TENDER DOCUMENT FOR PROPOSED COMMON AREA REFURBISHMENTS AT ANNIVERSARY TOWERS FOR

KENYA REINSURANCE CORPORATION LTD

P.O.BOX 30271-00100

NAIROBI

Email: kenyare@kenyare.co.ke

TENDER (ITT) NO: KRC/2023/2201/363

Project Architect
Heritage Associates Ltd
P.O. Box 56293 - 00200
NAIROBI

Electrical/Mechanical Engineer
Gedox Associates
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Armitech Consulting Engineers
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Quantity Surveyor
Costek Alma
P.O. Box 20852 - 00202
NAIROBI

TABLE OF CONTENTS

INVITATION TO TENDER

PROCURING ENTITY: *Kenya Reinsurance Corporation Limited*
Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor,
P.O Box 30271-00100, Nairobi,
Email: Procurement@kenyare.co.ke

CONTRACT NAME AND DESCRIPTION: *Proposed Refurbishments at Anniversary Towers Nairobi*

1. The ***Kenya Reinsurance Corporation Ltd*** invites sealed tenders for refurbishment of internal and external common areas at Anniversary Towers in Nairobi Kenya. The works will involve demolitions and alterations to existing spaces in the lift lobbies, staircases, washrooms, common corridors and shared kitchenettes.

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

3. Tenderers may obtain further information and inspect the Tender Documents during office hours ***Monday through Friday between 8:00am and 5:00 pm*** at the address given below.

4. A complete set of tender documents may be obtained electronically from the Website(s) www.kenyare.co.ke. Tender documents obtained electronically will be free of charge.

5. Tender documents may be viewed and downloaded for free from the website *www.kenyare.co.ke*. Tenderers who download the tender document must forward their particulars immediately to ***procurement@kenyare.co.ke*** *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 150 days from the date of opening of tenders.

7. All Tenders must be accompanied by a *Tender Security* of *Two Million Five Hundred Thousand Kenya shillings (Ksh 2,500,000.00)*

8. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

9. Completed tenders must be delivered to the address below on or before ***10:00AM on 8th January 2024.*** Electronic Tenders *will not* be permitted.

10. Tenders will be opened immediately after the deadline date and time specified above or any deadline date and times pecified later. Tenders will be publicly opened i n the presence o f the Tenderers' designated representatives who choose to attend at the address below.

11. Late tenders will be rejected.

12. The addresses referred to above are:

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

Kenya Reinsurance Corporation Ltd,
Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor,
Supply Chain Office,
P.O Box 30271-00100, Nairobi,
Email: Procurement@kenyare.co.ke
Tel: 0703 083 200.

B. Address for Submission of Tenders.

Kenya Reinsurance Corporation Ltd,
P.O Box 30271-00100, Nairobi,
Attn: Head of Supply Chain,
Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor, Supply Chain Office.

C. Address for Opening of Tenders.

Kenya Reinsurance Corporation Ltd,
P.O Box 30271-00100, Nairobi,
Attn: Head of Supply Chain,
Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor, Supply Chain Office.

Name: MRS GLADYCE MUSYOKI

Designation: SUPPLY CHAIN MANAGER –KENYA REINSURANCE CORPORATION LTD

Date: 12th December 2023

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 "in writing" 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 agreement or with the intent to enter into 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.**

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

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

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

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

c) Has the same legal representative as another tenderer;

d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of 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 conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.

3.4 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

3.5 A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. 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.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT3.9. ATenderer 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.

3.7 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 *"SECTIONI 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.

3.14 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 beat 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 toTenderers
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. Incase of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

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

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

7.1 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 p**rior 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.

7.2 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.

7.3 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.

7.4 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.

7.5 TheProcuring 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.

8.0 Amendment of Tender Documents

8.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.

8.2 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.

8.3 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 accordancewithITT20.3;
f) *Qualifications:* documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to per form 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 tenderliable 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 with out 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.

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

13.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

13.4 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.

14.0 Tender Prices and Discounts

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

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

14.3 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.

14.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.

14.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except incases 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.

14.6 Where tenders are being invited for individual lots (contracts)or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the sametime.

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

15.0 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 owner ship and control which in formation 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 bed is qualified from the procurement process,

ii) If the contract has been awarded to that tenderer, the contract award will be set as idepending 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 shave committed any criminal offence.

17.10 If a tenderer submits information pursuant to these requirements that is in complete, in accurate or out-of-date, or attempts to obstruct the verification process, then the consequences 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 tender.

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.

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

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

19.5 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.

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

19.7 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 ITT47; or

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

19.8 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.

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

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

20.0 Format and Signing of Tender

20.1 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.

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

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

20.4 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.

