleum Industry. Part 1: Carbon Steel Welded Horizontal Cylindrical Storage Tanks; 2002.**

The tanks shall comply to the following specifications: -

- a) The thickness of the shell and end plates of the tank shall be 6mm;
- b) The dished end of the tank to bend to 25 mm radius;
- c) The Mild Steel plate joints welding shall be butt welded for circumferential joints and lap welding for longitudinal. Further no longitudinal joint shall be located at the bottom of the tank;
- d) All joints on the tank plates, lap or butt type, shall be welded both sides to full penetration (AG/UG);
- e) Accessories: -
 - i. 1 x 600 mm manholes with the following sockets and fittings 1 No x 100 mm filler pipe welded to 150 mm x 100 mm reducing bush;
 - ii. 3 No x 50 mm diameter suction pipes welded to 75 mm x 62 mm reducing bush;
 - iii. 1 No x 50 mm diameter vent pipe welded to 75 mm x 62 mm reducing bush; and
 - iv. 1 No x 25 mm diameter dip pipe with lockable cap, chain, etc. welded to 75 mm x 30 mm reducing bush.

BROCHURES AND TECHNICAL LITERATURE

Tenderers **Must** enclose together with their submitted bids **Brochures** detailing Technical Literature and specifications of all electrical components. The brochures shall be used to evaluate the suitability of these components.

Any bid submitted without the brochures shall be considered technically non-responsive, and may subsequently be disqualified.

SECTION D

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Engineer	

NOTE:

Tenderers are advised to inspect the electrical drawings at the office of the Chief Engineer (Electrical) – State Department for Public Works, at Chief Engineer's (Electrical) Office, Hill Plaza Building, Community area, Nairobi along Ngong road, during normal working hours.

SECTION E

TECHNICAL SCHEDULE

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment, which differs in manufacture, type or performance from the specifications indicated by the Project Manager.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered non-responsive.

NB. The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT LEGIBLE** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule and **CLEARLY HIGHLIGHT THE SPECIFIC REQUIRED ITEM ONLY**.

Technical Schedule

(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	MODEL	COUNTRY OF ORIGIN
1	LIGHTING FITTINGS i. LED Recessed downlighter ii. LED Panels iii. Floodlights			
2	Lighting Switches			
3	D.P Switches			
4	Socket outlet plates			
5	TV outlet plates			
6	Data outlet plates			
7	Fire Alarm & Detection Control Panel			
8	Smoke detectors and Heat Detectors			
9	Manual fire break glass unit			
10	Consumer Units/ Distribution Boards			
11	MCBs			
12	MCCBs			
13	Cables ❖ single core PVC Copper ❖ Armoured Copper (PVC/SWA/PVC)			
14	HG PVC conduits			
15	PVC Conduits			
16	Cable Accessories			
17	CAT6 Cables			
18	CAT6 Patch Cords			
19	CAT 6 Patch Panels			
20	Fiber cables			
21	Card Reader			
22	CCTV Camera			
23	Network Video Recorder			

SECTION F

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.
2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.
3. The unit rates will be used to assess the value of additions or omissions arising from authorized variations to the contract works.
4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of equal and approved quality will be accepted.
5. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including V.A.T and all taxes applicable at the time of tender.

SCHEDULE OF UNIT RATES

ITEM	DESCRIPTION	QTY/UNIT	RATE(KSHS)
1.	PVC/SWA/PVC Copper		
	a. 2.5mm sq. 2 core	LM	
	b. 4.0 mm sq 4 core	LM	
	c. 6.0 mm sq 4 core	LM	
	d. 10 mm sq 4 core	LM	
	e. 16.0 mm sq 4 core	LM	
	f. 25.0 mm sq 4 core	LM	
	g. 35 mm sq 4 core	LM	
	h. 50 mm sq 4 core	LM	
	i. 120 mm sq 4 core	LM	
2.	IP 65 rated Isolators as KATKO, 3 Phase		
	a. 20A	1No.	
	b. 32A	1No.	
	c. 63A	1No.	
	d. 100A	1No.	
	e. 200A	1No.	
3.	IP 65 rated Isolators as KATKO, Single Phase		
	a. 20A	1No.	
	b. 32A	1No.	
	c. 63A	1No.	
	d. 100A	1No.	
4.	Emergency Shutdown switch	1No.	
5.	Distribution Boards		
	a. 8 Ways TPN	1No.	
6.	Industrial Sockets outlets, 5 pin		
	a) 20A	1No.	
	b) 32A	1No.	
7.	Industrial Sockets outlets, 3 pin		
	a) 20A	1No.	
	b) 32A	1No.	

SECTION G
BILLS OF QUANTITIES

BILLS OF QUANTITIES

A) PRICING OF ITEMS.

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

a) Installation Items and Other Bills

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

The unit of measurements and observations are as per those described in clause 1.05 of the section C.

b) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contractor shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

B) NOTES FOR BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.
2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including V.A.T and all taxes applicable at the time of tender.
- 3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.
4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere to. Otherwise, alternative brands of equal and approved quality will be accepted.

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

5. Tenderers must enclose, together with their submitted tenders, detailed manufacturer's Brochures detailing Technical Literature and specifications on the items they intend to offer.

This shall be used in the tender evaluation to determine the first line aesthetics and quality of fittings offered.

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS

BILL No. 1:PRELIMINARIES

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
1.00	Discrepancies clause - Sub-contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.	1	Item		
2.00	Scope of contract works clause - The sub-contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing	1	Item		
3.00	Extent of contractors duties clause - The Sub- contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on site.Shall mark accurately on one set of drawings and indicate all alterations and/or modifications carried out to the designed system during the construction period. This information must be made available on site for inspection by the Engineer.	1	Item		
4.00	Firm price contract clause - No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials which may arise as a result of currency fluctuation during the contract period.	1	Item		
5.00	Variation clause - Any variation from the contract price in respect of any extra work, alteration or omission requested or sanctioned by the Architect or Engineer shall be agreed and confirmed in writing at the same time such variations are decided and shall not affect the validity of the Contract. Schedule of Unit Rates shall be used to assess the value of such variations. No allowance shall be made for loss of profit on omitted works.	1	Item		
6.00	Prime cost and provisional sum clause The work covered by Prime Cost and Provisional Sums may or may not be carried out at the discretion of the Project Manager. The whole or any part of these sums utilized by the Sub-contractor shall be deducted from the value of the Sub-contract price when calculating the final account.	1	Item		
7.00	Government legislation and regulations clause - Sub- contractor shall allow for providing holidays and transport for work people, and for complying with Legislation, Regulations and Union Agreements. The Sub-contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.	1	Item		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				0.00
8.00	Import duty and VAT clause - (Note this clause applies for materials supplied only whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.	1	Item		
9.00	Insurance company fees clause - Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.	1	Item		
10.00	Samples and materials generally clause - The Sub- contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.	1	Item		
11.00	Bills of quantities clause - All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed there under shall be measured and valued by the Engineer in accordance with the contract. All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub- contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.	1	Item		
12.00	Contractors office in Kenya clause - It shall be the Sub- contractor's responsibility to procure work permits, entry permits, licences, registration, etc., in respect of all expatriate staff. The Sub-contractor shall prepare a substantial proportion of his Working Drawings at his office in Kenya. No reasons for delays in the preparation or submission for approval or otherwise of such drawings or proposals will be accepted on the grounds that the Sub-contractor's Head Office is remote from his office in Nairobi or the site of the Sub- contract Works or otherwise.	1	Item		
13.00	Builders work clause 1- All chasing, cutting away and making good will be done by the Main Contractor but the Sub-contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.	1	Item		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
14.00	Setting to work and regulating system clause- No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted). It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required.	1	Item		
15.00	Identification of plant components clause - Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment etc with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled.	1	Item		
16.00	Working drawings clause - Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub- contract Works.	1	Item		
17.00	Records Drawings (As Installed) and instructions clause - Record Drawings, will be subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works.	1	Item		
18.00	Maintenance Manual clause - Upon Practical Completion of the Sub-contract Works, the Sub- contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub-contract Works.	1	Item		
19.00	Hand over clause - The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub-contract Works shall be coincident with the handing over of the Main Contract Works.	1	Item		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
20.00	Testing and inspection - manufactured plant clause - The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture. Sub-contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.	1	Item		
21.00	Testing and inspection - installation clause - Allow for testing each section of the Sub-contract Works installation.	1	Item		
22.00	Initial Maintenance Clause - The sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer. Shall allow in the sub-contract Sum of the initial maintenance, inspection and break-down service	1	Item		
23.00	Local and other authorities notice clause - The contractor shall comply with and give all notices required by any Regulations, Act or by Law of any Local Authority or of any Public Service, Company or Authority who have any jurisdiction with regard to the works or with those systems the same are or will be connected and he shall pay and indemnify the Government against any fees or charges legally demandable under any regulation or by-law in respect of the works; provided that the said fees and charges if not expressly included in the contract sum or stated by way of provisional sum shall be added to the contract sum.	1	Item		
24.00	Temporary Works clause - The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works.	1	Item		
25.00	Patent Rights clause - The contractor shall fully indemnify the Government of Kenya; against any action, claim or proceeding relating to infringement of any patent or design rights, and pay any royalties which may be payable in respect of any article or any part thereof, which shall have been supplied by the contractor to the Project Manager.	1	Item		
26.00	Mobilization and Demobilization clause -No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities.	1	Item		
	Sub-Total C/F to Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
27.00	Supervision by Engineer and site meetings clause - A competent Project Engineer appointed by the Chief Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing. The Sub Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the Contractor.	1	Item	500,000	500,000.00
28.00	Allow for Taxes, Profit and Attendance for the Item 27 above	1	Item		
29.00	Contract obligation and employers obligation clause - No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works.	1	Item		
30.00	Any other preliminaries	1	Item		
	Total for Bill No. 1: Sub-Contract Preliminaries C/F to Price Summary Page				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 1: GROUND FLOOR					
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, testing&commissioning of the following complete as specified.				
	<u>LIGHTING POINTS</u>				
1.01	Lighting points wired in 3x1.5mm ² PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for one & two way switching:-	175	No.		
1.02	10A Screwless Switch Plates flush mounted on walls as schneider or approved equivalent.				
	a) 1 gang 1 way	18	No.		
	b) 1 gang 2 way	2	No.		
	c) Intermediate Switch	2	No.		
1.03	Occupancy sensor complete with an override switch and associated wiring as described in particular specification	6	No.		
1.04	Motion sensor complete with an override switch and associated wiring as described in particular specification	6	No.		
	<u>LIGHTING FITTINGS</u>				
1.05	Lighting fittings complete with all accessories including lamps of appropriate wattage and colour rendering and fixing materials as follows:				
	(a) 28.5W,3400lm 6500K, 600 x 600mm Square, LED Backlit Office Compliant Panel Light as PHILIPS Coreline Panel or equal and approved equivalent for classrooms and offices	66	No.		
	(b) 18W,2500lm, IP65,4000K, Cool white LED circular Backlit as Philips Coreline or equal and approved equivalent for washrooms, staircases and corridors	100	No.		
	(c) Self-contained double sided EXIT sign with 5W LED lamp for non-maintained emergency lighting for 3 hour duration as LEDVance or approved equivalent.	3	No.		
	(d)15W, 1600lm, IP65, 4000k, opal polycarbonate, Slim LED Mirror Light as Philip or equal and approved equivalent	6	No.		
SUB TOTAL C/F TO THE NEXT PAGE					

ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, test and commission the following :-				
	SUB TOTAL C/F FROM THE PREVIOUS PAGE				
	<u>SOCKET OUTLETS AND OTHER POWER POINTS</u>				
1.06	13 Amps. Socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits including all accessories.	95	No.		
1.07	13 Amps. Moulded plate switched socket outlet with neon indicator as Schneider or approved equivalent a) twin.	95	No.		
1.08	2 Compartment Floor Box Recessed fabricated powder coated galvanized steel finished in charcoal grey colour, C/W cover and compartment dividers to Separate Power and Data and with 4No. Sockets and 4No. Data outlets	8	No.		
1.09	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
1.10	32mm diameter PVC HG conduit for the floor box and linking the Draw Boxes to the	30	Lm		
1.11	Hand Dryer Power Point, comprising wiring drawn in 3x2.5mm ² PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits/trunking complete with all accessories but excluding the D.P switch	200	LM		
1.12	20A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or approved equivalent.	6	No.		
1.13	FIRE Hosereel Pumps Point, wired in 5 x 4.0sq mm PVC SC copper cables drawn in concealed 32mm Dia. HG PVC conduits complete with all accessories but excluding the isolator (Cabling from DB to Isolator)	20	LM		
1.14	b) 40A 5-Pole 415V 3-Phase Isolator marked 'As Per Application' for items above as MK, Crabtree or approved equivalent.	2	No.		
1.15	Bore Hole Pump Point wired in 5 x 4.0sq mm PVC SC copper cables drawn in concealed 32mm Dia. HG PVC conduits complete with all accessories but excluding the isolator (Cabling from DB to Isolator)	20	LM		
1.16	Water Booster Pump Motor Power Point, wired in 5x 4.0sq mm PVC SC copper cables drawn in concealed 32mm Dia. HG PVC conduits complete with all accessories but excluding the isolator (Cabling from DB to Isolator)	20	LM		
1.17	b) 40A 5-Pole 415V 3-Phase Isolator marked 'As Per Application' for items above as MK, Crabtree or approved equivalent.	2	No.		
	<u>CCTV/ACCESS CONTROL POINTS</u>				
1.18	CCTV points approximately 40m for each point from the communication room done in 25mmsq. Size conduits concealed inside ceiling (Conduit Works Only)	17	No.		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :- SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	<u>TELEPHONE/DATA POINTS</u>				
1.19	Data point comprising of drawn wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.	92	No.		
1.20	TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed	2	No.		
1.21	Flat TV/coax single socket plate as MK cat. No. K3551WHI or approved equivalent.	2	No.		
1.22	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
1.23	32mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the	30	Lm		
	<u>AIR CONDITIONING UNITS POINTS</u>				
1.24	Air Conditioning outlet points comprising wiring in 3x4.0mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	60	LM		
1.25	45A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or equal and approved equivalent.	2	No.		
	<u>FIRE ALARM SYSTEM</u>				
1.26	Fire Alarm points comprising wiring in 1.5mm ² heat resistant cables drawn in 20mmØ concealed HG PVC conduits	29	No.		
1.27	Addressable optical- Photoelectric smoke detector as Menvier MENVIER or equal and approved	23	No.		
1.28	Addressable Resettable call point incorporating integral short circuit isolator and reset key as Menvier or Approved Equivalent	3	No.		
1.29	Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon as MENVIER or approved equivalent.	3	No.		
	<u>DISTRIBUTION BOARDS AND SUB-MAIN POWER DISTRIBUTION</u>				
	<u>FOR LOWER GROUND FLOOR</u>				
1.30	9Ways TPN+E, flush mounted Distribution Board complete with 125A integral isolator as SCHNEIDER ELECTRIC, HAUSMANN or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
1.31	MCB's for items above				
	i) 20A SP	13	No.		
	ii) 32A SP	8	No.		
	iii) SP Spareway	3	No.		
	v) TPN Spareway	1	No.		
	vi) Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	No.		
1.32	Sub-main cables comprising of 4 Core 16mm ² PVC/SWA/PVC Armoured Copper Cables including all necessary accessories (From Main LV Switchboard to DB in the electrical riser duct).	10	Lm		
	SUB TOTAL C/F TO THE SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :-				
	SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	FOR PUMP HOUSE				
1.33	625W-24V Mono-Crystalline PV Solar Module as Victron cat No. SPM043602400 or equal and approved equivalent. With i. DC Combiner ii. DC MCB	6	No.		
1.34	5.2kW 3 phase hybrid solar inverter complete with MPPT charge controller ,smart logger ,Smart Power sensor,isolator switch as described in particular specifications in the tender documents as Huawei or equal and approved equivalent.	1	No.		
1.35	Allow for DC cabling from Solar panels to Combiners, and Inverters as described above, complete with protection switchgear	1	Item		
1.36	4Ways TPN+E, flush mounted Distribution Board complete with 100A integral isolator as SCHNEIDER ELECTRIC, HAUSMANN or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
1.37	MCB's for items above (i) 10A SP (ii) 32A TPN (iii) SP Spareway (iv) TP Spareway (v) Carry out concise permanent traffolyte labelling for all the sub-circuits in item	1 2 2 1 1	No. No. No. No. Item		
1.38	Sub-main cables comprising of 4 Core 10mm ² PVC/SWA/PVC Armoured Copper Cables including all necessary accessories (From Main LV Switchboard to DB in the Pump House).	100	Lm		
1.39	Earthing to Kenya Power (KP) standard at the CLB complete with manhole and cover including SC- 16Sq.mm Copper Cabling from earth rod to DB and the whole solar power installation accordance to IEE regulation (10LM approximately)	1	Item		
1.40	Standard Cable Loop-in Box complete with Three Phase Cut-outs 80A HRC fuse and fuse carrier +80A HRC fuse, Fuse Carrier with Neutral Block as Henlys or approved equivalent.	1	No.		
	For Lighting Powered by Solar				
1.41	10-way SP/N Consumer Unit mounted complete with a 100A SPN integral isolator as Schneider Miniature Circuit Breakers for above DB's (a) 10A SP MCB (b) Blanking plates for CU above	1 9 1	No. No. No.		
1.42	Sub-main cables comprising of 3 Core 10mm ² PVC/SWA/PVC Multicore Armoured Copper Cables including all necessary accessories (From Ground floor DB to CU For lighting).	5	Lm		
	CABLE TRAY				
1.43	400mm x 50mm 2-compartment galvanised steel cable tray anchored on Slab for data and power points C/W Anchoring and all necessary accessories	5	Lm		
	TRUNKING				
1.44	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail. a) Powder coated twin punched outlet plate for fixing twin socket outlets b) Ditto but for data/telephone outlets c) Carry out bonding throughout the entire length of the above trunking and connect to earthing	50 16 16 1	Lm No. No. Item		
	SUB TOTAL C/F TO THE SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 2: FIRST FLOOR					
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, testing&commissioning of the following complete as specified.				
	<u>LIGHTING POINTS</u>				
2.01	Lighting points wired in 3x1.5mm ² PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for one & two way switching:-	256	No.		
2.02	10A Screwless Switch Plates flush mounted on walls as schneider or approved equivalent.				
	a) 1 gang 1 way	18	No.		
	b) 1 gang 2 way	7	No.		
	c) Intermediate Switch	2	No.		
2.03	Occupancy sensor complete with an override switch and associated wiring as described in particular specification	6	No.		
2.04	Motion sensor complete with an override switch and associated wiring as described in particular specification	2	No.		
2.05	Wall mounted 10A, 80lux dusk to dawn photocell switch complete with an override switch that comply with the standard EN 60947-1, EN 61000-3, EN 61000-6	2	No.		
	<u>LIGHTING FITTINGS</u>				
2.06	Lighting fittings complete with all accessories including lamps of appropriate wattage and colour rendering and fixing materials as follows:				
	(a) 28.5W,3400lm 6500K, 600 x 600mm Square, LED Backlit Office Compliant Panel Light as PHILIPS Coreline Panel or equal and approved equivalent for classrooms and offices	64	No.		
	(b) 18W,2500lm, IP65,4000K, Cool white LED circular Backlit as Philips Coreline or equal and approved equivalent for washrooms, staircases and corridors	117	No.		
	(c) Self-contained double sided EXIT sign with 5W LED lamp for non-maintained emergency lighting for 3 hour duration as LEDVance or approved equivalent.	3	No.		
	(d) 15W, 2500lm, 4000K cool white Circular Recessed LED downlight as Philips Essential Downlight or equal and approved equivalent for the reception area.	48	No.		
	(e) 30W, 3600lm, 4000K decorative pendant suspended LED luminaire featuring an adjustable stainless steel suspension kit and decorative glass shade subject to Electrical engineer's approval	3	No.		
	(f) 50W, IP65, IK08+, 6500K Daylight LED Bulkhead with prismatic polycarbonate as Osram Ledvance or equal and approved equivalent	24	No.		
	(g)15W, 800lm, IP65, 4000k, opal polycarbonate, Slim LED Mirror Light as Philip or equal and approved equivalent	6	No.		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, test and commission the following :- SUB TOTAL C/F FROM THE PREVIOUS PAGE				
	<u>SOCKET OUTLETS AND OTHER POWER POINTS</u>				
2.07	13 Amps. Socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVCI copper cables drawn in concealed 25mm HG PVC conduits including all accessories.	72	No.		
2.08	13 Amps. Moulded plate switched socket outlet with neon indicator as Schneider or approved equivalent a) twin.	72	No.		
2.09	2 Compartment Floor Box Recessed fabricated powder coated galvanized steel finished in charcoal grey colour, C/W cover and compartment dividers to Separate Power and Data and with 4No. Sockets and 4No. Data outlets	8	No.		
2.10	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
2.11	32mm diameter PVC HG conduit for the floor box and linking the Draw Boxes to the Electrical ducts	60	Lm		
2.12	20A, unswitched fused spur DP control switch with neon light and cord outlet for item above as MK or approved equivalent	1	No.		
2.13	Hand Dryer Power Point, comprising wiring drawn in 3x2.5mm ² PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits/trunking complete with all accessories but excluding the D.P switch	200	LM		
2.14	20A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or approved equivalent.	6	No.		
	<u>CCTV/ACCESS CONTROL POINTS</u>				
2.15	CCTV points appoximately 40m for each point from the communication room done in 25mmsq. Size conduits concealed inside ceiling (Conduit Works Only)	42	No.		
	<u>TELEPHONE/DATA POINTS</u>				
2.16	Data point comprising of drawn wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data socket outlet.	48	No.		
2.17	TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in concealed	2	No.		
2.18	Flat TV/coax single socket plate as MK cat. No. K3551WHI or approved equivalent.	2	No.		
2.19	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
2.20	32mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to the ICT ducts	60	Lm		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :- SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	<u>AIR CONDITIONING UNITS POINTS</u>				
2.21	Air Conditioning outlet points comprising wiring in 3x4.0mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	115	LM		
2.22	45A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or equal and approved equivalent.	2	No.		
	<u>FIRE ALARM SYSTEM</u>				
2.23	Fire Alarm points comprising wiring in 1.5mm ² heat resistant cables drawn in 20mmØ concealed HG PVC conduits	28	No.		
2.24	1-Loop Addressable Fire Alarm Control Panel complete with batteries and charger as Menvier or equal and approved Equivalent	1	No.		
2.25	Addressable Heat detector as Menvier MENVIER or equal and approved	22	No.		
2.26	Addressable Resettable call point incorporating integral short circuit isolator and	3	No.		
2.27	Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon as MENVIER or approved equivalent.	3	No.		
	<u>DISTRIBUTION BOARDS AND SUB-MAIN POWER DISTRIBUTION</u>				
2.28	9 Ways TPN+E, flush mounted Distribution Board complete with 125A integral isolator as SCHNEIDER ELECTRIC, HAUSMANN or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
2.29	MCB's for items above				
	i) 20A SP	8	No.		
	ii) 32A SP	11	No.		
	iii) SP Spareway	7	No.		
	iv) Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	No.		
2.30	Sub-main cables comprising of 4 Core 16mm ² PVC/SWA/PVC Armoured Copper Cables including all necessary accessories (From Main LV Switchboard to DB in the electrical riser duct).	15	Lm		
2.31	For Lighting Powered by Solar 10-way SP/N Consumer Unit mounted on complete with a 100A SPN integral isolator as Schneider	1	No.		
	Miniature Circuit Breakers for above DB's				
	(a) 10A SP MCB	9	No.		
	(b) Blanking plates for CU above	1	No.		
2.32	Sub-main cables comprising of 3 Core 10mm ² PVC/SWA/PVC Multicore Armoured Copper Cables including all necessary accessories (From Ground floor DB to CU For lighting).	5	Lm		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :-				
	SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	CABLE TRAY				
2.33	400mm x 50mm 2-compartment galvanised steel cable tray anchored on Slab for data and power points C/W Anchoring and all necessary accessories	5	Lm		
	TRUNKING				
2.34	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail.	50	Lm		
	a) Powder coated twin punched outlet plate for fixing twin socket outlets	16	No.		
	b) Ditto but for data/telephone outlets	16	No.		
	c) Carry out bonding throughout the entire length of the above trunking and connect to earthing	1	Item		
	SUB TOTAL C/F TO THE SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 3:SECOND GROUND FLOOR					
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, testing&commissioning of the following complete as specified.				
	<u>LIGHTING POINTS</u>				
3.01	Lighting points wired in 3x1.5mm ² PVC SC Copper Cables drawn in concealed 20mm Diameter HG PVC conduits complete with all necessary accessories but excluding switches for one & two way switching:-	206	No.		
3.02	10A Screwless Switch Plates flush mounted on walls as schneider or approved equivalent.				
	a) 1 gang 1 way	18	No.		
	b) 1 gang 2 way	7	No.		
	c) Intermediate Switch	2	No.		
3.03	Occupancy sensor complete with an override switch and associated wiring as described in particular specification	6	No.		
3.04	Motion sensor complete with an override switch and associated wiring as described in particular specification	6	No.		
	<u>LIGHTING FITTINGS</u>				
3.05	Lighting fittings complete with all accessories including lamps of appropriate wattage and colour rendering and fixing materials as follows:				
	(a) 28.5W,3400lm 6500K, 600 x 600mm Square, LED Backlit Office Compliant Panel Light as PHILIPS Coreline Panel or equal and approved equivalent for classrooms and offices	75	No.		
	(b) 18W,2500lm, IP65,4000K, Cool white LED circular Backlit as Philips Coreline or equal and approved equivalent for washrooms, staircases and corridors	105	No.		
	(c) Self-contained double sided EXIT sign with 5W LED lamp for non-maintained emergency lighting for 3 hour duration as LEDVance or approved equivalent.	3	No.		
	(d) 15W, 2500lm, 4000K Cool White Circular Recessed LED downlight as Philips Essential Downlight or equal and approved equivalent for the reception area.	20	No.		
	(e)15W, 800lm, IP65, 4000k, opal polycarbonate, Slim LED Mirror Light as Philip or equal and approved equivalent	6	No.		
SUB TOTAL C/F TO THE NEXT PAGE					

ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	Supply, install, test and commission the following :- SUB TOTAL C/F FROM THE PREVIOUS PAGE				
	<u>SOCKET OUTLETS AND OTHER POWER POINTS</u>				
3.06	13 Amps. Socket outlet points wired ring comprising of 3x2.5 mm sq. single core PVC copper cables drawn in concealed 25mm HG PVC conduits including all accessories.	90	No.		
3.07	13 Amps. Moulded plate switched socket outlet with neon indicator as Schneider or approved equivalent a) twin.	90	No.		
3.08	2 Compartment Floor Box Recessed fabricated powder coated galvanized steel finished in charcoal grey colour, C/W cover and compartment dividers to Separate Power and Data and with 4No. Sockets and 4No. Data outlets	8	No.		
3.09	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
3.10	32mm diameter PVC HG conduit for the floor box and linking the Draw Boxes to the Electrical ducts	60	Lm		
3.11	Hand Dryer Power Point, comprising wiring drawn in 3x2.5mm ² PVC-SC-CU cables in concealed 25mm Diameter HG PVC conduits/trunking complete with all accessories but excluding the D.P switch	150	LM		
3.12	20A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or approved equivalent.	6	No.		
	<u>CCTV/ACCESS CONTROL POINTS</u>				
3.13	CCTV points approximately 40m for each point from the communication room done in 25mmsq. Size conduits concealed inside ceiling (Conduit Works Only)	17	No.		
	<u>TELEPHONE/DATA POINTS</u>				
3.14	Data point comprising of drawn wire in 25mm diameter Heavy Gauge PVC conduits including all accessories and blanking cover but excluding the Data	58	No.		
3.15	TV outlet point wired in 75 Ohms Screened Coaxial TV cables drawn in	3	No.		
3.16	Flat TV/coax single socket plate as MK cat. No. K3551WHI or approved equivalent.	3	No.		
3.17	300x 300x 100mm deep 16G galvanized adaptable box.	1	No.		
3.18	32mm diameter PVC HG conduit for ICT services and linking the Draw Boxes to	60	Lm		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :- SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	<u>AIR CONDITIONING UNITS POINTS</u>				
3.19	Air Conditioning outlet points comprising wiring in 3x4.0mm sq. single core PVC insulated copper cables drawn in concealed 25 mm diameter Heavy Gauge PVC conduits complete with all the necessary accessories.	115	LM		
3.20	45A DP Control Switch marked 'As Per Application' with neon light and cord outlet for item above as MK, Crabtree or equal and approved equivalent.	2	No.		
	<u>FIRE ALARM SYSTEM</u>				
3.17	Fire Alarm points comprising wiring in 1.5mm ² heat resistant cables drawn in 20mmØ concealed HG PVC conduits	31	No.		
3.18	Addressable Heat detector as Menvier MENVIER or equal and approved	25	No.		
3.19	Addressable Resettable call point incorporating integral short circuit isolator	3	No.		
3.20	Addressable Electronic Fire Alarm sounder complete with Red Flashing beacon as MENVIER or approved equivalent.	3	No.		
	<u>DISTRIBUTION BOARDS AND SUB-MAIN POWER DISTRIBUTION</u>				
3.21	9Ways TPN+E, flush mounted Distribution Board complete with 125A integral isolator as SCHNEIDER ELECTRIC, HAUSMANN or an approved equivalent complete with all accessories but excluding MCBs.	1	No.		
3.22	MCB's for items above				
	i) 20A SP	10	No.		
	ii) 32A SP	10	No.		
	iii) SP Spareways	4	No.		
	iv) TPN Spareways	1	No.		
	v) Carry out concise permanent traffolyte labelling for all the sub-circuits in item above.	1	No.		
3.23	Sub-main cables comprising of 4 Core 16mm ² PVC/SWA/PVC Armoured Copper Cables including all necessary accessories (From Main LV Switchboard to DB in the electrical riser duct).	20	Lm		
3.24	For Lighting Powered by Solar 10-way SP/N Consumer Unit mounted complete with a 100A SPN integral isolator as Schneider	1	No.		
	Miniature Circuit Breakers for above DB's				
	(a) 10A SP MCB	9	No.		
	(b) Blanking plates for CU above	1	No.		
3.25	Sub-main cables comprising of 3 Core 10mm ² PVC/SWA/PVC Multicore Armoured Copper Cables including all necessary accessories (From Ground floor DB to CU For lighting).	5	Lm		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATE (KShs.)	AMOUNT (KShs.)
	Supply, install, test and commission the following :-				
	SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	CABLE TRAY				
3.26	400mm x 50mm 2-compartment galvanised steel cable tray anchored on Slab for data and power points C/W Anchoring and all necessary accessories	5	Lm		
	TRUNKING				
3.27	200x50mm two compartment powder coated steel trunking manufactured in 14 swg galvanized mild steel sheet and finished in cream powder coating to details shown complete with covers, bends and all fixing accessories. The trunking to be angular section. Allow for colour change to Architect's detail.	50	Lm		
	a) Powder coated twin punched outlet plate for fixing twin socket outlets	16	No.		
	b) Ditto but for data/telephone outlets	16	No.		
	c) Carry out bonding throughout the entire length of the above trunking and connect to earthing	1	Item		
	SUB TOTAL C/F TO THE SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 4: LV BOARD AND POWER DISTRIBUTION					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
4.01	Supply, Install, test and commission the following : MAIN LV SWITCHBOARD Supply, install, test and commission an IP66, Free-standing cubicle type Low Voltage (LV) Switchboard, 3-Phase, 415 Volts as specified in Technical Specifications. The Switchboard shall be manufactured in accordance with BS 162. The Switchboard shall comprise the equipment such as current transformers, auxilliary circuit breakers, labels, small wiring, space for 1 No KPLC three phase meter (TPN) and cut-out (TPN) and together with any other as may be shown on the drawings. The Switchboard shall be have 6mm front perspex viewing window for each section, enclosed and with lockable front & back access. To be manufactured in 12SWG Powder Coated mild steel sheet and finished in cream (or appropriate colour) powder coating. To be fabricated by either Schneider Electric or Specialised Power Systems or approved manufacturer complete with the following details:- a) Main Supply Section i) 450A TP+N+E Bus-bars and bus-bar connections consisting of high conductivity copper to BS 158 and BS 159, in Bus-Bars Chambers b) Incoming i) 1No. 400A TPN 25kA MCCB with Shunt Trip as Schneider Electric or approved equivalent. ii) 1No. Voltmeter 0-600V plus selector switch. iii) 1No. Ammeter plus selector switch with C.T.s (600/5) iv) 3No. Phase indicating lights v) 1No. Power factor meter vi) All power system parameters (KW, KVA, KWHr, KVARs, Frequency, P.F., harmonics etc.). The multimeter should be complete with selector switches for viewing/displaying the various parameters.	1	Item		
Sub-Total C/F to the Next Page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
	c) Outgoing				
	i) 63A TPN 25kA MCCB feeder to the DBs at The Administration block as Schneider Electric Compact NSX or equal and approved equivalent.	3	No.		
	ii) 63A TPN 25kA MCCB feeder to the DB at Pump House as Schneider Electric Compact NSX or equal and approved equivalent.	2	No.		
	iii) 63A TPN 25kA MCCB feeder for lifts as Schneider Electric Compact NSX or equal and approved equivalent.	2	No.		
	iv) 50A TPN 25kA MCCB feeder to the Hybrid Solar Inverter as Schneider Electric Compact NSX or equal and approved equivalent.				
	v) Spareways for 6No. TPN MCCBs				
	vi) Spareways for 6No. SPN MCCBs				
	d) Carry out comprehensive labeling of all the bus bars. CT chambers, circuit breakers etc. above, indicating the areas served, outgoing cable sizes etc.				
	e) Carry out concise load balancing to achieve a maximum imbalance not greater than $\pm 10\%$ between any two phases, measured at the Main LV switchboard	1	Lot		
4.02	POWER FACTOR CORRECTION 50KVARs digital programmed modular type automatic power factor correction capacitor bank switched in 2 steps of 10 KVARs, 4 steps of 5 KVARs, 4 Step of 2.5 KVARs complete with alarm for low power factor, switching MCBs, contactor controls and interwiring to facilitate dropping out of the capacitor bank in the event of mains power failure to avoid disorientating the generator AVR modules.. The bank to be made from low-loss bio-degradable compactive units, complete with common firmly bonded/earthed metallic enclosure made from 12 gauge cream powder coated galvanised steel sheets. The PFC bank to be an integrated in the Switchboard in item 5.01 above	1	No.		
	Sub-Total C/F to the Next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-Total B/F from Previous Page				
4.03	COMPREHENSIVE PROTECTIVE MULTIPLE EARTHING Earthing of the subboard in accordance with KP&L company requirements, IET regulations, the government Electrical Installations regulations and other statutory requirements comprising but not limited to the following a) Establish 450x450x700mm deep earthing chamber, complete with internal plastering, and heavy duty EAFW steel cover clearly marked "EARTH". b) 25mm X 3mm pure copper tape as Furse c) Pure copper earth rod (1500mm x 16mm) d) Driving head for earth rod e) Tape to earth rod clamp as Furse f) 50mm² single core green PVC insulated copper earth lead	1	No.		
		20	Lm.		
		3	No.		
		3	No.		
		3	No.		
		20	Lm.		
4.04	100mm dia. HG PVC duct in 200mm buried 600mm underground for power supply cables way & Equipment	200	Lm.		
4.05	600 x 600 x 700mm deep standard power manholes, complete with internal plastering, and heavy duty EAFW steel cover.	8	No.		
4.06	70mm diameter HG PVC ducts encased in concrete surround buried in ground for incoming data/telephone supply cables (at road or parking crossing points).	60	Lm.		
4.07	Excavate trenches for ducts and armoured cables above, average depth 700mm, remove soft earth, lay ducts, cover with "DANGER-HATARI" tiles, back fill soft earth and compact to natural ground level.	200	Lm.		
4.08	Concrete Cable Route Markers.	20	No.		
	SUB TOTAL C/F TO THE ELECTRICAL INSTALLATION WORKS COLLECTION PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS
SCHEDULE No. 5: HYBRID SOLAR POWER INSTALLATIONS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Supply, install, testing & commissioning of the following complete as specified				
5.01	Solar Panels 625W-24V Mono-Crystalline PV Solar Module as Victron cat No. SPM043602400 or equal and approved equivalent. With i. DC Combiner ii. DC MCB	30	No.		
5.02	Solar panel Support structure made of Rust-proof Mild steel for supporting all the solar panels in 6.01 above	1	Item		
5.03	Hybrid Inverter (Inverter/Charger) Frequency Range AC Input:50Hz Pure Sine Wave Peak Inverter Efficiency: 96%, Nominal AC output Voltage: 415V AC DC Input Voltage:48V Frequency: 50 Hz Continuous Power Rating: 50kW Inbuilt MPPT Charge Controller as Deye Sun-50K or equal and approved equivalent	1	No.		
5.04	Lithium Iron Battery Bank				
a)	5.12kWH 48V LiFePO4 stakable and expandable High Voltage Battery, Nominal Voltage and amperage of 51.2V.100Ah ,DOD up to 90% , 6000 Cycle Life @ 80% DOD & with protection against overcharge or over-discharge, charging efficiency of 95% and operating temperature of-20C TO +60C as Deye or equal and approved equivalent.	16	No.		
b)	Battery Cluster Control Box High voltage battery cluster control box capable of integrating above 8No. HV batteries to the inverter in item 6.03 above as Deye HVB750V/100A-EU or equal and approved equivalent	2	Item		
	Sub-total C/F to the next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Sub-total B/F from the previous page				
c)	Battery Housing Free standing powder coated rack fabricated from sheet metal gauge 12swg initially primed with anti-rust paint and capable of housing 11No. Batteries and 1No. Battery cluster Control Box	2	Item		
5.05	Earthing Earthing of the whole solar Power installations in accordance to IEE regulations	1	Item		
5.06	Allow for DC cabling from Solar panels to Combiners, Inverters and to Battery bank as described above, complete with protection switchgear	1	Item		
5.07	AC CABLING Sub-main cables comprising of 5x10mm ² Multi Core PVC/PVC Copper cables Dia. HG PVC conduits and including all necessary accessories (From Main LV Switchboard to inverter and to Solar DB).	100	LM		
5.08	Distribution Board 4Ways Distribution Board with 100A TP Isolator as Schneider Electric or equal and approved equivalent	1	No		
5.09	The following MCB as Schneider Electric For item 6.08 above a) 10A SP MCB a) 32A SP MCB	3 4	No. No.		
5.10	Allow for any other item required to complete the installation i) ii) iii)	1	item		
	SUB TOTAL C/F TO THE ELECTRICAL INSTALLATION WORKS COLLECTION PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 6:LIGHTNING PROTECTION					
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	SUPPLY, DELIVER, INSTALL, TEST AND COMMISSION THE FOLLOWING:-				
	<u>AIR TERMINATION</u>				
6.01	Supply and lay along the ridge cap 25mm X 3mm thick bare copper tape as Furse or approved equivalent .	100	LM		
6.02	Copper air terminations (lighting arrestors) inclusive of base clamp and all fixing materials as FURSE	3	No.		
	<u>DOWNWARD CONDUCTOR</u>				
6.03	Downward conductor comprising 25mm x 3mm thick bare copper tape as FURSE	25	LM		
6.04	Copper Square Tape clamp for making crossing tape joints	2	No.		
6.05	PVC conduits 32mm diam. Concealed in the wall from top floor to the earthing . For securing the down conductors complete with sandles	25	LM		
6.06	Test clamp as FURSE	8	No.		
	<u>EARTHING</u>				
	Earthing comprising of the following and any other necessary accessories:-				
6.07	1000x1000mm copper earth mat from 25x3mm copper tape , 250mm spacing , for earting, complete with all clamps, exothermic welding joints to approval.	2	No.		
6.08	15mm x 1800mm earth rod as FURSE cat. No. RB 105.	2	No.		
6.09	15mm dia. Driving stud as FURSE cat. No. ST100	2	No.		
6.10	Rod to tape clamp as FURSE	2	No.		
6.11	Concrete Inspection pit as FURSE cat. No. PT005 (or a well made 320mm x320mm x 210mm depth pit.)	2	No.		
6.12	Allow for testing and commissioning for entire lightning protection and grounding system to Engineer's approval	1	Item		
	SUB TOTAL C/F TO THE ELECTRICAL INSTALLATION WORKS COLLECTION PAGE				

	ELECTRICAL INSTALLATION WORKS COLLECTION PAGE	AMOUNT
1	TOTAL FOR PRELIMINARIES	
2	TOTAL FOR LOWER GROUND FLOOR	
3	TOTAL FOR 1ST FLOOR	
4	TOTAL FOR 2ND FLOOR	
5	TOTAL FOR POWER DISTRIBUTION	
6	TOTAL FOR LIGHTNING PROTECTION	
7	SOLAR SYSTEM FOR LIGHTING AND PUMPHOUSE	
8	PRICE FOR LIASON WITH KPLC FOR POWER CONNECTION	
	GRAND TOTAL C/F TO GRAND SUMMARY PAGE	

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 7: IP CCTV INSTALLATION					
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	SUPPLY, DELIVER, INSTALL, TEST AND COMMISSION THE FOLLOWING:-				
7.01	Outdoor,4MP, IP POE, Vandal resistant Bullet colour camera complete with housing, appropriate mounting brackets and all other accessories to engineers approval as Hikvision or Appoved Equivalent	21	No.		
7.02	As "detto" but Indoor cameras	33	No.		
7.03	Category 6A, 48 Port Patch Panel and as Siemon or approved equivalent.	1	No.		
7.04	1M RJ45 - RJ45 Cat 6A UTP Factory Terminated Patch Cord as SIEMON or Approved Equivalent for Cabinet Use.	36	No.		
7.05	Cat 6A UTP 4-pair cable as Siemons or approved equivalent	500	LM		
7.06	12U Wall mounted, Network Cabinet with a Robust Steel Construction,intergrated cable management, two fan cuts for improved airflow ,a glass front door, lockable, with left/right fixing option and all necessary accessories like Cage nuts, bolts, locks, three sets of keys, 5-way PDU as SIEMON or Approved Equivalent.	1	No.		
7.07	48 Port Managed Gigabit Ethernet Switch with PoE plus, 4x Gigabit Ethernet SFP Uplink Ports as Cisco CBS350-48P-4X switch or approved equivalent	1	No.		
7.08	64 Channel IP Network Video Recorder RACK MOUNT as described in the particular specifications of this document as Hikvision DS-9664NI-I8 or equal and approved equivalent	1	No.		
7.09	IP Surveillance Central Management software for viewing and Recording live video of premises for all 32 Cameras with option for remote recording and Viewing Live and Map monitoring simultaneously, System events log messaging, Alarm Monitoring, Device Management Upto 16 simulteneous videos playback.	1	No.		
7.10	6TB SATA Hard Disk, 6GBps 128MB Cache SATA Hard Drive as Toshiba, Seagate or equal and approved equivalent	4	No.		
7.11	LCD LED panel display 50",4K Resolution, 2xHDMI input, Component video input, composite video input, S-video input, VGA input,VGA output and composite video output, USB Ports	1	No		
SUB TOTAL C/F TO THE GRAND SUMMARY PAGE					

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS						
SCHEDULE No. 8: STRUCTURED CABLING						
ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT	Kshs
	GROUND FLOOR					
	<u>HORIZONTAL CABLING</u>					
8.01	RJ45 Cat 6A UTP Double Data outlets complete with faceplates and labelling system as Siemon or its equal and approved equivalent	92	No.			
8.02	3m RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons for use at workstation areas	92	No.			
8.03	1m, RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons to be used in cabinet.	92	No.			
8.04	Cat 6A UTP 4-pair screened cable as Siemons pulled between cabinet and work stations.	4600	LM			
	<u>ACTIVE COMPONENTS</u>					
8.05	48 Port Managed Gigabit Ethernet Switch with PoE plus, 4x Gigabit Ethernet SFP Uplink Ports as Cisco CBS350-48P-4X switch or approved equivalent	2	No.			
8.06	Wireless Access Point, with POE support, with dual-band radios support up to 450 Mbps per radio to maximize capacity and coverage, Robust security including WPA2, 802.1X with secure authentication, 10/100/1000 Ethernet, with support for 802.3af PoE as CISCO Small Business 550/560 Wireless Access Point or equal and approved equivalent	2	No.			
	<u>DATA CABINET</u>					
8.07	12U Wall mounted, Network Cabinet with a Robust Steel Construction, two fan cuts for improved airflow ,a glass front door, lockable, with left/right fixing option and all necessary accessories like Cage nuts, bolts, locks, three sets of keys, 5-way PDU as SIEMON or Approved Equivalent.	1	No.			
8.08	48 Port Patch panel as SIEMON or Approved Equivalent.	2	No.			
8.09	Cable Managers as SIEMON or Approved Equivalent.	2	No.			
8.1	240V, 50Hz 3000VA,APC smart un-interrupted power supply unit (UPS) with USB and Serial Port as APC SRT3000XLI or Approved Equivalent.	1	No.			
8.11	Printed Self Laminated Wrap Cable Markers to be installed at both cable ends.	184	No.			
	SUB TOTAL C/F TO THE NEXT PAGE					

ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	SUB TOTAL B/F FROM THE PREVIOUS PAGE FRIST FLOOR				
	<u>HORIZONTAL CABLING</u>				
8.12	RJ45 Cat 6A UTP Double Data outlets complete with faceplates and labelling system as Siemon or its equal and approved equivalent	48	No.		
8.13	3m RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons for use at workstation areas	48	No.		
8.14	1m, RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons to be used in cabinet.	48	No.		
8.15	Cat 6A UTP 4-pair screened cable as Siemons pulled between cabinet and work stations.	2400	LM		
	<u>DATA CABINET</u>				
8.16	42U Rack Micro Data Center with pre-tested and integrated 3000 VA UPS, PDU, Cooling, Battery, Fire Suppression, Security, Monitoring & Management System.MDC-Cabinet as described in particular specifications (SERVER ROOM)	1	No.		
8.17	24 Port full fibre switch modular uplink configuration as described in the particular specifications as CISCO 9200 series or Approved Equivalent.(Core Switch)	1	No.		
8.18	48 Port Managed Gigabit Ethernet Switch with PoE plus, 4x Gigabit Ethernet SFP Uplink Ports as Cisco CBS350-48P-4X switch or approved equivalent	2	No.		
8.19	Wireless Access Point, with POE support, with dual-band radios support up to 450 Mbps per radio to maximize capacity and coverage, Robust security including WPA2, 802.1X with secure authentication, 10/100/1000 Ethernet, with support for 802.3af PoE as CISCO Small Business 550/560 Wireless Access Point or equal and approved equivalent	2	No.		
8.20	48 Port Patch panel as SIEMON or Approved Equivalent.	2	No.		
8.21	Cable Managers as SIEMON or Approved Equivalent.	2	No.		
8.22	Printed Self Laminated Wrap Cable Markers to be installed at both cable ends.	96	No.		
	SUB TOTAL C/F TO THE NEXT PAGE				

ITEM	DESCRIPTION	QTY	UNIT	RATES Kshs	AMOUNT Kshs
	SUB TOTAL B/F FROM THE PREVIOUS PAGE				
	SECOND FLOOR				
	<u>HORIZONTAL CABLING</u>				
8.23	RJ45 Cat 6A UTP Double Data outlets complete with faceplates and labelling system as Siemon or its equal and approved equivalent	58	No.		
8.24	3m RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons for use at workstation areas	58	No.		
8.25	1m, RJ45- RJ45 Cat 6A UTP factory terminated patch cord as Siemons to be used in cabinet.	58	No.		
8.26	Cat 6A UTP Cable as SIEMON or Approved Equivalent pulled between Cabinet and Outlet Plates.	2900	LM		
	<u>ACTIVE COMPONENTS</u>				
8.27	48 Port Managed Gigabit Ethernet Switch with PoE plus, 4x Gigabit Ethernet SFP Uplink Ports as Cisco CBS350-48P-4X switch or approved equivalent	2	No.		
8.28	Wireless Access Point, with POE support, with dual-band radios support up to 450 Mbps per radio to maximize capacity and coverage, Robust security including WPA2, 802.1X with secure authentication, 10/100/1000 Ethernet, with support for 802.3af PoE as CISCO Small Business 550/560 Wireless Access Point or equal and approved equivalent	2	No.		
	<u>DATA CABINET</u>				
8.29	12U Wall mounted, Network Cabinet with a Robust Steel Construction, two fan cuts for improved airflow ,a glass front door, lockable, with left/right fixing option and all necessary accessories like Cage nuts, bolts, locks, three sets of keys, 5-way PDU as SIEMON or Approved Equivalent.	1	No.		
8.30	48 Port Patch panel as SIEMON or Approved Equivalent.	2	No.		
8.31	Cable Managers as SIEMON or Approved Equivalent.	2	No.		
8.32	240V, 50Hz 3000VA,APC smart un-interrupted power supply unit (UPS) with USB and Serial Port as APC SRT3000XLI or Approved Equivalent.	1	No.		
8.33	Printed Self Laminated Wrap Cable Markers to be installed at both cable ends.	116	No.		
	SUB TOTAL C/F TO THE GRAND SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS
SCHEDULE No. 9: 250KVA GENERATOR