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

D. SUBMISSION AND OPENING OF TENDERS

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 submissionof 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 withdrawals 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.

25.7 At the Tender Opening, the Procuring Entitys hall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).

25.8 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.

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

E. EVALUATION AND COMPARISON OF TENDERS

26. Confidentiality

26.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 43.

26.2 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.

26.3 Not withstanding 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 responsivetenders.

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 asspecified 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 a specific 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** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

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 Daywork 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.

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

35.4 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 Tenderersis 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 an abnormally 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 a ccept 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 ProcuringEntityshallproceedto 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 inthe 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 COMMON AREA REFURBISHMENTS AT ANNIVERSARY TOWERS*** The reference number of the Contract is ***KRC/2023/2201/363*** The tender *does not* include multiple lots.
ITT 2.4	The Information made available on competing firms is as follows: ***None***
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: • M/S Heritage Associates Ltd (Project Manager & Architect) • M/S Costek Alma (Quantity Surveyor) • M/S Gedox Associates Ltd (Electrical – Mechanical Engineer) • M/S Armitech Consulting Engineers (Civil – Structural Engineer)
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: ***Three (3No)***
B. Contents of Tender Document	
ITT 7.1	(i) The Tenderer will submit any request for clarifications in writing at the Address **Kenya Reinsurance Corporation Ltd,** **Nairobi City, Taifa Road, Reinsurance Plaza,** **14th Floor, Supply Chain Office,** **P.O Box 30271-00100, Nairobi,** **Email: Procurement@kenyare.co.ke,** **Tel: 0703 083 200.** All queries to reach the Procuring Entity not later than ***2nd January 2024*** (ii) The Procuring Entity shall publish its response at the website ***www.kenyare.co.ke***
+ITT 7.2	(A) A pre-arranged pretender site visit ***shall take place*** at the following date, time and place: Date: ***19th December 2023*** Time: 10:00am to 12:00 Noon Place: Anniversary Towers (B) Pre-Tender meeting ***shall take place*** at the following date, time and place***:NOT APPLICABLE***
ITT 7.3	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than ***three days*** before the meeting.
ITT 7.5	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is ***www.kenyare.co.ke***
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	Kenya Reinsurance Corporation Ltd, **Nairobi City, Taifa Road, Reinsurance Plaza,** **14th Floor, Supply Chain Office,** **P.O Box 30271-00100, Nairobi,** **Email: Procurement@kenyare.co.ke,** **Tel: 0703 083 200.** **Attn: Manager Supply Chain**
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: ***None***
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 NOT BE*** permitted.
ITT 14.5	The prices quoted by the Tenderer shall be ***FIXED***
ITT 15.2 (a)	Foreign currency requirements are not **allowed.**
ITT 18.1	The Tender validity period shall be ***180 days counting as from the Tender submission date.***
ITT 18.3	(a) The Number of days beyond the expiry of the initial tender validity period will be ***30 days***. (b) The Tender price shall be adjusted by the following percentages of the tender price: (i) By _0_% of t*he local currency portion of the Contract price adjusted to reflect local inflation during the period of extension,* *and* *(ii) By_0_% the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.*
ITT 19.1	Tender shall provide **a Tender Security**. The type of Tender security shall be a *guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source* in the amount of **Two million Five Hundred Thousand Kenya shillings (Ksh 2,500,000)** ***valid for thirty days beyond the tender validity period***.
ITT 20.1	In addition to the original of the Tender, the number of copies is: ***One copy***
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: ***Power of Attorney prepared, signed and stamped by a Commisioner of Oaths***
D. Submission and Opening of Tenders	
ITT 22.1	(A) For Tender submission purposes only, the Procuring Entity's address is: **Kenya Reinsurance Corporation Ltd,** **P.O Box 30271-00100, Nairobi,** **Attn: Head of Supply Chain,** **Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor, Supply Chain Office** **Attention: Mrs Gladyce Musyoki** Tenders shall **shall not submit** tenders electronically.