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
9.01	Supply, deliver to site, install, test and commission a Prime-Rated 250KVA 3 phase, 415V, 50Hz diesel generating set with a continuous power factor of 0.8 lagging and as fully described in the particular specifications. The generator set is to be complete with a sound attenuated canopy and an integral base/belly daily service fuel tank	1	No.		
9.02	Supply, deliver to site and install a steel exhaust pipe of not less than 14 SWG and of adequate diameter running from the generating set to the outside of the generator house	10	LM		
9.03	Connect the exhaust pipe above in item 1.02 using steel pipes of adequate diameter, and flexible piping off engine exhaust manifold complete with heavy duty silencer	1	Item		
9.04	Complete earthing of generating set to electrical engineer's approval	1	Item		
9.05	Allow for bench test for full load test at the supplier's workshop	1	Item		
SUB-TOTAL FOR GENERATOR SET C/F TO COLLECTION PAGE					

AMF PANEL

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
9.06	An electrical control panel complete with suitable-rated incoming MCCBs and contactors for automatic change over operation and complete with all other control accessories as fully described the particular specifications	1	No.		
9.07	A rated manual by-pass switch with clearly labeled NORMAL-OFF-BYPASS positions, and shall such be wired that when the switch is on either OFF or BYPASS position, the generator shall receive no signal to start	1	No.		
9.08	Armoured cables complete with glands and pvc sleeves:				
	(a) 2 × 2.5mm ² , 4 core, PVC/SWA/PVC copper cable	20	LM		
	b) 240mm ² 4-C PVC/SWA/PVC copper conductor cables laid underground from generator to ATS	20	LM		
9.09	Interwire the control panel with the Mains L.V board complete with 240mm ² 4-Core cable above	1	Item		
SUB-TOTAL FOR GENERATOR SET C/F TO COLLECTION PAGE					

RECOMMENDED SPARE PARTS AND LUBRICATORS

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	For the supply to the site of the following spare parts and lubricators:				
9.10	Oil Filters	No.	4		
9.11	Air Filters	No.	4		
9.12	Fuel Filters	No.	4		
9.13	Set of Fan belts to suit the set	No.	1		
9.14	10 litres container of sump oil of grade.....*	No.	1		
9.15	2 kilogram grease in a tin of grade *	No.	1		
9.16	10 litre plastic container of distilled water	No.	1		
9.17	20 litre of engine oil in a tin of grade *	No.	1		
9.18	Supply, deliver to site and install, to the approval of the project manager, and connect to the daily service base/belly fuel tank, an auxiliary fuel tank with level indicator and with an operational running capacity of 24 hours. The tank is to be complete with stand and all interconnecting G.I pipe work.	Item	1		
9.19	Supply, install, test and commission a manually operated fuel pump complete with all interconnecting accessories and G. I piping	Item	1		
9.20	Supply and deliver to site generator diesel with a capacity to run the generator for 72 hours	3000	Ltrs		
9.21	Any other spare parts recommended by Tenderer ** *The tenderer to fill in the Grade quality to be supplied **The tenderer to fill in the details and price of items but the price not to be included in total carried forward to summary page				
SUB-TOTAL FOR GENERATOR SET C/F TO COLLECTION PAGE					

TOOLS TO BE SUPPLIED WITH THE SET

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	For the supply to site of the following tools:				
9.22	Metal tool box with lock and two keys	no	1		
9.23	Set of 8 No. Chrome vanadium ring spanners in sizes to suit the set	no	1		
9.24	Set of 3 screwdrivers, 75mm, 200mm and 300mm plus one 200mm Philips type	no	1		
9.25	- ditto -but open ended spanners	no	1		
9.26	Set of feeler gauges	no	1		
9.27	Grease gun to suit greasing points	no	1		
9.28	Oil can, trigger type	no	1		
9.29	Any other special tools which the tenderer recommends should be purchased as an optional:*				
	NOTE* Tenderer should give detail and prices of item 4.8 but the price not to be included in total carried forward.				
SUB-TOTAL FOR GENERATOR SET C/F TO COLLECTION PAGE					

250KVA GENERATOR INSTALLATION WORKS COLLECTION PAGE

Item	Description	QTY	UNIT	RATE	Amount (Kshs)
1.00	Sub-Total for Generating Set				
2.00	Sub-Total for AMF Panel				
3.00	Sub-Total for Recommended Spare Parts and Lubricators				
4.00	Sub-Total for Tools to be Supplied with the Set				
	GRAND TOTAL C/F TO GRAND SUMMARY PAGE				

SCHEDULE NO. 10: ENGINEER'S STATIONERY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
10.01	Hp Omen 16 core i7 12th gen 16GB RAM 512 GB SSD 4GB NVIDIA Geforce RTX 16.1 inches FHD laptop	1	No.		
10.02	Photocopy paper A4 (80g/cm2) white	10	Ream		
10.03	Photocopy paper A3 (80g/cm2) white	2	Ream		
10.04	Letter head quality paper as CONQUERER or equal and approved cream 80g/cm3	4	Ream		
10.05	a4 size Embossed covers as KATKO or approved equivalent, 100 sheets blue in colour	3	Pkts.		
10.06	A4 size Embossed covers as KATKO or approved equivalent, 100 sheets blue in colour	3	Pkts.		
10.07	22mm diameter spiral binders black in colour	1	Roll		
10.08	Office Stepler as Kangaroo Stapler DS-E335	3	No.		
10.09	HP Laserjet Printer Toner Cartridge 26A	1	No.		
10.10	HP Laserjet Printer Toner Cartridge 151A	1	No.		
10.11	Nashuatec Printer Toner cartridge complete set (Black, Magenta, Cyan, Yellow)	1	No.		
10.12	20000mAh 12W Power Bank with 2.4A Max Fast Charging,4 Built-in Charging&Recharging Cables, upto five phone charges and 4 Outputs	1	No.		
10.13	4 drawer steel lockable filling cabinet D-D4/KM-D4	1	No.		
10.14	Transcend StoreJet 25M3 1TB portable hard drive equipped with High-Speed USB 3.1 interface	1	No.		
	SUB TOTAL C/F TO GRAND SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS SCHEDULE No. 11: PROVISIONAL SUM					
Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
11.00	Provisional sum for Relocation of KPLC Power Lines	1	Item	1,500,000	1,500,000.0
11.01	Allow for VAT,profit and attendance on item above%	1	Item		
11.02	Provisional sum for CPD Training for Electrical Engineers from state department for public works	1	Item	500,000	500,000.0
11.03	Provisional Sum for KPLC connection	1	Item	2,600,000	2,600,000.0
11.04	Contingency sum to be used at the discretion of the Project Manager.	1	Item	2,000,000	2,000,000.0
	TOTAL C/F TO GRAND SUMMARY PAGE				

	GRAND SUMMARY PAGE	AMOUNT
1	TOTAL FOR ELECTRICAL INSTALLATION WORKS	
2	TOTAL FOR CCTV INSTALLATION WORKS	
3	TOTAL FOR STRUCTURED CABLING INSTALLATION WORKS	
4	TOTAL FOR GENERATOR INSTALLATION WORKS	
5	TOTAL FOR ENGINEER'S STATIONERY	
6	TOTAL FOR PROVISION SUM AND CONTINGENCY	
7	PRICE FOR TRAINING OF CLIENT STAFF ON OPERATION AND MAINTAINANCE OF ALL ELECTRICAL SYSTEMS	
	TOTAL	

Total Amount in Words (Kenya Shillings)

.....

Bidder's Name & Official Stamp

P.O.Box.....

Signature.....Date.....

PIN NO.....V.A.T Certificate No.....

Witness.....Address.....

Signature of Witness.....Date.....

BILL NO.7

LIFT INSTALLATION WORKS

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS
BILL NO.1: SUB-CONTRACT PRELIMINARIES FOR LIFT INSTALLATION WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE (Kshs)	AMOUNT (Kshs)
1	Samples and materials generally clause - The Sub- contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.	1	Item		
2	Bills of quantities clause - All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Sub-contractor but the value thereof shall be deducted from the Sub-contract Sum and the value of the work ordered by the Engineer and executed there under shall be measured and valued by the Engineer in accordance with the contract. All work liable to adjustment under this Sub-contract shall be left uncovered for a reasonable time to allow measurements needed for such adjustment to be taken by the Quantity Surveyor or Engineer. Immediately the work is ready for measuring the Sub- contractor shall give notice to the Quantity Surveyor or Engineer to carry out measurements before covering up. If the Sub-contractor shall make default in these respects he shall, if the Architect so directs, uncover the work to enable the necessary measurements to be taken and afterwards reinstate at his own expense.	1	Item		
3	Setting to work and regulating system clause- No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Sub-contractor's own preliminary and proving tests excepted). It will be deemed that the Sub-contractor has included in the Sub-contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required.	1	Item		
	Sub Total carried to next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE (Kshs)	AMOUNT (Kshs)
	Sub-Total B/F from Previous Page				
4	Identification of plant components clause - Sub-contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment etc with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled.	1	Item		
5	Working drawings clause - Sub-contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Sub-contract Works can be executed on site but also that the Engineer can approve the Sub-contractor's proposals, detailed designs and intentions in the execution of the Sub-contract Works.	1	Item		
6	Records Drawings (As Installed) and instructions clause - Record Drawings, will be subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Sub-contractor as a correct record of the installation of the Sub-contract Works.	1	Item		
7	Maintenance Manual clause - Upon Practical Completion of the Sub-contract Works, the Sub- contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Sub- contract Works.	1	Item		
8	Hand over clause - The Sub-contract Works shall be considered complete and the Maintenance and Defects Liability Period shall commence only when the Sub-contract Works and supporting services have been tested, commissioned and operated to the satisfaction of the Engineer and officially approved and accepted by the Employer, provided always that the handing over of the Sub- contract Works shall be coincident with the handing over of the Main Contract Works.	1	Item		
	Sub Total carried to next page				

ITEM	DESCRIPTION	QTY	UNIT	RATE (Kshs)	AMOUNT (Kshs)
	Sub-Total B/F from Previous Page				
9	Testing and inspection - manufactured plant clause - The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture. Sub-contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections	1	Item		
10	Initial Maintenance Clause - The sub-contractor shall make routine maintenance once a month during the liability for the Defects Period and shall carry out all necessary adjustments and repairs, cleaning and oiling of moving parts. A monthly report of the inspection and any works done upon the installation shall be supplied to the Engineer. Shall allow in the sub-contract Sum of the initial maintenance, inspection and break-down service	1	Item		
11	Supervision by Project Electrical Engineer - The sub-contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the contractor.	1	Item	500,000	500,000
12	Taxes, Profit and Attendance for the above item		%		
	SSUB TOTAL C/F TO MAIN SUMMARY PAGE				

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS
BILL NO. 2 : 2NO. PASSENGER

ITEM	DESCRIPTION	QTY	UNIT	RATE (Kshs)	AMOUNT (Kshs.)
	Supply, instal, test and commission the following:				
2.01	Price for all imported materials for 2No. Destination Control, BMS and Access Card control Ready Smart Passenger Lifts (give break-down on a separate sheet) (a) State the Foreign currency, if any, on which the tender is based (b) State the exchange rate applied	2	item		
2.02	Price for locally purchased Materials, Installation and commissioning costs including factories inspection fees (give breakdown on separate sheet).	1	Item		
2.03	Price for full service maintenance of the 2No.new lifts during the 12 months defects liability period for whole period @ Kshs. per month	1	Item		
2.04	Price for statutory inspection of the 2No. New Destination control Passenger lifts on commissioning and thereafter two times during the	1	Item		
2.05	Price for 4 sets of operation and maintenance manuals as described in the specifications.	1	No.		
2.06	Price for 2 sets of record drawing as described in the specifications.	1	No.		
2.07	Allow for connection of a telephone extension from the premises IPPBX with the telephone instrument in the lift car all wiring and accessories included	2	Item		
2.08	Price for the travelling cable for interfacing fire alarm system, C.C.T.V and Audio system to be installed by others.Include high quality speakers connected to the cable and installed in the lift car to engineers approval.	1	Item		
2.09	Supply and installation of 2 No. Automatic Rescue Devices in each lift to Engineers Approval	2	No.		
2.1	Price for clearing at the port , forwarding and transport including offloading to site.....	1	Item		
2.11	Allow for lift car interior finishes as described in the specifications and to clients approval	1	Item		
2.12	Allow for lift car interior finishes as described in the specifications and to clients approval	1	Item		
2.13	Allow for lift car interior finishes as described in the specifications and to clients approval	1	Item		
2.14	Allow for any associated electrical works including provision of shaft lighting and cabling	1	Item		
2.15	30KVA 3 phase Automatic Voltage regulator with a SPD Class II, Wide input frequency tolerance, 7" full-colour touchscreen module,Web-based portal for monitoring through trusted local network,Displays live and historic operational data including; input/output voltages, output current and transformer & thyristor temperatures, and any other accessory	2	Item		
SUB TOTAL C/F TO THE SUMMARY					

PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS
BILL NO. 3: PC AND PROVISIONAL SUMS

ITEM	DESCRIPTION	QTY	UNIT	RATE (Kshs)	AMOUNT Kshs.
3.01	Provisional sum for currency fluctuation	1	Item	200,000	200,000
3.02	Provisional sum for statutory inspection of the 2No. new lift on commissioning and thereafter two times during the 12 months defects liability period for whole period as described	1	Item	50,000	50,000
3.03	Allow for taxes,profit, attendance and VAT on item above %	1	Item		
3.04	Overseas factory inspection by 2No. Electrical Engineers, 1No. Technical person, from State Department for Public Works and 1No. Employer's representative.	1	Item	3,200,000	3,200,000
3.05	Allow for taxes, profits, and attendance on Item above %	1	1item		
SUB TOTAL C/F TO THE SUMMARY					

	PROPOSED KILGORIS CAMPUS, KENYA UTALII COLLEGE, KILGORIS BILL NO. 4 : ENGINEER'S STATIONERY				
ITEM	DESCRIPTION	QTY	UNIT	RATES (KShs)	AMOUNT (KShs)
4.01	Photocopying Papers size A4 80g/cm2 white	10	Ream		
4.02	Photocopying Papers size A3,80g/cm2 white	3	Ream		
4.03	Letter head quality paper as CONQUERER or equal and approved cream 80g/cm3	5	Ream		
4.04	Office Stepler as Kangaroo Stapler DS-E335	3	No.		
4.05	HP Laserjet Printer Toner Cartridge 26A	1	No.		
4.06	HP Laserjet Printer Toner Cartridge 151A	1	No.		
4.07	20000mAh 12W Power Bank with 2.4A Max Fast Charging,4 Built-in Charging&Recharging Cables, upto five phone charges and 4 Outputs	1	No.		
4.08	Transcend StoreJet 25M3 1TB portable hard drive equipped with High-Speed USB 3.1 interface	1	No.		
4.09	A4 size translucent PVC covers as KATKO or approved equivalent, 100 sheets blue in colour and 0.2mm thick	1	Pkts.		
4.1	A4 size translucent PVC covers as KATKO or approved equivalent, 100	1	Pkts.		
4.11	22mm diameter spiral binders black in colour	1	Pkts.		
SUB TOTAL C/F TO THE SUMMARY					

SUMMARY PAGE		
ITEM	DESCRIPTION	AMOUNT Kshs.
A	Sub-total B/F from Bill No.1 Preliminaries	
B	Sub Total B/F from Bill No.1 -2No. Passenger Lifts	
C	Sub Total B/F from Schedule No.3- Provisional sums	
D	Sub Total B/F from Schedule No.4- Engineer's Stationery	
E	Contingency sum to be used at the discretion of the Project Manager.	500,000
GRAND TOTAL AMOUNT CARRIED TO FORM OF TENDER		

Amount of tender in words: Kenya Shillings

.....

.....

Tenderers Signature and Stamp.....

Address.....

Date.....

Witness

Address.....

Date.....

BILL NO.8

MECHANICAL INSTALLATION WORKS



**PROPOSED CONSTRUCTION OF ADMINISTRATION
BLOCK AT KENYA UTALII COLLEGE, KILGORIS CAMPUS –
NAROK COUNTY.**

**SPECIFICATIONS AND BILLS OF QUANTITIES
FOR
SUPPLY, DELIVERY, INSTALLATION, TESTING AND COMMISSIONING
OF
SANITARY FITTINGS, INTERNAL PLUMBING, INTERNAL DRAINAGE,
BOREHOLE DRILLING & EQUIPPING, AIR CONDITIONING
WORKS**

CLIENT

**THE PRINCIPAL/ CHIEF EXECUTIVE OFFICER,
KENYA UTALII COLLEGE
P.O BOX 31052 - 00600
NAIROBI.**

PROJECT MANAGER

**WORK SECRETARY
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743 - 00100
NAIROBI.**

ARCHITECT

**CHIEF ARCHITECT
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743 - 00100
NAIROBI.**

ELECTRICAL ENGINEER

**CHIEF ENGINEER ELECTRICAL
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743- 00100
NAIROBI.**

QUANTITY SURVEYOR

**CHIEF QUANTITY SURVEYOR
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743 - 00100
NAIROBI.**

STRUCTURAL ENGINEER

**CHIEF ENGINEER (STRUCTURAL)
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743 - 00100
NAIROBI.**

MECHANICAL ENGINEER

**CHIEF ENGINEER MECHANICAL (BS)
STATE DEPARTMENT FOR PUBLIC WORKS
P.O BOX 30743- 00100,
NAIROBI.**

FEBURUARY,2026

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PART 1: TENDERING PROCEDURES

TENDER EVALUATION CRITERIA

Note: The tenderer who shall be domestic subcontractor to the Main Contractor upon award of the tender, must comply with the following conditions and instructions failure to which the tender shall be rejected.

After tender opening, the tenders will be evaluated in **2 stages**, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

STAGE 1: PRELIMINARY EVALUATION

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

These conditions shall include the following:

- i) Company Certificate of incorporation/registration;
- ii) Current National Construction Authority Registration certificate (NCA 5 and above in Mechanical Engineering Services – Plumbing and Drainage, Ventilation, Water Tanks);
- iii) NCA current annual practicing license,
- iv) Valid Tax Compliance Certificate;
- v) Dully filled (in ink) Bills of quantities in the format provided, signed and stamped Summary Page

Note:

On compliance with Technical Specifications, bidders shall supply equipment /items which comply with the technical specifications set out in the bid document. In this regard, the bidder will be required to submit relevant technical brochure/catalogues with the tender document, highlighting (using a mark-pen or highlighter) the Catalogue Number/Model of the proposed items. Such brochure/catalogues should indicate comprehensive relevant data of the proposed equipment/items which should include but not limited to the following:

- (i) Standards of manufacture;
- (ii) Performance ratings/characteristics;
- (iii) Material of manufacture;
- (iv) Electrical power ratings; and
- (v) Any other necessary requirements so as to comply with the bid technical specifications.

The bid will then be analyzed, using the information in the technical brochures, to determine compliance with key technical specifications for the works/items as indicated in the tender document. Bidders not complying with **any** of the key Technical Schedule specifications shall be **Non-Responsive** while those meeting all the key technical specifications shall be **Responsive** (evaluation committee may add more key requirements from the bid technical specifications).

The tenderer shall also fill in the Technical Schedule as Specified in the tender document for Equipment's and items indicating the Country of Origin, Model/Make/Manufacturer and catalogue numbers of the Items/ Equipment they propose to supply.

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

STAGE 2 TECHNICAL EVALUATION

A) Assessment for eligibility

At this stage technical evaluation shall be done by comparing each tender to the technical requirements in the tender document

TABLE 1: Assessment for Eligibility

Item	Description					YES/NO
1.	Compliance with Technical Specifications <i>(Note: Tender Evaluation Committee to carryout analysis showing how decision on this requirement has been arrived at)</i>					
	Item	Filled Technical Schedule Y/N	Attached Relevant Catalogu e Y/N	Highlighted Relevant Model Y/N	Highlighted Model Meets Specifications Y/N	
	Borehole Pump (11m3/hr, 160m)					
	HDPE Pipe					
	Close Coupled WC					
	WC Flush Valve					
	PPR pipe					
	Ambulant Suite					
	Mirror					
	Hand Drier					
	Split Ac Unit (18000 BTU/HR)					
	Hose Reel Pumpset (3m3/hr, 40m)					

Item	Description					YES/NO
	Steel Plates (1.22m x 1.22m)					
2.	Qualification and Experience of Key Personnel					
	Academic Qualification and Experience (Provide evidence in form copies of Academic Certificates)					
	a) Director of the firm Holder of at least a diploma with 10 years’ experience in a relevant field					
	b) Project Manager/ Site Agent Holder of at least a degree with 5 years’ experience in a relevant field					
	c) At least 3 No artisans Holder of at least a certificate with 5 years’ experience in relevant Engineering field					
3.	Experience of the firm in similar services: (<i>Plumbing & Drainage Works and Borehole Works</i>) a) Provide Three (3No.) projects of similar nature, complexity or magnitude) between the Period 2020 – 2024: (Provide evidence in form of copies of Award letters, Completion Certificates, LSOs etc.)					
4.	Adequacy of tools and equipment (Provide evidence in form Log Books, Purchase Receipts, Lease Agreements etc.) The tenderer <i>must</i> show proof of ownership or leasing of the following equipment: - a) Relevant Transport (at least 1No.) - Means of transport b) Relevant Equipment (at least 3No.) - Has relevant equipment for work being tendered					
	QUALIFIED YES / NO					

Non compliance with the Technical Evaluation will render the Tenderer Non responsive and therefore unqualified for further evaluation:

PART II - WORKS REQUIREMENTS

GENERAL MECHANICAL SPECIFICATIONS

SECTION B
GENERAL MECHANICAL SPECIFICATION

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2.09	COLOUR CODING.....	12
2.10	WELDING... ..	13

GENERAL MECHANICAL SPECIFICATION

2.01 General

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

2.02 Quality of Materials

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

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

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

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

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

2.03 Regulations and Standards

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

- a) The Kenya Government Regulations.
- a) The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.
- b) The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.
- c) British Standard and Codes of Practice as published by the British Standards Institution (BSI)
- e) The Local Council By-laws.
- f) The Electricity Supply Authority By-laws.
- g) Local Authority By-laws.
- h) The Kenya Building Code Regulations.
- i) The Kenya Bureau of Standards

2.04 Electrical Requirements

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

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

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

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

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

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

2.05 Transport and Storage

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

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

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

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

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

2.06 Site Supervision

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

2.07 Installation

Installation of all special plant and equipment shall be carried out by the Sub-contractor

under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 2.03 of this Section.

2.08 **Testing**

2.08.1 **General**

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

2.08.2 **Material Tests**

All material for plant and equipment to be installed under this Sub-contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned. For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

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

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

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

2.08.3 **Manufactured Plant and Equipment – Work Tests**

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

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

The Engineer or his representative shall be entitled to witness such tests and inspections.

The cost of such tests and inspections shall be borne by the Sub-contractor.

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

Plant and equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Sub-contractor's own risk and should

the test and inspection certificates not be approved; new tests may be ordered by the Engineer at the Sub-contractor's expense.

2.08.4 Pressure Testing

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

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

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

2.08.5 Shop drawings

Before manufacture or Fabrication is commenced the contractor shall submit Two copies of detailed drawings of all water tanks, fire hose reel pump, water booster pump and any other equipment including their components showing all pertinent information including sizes, capacities, construction details, etc., as may be required to determine the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

2.09 Colour Coding

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

2.10 Welding

2.10.1 Preparation

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

2.10.2 Method

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

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

2.10.3 Welding Code and Construction

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

a) Pipe Welding

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

b) General Welding

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

2.10.4 Welders Qualifications

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

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

PARTICULAR SPECIFICATIONS
FOR
BOREHOLE DRILLING AND EQUIPPING

SECTION C

PARTICULAR SPECIFICATIONS FOR BOREHOLE DRILLING AND EQUIPPING

1. Purpose

The borehole to be drilled, constructed, test pumped and equipped with a submersible pump under this contract will be to provide water intended for stadium use. The maximum ground water abstraction permitted from the borehole shall be 90m³/day with the maximum abstraction period not exceeding 10 hours per day.