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 25.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: Kenya Reinsurance Corporation Ltd, P.O Box 30271-00100, Nairobi, Attn: Head of Supply Chain, Nairobi City, Taifa Road, Reinsurance Plaza, 14th Floor, Supply Chain Office **Date: 8th January 2024 as from 10:00 AM**
ITT 25.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below*:* **N/A**
E. Evaluation, and Comparison of Tenders	
ITT 30.3	The adjustment shall be based on the ***highest 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 ***Kenyan shilling*** The source of exchange rate shall be: **The Central bank of Kenya** mean lending rate The date for the exchange rate shall be*:* **the deadline date for Submission of the Tenders.** *For comparison of Tenders, the Tender Price, corrected pursuant to ITT 31, shall first be broken down into the respective amounts payable in various currencies by using the selling exchange rates specified by the Tenderer in accordance with ITT 15.1.* *In the second step, the Procuring Entity will convert the amounts in various currencies in which the Tender Price is payable (excluding Provisional Sums but including Daywork where priced competitively) to the single currency identified above at the selling rates established for similar transactions by the authority specified and, on the date, stipulated above.*
ITT 33.2	A margin of preference ***"shall not*** apply.
ITT 33.4	The invitation to tender is extended to all interested tenderers.
ITT 34.1	At this time, the Procuring Entity does ***not intend*** *to* execute certain specific parts of the Works by subcontractors selected in advance.
ITT 34.2	Contractor may propose subcontracting: Maximum percentage of subcontracting permitted is: ***10% of the total tender amount***. Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualifications and experience.
ITT 34.3	The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows: **N/A** 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)	No additional evaluation criteria shall apply.The evaluation criteria is as highlighted under section III of this tender document.
ITT 48.1	Other documents required in addition to the Performance Security are: - I. Catalogues /Data sheets for all proposed sanitary fittings, electrical fittings and specialized equipment to be supplied (should be annexed to the bills of quantities)

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	II. A tentative programme of work for the bidders proposed contract period
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: For the attention: *Public Procurement Regulatory Authority* Title/position: *Director General* Procuring Entity: *Kenya Reinsurance Corporation* Email address*: info@ppra.go.ke/feedback@ppra.go.ke* A Procurement-related Complaint may challenge any of the following: (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract

PRE-QUALIFICATION FORM*

Note:

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

1. Preliminary evaluation – in 2 stages:
   (a) Stage 1 – For Main Contractor
   (b) Stage 2 – For Domestic Sub-Contractors
2. Detailed Technical Examination
3. Financial Evaluation
4. Recommendation for Award

Item No.	Qualification Subject	Qualification Requirement	*Documents To be Completed/provided by Tenderer*	*For Procuring Entity's Use (Qualification met or Not Met)*
		A. PRELIMINARY EVALUATION		
1.	Nationality	Nationality in accordance with ITT 4.5	Duly filled Forms ELI - 1.1 and 1.2	
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.	Valid Tax Compliance Certificate or Tax Exemption Certificate (Certified by Commissioner of Oaths)	
3.	Company Registration	Has produced Valid Copy of certificate of incorporation/ Registration from the registrar of companies	Certified copy of Certificate of Incorporation or Registration as the case may be (Certified by Commissioner of Oaths)	
4.	Current Business Permit	Has produced a Copy of Current Single Business permit from the County Government (For the year 2023)	Certified copy of Single Business Permit from the County Government (Certified by Commissioner of Oaths)	
5.	Registration of Workplace (as per OSHA 2007)	Has produced a Copy of valid Certificate of Registration of a Workplace as per OSHA Act No. 15 of 2007	Certified copy of Certificate of Registration of a Workplace (Certified by Commissioner of Oaths)	
6.	NHIF	Provide documentary evidence of having a valid NHIF compliance certificate	Certified copy of NHIF Compliance Certificate (Certified by Commissioner of Oaths)	

7.	NSSF	Provide documentary evidence of being duly registered with the National Social Security Fund and having a valid NSSF compliance certificate	Certified copy of NSSF Registration Certificate & Compliance Certificate (Certified by Commissioner of Oaths)	
8.	Eligibility	Has produced a valid Copy of CR12 from the department of the registrar within the last **One (*1*)** Year and National Identity Card(s) for all Directors (For Sole Proprietorship/Partnership provided Directors ID's Only)	Certified copy of CR12 & National Identity Card for the all Directors (Certified by Commissioner of Oaths)	
9.	National Construction Authority	Has produced Valid NCA registration certificate and annual practicing licenses as for NCA 3 and above category in Building Works	Copy of current NCA 3 and above registration andpracticing certificates (Certified by Commissioner of Oaths)	
10.	Special Power of Attorney	Has produced Written Special Power of Attorney signed and stamped (Exempt in the case of one of directors signing all the relevant documents)	Written Special Power of Attorney signed and stamped (Certified by Commissioner of Oaths)	
11.	Form of Tender	Has produced duly filled, signed and stamped Form of Tender	Duly filled, signed and stamped Form of Tender	
12.	Tenderer's Eligibility	Has produced duly filled, signed and stamped Confidential Business Questionnaire	Duly filled, signed and stamped Confidential Business Questionnaire Filled all required information	
13.	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Duly filled disclosure of interest Form in the Confidential Business Questionnaire	
14.	Public Procurement Regulatory Authority (PPRA) Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Duly filled and signed self declaration Form SD 1	
15.	Certificate of Independent Tender Determination	Has filled, signed and stamped Certificate of Independent Tender Determination	Duly filled and signed Certificate of Independent Tender Determination	
16.	Anti-Corruption Declaration	Not having been involved in corrupt, coercive, obstructive or fraudulent practice in ITT 3.4	Duly filled and signed self declaration Form SD 2	
17.	State-Owned Enterprise	Meets conditions of ITT 3.8	Attach copies of certified documents stated in Forms ELI - 1.1 and 1.2	
18.	History of Non- Performing Contracts, Pending Litigation and Litigation History	Meets Post qualification and Contract ward (ITT 39) conditions set out in the Evaluation and Qualification Criteria 7 (iv) (a-c) Non-performance of a contract did not occur as a result of contractor default since **1st January 2018.** No consistent history of court/arbitral award decisions against the Tenderer since **1st January 2018**	Duly filled and signed Self declarationForm CON-2	