The execution of the works shall be in full compliance with relevant provisions of the Water Act. The proposed drilling site will be in ***Kenya Utalii College, Kilgoris Campus, Narok County***. The Contractor is deemed to have visited the site, and if unable to locate it or its details apply to the The Principal Secretary, State Department for Public Works, Ministry of Lands, Public Works, Housing And Urban Development.

No claims will be allowed for the traveling or other expenses, which may be incurred by the contractor's works.

2. Scope of the Work

The works included in the contract consist of: -

The drilling of one borehole of sufficient diameter to provide for a finished cased and screened borehole of 152mm diameter to the provisional depth of about 210metres.

The provision and installation of steel casings, steel screens, and gravel pack, borehole cap, together with cementation works necessary.

The collection of formation samples at 2-meter interval of drilling progress to the bottom and also water sample at every aquifer struck and at the beginning and at the end of test pumping operation for both chemical and biological analysis.

NOTE: - These depths and any other works can be varied by the Engineer depending on the actual conditions encountered in the process of executing of the works.

The supply and installation of 1No. Submersible borehole pump, complete with the necessary controls.

Connection of the water from the borehole to the water storage tank.

3. Local Conditions

The borehole will be drilled, constructed and test pumped in both unconsolidated and consolidated formation and the contractor must be prepared to carry out the required work through any type of formation in the project area.

4. Borehole Data

Total depth – 210m of 200mm diameter from surface (Provisional)

Casings to be 152mm diameter and screened depth to be determined after borehole construction.

Static water level – To be determined

Dynamic water level – To be determined

Recommended pumping rate – 11m³/hr (for the purpose of quotation but to be confirmed after testing)

(Pump) setting level – 160m (for the purpose of quotation but to be confirmed after testing)

Total dynamic head to be determined on site.

5. Casings

Casings to be used as part of the permanent borehole structure shall be black steel pipe conforming to BS 1387 and having nominal diameter of 152mm.

If any casing other than that to be left permanently in the borehole is required temporarily for execution of work, it shall be supplied by the contractor at the borehole free of charge.

6. Screens

The screens to be furnished and installed shall be of the pipe size variety having a minimum nominal diameter of 152mm and can be fabricated in three-meter lengths. The screens shall be of continuous slot type and constructed entirely of stainless steel. The screen shall have slot size opening of 1.4m.

Grouting

Grouting shall be done by either cement or bentonite to seal off unwanted upper aquifers under direction of the Engineer.

8. Construction Method

The borehole to be constructed shall be drilled by cable-tool percussion method or the combination air/ hydraulic rotary method. The method of drilling shall be left to the discretion of the Contractor. After drilling to the final depth the Contractor shall proceed to insert permanent casings and screens as directed by the Engineer.

9. Gravel Pack

If filter gravel will be necessary, it will consist of durable, naturally rounded quartzitic particles properly washed and cleaned prior to insertion in the borehole. The gravel shall be introduced in the annular space between the wall of the borehole and the 152mm casing from the bottom to about 2 meters below surface.

The final casing and screens must be centralized before gravel back and the Contractor must supply suitable equipment for lowering of gravel pack.

10. Cementation

The space above the gravel pack shall be grouted with a mix of one part of cement to two parts of sand and two parts of ballast, in order of 1:2:2 concrete may be used near the surface to form an annular plug around the casing of dimensions 1.0 x 1.0 x 1.0 meters. There shall be 2000mm diameter concrete plinth on top of the borehole and shall be constructed as shall be directed by the Project Engineer and the Structural Engineer.

Any other cementation works to be done as directed by the Project Engineer.

11. Development

The Contractor shall furnish all necessary pumps, compressor, plungers, bailing or other needed equipment and shall develop the borehole by such approved methods as shall be necessary to give the maximum yield of water per increment of drawdown and extract from the formation of maximum practical quality of such sands as may, during the life of the borehole, be drawn through the screens when the borehole is operating under maximum conditions of draw down.

12. Test Pumping

After the borehole has been completed, constructed and developed, the subcontractor shall make necessary arrangements for conducting a 24-hour continuous test pumping up to a maximum of 30hr and 12-hour recovery test under the supervision of the Engineer. Where the Engineer or his representative cannot be present on such pumping test, the Contractor may continue without him keeping accurate records of the test in terms of discharge and drawn down

but must seek permission from the Project Engineer. Should the Contractor fail to keep such records, the Engineer shall order the test to be repeated at no extra cost.

13. Sample Formation

The Contractor shall keep an accurate record of the top and bottom of each stratum penetrated and shall save and deliver to the Engineer a sample of materials taken from each 1m of formation, or at every change of formation and at such other intervals as may be ordered by the Engineer. Those samples shall be placed in approved Contractor supplied containers with labels which indicate the depth at which the sample was obtained.

14. Water Samples

Water samples shall be collected at every water struck while drilling and also shall be collected at the start of every test and toward the end of the test in a three-litre sterilized plastic container for both chemical and bacteriological analysis and submitted in a competent laboratory for analysis.

15. Reports

The contractor shall submit to the Engineer daily progress reports showing: -

The depth each day indicating drilling in meters per hour with comments on degree of hardness of materials being penetrated.

Depth at which each water bearing zone is encountered and the rise and fall of water level in different formations.

The full details of work carried out in respect of operations which are paid for at hourly rate.

The full details of the number of hours worked each day.

16. Cessation of Work

The Engineer reserves the rights to stop drilling operations if in his opinion: -

A sufficient supply of water has been obtained.

The work is not being carried out in a satisfactory manner or

Further drilling is unlikely to be advantageous or for any other reason

In this event, payment shall be made only for the amount of work done up to the date of stoppage.

17. Retention Time

Waiting time shall be such time as the whole of the drilling equipment and staff is on site and is available for use, and all the operation connected with the Contract are at a standstill due to the absence of instructions from the Engineer.

The request for the necessary instructions and/or guidance to the Project Manager by the Contractor shall be within 48 hours, provided that the Project Manager does not delay the said instructions/or guidance to the Contractor unnecessarily.

All claims for waiting time shall be made on the basis of a normal 8-hour day, including Sundays and Public holidays.

18. Supply and Installation of Pump

The Contractor shall supply and install: -

One electric submersible pump which will conform to the specification stated, for operation on 415 volts, 3-phase.

All necessary electrical equipment for the pump such as control panel with starter, ammeter, single phasing cut-out, low voltage cut-out and all necessary cables for connection.

Suitable diameter Galvanized Steel pipe class 'C' to carry water to the surface/ to water storage tank

Low level cut-out switch

Airline 20mm galvanized steel pipe for water level measurements

Pressure gauge

The gate valves, non-return valves before the master meter

Master meter for measuring the water from the borehole.

In addition, the Contractor shall carry out 24 hours test run at the completion of the works.

This test has to be certified by the Project Manager.

Note on Pump Installation

The Contractor shall make the necessary electrical connections and include in his prices all cable, starter-panel, switches etc. required to put the pump in operation while tendering for this part of the document and return it with full description literature and performance curves for the

proposed equipment together with the tender for drilling works.

The installation of the submersible pump into the borehole shall be done immediately the borehole drilling is completed, test pumped and water analysed for suitability for human consumption.

The final production pump to be installed in the newly drilled borehole shall be determined and installed as per the actual conditions encountered on completion of the drilling works. Hence the specifications given under the section of 'borehole data' are only for the purpose of quotation. After establishing the actual conditions of the drilled borehole, only the engineer's approved submersible pump shall be installed.

19. Electrical works

It shall be the responsibility of the Contractor to provide all electrical wiring between all items of his Contract to ensure the correct function of his equipment. The Contractor's electrical works shall start from the nearest electrical isolator which will be supplied by others within five metres.

PARTICULAR SPECIFICATIONS
FOR
PLUMBING AND DRAINAGE

SECTION D

PARTICULAR PLUMBING AND DRAINAGE SPECIFICATIONS

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GENERAL

SITE LOCATION

The site of the proposed works is at **Kenya Utalii College, Kilgoris Campus– Narok County**

SCOPE OF WORKS

The works to be carried out under this sub-contract comprise Supply, installation, testing and commissioning of the following: -

a) Plumbing and Drainage Installation works

BROCHURES FOR DEVICES

For consideration and qualification tenderers shall, at their own cost, provide colored manufacturer's brochures detailing technical literature and specifications where applicable

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

3.2 MATERIALS AND STANDARDS

3.2.1 Pipework and Fittings

Pipework materials are to be used as follows:

i. Galvanized Steel Pipework

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

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

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

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

ii. Copper Tubing

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

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

iii. CPVC piping

PVC (polyvinyl chloride) that has been chlorinated via a free radical chlorination reaction. CPVC is produced by adding chlorine to PVC in a water slurry or fluidized bed chlorination process. The chlorination reaction is initiated by ultraviolet light. The chlorinated PVC is compounded with ingredients necessary for the desired properties for further processing. The chlorine added to PVC gives CPVC higher temperature performance and improved fire and corrosion resistance.

Should conform to ASTM D2846 standard and ASTM F441 Standard for chlorinated poly vinyl chloride pipes.

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

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

iv. PPR- piping

Polypropylene Random Co-Polymer (PP-R) are made of very light material with excellent mechanical properties.

They are manufactured to DN 8077 or BS 6920 part 2 &3. To interface with other fittings, PP-R threaded male or female with brass inserts complying with BS 6920 for use on drinking water are used. These fittings are injection molded and threads are of BS parallel. The thermal conductivity of the pipes and fittings shall not exceed 0,24 W/mK at 20°C for water. All fittings shall be in accordance with the description in the prescribed standards. Before commissioning of pipe works, pressure testing shall be done as per DIN 1988 part 2 or BS 6700.

b) P.V.C. (Hard) Pressure Pipes and Fittings

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

Jointing

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

Testing

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

due to surge.

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

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

The pipes, traps and fittings shall be in accordance with the relevant British Standards, including B.S. 3943, and fixed generally in accordance with manufacturer's instructions and B.S. 5572: 1978. Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978.

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

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

Expansion joints shall be provided as indicated.

Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) **PVC Soil System**

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

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

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

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

Suitable supporting brackets and pipe clips shall be provided at maximum of one meter centers.

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

3.2.2 **Valves**

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

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

b) **Gate Valves**

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

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

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

the site of works.

c) **Globe Valves**

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

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

3.2.3 **Waste Fitment Traps**

a) **Standard and Deep Seal P & S Traps**

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

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

b) **Anti-Syphon Traps**

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

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

3.2.4 **Pipe Supports**

a) **General**

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

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

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

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

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

b) **Steel and Copper Pipes and Tubes**

Pipe runs shall be secured by clips connected to pipeangers, wall brackets, or trapeze type supports.

'U' bolts shall not be used as a substitute for pipe clips without the prior approval of the Engineer.

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

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

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

C) **Expansion Joints and Anchors**

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

Where piping anchors are supplied, they shall be fixed to the main structure only.

Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.

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

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

3.2.5 **Sanitary Appliances**

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

3.2.6 **Pipe Sleeves**

Main runs of pipework are to be fitted with sleeves where they pass through walls and

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

3.3 **INSTALLATION**

3.3.1 **General**

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

3.3.2 **Above Ground Installation**

a) **Water Services**

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

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

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

Valves and other user equipment shall be installed with adequate access for operation and maintenance.

Where valves and other operational equipment are unavoidably installed beyond normal reach or in such

Position as to be difficult to reach from a small step ladder, extension spindles with floor or wall pedestals shall be provided.

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

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant.

All screwed joints to piping and fittings shall be made with P.T.F.E. tape.

The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time.

A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

Sanitary Services

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

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

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

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

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

The open end of each stack shall be fitted with a plastic coated or galvanized steel wire guard. Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

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

1.1. TESTING AND INSPECTION

3.4.1 Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

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

If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer.

During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.

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

b) Above Ground Soil Waste and Ventilation System

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

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

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

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

3.4.2 Site Test – Performance

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

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

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

- Apply a coating of suitable filler until the canvas weave disappears and allow to dry.
- Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts and above false ceiling which after erection are not visible from the corridors of rooms, shall be covered with a reinforced aluminium foil finish banded in colours to be approved by the Engineer. In all respects, unless otherwise stated, the hot and cold-water installation shall be carried out in accordance with the best standard of modern practice and described in C.P.342 and C.P.310 respectively to the approval of the Engineer.

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

Pressure gauges should be recalibrated before the tests.

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

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

3.5: STERILISATION OF COLD-WATER SYSTEM

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

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

PARTICULAR SPECIFICATION
FOR
LOW AND HIGH LEVEL WATER TANKS

SECTION E

PARTICULAR SPECIFICATION FOR THE DESIGN SUPPLY AND ERECTION OF WATER STORAGE TANKS AND BOOSTER PUMPS

1.00 DESCRIPTION OF SITE

The contractor is deemed to have visited the site and if unable to locate it or its details apply to the Principal Secretary, State Department for Public Works, Ngong Road, Nairobi.

No claims will be allowed for the traveling or other expenses, which may be incurred by the sub-contractor's works. However, the sub-contractor may allow that he may have to, during contract time, do part of the works and therefore three visits may be catered for.

1.01 SCOPE OF CONTRACT

The work to be carried out under, this sub-contract comprises the designs, manufacture, supply, delivery, erection, together with testing and commissioning of Water tanks as here-in specified and shown on the contract drawings.

All work shall be performed in straightforward manner by competent workmen under skilled supervision to the entire satisfaction of the project manager.

1.02 COMPLIANCE WITH REGULATIONS.

The sub-contractor shall comply in all respects to the provisional and regulations of the By-laws of the Local Authority, Kenya Building Code, as 449 Part B5 1964. BS 4211, CP2 chapters V part 1 and 2 MOPW Structural steel work specification (1973) code of practice for design and construction of buildings and structures in Relation to Earthquake (1972) wherever applicable to the contract works.

The Ministry of Roads and Public Works are responsible for the design of the foundation subject to giving approval of the sub-contractor's design of the tower and due allowance should be given for this work to be carried out in sub-contractor programmed of works. The main contractor is responsible for the construction of the foundation in accordance to approved designs.

1.03 STRUCTURAL DRAWINGS AND CALCULATIONS

2No copies of general arrangement and fabrication drawings properly dimensioned and detailed showing the whole tower and its accessories together with 2No copies of the structural calculations complying with all the relevant BS and CP are to be submitted for approval prior to the commencement of the work.

The calculation is to indicate the maximum downward and upward loads on the foundations for the Ministry of Roads and Public Works Structural Department to design the foundation.

2.00 STEEL WATER TANKS

- a) The tanks shall be pressed steel sectional tanks complying in all respects to BS 1564 Types 1 or 2. The jointing materials shall be non-toxic and non-insulable to water and the tank cover shall be joined throughout the tank top ensuring that the joint is both water proof and dust proof.

- b) Cover framing and members shall be designed to withstand super imposed loading complying with the requirement complying with the requirements of CP2 Chapter V part 1 and BS 149 Part 2.
- c) All internal stays are to be provided as required by the tank manufacture and the Sub-contractor shall be responsible for ensuring the stays are adequate in number and position and properly tightened. These are to be manufactured from steel to BS 4360, Grade 43 A.
- d) All Bolts, nuts and washers used in the construction should comply with BS 4190. The contractor to allow in his pricing, for a complete set of spanners, spare bolts and Washers for maintenance purposes.
- e) Access manhole with hinged cover together with a filtered vent outlet shall be installed.
- f) The Sub-contractor is to notify the Project Manager of the type of panel he is proposing to use and the manufacturer who is to be approved.
- g) The inflow and outflow connection shall be as shown on the drawing.
- h) The outflow supply pipe shall be at least 50mm above the tank bottom while the inflow pipe shall be 200mm below the tank rim. The overflow pipe shall be about 1000mm long,, away from the tank. The drain pipe shall be at the lowest part of the tank.

2.01 LOW LEVEL TANK

Tank Capacity, 131,437 Liters (34722 gallons)

Preferred dimensions:

- 6.1 metres length
- 6.1metres width
- 3.66 metres height

Plate thickness- 6mm

Tank to be supplied completed with:-

- a) - 40 mm diameter inflow connection
- b) - 75mm diameter outflow connections
- c) – 100 mm diameter washout pipe
- d) – 100 mm diameter overflow pipe
- e) Electrode pair fully wired.
- f) 2No. water level indicator

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- g) 1No. cover and manhole
- h) 1No. internal ladder
- i) 1No. external ladder

The Structural Department will give details of foundations and R.C walls for the low level tank.

The base is to be cast by the Main Contractor unless otherwise instructed by the Project Manager.

2.02 HIGH LEVEL TANK

Tank Capacity, 90,000 liters (23776 gallons).

Preferred Dimensions

- 6.1 metres length
- 6.1 metres width
- 2.44 metres height

plate thickness: 6mm

Height from ground level to the underside of the tank will be 18 metres

Tank to be supplied with:

1. – 63 mm diameter inflow connection
2. -100 mm diameter outflow connection
3. – 75 mm diameter washout pipe
4. – 100 mm diameter overflow pipe
5. 1No. level regulator
6. 2No. Water level indicator
7. 1No. steel cover and manhole
8. 1No. internal ladder
9. 1No. external ladder to ground level with cage
10. 1No. perimeter walkway and handrail

2.03 PIPEWORK

The sub-contractor shall supply and fix all pipe work and fitting up to ground level as detailed on the drawing or in this specification. All pipe work shall be adequately supported and secured to the tank structure. The washout pipe will have a bend leading to a reasonable place where the drainage will not interfere with the structure.

The inflow outflow and washout pipes shall be fixed against the tower structure so as to facilitate fixing and good support.

The following pipework shall be used depending on the condition:-

- (a) Medium Grade Galvanized steel and must conform with BS 1987 1967 class 'B'
- (b) PP-R pipe work to be manufactured in accordance with the current European standards i.e DIN 8077 and DIN 8078 for PN 20 tubing, with metallic joints to DIN 8076, joints and fittings for tubing to DIN 16962 .

The sub-contractor shall provide high pressure ball valve capable of coping with the maximum

area's local water supply pressure.

2.04 Access Ladder

Internal ladder shall be supplied for the tank and shall be fixed adjacent at the manhole but easily removable for cleaning the inside of the tank (i.e hooked connection).

The tanks shall be provided with an external ladder leading to the manhole and complying to BS 4211. The stringers shall be parallel, minimum width 15 inches apart and of flat bar of minimum dimensions 1½" by 2/8 inches. The rugs shall be of round bars not less than ¾ inches diameter and the distance between centers shall be 9 – 10 inches. The external ladder shall be fitted with safety hoofs made to conform with BS 4211.

2.05 Platform

The tower is to have a periphery walkway at tank level having minimum width of 600mm clear between the edge of the tank and the inside of the protective safety handrail. The platform is to be provided with a steel chequered plate floor of similar approved and to be completely sealed so as not to allow anybody or items such as bolts and spanners to fall on persons on the ground.

All loading for the design of such platform are to be provided in the structural calculations.

2.06 Painting

The tank shall be painted inside with one coat of bituminous non-toxic paint (or any other equivalent and approved) and on the outside with coat of primer before erection. After erection, the tank inside shall be painted with two coats of aluminium paint. The other structures shall be cleaned and painted one coat lead oxide or red lead before erection and two coats of aluminium paints after erection.

All the painting shall be approved by the Engineer.

2.07 Erection

The sub-contractor shall erect the tank complete, on foundation prepared and designed by others and with all necessary pipes, ladders, tower etc. as listed herein and shown on the drawing. The main contractor shall prepare the foundation to the sub-contractor's and State Department for Public Works Structural Department's details. The main contractor shall also concrete or ground in the HD bolts to the sub-contractor's requirements.

3.0 POLYETHYLENE WATER STORAGE TANKS

- (a) The tanks are made of graded polyethylene that has been effectively stabilized against the harmful effects of sunlight. This being achieved by incorporating more than 2% carbon black into the melt.
- (b) The tank to manufactured as per the relevant Kenyan Standard.

4.0. Booster pumps

2 No. electrically operated pumps capable of pumping

- 4.2 Litres per second (- 66 gallons per minute) of water against – 30 metres static head shall be installed. The pumps to be as Grundfos CR 15-3 or equal and approved.

Each pump shall be directly driven by a three phase motor, the pump motor being mounted on a common base.

Pump casing shall be manufactured from good quality cast iron and impellers, shafts and other material in contact with water shall be of corrosion resistant metal. The pumps shall be suitable for pumping filtered water treated for human consumption.

The motor shall be completely protected against possible damage due to entry of water, dust etc. It shall be fitted with glands for the entry of PVC armoured cables with overall PVC sheath. The completed cable connection to the motor terminal box shall be proof against ingress of water or dust.

The pump shall be mounted on concrete plinth which shall be constructed by the main contractor in accordance with specifications from the sub-contractor.

Holes for holding down bolts shall be left in concrete and after the concrete has cured the pumps shall be placed in position and bolts grouted into position. A grout shall be floated under pump motor base to ensure an even surface for the pump to rest upon.

5.0 Electrical works

It shall be the responsibility of the sub-contractor to provide all electrical wiring between all items of his sub-contract works to ensure the correct functioning of his equipment. The sub-contractor's electric works shall start from nearest electrical isolator.

6.0 Control panel

The sub-contractor shall provide an electric control panel and shall be responsible for its fixing and satisfactory operation. The panel shall be fabricated from minimum thickness 1.2mm steel sheet and finished grey stoved enamel.

The panel shall be wall mounted with a removable hinged front access panel. Motor control switch gear shall be of approved type. The panel shall have an integral isolator.

Pump changeover shall be automatic alternating after each duty cycle. A green 'running' red 'trip' lamp shall be provided for each pump. The control system (float switches etc) shall be energized when a pump is started.

The motor system shall be wired so that they operate only automatically as called for by the switches except that starter push button shall be connected so as to enable the pumps to be started and run and cease to run when the push button is allowed to its normal position.

An emergency stop button shall be located adjacent to each pump.

The level regulator shall be wired and set in such a manner that the duty pumps shall be called to

start when the high level tank is full.

The electrode in the low level tank shall override instructions from high level regulator and stop when the water is approximately 600mm high.

Where a three-phase motor is used, a single phasing protector shall be provided if the motor does not have one.

A phase failure relay shall be installed in 3 phase – operated pumps.

7.0 Testing

Testing shall be done by filling the tank with water after erection. The water will be from the local supply and the main contractor shall apply from the Authority for connection.

In cases where water is already on site and being used by the client, the contractor will make necessary arrangements and reimburse the client amount equivalent to volume of water used.

Testing shall be witnessed by the Project Manager or his representative.

8.0 Guarantee

The sub-contractor shall guarantee the tanks against leaks, and the tower for a period of (12) months from the testing date. Any damage incurred due to bad workmanship shall be made good by the contractor.

9.0 SCHEDULES

Introduction

The tenderer shall complete all schedules. The schedules shall be read in conjunction with the specification. The GRAND TOTAL of prices in the main summary of prices schedule shall be deemed to have been included in another part of section.

Note:-

The list of recommended initial spare parts prices are to be submitted separately on tenderer's own paper. The spares prices are not to be included in the GRAND TOTAL or prices as the spares are an extra item only to be purchased if and when convenient to the Government of Kenya.

All prices shall be in Kenya shillings and shall be inclusive of all taxes and duties current at the time of tendering.

PARTICULAR SPECIFICATIONS
FOR
PORTABLE FIRE EXTINGUISHER

SECTION F

PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER.

1.01 INTRODUCTION

The general specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers.

The contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the designs but which are necessary for the completion and satisfactory functioning of the works.

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

1.02 WATER/CO₂ EXTINGUISHERS

These shall be 9-litre water filled CO₂ cartridge operated portable fire extinguishers and shall comply with B.S. 401 or B.S. 1288.or KSISO7165:1999 and to the requirements of B.S.1004. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

- a)Method of operation.
- b) The words 'WATER TYPE' (GAS PRESSURE) in prominent letters.
- c) Name and address of the manufacturer or responsible vendor.
- d) The nominal charge of the liquid in imperial gallons and litres.
- e) The liquid level to which the extinguisher is to be charged.
- f) The year of manufacture.
- g) A declaration to the effect that the extinguisher has been tested to a pressure of 24.1 bar (350 p.s.i.).
- h) The number of British Standard 'B.S' 1004 or B.S. 1449.

1.03 PORTABLE CARBON DIOXIDE FIRE EXTINGUISHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with B.S. 1004.or KS ISO7165:1999

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the following British Standards; B.S. 401 or B.S. 1288. (EN3:1996)

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

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

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

The following markings shall be applied to the extinguishers:-

The words “Carbon Dioxide Fire Extinguisher” and to include the appropriate nominal gas content.

- a) Method of operation.
- b) The words “Re-charge immediately after use”.
- c) Instructions for periodic checking.
- d) The number of the British Standard B.S. 3326: 1960 or B.S. 5423.
- e) The manufacturers name or identification markings

1.04 DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS 1449 or KS ISO7165:1999 and BS 1004. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470: 1972(EN3: 1996) and shall be suitably protected against corrosion.

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

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

Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information

- a) The word “Dry Powder Fire Extinguisher”

- b) Method of operation in prominent letters.
- c) The working pressure and the weight of the powder charge in Kilogramme.
- d) Manufacturers name or identification mark
- e) The words “RECHARGE AFTER USE” if rechargeable type.
- f) Instructions to regularly check the weight of the pressure container (gas Cartridge) or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.
- g) The year of manufacture.
- h) The Pressure to which the extinguisher was tested.
- i) The number of this British Standard BS 3465 or BS 5423: 1977.
- j) When appropriate complete instructions for charging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

1.05 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. EN 3/BS 1449 and BS 1004 with the following specifications:-

Cylinder: to B.S. 1449 or KSISO7165:1999

Necking: to be 76mm outside diameter steel EN 3A 23/4 X 8TPI female thread.

Head cap: to be plastic moulding acetyl resin.

CO2 Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

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

2.07 FIRE BLANKET

The fire blanket shall be made from cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm and shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket to BS 1721.

2.08 **SIGNAGE -FIRE EXIT SIGN**

Proceed and procure and install as below;

Print Fire Exit signs on the Perspex plate, 5mm thick, with white colour background as follows:-

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

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

2.09 **SIGNAGE -FIRE INSTRUCTION NOTICE**

Print fire instruction on the Perspex plate, 5mm thick with White Colour Background measuring 510mm lengthx380mm width as follows;

FIRE INSTRUCTION NOTICE

In the event of fire;

- (1) Raise the alarm by actuating the nearest alarm system point, Sound Siren /gong or Shout Fire
- (2) Attack fire using the nearest available equipment
- (3) Call fire Brigade 0800722984 or Police 999 and inform your switchboard (PABX) Operator
- (4) Ensure that all personnel not involved in fire fighting evacuation to safety outside the building.
- (5) Close but DO NOT LOCK doors behind as you leave.
- (6) Evacuate the building using stairs or fire escapes do not use Lifts/escalators walk calmly. Avoid panic. Do not stop or return for personal belongings.
- (7) Assemble as per floor outside the building for roll call.

PARTICULAR SPECIFICATION
FOR
HOSE REEL SYSTEM

SECTION G

PARTICULAR SPECIFICATIONS FOR THE SUPPLY, INSTALLATION AND COMMISSIONING OF THE HOSEREEL SYSTEM

1.01 Introduction

The general specification details and the requirements for the supply, installation and commissioning of the hose reel installation. The hose reel installation shall comply in all respects to the requirements set out in C.O.P. 5306 PART 1: 1976, AND BS 5274.

1.02 Climatic Conditions

- a) The following climatic condition apply at the site of the works and all Plant equipment, apparatus, materials and installations shall be Suitable for these conditions.
- b) Where not otherwise stated, all ratings of plant, equipment apparatus shall be interpreted as site rating and NOT sea level or other ratings.
- c) Maximum temperature 27°C
- d) Minimum Temperature 11°C
- e) Average Temperature 18°C – 24°C
- f) Range of Relative Humidity 50- 55%
- g) Altitude 1827 M
- h) Latitude 35.877064 ° S
- i) Longitude -1.087543 ° E
- j) Rainfall extremely heavy during March period of the year.

4.03 Fire Hosereel Pumps

The fire pumpset shall be a fully automatic package unit. The unit shall consist of pumps of appropriate duty at a given head

The complete specification of the package pump set to be as follows: -

a) PUMPS

Two identical centrifugal pumps, one duty, the other standby mounted on a common base frame together with the other components. Each pump shall have a duty of 3m³/hr. against a 40m head as 'DAYLIFF DFS2 DB 2-50' series or approved equivalent.

b) **PUMP MATERIALS**

Suction and Discharge Casing to be made Grey Iron. Shafts, conveyors, diffusers, impellers and the external elements made from Stainless Steel.

c) **MOTORS**

The pump is coupled to a totally enclosed, fan-cooled DAYLIFF single-phase squirrel-cage motor with built-in thermal overload protection. When connected to a power outlet fuse or MCB protection must be provided.

d) **MECHANICAL SEAL**

A mechanical seal to be installed to provide tight sealing.

e) **BASEFRAME**

Welded fabrication from Mild Steel sections. With facility for lifting unit.

f) **PIPEWOK**

Medium gauge Galvanized Pipework to B.S. 1387 and Galvanized fittings to B.S. 143/1256. All Pipework to terminate with B.S 4504 NP. 16 Flanges. Flexible connections to be affixed to suction and discharge connections.

g) **VALVE**

Pump Isolating Valves, Butterfly valve to B.S. 5155 with Cast Iron nylon coated disc and black airtrile liner. Non-Return Valve vertical lift type to be manufactured from Cast Iron with nitrile seal.

h) **CONTROL PANEL**

Standard Panel cubicle to be manufactured to IP. 55 standards, containing Starters of appropriate ratings

Panel to include power On Light, Run and Trip Lights, Hand/Off/ Auto switches, duty pump selector switch, disconnect switch and line and control circuit fuses, Switches to conform to IP. 54.

Safety features to include 24 volts low voltage controls except for starter coils. Panel mounted on vibration isolators to minimize vibration to electrical equipment.

i) **PRESSURE SWITCH:**

Differential adjustment type switch manufactured to IP.14 standards.

Multi-pump sequencing control to be affected from a single pressure instrument, utilizing control circuitry specially for pressure boosting applications.

- j) 4" Dial Bottom Connection to B.S. 1780 calibrated in Bars and KPa..

K) MEMBRANE TANK

Fabricated Steel construction housing a natural rubber diaphragm, ideally suited for drinking water applications. Precharged with Nitrogen to correct pressure at test stage.

The panel shall incorporate HRC main fuses and thermal overloads for the pump motors, timer control unit for minimum run period, start relay incorporating timing element for standby pump delay and one set of voltage free changeover contacts to give remote alarm/indication for the indicator lights motioned.

L) Pipework

The Pipework for the hose reel installation shall be galvanized wrought steel tubing "Medium" Grade Class "B" to BS 1387:1967 with pipe threads to BS 21.

M) Pipe Fittings

The pipe fittings shall be wrought steel pipe fittings welded or seamless fittings conforming to BS 1740 Part 1971 or malleable iron fittings to BS 143.

All changes in direction will be standard bends or long radius fittings. No. elbows will be permitted.

N) Flanges

The flanges shall comply with BS 4504 : 1969. All flanges shall comply to a nominal pressure rating of 16 bar (P.N. 16) and shall be of either cast iron or steel.

O) Gaskets

The gaskets for the use with flanges to BS 4304 : 1969 shall comply with BS 4865 part 1 : 1072 for pressure up to and not exceeding 64 bar.

P) Non-return Valves

The non-return valves up to and including 80mm diameter shall be to BS 5153 : 1974 with flanges to BS 4504 P.N. 16.

Q) Gate Valves

The gate valves upto and including 80mm shall be as Crane NO. D151 non-rising stem and wedge disc to BS 21 taper thread.

R) Sleeves

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

S) Floor and ceiling plates

Where pipe pass through floors, walls or ceilings, floor, wall and ceiling plates shall be secured around the pipe. The plates shall be of stainless steel construction and will serve no other purpose than to present a net finish, to the exposed installation.

T) Hosereels

The hosereels to the installation shall consist of recess and no-recess automatic hosereels.

All the above hosereels shall comply with BS 5274 : 1976 and BS 3169 : 1970 and is to requirements C.P. 5306 Part I : 1976.

The hosereels shall be supplied and installed complete with first-aid non-kinking hose 30 metres long, with nylon spray/jet/shut-off nozzle fitted. A screw down chrome plated globe valve to BS 1010 to the inlet to the reel.

The prifice to the nozzle is to be not less than 4.3 mm to maintain a minimum flow of 0.4L/s to the jet.

U) Earthing

The hosereel installation shall be electrically earthed by a direct earth connection.

V) Finish Painting

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

W) Testing and Commissioning

The hosereel system is to be flushed out before testing to ensure that no builders debris has entered the system. The system is to be then tested to one and half times the working pressure of the installation to the approval of the Engineer. Simulated fault condition of the pumping equipment, is to be carried out before acceptance of the system by the Engineer and Architect.

X) Instruction Period

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

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

PARTICULAR SPECIFICATION
FOR
AIR CONDITIONING INSTALLATIONS

PARTICULAR SPECIFICATIONS

CLAUSE No. PAGE	DESCRIPTION
3.1: General.....	C-1
3.2: Scope of Works.....	C- 1
3.3: Climate Conditions	C-1
3.4: Data Systems	C-1
3.5: Split/ VRF Air Conditioning System.....	C-2
3.6: In door Unit.....	C-3
3.7: Outdoor Unit.....	C-4
3.8: Refrigeration pipework.....	C-4 to C-5

PARTICULAR SPECIFICATIONS FOR AIR CONDITIONING SYSTEMS

SCOPE OF WORKS

The works to be carried out comprises of the Supply, Delivery, Installation, setting to work, Testing and commissioning of all materials and equipment called for in this specification and/or shown in the contract drawings.

The tenderer shall include for all appurtenances and appliances not particularly called for in this specification or on the contract drawings, but which are necessary for the completion and satisfactory functioning of the system.

No claim for extra payment shall be accepted from the contractor for non-compliance with the above requirements.

If in the opinion of the tenderer there exists difference between the specification and the contract drawings, the tenderer shall clarify the difference with the engineer before tendering. The Works to be installed under the contract shall comply with the State Department for Public Works requirements for contract works under “GENERAL MECHANICAL SPECIFICATION”.

CLIMATIC CONDITIONS

The following climatic conditions apply at the sites of the works and all materials and equipment used shall be suitable for these conditions: -

PARAMETERS	(CONDITIONS) KILGORIS TOWN
Maximum mean outdoor dry bulb Temperature, to	28°C
Minimum Temperature	11.5°C
Relative Humidity	42% - 94%
Altitude	1789m
Longitude	34° 8' 790' E
Latitude	1. ° 0063' S
Max. solar radiation occurs during the month of February.	

SYSTEMS DESIGN DATA

The air-conditioning systems are designed to maintain the following internal conditions with ambient conditions of 28°C DB and 55% RH

Internal Temperature: $23 \pm 1^\circ\text{C}$

Relative Humidity: $50 \pm 10\%$

The equipment described here under covers the specific requirements of equipment to be used for this contractor work and shall be used in conjunction with the accompanying contract drawings.

It shall be deemed that the tenderer has based his tender on plant and equipment which is equal in performance to that stated within the specification.

SPLIT AIR CONDITIONING SYSTEM

This shall be installed in the

The system shall be complete with.

Indoor wall mounted cooling unit (Evaporator)

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

The evaporator unit shall be of capacity as specified under the specified conditions, and shall be of the dry expansion type, and preferably of similar make as that of the condensing units. The unit shall be cassette type, high wall mounted, or ceiling mounted as will be specified by the Engineer. The coil shall be manufactured from seamless copper tubing with aluminum fins mechanically bonded to the tubes.

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

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

The Unit shall be complete with the following:

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

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

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

Outdoor Units.

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

The unit shall be connected to power provided by others. It shall also be connected to refrigerant piping and control wiring. It shall have adequate charge of refrigerator oil and R 410 A refrigerant. The air conditioning units shall be as York or approved equivalent and shall be provided with approved mounting brackets.

The Unit shall be complete with the following:

- Casing constructed of 18-gauge zinc coated mild steel, zinc phosphate bonderized, coated with oven baked polyester paint and weatherized for outdoor installation. It shall have weep holes on base to allow ease of drainage.
- Hermetically sealed compressor mounted to unit base with rubber isolated hold down bolts, uniform in oil & pressures and shall have internal overload protection.
- Refrigeration pipe work with flared connections
- Distributor with refrigeration control
- Fixing brackets/wall mounting kit/ceiling mounting kit
- Heat exchanger capacity controls.
- Precise inverter frequency controls
- New oil returning system (refrigerant oil control system)
- High- and low-pressure units
- An innovation of installation with automatic address settings for indoor units with twin multiplex transmission system of no polarity.
- Condensate discharge pipe work
- Service access valves.
- Voltage Surge Protector

Refrigeration Piping

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

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

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

Testing and Commissioning Standards

The system shall be balanced to the satisfaction of the project engineer. It shall be run under complete automatic controls for 72 hours' continuous operation to ascertain any faults in operation before acceptance and handover.

Any faults discovered during this time shall be corrected and a further test or tests of 72 hours' duration shall be carried out to ensure satisfactory operation, all at the expenses of the contractor. All accessories/equipment have to tested for capacity, efficiency, leakages, and other human errors and shall meet standards and specifications.

As-Built-Drawings and maintenance manuals

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

Training

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

TESTING & COMMISSIONING

All the pipe work and connections herein described shall be tested in the presence of the Engineer and to the hydraulic pressure the Engineer deems satisfactory and for a minimum period of 1 hour. These tests must be before any insulation work is undertaken or any pipe work is finally enclosed in any ducts, etc. and due allowance is to be made in the tender for these tests.

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

ELECTRICAL WORKS

The tenderer shall include for supply, installation and commissioning of all starters, control apparatus, control panels and interconnecting wiring and conduits for equipment that the tenderer is supplying.

Power points shall be provided within 5 meters of the equipment installation point and the tenderer shall connect his equipment from this point.

BUILDERS WORKS

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

BILLS OF QUANTITIES

SECTION L

STATEMENT OF COMPLIANCE

- a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.
- b) I confirm I have not made and will not make any payment to any person, which can be perceived as an inducement to win this tender.

Signed: *for and on behalf of the Tenderer*

Date:

Official Rubber Stamp:

A. Notes and Sample Items for Preparing a Bill of Quantities

1. These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Tender Documents. Priced Bills of Quantities shall be part and parcel of the Contract Documents.
2. The objectives and purpose of the Bills of Quantities are to provide sufficient information on the specifications, descriptions and quantities of Works to be performed to enable tenders to be prepared efficiently and accurately and 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 insufficient 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 clear as possible.

3. NOTES TO PREPARING PREAMBLES

- 4.1 The Preambles should include only those items that constitute the cost of the works but would not be priced separately as they are expected to be included in the unit prices. Care should be taken to ensure that these items are not a repetition of the conditions of contract. The Preambles should indicate the inclusiveness of the unit prices and should state the methods of measurement that have been adopted in the preparation of the Bill of Quantities, that are to be used for the measurement of any part of the Works. The units of measurement and abbreviations should be defined and any mandatory national units defined and described. The methods of and procedure for re-measurement should be described in the Preambles.
44. The rates and prices tender in the priced Bills of Quantities shall, except in so far as it is otherwise provided under the Contract, include all Constructional Plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes, and duties, together with all general risks, liabilities, and obligations set out or implied in the Contract.
45. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
46. The whole cost of complying with the provisions of the Contract shall be included in the Items provided in the priced Bills of Quantities, and where no Items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
47. General directions and descriptions of work and materials are not necessarily repeated nor summarized in the Bills of Quantities. References to the relevant sections of the Contract documents shall be made before entering prices against each item in the priced Bills of Quantities.
49. Provisional Sums and contingency sums included and so designated in the Bills of Quantities shall be expended in whole or in part at the direction and discretion of the Architect in accordance with Sub-Clause 13.5 and Clause 13.6 of the General Conditions of contract.

- 410 In preparing the Bills of Quantities, notes should be removed as they are intended to guide the person preparing the Tender Documents. The Contractor must allow in his rates for any costs associated with and complying with the requirements in the Preambles.
- 411 Should a tenderer/contractor not price any item in any section of the Bills of Quantities including Preliminary items, it will be assumed that he/she has spread its cost in other areas that he/she will have priced. Therefore, the item or items will be executed without any additional costs or without being treated like variations.

4 NOTES ON PREPARING BILLS OF QUANTITIES

- 51 The Preliminary Items should be limited to tangible items that should be priced by the tenderer, are identifiable and can be priced separately and included in the interim valuations precisely. Such items may include such items as site office, notice boards, 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.
- 52 The work 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. Such groups could be ground excavations, structures, external works, services, etc. General items common to all parts of the Works may be grouped as a separate section in the Bill of Quantities.
- 53 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 where appropriate.
- 54 Where the measured items are deemed not to be exact because of the likelihood that the scope can change during the execution of the works, such items could be subject to re-measurement, the word “**provisional**” should be used to identify such cases. Where whole sections of the work items fall in this class, for example foundations, they should be labelled “Provisional Quantities” or “Provisional Items” so that the Tenderer/Contractor is advised up front that such items are subject to re-measurement to be done before such work is cover-up.
- 55 All items that have not been measured and therefore not subject to tenders pricing should be listed in the Bills of Quantities as **Provisional Sums** for particular item or class of Work, which may be subject to a nominated subcontract or separate measurements at a later date during the execution of the works. For example, if it is deemed not possible to measure electrical works before going to tender because detail designs are not ready, a provisional sum can be allowed in the Bills of Quantities for “Installation of Electrical Works” to be executed later when actual design details are completed. To the extent not covered above, there should be in the Bills of Quantities a general provision for physical and financial contingencies made as a “Provisional Sum for Contingencies” and “Provisional Sum for Fluctuations”.

PREAMBLES

1. The method of measurement of completed work for payment shall be in accordance with *The Standard Method of Measurements for Building Works and Associated Civil Works for Eastern Africa (2nd edition) of 2008 prepared by The Architectural Association of Kenya (Quantity Surveyors Chapter)*
2. The Site is situated in **Kenya Utalii College, Kilgoris Campus – Narok County.** It is approximately **within Kilgoris.** Access to the site shall be through **Kilgoris Road.** Which is an existing public road. Any damage caused to the surfaces of this road shall be made good at the Contractor's expense. The Contractor shall visit the site and acquaint itself with its nature and position, the nature of the ground, substrata and other local conditions, positions of existing power, water and other services, access roads or any other limitations that might affect his cost or progress. No claim for extras shall be considered on account of lack of knowledge in this respect.
3. The Contractor shall obtain the Architect's approval on the siting of all temporary buildings, spoil heaps, temporary access path, and storage of materials. The Contractor shall also obtain the Architect approval and direction regarding the use of any materials found on the Site.
4. The drawings used in the preparation of these Bills of Quantities can be inspected at the offices of the Procuring Entity or Procuring Entity's Representative during normal working hours. Two sets of the Working Drawings shall be provided to the contractor but additional copies shall be provided at a cost to be determined by the Engineer.
5. The Contractor shall allow for the payment of all bank charges in connection with the procurement of Bank Guarantees and stamp charges in connection with this contract Agreement.
6. The Contractor shall carry out the various sections of the Works in such an order as the Architect May direct. The Procuring Entity reserves the right to occupy the Works by sections on completion provided that such occupation is considered to be both practical and reasonable and will not interfere with the Works. The Contractor shall allow any costs associated with such occupation.
7. The main Contractor will be fully responsible for paying his Sub-Contractor but the Procuring Entity reserves the right in very exceptional circumstances to make such payments direct in the interests of the project where the completion thereof might be jeopardized by any dispute or vicariousness between the Contractor and the Sub-Contractor involve.
8. The Contractor shall complete and deliver the Works in the period inserted in the Form of Tender as his time for completion of the Works from the date for Possession, to be agreed with the Engineer. The Contract Period is presumed to have been calculated making due allowance for seasonal inclement weather conditions. No claim for extension of time due to the normal inclement weather for this area shall be entertained.
9. The Contractor shall, upon receiving instructions to proceed with the Works, draw up a Programme and Progress Chart setting out the order in which the Works are to be carried out, with the appropriate dates thereof. This Chart shall be agreed with the

Architect and no deviation from the order set out in it will be permitted without the written consent of the Engineer. The Contractor will be responsible for arranging the above programme with all his sub-Contractors and Specialties. The Contractor shall allow in his rates for carrying out this exercise, and for updating it as required.

10. The Contractor shall submit to the Architect on the first day of each week or such longer period as the Architect from time to time direct, a Progress Report and any information for the proceeding period, showing the progress during the period and the up-to-date cumulative progress on all important items of each section or portion of the Works.
11. The Contractor shall arrange for photographs of the Site to be taken by a professional photographer approved by the Engineer. The Photographs shall provide a record of the Site and adjacent areas as prior to the commencement of the Works and shall cover such portion of the works in progress and completion as the Architect shall direct. All prints shall be full plate size, unmounted, and marked on the reverse side with the date of exposure, identification reference and brief description. The copyright of all photographs shall be vested in the Procuring Entity. The negatives and four prints from each negative shall be delivered to the Architect within two weeks of exposure.
12. Figured dimensions are to be followed in preference to dimensions scaled from the Drawings, but whenever possible dimensions are to be taken on the Site or from the buildings. Before any work is commenced by Sub- Contractors or Specialist Firms, dimensions must be checked on the site comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.
13. 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 he 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. Where appropriate the Contractor shall open up the ground in advance of the main work by hand digging, if necessary, to locate precisely the position and details of the services which are likely to affect his operations.
14. The Contractor shall include in his prices for the transport of materials, workmen, etc./, to and from the site of the proposed works, at such hours and by such route as are permitted by the Authorities.
15. The Contractor will be required to make good, at his own expense and damage he may cause to the present road surface and pavements within or beyond the boundary of the Site, during the period of the works. All existing paths, storm water channels, etc., that may be destroyed or damaged during the progress of the Works shall be reinstated by the Contractor to the satisfaction of the Engineer.
16. The Contractor is to allow for complying with all instructions and regulations of the Police Authorities.
17. All water shall be fresh, clean and pure, free from earthly, vegetable or organic matter, acid or alkaline substance in solution. The Contractor shall provide at his own risk and cost all water for use in connection with the Works, (including works of sub-contractors). If need be, he shall make arrangements with the Local Water Authority for

the installation of a separate meter for all water used by him throughout the Contract and pay all cost and fees in connection therewith. He shall also provide temporary storage tanks and tubing, etc., as may be necessary, and clear away at completion.

18. The Contractor shall provide all artificial lighting and power for his own use on the Works, (including Sub – Contractor's) including all temporary connections, wiring, fittings, etc., and clearing away on completion. The Contractor shall pay all fees and obtain all permits in connection there with.
19. The Contractor shall constantly keep on the Works a Literate English-speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractor directions and instruction from the Engineer, and such directions and instructions shall be deemed to be given to the contractor in accordance with the Conditions of Contract. The Agent shall not be replaced without the specific approval of the Engineer.
20. The Contractor shall ensure that the safety of his work people and all authorized visitors to the site are protected at all times. In particular, there shall be the proper provision of guard-rails to scaffolding, protection against falling materials, tools on site, dust, nail and other sharp objects. The site shall be kept tidy and clear of dangerous rubbish. The Architect shall be empowered to suspend work on site should it be considered this condition is not being observed and no claim arising from such suspension will be allowed.
21. They are as available to the Contractor for work yards, offices and other facilities shall be directed by the Architect and any existing features to remain shall be protected from damage throughout the Contract Period and handed back in good condition when they are vacated at the end of the Contract. If additional areas are required, the contractor shall source them at own cost.
22. The Contractor shall give the Architect reasonable notice of the intention to set out or take levels for any part of the Works so that arrangements may be made for checking the work. The accuracy of setting out and leveling shall be within the tolerances specified in the Specifications or on the Drawings. The checking of setting out or leveling by the Architect shall not relieve the Contractor of his duties or responsibilities under the Contract.
23. The Contractor must take steps necessary to safe guard and shall beheld fully responsible for any damage caused to existing and adjacent property, including buildings that are not a subject of demolition. He shall make good at his own cost damage to persons and property caused there on, and he shall indemnify the Procuring Entity against any loss or claim that may arise.
24. The Contractor shall take such steps and exercise such care and diligence as to minimize nuisance arising from dust, noise or any other cause to the occupiers of the existing and adjacent property. He must provide such temporary and special screens and tarpaulins or gummy bags, hoarding, barriers, warning signs etc. as he considers necessary and sufficient for the protection of the existing and adjacent property and or prevention of nuisance etc. as directed by Engineer.
25. The Contractors attention is drawn to the standards levy order which was amended on 15th October 1998. Legal notice No.154 of 1998. The Contractor is required to pay a

monthly level of 0.2% of his factory price of construction works with effect from January 1999. Tenderer shall allow for this in the build-up his rates.

26. The Contractor shall provide temporary sheds, offices mess rooms, sanitary, accommodation and other temporary buildings for the use of the contractor and sub-contractors, including lighting furniture equipment and attendance.
27. Contractor shall provide/build labor camp sat areas to be agreed with the Engineer. Labor camps shall be complete with sanitary accommodation and fencing gates.
28. The Contractor must provide the necessary toilet facilities to the requirement and satisfaction of the Health Authorities and maintain the same in a thoroughly clean and sanitary condition and pay all conservancy fees during the period of the Works and remove when no longer required.
29. The Contractor shall provide at his own risk and cost all watching and lighting as necessary to safeguard the Works, Plant and materials against damage and theft.
30. The Contractor shall provide all necessary hoists, tackle, plant, equipment, vehicles, tools and appliances of every description for the due and satisfactory completion of the Works and shall remove the same on completion. All such plant, tools and equipment shall comply with all regulations in force throughout the period of the Contract and shall be altered or adopted during the Contract period as may be necessary to comply with any amendments in or additions to such regulations.
31. Provide, erect and maintain all necessary scaffolding, sufficiently strong and efficient for the due performance of the works, including Sub-Contract Works, provide special scaffolding as required by Sub-Contractors, alter and adopt all scaffolding as and when required during the Works, and remove on completion. No scaffolding is measured here in after and the Contractor must allow in his rates for this.
32. The Contractor shall take all necessary precautions such as temporary fencing, hoarding fans, planked footways, guard-rails gantries screen, etc., for the safe custody of the Works, materials and public protection and adjacent properties.
33. Cover up all and protect from damage, including damage from inclement weather, all finished work and unfixed materials, including that of Sub-Contractors, etc., to the satisfaction of the Architect until the completion of the Contract.
34. The Contractor shall, after completion of the works, at his own expense, remove and clear away all surplus excavated demolition materials, plant, rubbish and unused materials and shall leave the whole of the Site and Works in a clean and tidy state to the satisfaction of the Engineer, sheds, camps, etc. Particular care shall be taken to leave clean all floors and windows and to remove all paint and cement all rubbish and dirt as it accumulates. The Contractor is to find his own dump and shall pay all charges in connection there with.
35. Concrete test cubes shall be prepared in a set of three, as described including testing fees, labor and materials, making molds, transport, handling, etc. Allow in your rates for making at least four cubes on each occasion, from different batches; the concrete being taken from the point of deposit.
36. The Contractors shall furnish at the earliest possible opportunity before work commences, and at his own cost, any samples of materials and workmanship that may

be called for by the Architect for the approval or rejection, and any further samples in the case of rejection, until such samples are approved by the Engineer. Such samples, when approved, shall be the minimum standard for the work to which they apply. The procedure for submitting samples of materials for testing or approval and the method of marking for identification shall be as laid down by the Engineer. The Contractor shall allow in his Tender for such samples and tests, including those in connection with his Sub-Contractors work.

37. The Contractors attention is drawn to the Finance Bill of the year 2000/2001 on withholding tax on contractual payment section 35(7)(i)(ii) which became effective on 1st July 2000. A 3% withholding tax will be applicable to all interim payments exceeding Kshs..... for work done in respect of building or civil works. The contractor shall allow for any costs arising resulting there from in the build-up of rates.
38. Blasting will only be allowed with the express permission of the Architect in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost, in accordance with any Government regulations in force for the time being, and any special regulations laid down by the Architect governing the use and storage of explosives.
39. The National Construction Authority is a state corporation established under the national construction authority Act No.14 of 2011. The broad Mandate of the Authority is to oversee the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6th June 2014, regulation 25, - Allow 0.5% of the tender sum/contract sum for construction levy.
40. The Contractor attention is drawn to Finance Bill of 1993 where VAT was introduced in all contracts for construction services. The tenderer is also drawn to VATA Act Cap 476 clause 19(9). The tenderer must allow for VAT 1.19 as instructed elsewhere.
41. The contractor shall allow and pay for all insurance to cover risks and indemnities required Items 17 and 18 of the Conditions of contract and also specified in the Special Conditions of Contract.

BILL NO. 1 PRELIMINARIES					
ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
	Discrepancies: The Contractor shall include all work either shown on the Contract Drawings or detailed in the specification. No claim or extra cost shall be considered for works which has been shown on the drawings or in the specification alone.				
1	Should the drawing and the specification appear to conflict, the Sub-contractor shall query the points at the time of tendering and satisfy himself that he has included for the work intended, as no claim for extra payment on this account shall be considered after the contract is awarded.				
2	Conditions of sub-contract Agreement: The Contractor shall be required to enter into a Sub-contract with the Main Contractor.				
3	Payments: Payment will be made through certificates to the Main Contractor, All payments will be less retention as specified in the Main Contract. No payment will become due until materials are delivered to site				
4	Site location: The site of the Contract Works is Kilgoris campus-Kenya Utalii College,Narok County . The tenderer is recommended to visit the site and shall be deemed to have satisfied himself with regard to access, possible conditions, the risk of injury or damage to property on/or adjacent to the site, and the conditions under which the sub-contract Works shall have to be carried out and no claims for extras will be considered on account of lack of knowledge in this respect.				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
5	Scope of Contract Work: The contractor shall supply, deliver, unload, hoist, fix, test, commission and hand over in satisfactory working order the complete installations specified hereinafter and/or as shown on the contract Drawings attached hereto , including the provisions of labour, transport and plant for unloading material and storage, and handling into position and fixing also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work the removal from the site from time to time of all superfluous material and rubbish caused by the works. The contractor shall supply all accessories, whether of items or equipment supplied by the Sub-Contractor but to be fixed and commissioned under this contract.				
6	Extent of the Contractor's Duties: At the commencement of the works, the contractor shall investigate and report to the Engineer if all materials and equipment to be used in the work and not specified as supplied by the others are available locally. If these materials and equipment are not available locally, the contractor shall at this stage place orders for the materials in question and copy the orders to the Engineer				
7	Firm price contract: Unless specifically stated in the documents or the invitation to tender, this is a firm-price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
8	Variation: No alteration to the Contract Works shall be carried out until receipt by the Contractor of written instructions from the Project Manager				
9	Prime cost and provisional sum: A specialist Sub-contractor may be nominated by the Project Manager to supply and/or install any equipment covered by the Prime Cost or Provisional Sums contained within the Contract documents (insert profit and attendance which is a percentage of expended PC or provisional sum.)				
10	Bond: The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 5 % of the Contract amount				
11	Government Legislation and Regulations: The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable.				
12	The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.				
13	Insurance company Fees: Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
14	Provision of services by the Main contractor: In accordance with Clause 1.08 of this Specification the Contractor shall make the following facilities available to the Sub-contractor: a) Attendance on the Sub-Contractor and the carrying out of all work affecting the structure of the building which may be necessary, including all chasing, cutting away and making good brickwork, etc., except that all plugging for fixing, fittings, machinery, fan ducting, etc., and all drilling and tapping of steel work shall be the responsibility of the Sub-contractor. Any purpose made fixing brackets shall not constitute Builder's Work and shall be provided and installed by the Sub-contractor unless stated hereinafter otherwise. b) The provision of temporary water, lighting and power: the Contractor pay for all these services utilized. c) Fixing of anchorage and pipe supports in the shuttering, shall be supplied by the Contractor who shall also supply the Project Manager with fully dimensioned drawings detailing the exact locations. d) i) Provision of scaffolding, cranes, etc. It shall be the Contractor's responsibility to liaise with the Project Manager to ensure that there is maximum				
15	Samples and Materials Generally: The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
16	Supplies: The Contractor shall submit names of any supplier for the materials to be incorporated, to the Engineer for approval. The information regarding the names of the suppliers may be submitted at different times, as may be convenient, but no sources of supply will be changed without prior approval.				
17	Each supplier must be willing to admit the Engineer or his representative to his premises during working hours for the purpose of examining or obtaining samples of the materials in question.				
18	Bills of Quantities: The Bills of Quantities have been prepared in accordance with the standard method of measurement of Building Works for East Africa, first Edition, Metric, 1970. All the Quantities are based on the Contract Drawings and are provisional and they shall not be held to gauge or to limit the amount or description of the work to be executed by the Contractor but the value thereof shall be deducted from the Contract Sum and the value of the work ordered by the Engineer and executed thereunder shall be measured and valued by the Engineer in accordance with the conditions of the Contract.				
18	Contractor's Office in Kenya: The Contractor shall maintain (after first establishing if necessary) in Kenya an office staffed with competent Engineer Manager and such supporting technical and clerical staff as necessary to control and coordinate the execution and completion of the Contract Works.				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
19	Builder's Work: All chasing, cutting away and making good will be done by the Contractor. The Contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required. The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings. Any purpose made fixing brackets shall be provided and installed by the Contractor.				
20	Setting to work and Regulating system: The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customar. No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted). It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
21	Identification of plant components: The Contractor shall supply and fix identification labels to all plant, starters, switches and items of control equipment including valves, with white traffolyte or equal labels engraved in red lettering denoting its name, function and section controlled. The labels shall be mounted on equipment and in the most convenient positions. Care shall be taken to ensure the labels can be read without difficulty. This requirement shall apply also to major components of items of control equipment. Details of the lettering of the labels and the method of mounting or supporting shall be forwarded to the Engineer for approval prior to manufacture.				
22	Working Drawings: The Contractor shall prepare such Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works. If the Contractor requires any further instructions, details, Contract Drawings or information drawings to enable him to prepare his Working Drawings or proposals, the Contractor shall accept at his own cost, the risk that any work, commenced or which he intends to commence at site may be rejected.				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
23	Record Drawings (As Installed) and Instructions: During the execution of the Contract Works the Contractor shall, in a manner approved by the Engineer record on Working or other Drawings at site all information necessary for preparing Record Drawings of the installed Contract Works. Marked-up Working or other Drawings and other documents shall be made available to the Engineer as he may require for inspection and checking. Record Drawings, may, subject to the approval of the Engineer, include approved Working Drawings adjusted as necessary and certified by the Contractor as a correct record of the installation of the Contract Works.				
24	Maintenance Manual: Upon Practical Completion of the Contract Works, the Contractor shall furnish the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works. The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index. There shall be a separate volume dealing with Air Conditioning and Mechanical Ventilation installation where such installations are included in the Contract Works.				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
28	Testing and Inspection – manufactured plant: The Engineer reserves the right to inspect and test or witness of all manufactured plant equipment and materials. The right of the Engineer relating to the inspection, examination and testing of plant during manufacture shall be applicable to Insurance companies and inspection authorities so nominated by the Engineer. A43:F50The Contractor shall give two weeks' notice to the Engineer of his intention to carry out any inspection or tests and the Engineer or his representative shall be entitled to witness such tests and inspections.				
29	Testing and Inspection – Installation: Allow for testing each section of the Contract Works installation as described hereinafter to the satisfaction of the Engineer.				
30	Storage of Materials: The Contractor shall provide storerooms and workshop where required. He shall also provide space for storage to nominated sub-contractors who shall be responsible for these lock-up shades or stores provided. Nominated Sub-contractors are to be made liable for the cost of any storage accommodation provided specially for their use. No materials shall be stored or stacked on suspended slabs without the prior approval of the Project manager				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

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ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
34	Temporary Works Where temporal works shall be deemed necessary, such as Temporary lighting, the contractor shall take precaution to prevent damage to such works. The contractor shall include for the cost of and make necessary arrangements with the Project Manager for such temporary works. For temporary lighting, electricity shall be metered and paid for by the contract his programme and schedule of work. He shall ensure equipment optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and .				
35	Extended Preliminaries: Where it shall be necessary to extend the contract period by the Project manager the contractor shall still ensure availability on site, optimum labour, materials, plant and equipment. The contractor shall make provision for extended preliminaries, should the contract period be extended and this shall be in a form of a percentage of the total Contractor works.				
TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE					

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
36	Supervision by Engineer and Site: A competent Project Engineer appointed by the Engineer as his representative shall supervise the Contract works. The Project Engineer shall be responsible for issuing all the site instructions in any variations to the works and these shall be delivered through the Contractor with the authority of the Project Manager. Any instructions given verbal shall be confirmed in writing. The project engineer and (or) the Engineer shall attend management meetings arranged by the Project Manager and for which the Contractor or his representative shall also attend. For the purpose of supervising the project, provisional sums are provided to cover for transport and allowances. The Contractor shall in his tender allow for the provision of management meetings and site inspections, as instructed by the Engineer, and also profit and attendance on these funds. The funds shall be expended according to Project Manager's instructions to the contractor	1	item	300,000	300,000.00
37	Allow for profit and Attendance for the above				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
38	Amendment to Scope of Sub-contract Works No amendment to scope of sub-contract works is expected and in case of amendment or modification to scope of work, these shall be communicated to all tenderers in sufficient time before the deadline of the tender submission. However, during the contract period and as the works progress the Project Manager may vary the works as per conditions of contract by issuing site instructions				
39	Contractor Obligation and Employers Obligation: The sub-contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. The contractor shall, where called upon, insert his price to compensate for any of the occurrence stated here (premature termination, reduction or increase of works), as a percentage of the contract sum.				
40	Allow for Continuous professional Development and training.	1	Item	200,000	200,000.00
41	Any other preliminaries;				
	TOTAL CARRIED FORWARD TO PRELIMINARIES SUMMARY PAGE				

ITEM	DESCRIPTION	QTY	UNT	RATE	AMOUNT (Kshs)
	<u>PRELIMINARIES SUMMARY</u>				
	TOTAL BROUGHT FORWARD FROM PAGE 64				
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	TOTAL BROUGHT FORWARD FROM PAGE 77				
	TOTAL FOR PRELIMINARIES CARRIED FORWARD TO PRICE MAIN SUMMARY PAGE 124				

Bill No. 2: Borehole Drilling

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>NB: All measurements are provisional and are subject to re-measurements on site.</u> <u>NEMA Report</u> Conduct an Environmental Impact Assessment develop report on behalf of the client for submission to National Environmental Management Authority. Obtain NEMA approval for the project.	1	Item		
B	<u>Drilling Permit and County Approvals</u> Submit application for drilling permit from the Water Resources Authority on behalf of the client. Additionally, acquire necessary statutory permits from the County Government before commencement of the works (Note: No payments to be made before the permit is acquired and submitted to the Client).	1	Item		
C	<u>Mobilization/Demobilization</u> Mobilization/demobilization of drilling unit, equipment materials, personnel and all other required supplies. This shall include erecting/dismantling of drilling unit.	1	Item		
D	<u>Allow for:</u> (a) Supply of water and drilling fluids for drilling operations and field camp	1	Item		
E	<u>Drilling</u> Drilling of 254mm diameter borehole from the surface through all types of loose formations until a stable formation is encountered, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified.	20	Lm		
F	Drilling of 225mm diameter borehole from stable formation upto 100m from the surface through all types of stable strata, including disposal of excavated material, taking any remedial measures to overcome caving-in, or over drilling to accommodate sloughed material and keeping drilling records as specified.	80	Lm		
G	Ditto but from 101-200m below surface.	100	Lm		
H	Ditto but from 201-300m below surface.	10	Lm		
Sub-total carried forward to the Borehole Drilling collection page.					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Allow for:</u> (a) Reaming and boring	10	Lm		
B	(b) Supply, install and retain 254mm diameter temporary casing	10	Lm		
C	<u>Drill Cutting Samples</u> Allow for taking of drill cuttings samples at two (2) meters intervals.	1	Item		
D	<u>Casing</u> Supply and install of 152mm diameter plain steel (class B) casing into the borehole	110	Lm		
E	Supply and installation of 152mm diameter slotted steel (class B) casing at appointed intervals of the borehole	100	Lm		
F	<u>Case Grouting</u> Grout between the casing and the borehole for the top ten (10) meters.	1	Item		
G	<u>Gravel Pack</u> Supply and install 2-4mm inert quartz gravel pack in the annular space between the borehole and the casing.	10	Ton		
H	<u>Well Development</u> Physical and chemical development of the borehole including inserting and removal of development equipment	12	Hrs		
I	<u>Constant Discharge Test</u> Undertake a constant discharge test to ascertain borehole yield for at least 24 hours including installation and withdrawal of pumping unit and recovery measurements.	1	Item		
Sub-total carried forward to the Borehole Drilling collection page.					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Water Level Observation</u> Undertake water level observation and record recovery	12	Hrs		
B	<u>Microbial and Chemical Analysis</u> Take borehole water samples, conduct microbial and chemical analyses and generate a report at certified laboratory as part of borehole completion.	1	Item		
C	<u>Making Good</u> Reinstate and make good the area surrounding the borehole on completion of drilling works.	1	Item		
Sub-total carried forward to the Borehole Drilling collection page.					

Bill No. 2: Borehole Drilling Collection Page

Item	Description	Amount (Kshs)
A	Sub-total b/f from Page 79	
B	Sub-total b/f from Page 80	
C	Sub-total b/f from Page 81	
Total for Borehole Drilling Works carried forward to the Borehole Works Collection Page.		

Bill No. 3: Borehole Equipping

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Borehole Pump</u> Supply and install centrifugal multistage submersible borehole pump, continuously rated and capable of pumping 11m³/hr of water against a total head of 160m. The entire pump-set body, impellers, shaft etc shall be made of heavy duty stainless steel material and shall be complete with submersible cable, level controls and their cabling. The pump shall have inbuilt non-return valve, tail strainer and cable guard. The pump shall be suitable for 3- phase 415V. The pump shall be as 'PEDROLLO 4SR8/42' or equal and approved with a maximum assembly diameter of 130mm.	1	Item		
B	Supply and install a control panel to be mounted off the wall. The control panel shall allow automatic duty operation of the pump with manual switch override. The panel to have an isolator switch indicator, indicator lights for pump status, ammeter, voltmeter, hour meter and main switch and power available light indication for the panel. The panel to also have, among other items, but not limited to: over and under voltage protection, phase failure, overload relays, connections for borehole level controls, and volt free contacts for remote indication all housed in a stove baked enamel painted cabinet mounted on wall and with a plastic envelope sheathed circuit wiring diagram locked in the cabinet to approval. The panel to be as 'Dayliff' or approved equivalent.	1	Item		
C	<u>Level Control Electrodes</u> Level Control and dry run protection electrodes for the borehole complete with cabling, interconnections and connections to the control panel. A second set of electrodes for the water tank complete with cabling to control panel	1	Lot		
Sub-total carried forward to the Borehole Equipping collection page.					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Cabling</u> 16mm ² 4-core PVC flat PVC submersible electric cable. Waterproof.	160	Lm		
B	16mm ² 4-core armoured underground electric cable to control panel	30	Lm		
C	2.5mm ² 2-core PVC submersible PVC electrode cables waterproof.	160	Lm		
D	2.5mm ² 2-core armoured underground electrode cables to control panel	30	Lm		
E	<u>Termination/Junction Box</u> Supply and install an IP67 rated junction for termination of submersible pump and level control cables from the borehole and the armoured cables from the control panel	1	Item		
F	<u>Excavation</u> Excavate trench 300mm wide and 500mm deep to lay cables. The laid cables to be covered with 50mm thick layer of fine soil, covered with tiles as ' Hatari ' then back filled, rammed and excess soil carted away.	30	Lm		
G	<u>Well Head</u> Supply and install a well head comprising a test tap, pressure gauges, sockets for services as ' Grundfos ' well discharge head to approval.	1	Item		
H	<u>Borehole Protection Cover</u> Construct a masonry borehole protection cover measuring 1.5 m x 1.5 m x 0.75 m, with rendered walls , screeded slab with a drain pot. The cover to have a hinged opennable cover made of 1.5mm thick mild steel chequer plate c/w framing, two (2 No.) heavy duty stainless steel padlocks and painted with two coats of aluminium.	1	Item		
I	<u>Excavation</u> Excavate trench 300mm wide and 500mm deep to lay water pipe. The laid water pipe to be back filled, rammed and excess soil carted away.	30	Lm		
Sub-total carried forward to the Borehole Equipping collection page.					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Observation Pipe</u> Supply and install 20mm diameter uPVC pipe (observation pipe),	210	Lm		
B	<u>Pressure Gauge</u> Supply and install high quality pressure gauge as 'Kent' or equivalent range 0-7kgf/cm ² complete with accessories for mounting on galvanised pipe.	1	No		
C	<u>Water Pipe</u> Supply and install 40mm diameter rising main GMS water pipe , Class C.	160	Lm		
D	40mm diameter GMS bend	2	No		
E	40mm diameter Black steam sockets as 'Crane'	28	No		
F	<u>HDPE PIPEWORK - PN 16</u> 40 mm diameter HDPE pipework	50	Lm		
G	40mm diameter bend/elbow	6	No		
H	<u>HDPE Valve Adapters</u> 40mm x 1 1/4" HDPE valve adapter	2	No.		
I	<u>Valve Chamber</u> Standard precast concrete valve chamber of size 600 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal.	1	No		
J	Contractor to provide 3-phase electric power to conduct the necessary tests for the borehole equipment on site.	1	Item		
K	Prepare and submit operation and maintenance manuals including all circuit diagrams for all the installations in 3 copies all to approval.	1	Item		
L	<u>Abstraction Permit</u> Obtain relevant documents from client, facilitate registration of the drilled borehole with Water Resources Authority (WRA) and acquisition of abstraction permit.	1	Item		
Sub-total carried forward to the Borehole Equipping collection page.					

Bill No. 3: Borehole Equipping Collection Page

Item	Description	Amount (Kshs)
A	Sub-total b/f from Page 82	
B	Sub-total b/f from Page 83	
C	Sub-total b/f from Page 84	
Total for Borehole Equipping Works carried forward to the Borehole Works Collection Page 85		
Item	Description	Amount (Kshs)
A	<u>Borehole Works Collection Page</u> Borehole Drilling Works	
B	Borehole Equipping Works	
Total for Borehole Works Carried forward to Summary Page 124		

Bill No. 4: Low Level Water Tanks

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)
	<u>Low Level Water Tank</u>				
A	Low level water storage tank as "Braithwaite" or approved equivalent made of 6mm thick pressed, hot-dip galvanised mild steel sectional plates of size 1220mm x 1220mm. Free board capacity of tank to be 131,437 Litres of preferred dimensions 6,100 x 6,100 by 3,660mm high. All pipe connections namely: supply inlet pipe, outlet pipe, overflow pipe, tank washout, warning pipe to be in place. The tank to be complete with: - 1 No. Highly visible Water Level Indicator - 2 No. Lockable, hinged Steel Cover Manhole - 1 No. internal Ladder - Appropriate float valve chamber - 1 No. External Ladder to ground Level with safety cage - Pitched dustproof and weatherproof tank cover made of hot-dip galvanised 3mm thick steel sheets capable of withstanding loading imposed by the maintenance personnel. - All necessary cleats, stays, braces, rafters and reinforcements - All necessary bolts, nuts, washers, sealing and insulation material. The tank to come accompanied by 9 No., 4mm thick, 50mm wide flat plate 8,200mm long for laying above the qwarf walls before tank placement. Tank connections include 50mm inlet, 75mm outlet, 100mm overflow, 100mm washout, 100mm hydrant	1	Item		
Sub-total carried forward to collection page 89					

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)
	<u>Water Tanks Associated Pipework</u>				
	<i>Supply and installation of Galvanised mild steel piping and fittings with screwed & socketed joint to medium grade class "B" to BS. 1387.</i>				
	<u>GMS Pipework</u>				
A	40mm diameter pipe	4	LM		
B	63mm ditto	10	LM		
C	75mm ditto	10	LM		
D	100mm ditto	4	LM		
	<u>Extra over Pipework</u>				
E	40mm diameter elbow	6	No		
F	63mm -ditto-	8	No		
G	75mm -ditto-	8	No		
	<u>Tees</u>				
H	63mm equal tee	2	No		
I	75mm equal tee	2	No		
J	75 x 75 x 65mm reducing tee	3	No		
	<u>Valves</u>				
K	40mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as 'PEGLER' or equal.	1	No.		
L	63mm ditto	1	No.		
M	75mm ditto	1	No.		
	<u>Valve Chamber</u>				
N	Standard precast concrete valve chamber of size 450 x 450 x 450mm deep made of concrete (1:3:6) base, including formwork, excavations backfilling and disposal.	1	No		
	<u>Unions</u>				
O	40mm diameter pipe unions	2	No.		
P	63mm diameter pipe unions	4	No.		
Q	75mm diameter pipe unions	4	No.		
	<u>Adapters</u>				
R	40mm x 1 1/4" HDPE valve adapter	2	No.		
S	63mm x 2" GMS valve adapter	2	No.		
Sub-total carried forward to collection page 89					

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Ksh)
	<u>Water Transfer Pumpset</u>				
A	Supply and install a water transfer pumpset comprising the following components: - Two identical centrifugal pumps, one duty, the other standby mounted on a common base frame together with the other components. Each pump shall have a duty of 15 m³/hr against a 30m head as 'Grundfos CR 15-3' series or equal. - 60 L diaphragm tank (pressure vessel) as Varem or approved equivalent). - Pressure switch and pressure gauge - GMS Pipe work connections including tank connections, 50mm foot valve with strainer, suction & discharge manifold, isolating valves, non-return valves Control shall be effected via a pressure switch through a pre-wired control panel which shall give automatic change-over from duty to standby pump within 5 seconds should the duty pump fail to deliver for any reason. - <u>Control panel</u> mounted on the same base frame as pumpset and pressure vessel with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet in oven baked 'white' powder coated colour c/w with indicator lights. It should include a change-over switch to enable the pumps to work alternately.	1	Set		
	<u>Electrical Works</u>				
B	Allow for electrical works including wiring and fitting to all pumps, control panel and float switches, from power room within 50 metres distance.	1	Item		
	<u>Sterilization</u>				
C	Allow for flushing out and sterilizing the whole system with chlorine to approval	1	Item		
	<u>Testing and commissioning</u>				
D	Allow for testing and commissioning of the Tanks and associated pipework installations	1	Item		
Sub-total carried forward to collection page 89					

Bill No. 4: Low Level Water Tanks Collection Page

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Bill No. 5: WATER TREATMENT PLANT

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Water treatment plant				
A	Supply a water treatment plant for borehole water ,that is to be used for domestic purpose. The raw water quality is that containing suspended particles, chemicals and bacteria. The water treatment process desired from the plant is flocculation, settlement, filtration and chlorination. The plant output capacity of 500 l/hr. The plant to have the following items: - a 1200 L sedimentation basin of upward flow with a conical base and sludge bleed capable of achieving a retention time of 2.4 hrs., - an inline flow meter to adjust and monitor the plant's output, sand filter, activated carbon filter, antiscalant, a microfilter and a reverse osmosis unit, - a chemical tank, - a chemical pump to allow for chemical dosage automatically that shall be set at 2% dosage rate from a 100l concentrate tank, - a balance tank of capacity 150L, - a transfer pump with a maximum delivery pressure of 3bars and flow rate to match output desired from the plant such as Pedrollo PKm 60 with 0.37kW and 240VAC or equal, - a filter suitable for pumped installation deep bed GRP pressure sand filter with simple to use multiport valve and all pipework for satisfactory functioning	1	Item		
	<u>Electrical Works</u>				
B	Allow for electrical works incuding wiring and fitting to all pumps, control panel and float switches, from power room within 50 metres distance.	1	Item		
Total for Water Treatment Plant carried forward to the Summary Page 124					

BILL NO.6 HIGH LEVEL WATER STORAGE TANK.

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>HIGH LEVEL WATER TANKS</u> High level water storage tank as "Braithwaite" or equal made of 6mm thick pressed, hot-dip galvanised mild steel sectional plates, and of size 1220mm x 1220mm. Free board capacity of tank to be 90,000 Litres of preferred dimensions 6,100 x 6,100 by 2,440mm high. All pipe connections namely: supply inlet pipe, outlet pipe, overflow pipe, tank washout, warning pipe to be in place. The tank to be complete with: - 1 No. Highly visible Water Level Indicator - 1 No. Lockable, hinged Steel Manhole Cover - 1 No. internal Ladder - Appropriate float valve chamber - 1 No. External Ladder to platform level with safety cage - Pitched dustproof and weatherproof tank cover made of hot-dip galvanised 3mm steel sheets capable of withstanding loading imposed by the maintenance personnel. - All necessary clests, stays, braces, rafters and reinforcements - All necessary bolts, nuts, washers, sealing and insulation material. Tank connections include 40mm inlet, 63mm outlet, 100mm overflow and 100mm washout	1	Item		
	Sub total carried to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub total carried from previous page <u>18 Meter Steel Tower - Galvanised</u>				
A	Hot Dip Galvanized steel tower 18 metres high from GROUND to BOTTOM of HIGH LEVEL TANK. The tower is fit and carry the 90,000 Litres high level water tank of preferred dimensions 6,100 x 6,100 by 2,440mm high The tower structure to comprise of: - Reinforced concrete stub columns to carry tower stancheons complete with fixing bolts - Galvanised steel structure comprising SHS stancheons bolted to stub columns, diagonal bracings, I-beams, SHS platform bedding and chequered plate - Ballustrading made of SHS ballusters, CHS top railing welded and finished in metallic grey gloss oil paint.	1	Item		
	<u>Water Tanks Associated Pipework</u>				
	<i>Supply and installation of Galvanised mild steel piping and fittings with screwed & socketed joint to medium grade class "B" to BS. 1387.</i>				
	<u>GMS PIPEWORK</u>				
B	63 mm diameter Pipe	40	Lm		
C	75 mm diameter 'ditto'	30	Lm		
D	63 mm diameter bend/elbow	6	No		
E	75 mm diameter bend/elbow	6	No		
F	100 mm diameter pipe	46	Lm		
G	100 mm diameter bend/elbow	4	No		
	<u>Tees</u>				
H	63 mm diameter tees	2	No		
I	100x75x63 mm diameter reducing tees	2	No		
J	40x25 mm diameter reducers	2	No		
	<u>Valves</u>				
K	63mm gate valve as 'Pegler'	2	No.		
L	75mm gate valves	2	No.		
M	100mm gate valves	2	No.		
	<u>Unions</u>				
N	63mm diameter pipe unions	1	No.		
O	75mm diameter pipe unions	1	No.		
P	100mm diameter pipe unions	2	No.		
	Sub total carried to next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub total carried from previous page				
	External Reticulation				
	<u>HDPE PIPEWORK - PN 16</u>				
A	63 mm diameter HDPE pipework	50	Lm		
B	25 mm diameter HDPE pipework	30	Lm		
C	40 mm diameter HDPE pipework	4	Lm		
D	63 mm diameter bend/elbow	6	No		
E	25 mm diameter bend/elbow	6	No		
	<u>Tees</u>				
F	63 mm diameter tees	2	No		
G	63x63x40 mm diameter reducing tees	2	No		
H	40x25 mm diameter reducers	2	No		
	<u>Valves</u>				
I	25mm gate valve as 'Pegler'	2	No.		
J	63mm gate valves	2	No.		
	<u>Unions</u>				
K	25mm diameter pipe unions	2	No.		
L	63mm diameter pipe unions	2	No.		
Total For High Water Storage Tank C/F to Summary page 124					

Plumbing and Drainage.					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
BILL NO. 7. SANITARY FITTINGS FOR LOWER GROUND FLOOR					
	<i>Supply, deliver, install and fix the following sanitary fittings including all materials and jointing to supply, waste/soil and overflow pipes. Brand names are specified only as an indication of quality. Equal and approved appliances may be supplied. Where trade names are mentioned, the Ref. No. is intended only as a guide to the type and quality of fittings</i>				
A	Squatting Water Closet Pan White ceramic squatting Water Closet pan with non-slip treads and a mid-level white ceramic lever action cistern. Preferred water closet suite pan dimensions to be 455mm x 625mm by 215mm deep. The pan to come complete with, inlet gaskets, ceramic water seal trap and all drainage fitments. The pan to be as "Tapis" or approved equivalent.	10	No.		
B	Flush Valve - Manual Press Action Manual Press action, concealed, low pressure back inlet water closet with a 11/2" chrome plated connections with synthetic diaphragm, magnetic/stainless steel spring return c/w adjustable tailpipe to squatting water closet pan above. As 'Khengar' or approved equivalent.	10	No.		
C	Urinal Bowl 450x300x375 mm white Ceramic urinal bowl set complete with, spreaders, 40mm heavy duty plastic bottle traps and 40mm diameter chrome plated outlets with grating firmly fixed on the wall with chrome plated screws. pipework to be provided with adequate fasteners to the wall. The fittings shall be as 'Kohler' or equal and approved.	6	No.		
D	Urinal Bowl Flush Valves 25mm urinal bowl flush valve for the above urinal bowls complete with, back entry with integral vacuum breaker, non-hold-open features and non-return valve, inlet control stop and wall plate comprising flush valve, bent chrome plated flush pipe and rubber pipe connector. The flush valve to be push button type. The fittings shall be as 'Khengar' or equal and approved.	6	No.		
E	Urinal Bowl Division Urinal bowl division to be as white Ceramic to be fasten to the wall with stainless steel fasteners. The fittings shall be as 'Ideal Standard' Ref. S612001 or approved equivalent	6	No.		
Total for Sanitary Fittings c/f to the next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Sanitary Fittings b/d from previous page				
A	Wash hand basin - Countertop White countertop ceramic wash hand basin with single taphole. Preferred dimension: 565 x 500mm x 205mm. Basin to be as "Tapis" or approved equivalent. Other accessories to include; chrome plated waste spring loaded pop-up, 32mm white plastic bottle trap with 75mm water seal, pipes, gaskets and wall flange	12	No.		
B	Pillar Tap - Press-Down Delay (Metering) Press-down delay chrome plated metering basin faucet complete with aerator cartridge. Faucet to be as "Khengar" or approved equivalent.	12	No.		
C	Mirror + LED Light Polished plate glass silver backed mirror with LED strip light, decorative borders of size 1200mm long by x 700mm high , plugged and screwed to wall with 6 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam and to be as 'Tapis, EMIRROR263' or approved equivalent.	4	No.		
D	Hand Driers Automatic hand drier in white colour, operating on an infra - red automatic sensing system with heating element safety cut-out complete with heating element safety cut - out complete with a 30 seconds safety timer, plastic rawl plugs and fixing screws. the hand drier to have a heating capacity of 2.1 kw and performance flow rate of 135cfm (3.82m/min) and to be of size 270x264x143mm deep it shall have a noise level below 72.5dBA at 1.5m. it shall be as Medclinics, M03A or approved equivalent.	4	No.		
E	Arabic Shower Chrome plated hand spray fixed next to the water closet complete with chrome plated wall bracket as Cobra or equal and approved. Each arabic shower to come complete with a chrome plated angle valve.	12	No.		
	Total for Sanitary Fittings c/f to the next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Sanitary Fittings b/d from previous page				
A	Robe hook Robe hook in polished chrome Brass to be mounted by concealed screws to wall wedges. To be as Tapis EROBHK1079 or equivalent.	10	No		
B	Ambulant Disabled Water Closet suite Close-coupled rimless WC suite , complete with Tapis 700mm projection BTW Rimfree pan Concealed cistern, single flush leaver, 4 litres flush. Tapis seat ring, Stainless steel bar hinge, top fix and stability buffers Doc. M back support with cushion, Tapis handrinse basin 500, no overflow 1 tap Tapis thermostatic basin mixer with fixed spout and copper tails (SF1140CP). Grid waste, wall bolts (pair). Satin finish 304 Stainless Steel 4x600mm grab rails concealed fixing, 1x Hinged support rail and toilet roll holder concealed fixings all as Mediclinics or approved equivalent.	2	No.		
C	Toilet Brush and Holder Wall mounted toilet brush holder and brush of approved colour as Tapis ETBRHLD102 or approved equivalent.	12	No.		
D	Flexible Tubing + Angle valve 15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve as Cobra or equal and approved.	22	No.		
E	Soap Dispenser 1.1 L, translucent/white, push button liquid soap dispenser with a lockabe top filling lid of preferred dimension 107mm x 108mm x 204mm. The Dispenser to come with initial fill and to be as 'Mediclinics DJ0010F' or approved equivalent.	6	No.		
F	Wash hand basin (WHB)-(Pedestal- For Clean Water) Pedestal wash hand basin size 570mm with one tap hole, 32mm diameter chrome plated chain waste, chain stay hole as KOHLER BRIVE PLUS MODEL 2661IN-0 or equivalent, Basin pillar mixer tap in chrome plated brass material complete with inbuilt aerated jet atomizer. The tap to be as Hansgrohe Focus E Model 31780000 or approved equivalent and heavy duty plastic bottle trap (32mm 'P' trap) with 75mm seal.	3	No		
	Total for Sanitary Fittings Lower Ground Floor Carried to PnD Collection Page 119				

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Kshs)
BILL NO. 8. INTERNAL PLUMBING LOWER GROUND FLOOR					
	<i>Supply and Install the following Plumbing installation as described and shown on the drawing. All pipework and fittings in this installation to be to PP-R. Tenderers must allow for jointings, couplings, plugging, clampings, reducers, mortices, hangers, clippings etc necessary for the proper functioning of the installation when pricing.</i>				
	PPR Pipework PN20				
A	25mm diameter pipework	48	Lm		
B	32mm diameter pipework	27	Lm		
C	40mm diameter pipework	36	Lm		
D	50mm diameter pipework	14	Lm		
E	63mm diameter pipework	8	Lm		
	Bends				
F	25mm diameter bend	8	No.		
G	32mm diameter bend	6	No.		
H	40mm diameter bend	6	No.		
I	50mm diameter bend	4	No.		
J	63mm diameter bend	4	No.		
	Valves				
K	50mm gate valve as 'Pegler'	2	No.		
L	40mm gate valves -ditto-	1	No.		
M	32 mm gate valves -ditto-	2	No.		
N	25 mm gate valves -ditto-	2	No.		
	Reducers				
O	63x50mm diameter reducer	4	No.		
P	50x40mm diameter reducer	6	No.		
Q	40x32mm diameter reducer	6	No.		
R	32x25mm diameter reducer	8	No.		
Total for Internal Plumbing c/f to the next page					

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Item	Description	Qty	Unit	Rate (Ksh)	Amount (Kshs)
	BILL No. 9. FOUL WATER DRAINAGE LOWER GROUND FLOOR				
	Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste systems to BS 5255 with screwed and socketed joints to BS 21. Solvent welded joints shall be as per the system's manufacturer's written instructions. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. for the proper and satisfactory functioning of the system.				
	MuPVC and uPVC Waste and Soil pipework				
A	150mm diameter heavy gauge grey Mupvc pipe	6	Lm		
B	100mm diameter heavy gauge grey Mupvc pipe	56	Lm		
C	100mm diameter heavy gauge golden Mupvc pipe	34	Lm		
D	50mm ditto	32	Lm		
E	40mm ditto	36	Lm		
	Traps				
F	100 x 50mm diameter floor trap and grating	4	No.		
	Bends				
G	100mm diameter sweep bend	8	No.		
H	50mm ditto	6	No.		
I	40mm ditto	12	No.		
	Tees				
J	100mm diameter sweep tee	8	No.		
K	50mm diameter sweep tee	12	No.		
L	40mm ditto	18	No.		
	Access Caps				
M	50mm ditto	8	No.		
N	40mm ditto	8	No.		
	WC Connectors				
O	100mm diameter WC connector	8	No.		
	Gulley Trap				
P	100 x 100mm gulley trap	5	No.		
	Total for Foul Water Drainage c/f to the next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Foul Water Drainage b/d from previous page				
A	Manhole 600x450mm manhole with heavy duty polysynthetic frame and cover. Manual depth to be determined on site but to minimum of 600mm	7	No.		
B	Stainless steel floor grating with dimensions of 800 x 200 x 100 mm complete with stainless steel frame angle.	3	Sm		
	2700 x 900 x 600mm deep concrete three chamber grease trap complete with all the fittings including the 304 Stainless Steel grease collector basket, interconnecting pipes, gulley traps and 3No. heavy duty polysynthetic manhole frame and covers. It shall be constructed with 125mm thick reinforced concrete and water proofed all to Structural Engineer's approval.	1	Item		
C	Excavation Excavate trench for 100mm pipe not exceeding 1500mm deep and average 250mm deep, part return in, fill & surplus cart away.	16	Lm		
	Total for Foul Water Drainage Lower Ground Floor Carried to PnD Collection Page 119				

Item	Description	Qty	Unit	Rate (Ksh)	Amount (KShs)
	BILL NO. 10. PORTABLE FIRE EXTINGUISHERS LOWER GROUND				
	<i>Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.</i>				
A	Water/Carbon Dioxide Gas Fire Extinguisher 9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
B	Carbon Dioxide Gas Fire Extinguisher 5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
C	Dry Chemical Powder Fire Extinguisher 9kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
	Total for Fire fighting c/f to the next page				

Item	Description	Qty	Unit	Rate (Ksh)	Amount (Kshs)
	Total for Fire fighting b/d from previous page				
	Manual Alarm Bell				
A	9" (225mm) manual operated alarm bell (Gong)	3	No.		
	Fire Notices				
B	Allow for fire signage for the hose reel system, fire exits and fire instructions as as described in the particular specifications and to the Project Engineer's approval.	3	No.		
	Hose Reel				
C	Swinging type hosereel fitted with 30 Metres Long , 20mm diameter reinforced non-kink rubber hose with 5/6 mm lever operated shut-off nozzle, mild steel feed pipe, isolation valve, guide and all other accessories as ' Angus Fire Armour ' or equal and approved.	3	No.		
	GMS pipe				
D	25mm diameter pipework	12	Lm		
E	50mm diameter gms pipe class "B"	12	Lm.		
	Bends				
F	50mm diameter bends	5	No.		
G	25mm diameter bends	5	No.		
	Unions				
H	25 mm diameter pipe union	4	No.		
	Reduces				
I	50 x 25mm diameter reducer	4	No.		
	Valves				
J	25mm gate valve as 'Pegler'	3	No.		
	Nipples				
K	25mm Hexagonal nipple	4	No.		
	Total for Fire Fighting and Portable Fire Extinguisher for Lower Ground Floor Carried to PnD Collection Page..... 119				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
BILL NO. 11. SANITARY FITTINGS FOR GROUND FLOOR					
	<i>Supply, deliver, install and fix the following sanitary fittings including all materials and jointing to supply, waste/soil and overflow pipes. Twyfords Ltd products are specified only as an indication of quality. Equal and approved appliances may be supplied. Where trade names are mentioned, the Ref. No. is intended only as a guide to the type and quality of fittings</i>				
A	Squatting Water Closet Pan White ceramic squatting Water Closet pan with non-slip treads and a mid-level white ceramic lever action cistern. Preferred water closet suite pan dimensions to be 455mm x 625mm by 215mm deep. The pan to come complete with, inlet gaskets, ceramic water seal trap and all drainage fitments. The pan to be as "Tapis" or approved equivalent.	4	No.		
B	Flush Valve - Manual Press Action Manual Press action, concealed, low pressure back inlet water closet with a 1 1/2" chrome plated connections with synthetic diaphragm, magnetic/stainless steel spring return c/w adjustable tailpipe to squatting water closet pan above. As 'Khengar' or approved equivalent.	4	No.		
C	Water Closet (WC) suite Close-coupled WC suite ('S' or 'P'-trap) in approved colour complete with horizontal outlet to BS 3402 with 7.5 litre valveless low level ceramic cisten and fittings including siphon, 15mm diameter side overflow, plastic flush bend, dual flush system, inlet connection, chrome-plated lever and heavy plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as duravit D-Code (Horizontal outlet) CAT NO.211109000 Water Closet or equal and approved.	6	No.		
D	Arabic Shower Chrome plated hand spray fixed next to the water closet complete with chrome plated wall bracket as Cobra or equal and approved. Each arabic shower to come complete with a chrome plated angle valve.	12	No.		
Total for Sanitary Fittings c/f to the next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Sanitary Fittings b/d from previous page				
A	Urinal Bowl 450x300x375 mm white Ceramic urinal bowl set complete with, spreaders, 40mm heavy duty plastic bottle traps and 40mm diameter chrome plated outlets with grating firmly fixed on the wall with chrome plated screws. pipework to be provided with adequate fasteners to the wall. The fittings shall be as IDEAL STANDARD or equal and approved.	6	No.		
B	Urinal flush valve-Manual push Button manual push button action back inlet top flush valve with 150ml per flush. The valve to have chrome plated connections with synthetic diaphragm and adjustable tailpipe. valve to be as "sloan Royal 137-1.6" or approved equivalent.	6	No.		
C	Urinal Bowl Division Urinal bowl division to be as white Ceramic to be fasten to the wall with stainless steel fasteners. The fittings shall be as 'Ideal Standard' Ref. S612001 or approved equivalent	6	No.		
D	Mirror + LED Light Polished plate glass silver backed mirror with LED strip light, decorative borders of size 1200mm long by x 700mm high, plugged and screwed to wall with 6 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam and to be as 'Tapis, EMIRROR263' or approved equivalent.	4	No.		
	Total for Sanitary Fittings c/f to the next page				

Item	Description	Qty	Unit	Rate (KShs)	Amount (KShs)
Total for Sanitary Fittings b/d from previous page					
	Hand Driers				
A	Automatic hand drier in white colour, operating on an infra - red automatic sensing system with heating element safety cut-out complete with heating element safety cut - out complete with a 30 seconds safety timer, plastic rawl plugs and fixing screws. the hand drier to have a heating capacity of 2.1 kw and performance flow rate of 135cfm (3.82m/min) and to be of size 270x264x143mm deep it shall have a noise level below 72.5dBA at 1.5m. it shall be as Medclinics, M03A or approved equivalent.	4	No.		
B	Ambulant Disabled Water Closet suite Close-coupled rimless WC suite with complete with Tapis 700mm projection BTW Rimfree pan Concealed cistern, single flush lever, 4 litres flush. Tapis seat ring, Stainless steel bar hinge, top fix and stability buffers Doc. M back support with cushion Tapis handrinse basin 500, no overflow 1 tap Tapis thermostatic basin mixer with fixed spout and copper tails (SF1140CP). Grid waste, wall bolts (pair). Satin finish 304 Stainless Steel 4x600mm grab rails concealed fixing, 1x Hinged support rail and toilet roll holder concealed fixings all as Mediclinics or approved equivalent.	2	No.		
C	Robe hook Robe hook in polished chrome Brass to be mounted by concealed screws to wall wedges. To be as Tapis EROBHK1079 or equivalent.	12	No		
Total for Sanitary Fittings c/f to the next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Sanitary Fittings b/d from previous page				
A	Toilet Brush and Holder Wall mounted toilet brush holder and brush of approved colour as Tapis ETBRHLD102 or approved equivalent.	12	No.		
B	Wash hand basin White countertop ceramic wash hand basin with single taphole. Preferred dimension: 565 x 500mm x 205mm. Basin to be as "Tapis" or approved equivalent.	14	No.		
C	Other accessories to include; chrome plated waste spring loaded pop-up, 32mm white plastic bottle trap with 75mm water seal, pipes, gaskets and wall flange Pillar Tap - Press-Down Delay (Metering) Press-down delay chrome plated metering basin faucet complete with aerator cartridge. Faucet to be as "Khengar" or approved equivalent.	14	No.		
D	Flexible Tubing + Angle valve 15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve as Cobra or equal and approved.	27	No.		
E	Soap Dispenser 1.1 L, translucent/white, push button liquid soap dispenser with a lockabe top filling lid of preferred dimension 107mm x 108mm x 204mm. The Dispenser to come with initial fill and to be as 'Mediclinics DJ0010F' or approved equivalent.	4	No.		
	Total for Sanitary Fittings Ground Floor Carried to PnD Collection Page ... 119				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	BILL NO. 12. INTERNAL PLUMBING GROUND FLOOR				
	<i>Supply and Install the following Plumbing installation as described and shown on the drawing. All pipework and fittings in this installation to be to PP-R. Tenderers must allow for jointings, couplings, plugging, clampings, reducers, mortices, hangers, clippings etc necessary for the proper functioning of the installation when pricing.</i>				
	PPR Pipework				
A	25mm diameter pipework	48	Lm		
B	32mm diameter pipework	32	Lm		
C	40mm diameter pipework	36	Lm		
D	50mm diameter pipework	18	Lm		
E	63mm diameter pipework	8	Lm		
	Bends				
F	25mm diameter bend	16	No.		
G	32mm diameter bend	8	No.		
H	40mm diameter bend	12	No.		
I	50mm diameter bend	4	No.		
J	63mm diameter bend	4	No.		
	Valves				
K	50mm gate valve	2	No.		
L	40mm gate valves	6	No.		
M	32 mm gate valves	6	No.		
N	25 mm gate valves	8	No.		
	Reducers				
O	63x50mm diameter reducer	4	No.		
P	50x40mm diameter reducer	6	No.		
Q	40x32mm diameter reducer	6	No.		
R	32x25mm diameter reducer	8	No.		
	Total for Internal Plumbing c/f to the next page				

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Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
BILL No. 13. FOUL WATER DRAINAGE GROUND FLOOR					
	<i>Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste systems to BS 5255 with screwed and socketed joints to BS 21. Solvent welded joints shall be as per the system's manufacturer's written instructions. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. for the proper and satisfactory functioning of the system.</i>				
	MuPVC and uPVC Waste and Soil pipework				
A	150mm diameter heavy gauge grey Mupvc pipe	4	Lm		
B	100mm diameter heavy gauge grey Mupvc pipe	15	Lm		
C	100mm diameter heavy gauge golden Mupvc pipe	33	Lm		
D	50mm ditto	22	Lm		
E	40mm ditto	36	Lm		
	Traps				
F	100 x 50mm diameter floor trap and grating	6	No.		
	Bends				
G	100mm diameter sweep bend	8	No.		
H	50mm ditto	6	No.		
I	40mm ditto	12	No.		
	Tees				
J	100mm diameter sweep tee	8	No.		
K	50mm diameter sweep tee	12	No.		
L	40mm ditto	18	No.		
	Access Caps				
M	50mm ditto	8	No.		
N	40mm ditto	8	No.		
	Gulley Trap				
O	Construct a standard 300 x 300 x 450mm masonry gully trap complete with concrete cover.	2	No.		
P	Manhole 600x450mm manhole with heavy duty polysynthetic frame and cover. Manual depth to be determined on site but to minimum of 600mm	5	No.		
	Excavation Excavate trench for 100mm pipe not exceeding 1500mm deep and average 250mm deep, part return in, fill & surplus cart away.	16	Lm		
	WC Connectors				
R	100mm diameter WC connector	3	No.		
Total for Foul Water Drainage Ground Floor Carried to PnD Collection Page ...					
119					

BILL NO. 14. PORTABLE FIRE EXTINGUISHERS GROUND FLOOR				
	Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.			
	Water/Carbon Dioxide Gas Fire Extinguisher			
A	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.	
	Carbon Dioxide Gas Fire Extinguisher			
B	5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.	
	Dry Chemical Powder Fire Extinguisher			
C	9kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.	
	Manual Alarm Bell			
D	9" (225mm) manual operated alarm bell (Gong)	3	No.	
	Fire Notices			
E	Allow for fire signage for the hose reel system, fire exits and fire instructions as described in the particular specifications and to the Project Engineer's approval.	3	No.	
	Hose Reel			
F	Swinging type hose reel fitted with 30 Metres Long , 20mm diameter reinforced non-kink rubber hose with 5/6 mm lever operated shut-off nozzle, mild steel feed pipe, isolation valve, guide and all other accessories as ' Angus Fire Armour ' or equal and approved.	3	No.	
	GMS pipe			
G	25mm diameter pipework	12	Lm	
H	50mm diameter gms pipe class "B"	12	Lm.	
	Bends			
I	25mm diameter bends	5	No.	
J	50mm diameter bends	5	No.	
Total for Portable Fire Extinguisher c/f to the next page				

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Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	BILL NO. 15. SANITARY FITTINGS FOR FIRST FLOOR				
	<i>Supply, deliver, install and fix the following sanitary fittings including all materials and jointing to supply, waste/soil and overflow pipes. Twyfords Ltd products are specified only as an indication of quality. Equal and approved appliances may be supplied. Where trade names are mentioned, the Ref. No. is intended only as a guide to the type and quality of fittings</i>				
A	Water Closet (WC) suite Close-coupled WC suite ('S' or 'P'-trap) in approved colour complete with horizontal outlet to BS 3402 with 7.5 litre valveless low level ceramic cisten and fittings including siphon, 15mm diameter side overflow, plastic flush bend, dual flush system, inlet connection, chrome-plated lever and heavy plastic seat and cover with metal top fixed (chrome plated) hinges. All to be as duravit D-Code (Horizontal outlet) CAT NO.211109000 Water Closet or equal and approved.	9	No.		
B	Arabic Shower Chrome plated hand spray fixed next to the water closet complete with chrome plated wall bracket as Cobra or equal and approved. Each arabic shower to come complete with a chrome plated angle valve.	9	No.		
C	Urinal Bowl 450x300x375 mm white Ceramic urinal bowl set complete with, spreaders, 40mm heavy duty plastic bottle traps and 40mm diameter chrome plated outlets with grating firmly fixed on the wall with chrome plated screws. pipework to be provided with adequate fasteners to the wall. The fittings shall be as IDEAL STANDARD or equal and approved.	5	No.		
D	Urinal flush valve-Manual push Button manual push button action back inlet top flush valve with 150ml per flush. The valve to have chrome plated connections with synthetic diaphragm and adjustable tailpipe. valve to be as "Khengar" or approved equivalent.	5	No.		
E	Urinal Bowl Division Urinal bowl division to be as white Ceramic to be fasten to the wall with stainless steel fasteners. The fittings shall be as 'Ideal Standard' Ref. S612001 or approved equivalent	5	No.		
	Total for Sanitary Fittings c/f to the next page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for Sanitary Fittings b/d from previous page				
A	Robe hook Robe hook in polished chrome Brass to be mounted by concealed screws to wall wedges. To be as Tapis EROBHK1079 or equivalent.	11	No		
B	Toilet Brush and Holder Wall mounted toilet brush holder and brush of approved colour as Tapis ETBRHLD102 or approved equivalent.	11	No.		
C	Wash hand basin White countertop ceramic wash hand basin with single taphole. Preferred dimension: 565 x 500mm x 205mm. Basin to be as "Tapis" or approved equivalent. Other accessories to include; chrome plated waste spring loaded pop-up, 32mm white plastic bottle trap with 75mm water seal, pipes, gaskets and wall flange	12	No.		
D	Pillar Tap - Press-Down Delay (Metering) Press-down delay chrome plated metering basin faucet complete with aerator cartridge. Faucet to be as "Khengar" or approved equivalent.	12	No.		
E	Flexible Tubing + Angle valve 15mm diameter x 300mm long flexible connectors complete with integral chrome plated angle valve as Cobra or equal and approved.	24	No.		
F	Soap Dispenser 1.1 L, translucent/white, push button liquid soap dispenser with a lockabe top filling lid of preferred dimension 107mm x 108mm x 204mm. The Dispenser to come with initial fill and to be as 'Mediclinics DJ0010F' or approved equivalent.	7	No.		
	Total for Sanitary Fittings c/f to next Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
Total for Sanitary Fittings b/d from previous page					
A	Hand Driers Automatic hand drier in white colour, operating on an infra - red automatic sensing system with heating element safety cut-out complete with heating element safety cut - out complete with a 30 seconds safety timer, plastic rawl plugs and fixing screws. the hand drier to have a heating capacity of 2.1 kw and performance flow rate of 135cfm (3.82m/min) and to be of size 270x264x143mm deep it shall have a noise level below 72.5dBA at 1.5m. it shall be as Medclinics, M03A or approved equivalent.	7	No.		
B	Mirror + LED Light Polished plate glass silver backed mirror with LED strip light, decorative borders of size 1200mm long by x 700mm high , plugged and screwed to wall with 6 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam and to be as 'Tapis, EMIRROR263' or approved equivalent.	2	No.		
C	Tankless Instant Water Heater - With Pump Tankless Instant Water Heater - With Pump and temperature control as 'Stiebel Eltron, DCE-C 10/12 or approved equivalent.	1	No.		
D	Mirror + LED Light Polished plate glass silver backed mirror with LED strip light, decorative borders of size 600mm long by x 700mm high , plugged and screwed to wall with 6 No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam and to be as 'Tapis, MIRROR255' or approved equivalent.	1	No.		
Total for Sanitary Fittings First Floor Carried to PnD Collection Page 119					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	BILL NO. 16. INTERNAL PLUMBING FIRST FLOOR				
	<i>Supply and Install the following Plumbing installation as described and shown on the drawing. All pipework and fittings in this installation to be to PP-R. Tenderers must allow for jointings, couplings, plugging, clampings, reducers, mortices, hangers, clippings etc necessary for the proper functioning of the installation when pricing.</i>				
	PPR Pipework				
A	25mm diameter pipework	58	Lm		
B	32mm diameter pipework	32	Lm		
C	40mm diameter pipework	36	Lm		
D	50mm diameter pipework	14	Lm		
E	63mm diameter pipework	24	Lm		
	Bends				
F	25mm diameter bend	8	No.		
G	32mm diameter bend	7	No.		
H	40mm diameter bend	6	No.		
I	50mm diameter bend	4	No.		
	Valves				
J	40mm gate valves as 'Pegler'	2	No.		
K	32 mm gate valves 'ditto'	2	No.		
L	25 mm gate valves 'ditto'	2	No.		
	Reducers				
M	50x40mm diameter reducer	6	No.		
N	40x32mm diameter reducer	6	No.		
O	32x25mm diameter reducer	8	No.		
	Tees				
P	50mm equal tee	4	No.		
Q	40mm equal tee	6	No.		
R	32 mm equal tee	6	No.		
S	25mm equal tee	8	No.		
	Unions				
T	25mm diameter pipe unions	10	No.		
U	32mm diameter pipe unions	8	No.		
V	40mm diameter pipe unions	4	No.		
W	50mm diameter pipe unions	4	No.		
	Adaptor / Brass Male Threaded				
X	25X32mm brass threaded male adapter	8	No.		
	Adaptor / Brass Female Threaded				
Y	25mm brass threaded adapter	8	No.		
	Total for Internal Plumbing First Floor Carried to PnD Collection Page 119				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	BILL No. 17. FOUL WATER DRAINAGE FIRST FLOOR				
	<i>Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste systems to BS 5255 with screwed and socketed joints to BS 21. Solvent welded joints shall be as per the system's manufacturer's written instructions. Tenderers must allow in their pipework prices for all the couplings, clippings, connectors, joints etc. for the proper and satisfactory functioning of the system.</i>				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge grey Mupvc pipe	33	Lm		
B	100mm diameter heavy gauge golden Mupvc pipe	28	Lm		
C	50mm ditto	22	Lm		
D	40mm ditto	12	Lm		
	Traps				
E	100 x 50mm diameter floor trap and grating	2	No.		
	Bends				
F	100mm diameter sweep bend	10	No.		
G	50mm ditto	8	No.		
H	40mm ditto	6	No.		
	Tees				
I	100mm diameter sweep tee	12	No.		
J	50mm diameter sweep tee	10	No.		
K	40mm ditto	8	No.		
	Access Caps				
L	100mm ditto	2	No.		
M	50mm ditto	4	No.		
N	40mm ditto	4	No.		
	WC Connectors				
O	100mm diameter WC connector	6	No.		
	Weathering Slates and Vent Cowl				
P	100mm diameter weathering slate and apron.	4	No.		
Q	100mm diameter vent cowl	4	No.		
R	Allow for testing and commissioning of both drainage and plumbing systems	1	Item		
	Total for Foul Water Drainage First Floor Carried to PnD Collection Page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
BILL NO. 18. PORTABLE FIRE EXTINGUISHERS FIRST FLOOR					
	<i>Supply, deliver, install, test and commission the following portable fire extinguishers and conforming to BS EN 3 / BS 1449.</i>				
A	Water/Carbon Dioxide Gas Fire Extinguisher 9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
B	Carbon Dioxide Gas Fire Extinguisher 5kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
C	Dry Chemical Powder Fire Extinguisher 9kg dry chemical powder portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	3	No.		
D	Manual Alarm Bell 9" (225mm) manual operated alarm bell (Gong)	3	No.		
E	Fire Notices Allow for fire signage for the hose reel system, fire exits and fire instructions as described in the particular specifications and to the Project Engineer's approval.	3	No.		
F	Hose Reel Swinging type hose reel fitted with 30 Metres Long , 20mm diameter reinforced non-kink rubber hose with 5/6 mm lever operated shut-off nozzle, mild steel feed pipe, isolation valve, guide and all other accessories as ' Angus Fire Armour ' or equal and approved.	3	No.		
G	GMS Pipes Class C 25mm diameter pipework	12	Lm		
H	50mm diameter pipework	44	Lm		
	<u>Extra Over Pipework</u>				
	<u>Bends</u>				
I	25mm diameter bend	6	No.		
J	50mm diameter bend	18	No.		
K	<u>Tees</u> 50mm diameter equal tee	6	No.		
Total for first floor fire protection c/f to the next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (KShs)
	Total for first floor fire protection b/d from previous page				
	Reducers				
A	50 x 25 mm diameter reducer	12	No.		
	Nipples				
B	25mm Hexagonal nipple	6	No.		
	Valves				
C	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as 'PEGLER' or approved equivalent.	3	No.		
D	50mm ditto	3	No.		
	Unions				
E	25mm diameter pipe union	4	No.		
F	50mm diameter pipe union	6	No.		
	Water Tank				
G	Cylindrical plastic storage tanks of capacity 2500 Litres (542gallons). Tank preferred dimensions to be 1550mm x 1500mm, complete with cover and having screwed connections for inlet (25mm), outlets (50mm), with (25mm) overflow interconnections rested on the ceiling space. Tank to be as "Roto" or approved equivalent.	3	No		
Sub-total carried forward to the next page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total for first floor fire protection b/d from previous page				
A	<u>Hosereel Pumpset</u> Supply and install a hose reel pumpset comprising the following components: - Two identical centrifugal pumps, one duty, the other standby mounted on a common base frame together with the other components. Each pump shall have a duty of 3m³/hr against a 40m head as 'DAYLIFF DFS2 DB 2-50' series or approved equivalent. - 60 L diaphragm tank (pressure vessel) as Varem or approved equivalent). - Pressure switch and pressure gauge - GMS Pipe work connections including tank connections, 50mm foot valve with strainer, suction & discharge manifold, isolating valves, non-return valves Control shall be effected via a pressure switch through a pre-wired control panel which shall give automatic change-over from duty to standby pump within 5 seconds should the duty pump fail to deliver for any reason. - <u>Control panel</u> mounted on the same base frame as pumpset and pressure vessel with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet in oven baked 'fire-red' powder coated colour. It should include a change-over switch to enable the pumps to work alternately.	1	Set		
B	<u>Electrical Works</u> Allow for electrical works wiring and fitting to all pumps, control panel and float switches, from isolator provided by others with 3 metres distance.	1	Item		
C	<u>Painting</u> Allow for painting of the entire hose reel pipework to red.	1	Item		
Total for Fire Fighting and Portable Fire Extiguisher for First Floor Carried to PnD					
Collection Page 119					

Plumbing and Drainage Works Collection Page

Item	Description	Amount (Kshs)
A	Total for Sanitary Fittings Lower Ground Floor b/f from Page 96	
B	Total for Internal Plumbing Lower Ground Floor b/f from Page....98	
C	Total for Foul Water Drainage Lower Ground Floor b/f from Page....100	
D	Total for Fire Fighting and Portable Fire Extiguisher for Lower Ground Floor b/f from Page.....101	
E	Total for Sanitary Fittings For Ground Floor b/f from Page..... 105	
F	Total for Internal Plumbing For Ground Floor b/f from Page....107	
G	Total for Foul Water Drainage For Ground Floor b/f from Page....108	
H	Total for Fire Fighting and Portable Fire Extiguisher for For Ground Floor b/f from Page.....110	
I	Total for Sanitary Fittings For First Floor b/f from Page.... 113	
J	Total for Internal Plumbing For First Floor b/f from Page.... 114	
K	Total for Foul Water Drainage For First Floor b/f from Page....115	
L	Total for Fire Fighting and Portable Fire Extiguisher for First Floor b/f from Page....118	
Total For Plumbing, Drainage and Fire Protection Works C/F to Summary page		

Bill No. 19: Air Conditioning Works

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	<i>Supply, deliver and install the following equipment as described. Prices to be inclusive of all taxes. Equipment to be approved before installation.</i> <u>Single Split Air Conditioning System</u> Single Split air conditioning system consisting of one outdoor unit and an evaporator unit. The capacities of the units are as outlined below: <u>Digital Labs</u>				
A	<u>Single Split Unit - 5.3 kW (High Wall Mounted Indoor Unit)</u> Single split air conditioning unit with a rated cooling capacity of 5.3 kW (18,000 Btu/hr). The unit to run on R410A refrigerant and be capable of air filtration, directional air flow, dehumidification with inverter compressor technology. To have the following features: - High Wall Mounted white indoor unit c/w mounting brackets - False-roof mounted outdoor unit c/w mounting brackets - Voltage protection of the unit - Refrigerant copper pipework upto 15m long (1/4" liquid & 3/8" gas) c/w with amaflex insulation, flared connections as per the the manufacturers instructions - Initial refrigerant charge of 2.5kg - Wireless remote controller c/w batteries with wall mounting bracket. The indoor unit shall be as "LG DUALCOOL, "M19AKH" or equal and approved.	3	No.		
B	<u>Drain Pipe</u> 25mm PVC condensate drainage pipework including bends, clips, joints and tees in the running lengths of the pipe. Drainage pipe work to come complete with 25mm amaflex insulation	36	Lm		
C	<u>Mounting Brackets</u> Supply steel mounting brackets for the indoor and outdoor units complete washers nuts, rawl bolts and all other necessary accessories as per the manufacturers instructions.	3	No.		
Sub Total c/f to the Air Conditioning Works Collection Page..... 122					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	<u>Surge Protector</u> 24 ampere automatic voltage protection for the unit as 'Sollatek, A/C Guard' with high & low voltage protection, spikes and surges protection, short circuit and overload protection circuit breaker with intelligent power back time	3	No		
B	<u>Trunking</u> Allow for 100 x 50mm powder coated steel sheet trunking mounted to carry pipework and cabling.	33	LM		
D	<u>Electrical Connection</u> Allow electrical cabling from the isolator provided by the others, switchgear and any other items necessary for optimum functioning of the air conditioners.	1	Item		
E	<u>Testing and Commissioning</u> Allow for testing and commissioning of the air conditioning system to the satisfaction of the Engineer.	1	Item		
Sub Total c/f to the Air Conditioning Works Collection Page..... 122					

Bill No. 19: Air Conditioning Works Collection Page

Item	Description	Amount (Kshs)
A	Sub-total b/f from Page..... 120	
B	Sub-total b/f from Page..... 121	
Air Conditioning Works sub-total c/f to the Summary Page..... 124		

Bill No. 20: Project Stationery					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	HP Omen Gaming Laptop 16-wd0073dx Intel Core i7-13620H 16GB RAM 1TB SSD 8GB NVIDIA GeForce RTX 4060 Graphics Windows 11 16.1"	1	No.		
B	Toner Cartridges as HP 26A	2	No.		
C	1 TB portable Hard disk, USB 3.0 as ' Western Digital ' or approved equivalent	2	No.		
D	32 GB Flash disk USB 3.0 as ' HP ' or approved equivalent	2	No.		
E	65 Sheet heavy duty paper punch as ' Kangaro '	1	No.		
F	A4 Translucent spiral binding covers	3	Pkt		
G	A4 embossed spiral binding covers	3	Pkt		
H	A4 size white Photocopy paper 80g/m ²	50	Ream		
I	A4 size Cream Conqueror paper 80g/m ²	2	Ream		
J	High Back swivel chair with adjustable fabric/meshback, headrest, adjustable arm rests, as 'Furniture Palace vivo (LA - 861FH) or equivalent	5	No.		
K	Toner kit for machine KYOCERA TA 8383Ci - Toner Tk 8735 Black, Tk 8735 Magenta, Tk 8735 Cyan, Tk 8735 Yellow.	1	No.		
Sub-total carried forward to the Summary Page 124					

SUMMARY PAGE		
Item	Description	Amount (Kshs)
1	Preliminaries	
2	Total for Borehole Works	
3	Total for Low Level Storage Water Tank	
4	Total for Water Treatment Plant	
5	Total for High Level Storage Water Tank	
6	Total for Plumbing, Drainage and Fire Protection Works For Administration Block	
7	Total for Air Conditioning Works	
8	Total for Stationery	
9	Contingency Sum	3,000,000
	Total Amount for Mechanical Works	

Amount in Words:

Amount in words.....
.....

Tenderer's Name and Stamp.....
Address

Period To Execute The Works

Tenderer's V.A.T No

Tenderer's P.I.N No

Telephone No.

Mobile No.

Tenderer's Signature Date.....

Witness Signature Date.....

SCHEDULE OF UNIT RATES

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

ITEM	DESCRIPTION	UNIT	RATE (Kshs)
1.	50mm CPVC pipe	Lm	
2.	40mm CPVC pipe	Lm	
3.	32mm CPVC pipe	Lm	
4.	25mm –ditto	Lm	
5.	Pedestal “Duravit” wash hand basin (Chrome pop up waste)	No.	
6.	Urinal flush valve with sensor.	No.	
7.	Paper Towel disposal bin 20L (Foot pedal operated lid)	No.	
8.	Paper Towel dispensing unit (250 Sheets).	No.	
9.	Water tank 3000L capacity.	No.	
10.	Stainless Steel Squating Water Closet Pan.	No.	
11.	Flush Valve Jaquar FLV-1015	No.	
12.	Grundfos SP 7-42 , With a flow rate of 8m ³ /hr at 160m Head	No.	

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED

SECTION M

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager/Engineer.
2. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered non responsive.

NB. The tenderer must complete in full the technical schedule. Apart from the information required in the technical schedule, the tenderer **MUST SUBMIT LEGIBLE** comprehensive manufacturer's technical brochures and performance details for all items listed in this schedule and **CLEARLY HIGHLIGHT THE SPECIFIC REQUIRED ITEM ONLY.**

S/NO	DESCRIPTION	MANUFACTURER	COUNTRY OF ORIGIN	REMARKS (Catalogue No. etc.)
A	Borehole Pump(11m ³ /hr, 160m)			
B	HDPE Pipe			
C	Close Coupled WC			
D	WC Flush Valve			
E	PPR Pipe			
F	Ambulant suite			
G	Mirror			
H	Hand Drier			
I	Split Ac Unit (18000 BTU/HR)			
J	Hose Reel Pumpset (3m ³ /hr, 40m)			
K	Steel Plates (1.22m x 1.22m)			

Catalogue must be attached for all the items in the schedule of material above

BILL NO.9

PROVISIONAL SUMS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	<u>PROVISIONAL SUMS</u>				
A	Allow a provisional sum of Kenya shillings Twenty Million (20,000,000.00) only for contingencies		SUM		20,000,000
B	Allow a provisional sum of Kenya shillings Twenty Million (20,000,000.00) only for Price Fluctuations		SUM		20,000,000
TOTAL CARRIED TO GRAND SUMMARY SUMMARY					40,000,000

GRAND SUMMARY

GRAND SUMMARY				
ITEM	DESCRIPTION	PAGE NO.	FOR TENDERER USE ONLY	FOR OFFICIAL USE ONLY
	<u>GRAND SUMMARY</u>		KSHS.	KSHS.
1	PRELIMINARIES	PR/1		
2	BUILDERS WORK	BS/1		
2	LANDSCAPING WORKS	L/8		
3	CIVIL WORKS	CIVIL page 19		
4	ELECTRICAL INSTALLATION SERVICES	G/36		
5	LIFT INSTALLATION SERVICES	L/86		
6	MECHANICAL INSTALLATION SERVICES	MECH/124		
7	PROVISIONAL SUMS	PS/2		
	GRAND TOTAL CARRIED TO FORM OF TENDER (INCLUSIVE OF ALL THE APPLICABLE TAXES AND LEVIES)			
AMOUNT:IN WORDS:..... SIGNED: (TENDERER'S NAME) Address: Tel No: Date: SIGNED: (WITNESS'S NAME) Address: Tel No: Date:				