19.	Suspension Based on Executionof Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/ProposalSecuring Declaration pursuant to ITT 19.9	Form of Tender	
20.	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1and assuming that all pending litigation will NOT be resolvedagainst the Tenderer.	Form CON - 2	
21.	Litigation History	No consistent history of court/arbitral award decisions	Form CON - 2	
22.	Bank Reference Letter	Has produced Letter of Authority to seek references from Tenderer's bank	Letter to seek reference from Tenderer's bank duly signed and stamped by Director of firm	
23.	Pre-Tender Site Visit	Attend Pre-tender Site Visit	Attach duly filled, signed and stamped Site Visit Form (This form must be signed and stamped by Client's representative on the SPECIFIED date of Site Visit & the Bidder's representative MUST be an employee of the firm)	
24.	Tender Security	Has produced valid Bid Bond	Amount of **Kshs 2,500,000** in the form of Guarantee from Reputable Bank licensed by CBK	
25.	Submitted Tender Document	✓ Tape-Bound Tender Document (The tender document MUST be submitted in full without any alteration) ✓ Fill all rates, and amounts, ✓ NO Alterations of the Quantities ✓ All bidders own Corrections must be Countersigned ✓ Sequentially serialized ✓ All pages with tenderers entries either typed or hand-written initialized and corrections countersigned ✓ Copy of Bid Document	Tender Document in the Prescribed Format	

26.	Domestic Sub-Contractor's Agreement	Has produced duly filled, signed and stamped Agreement dated within the period of tender for this works between the Main contractor and the: (a) Electrical Installation Works Sub-Contractor (b) Mechanical Installation Works Sub-Contractor Stating that if the main contractor is awarded the contract, they shall work with the firms as their domestic subcontractors. The agreement must be witnessed by an Attorney / Advocate of Law (Not necessary if the main contractor is registered for specialist works)	Duly filled, signed and stamped Agreement with domestic subcontractors Witnessed by an Attorney / Advocate of Law	

Note: - Only tenderers who fully meet the preliminary evaluation stage requirements shall proceed to technical evaluation. The rest shall stand disqualified.

- Preliminary Evaluation for the proposed specialist works listed under ITT 34.3 to be as contained as per the section below:

- *Order of Evaluation of works will be as follows:*
  - *(i) Preliminary Evaluation of Main Works*
  - *(ii) Preliminary Evaluation of Electrical Works (Includes evaluation of technical specifications)*
  - *(iii) Preliminary Evaluation of Mechanical Works (Includes evaluation of technical specifications)*

PRELIMINARY EVALUATION FOR ELECTRICAL INSTALLATION WORKS

Bidders must provide the following;

TABLE B: MANDATORY CRITERIA

S/No.	Completeness and Responsiveness Criteria	Reference	Requirement
1.	Certificate of Incorporation / Business Name Reg. Certificate	MR1	• Copy of certificate • Certified by Commissioner of Oaths
2.	Tax Compliance Certificate	MR2	• Copy of valid Tax Comp Certificate • Certified by Commissioner of Oaths
3.	Registration with National Construction Authority	MR4	• Category NCA 5 and above in Electrical / Electronics Works (Include practicing license) • Certified by Commissioner of Oaths
4.	Annual Practicing Licence	MR5	• Valid annual contractors practicing license from NCA for works listed in item MR4 • Certified by Commissioner of Oaths
5.	Registration with EPRA	MR6	• EPRA Category Class C-1 and above under Electrical Contractor • Certified by Commissioner of Oaths
7	Manufacturer's Authorization	MR7	• A valid Manufacturers Authorization Certificate for the following items being offered: ***(a) Electrical cables*** ***(b) Switchgear*** ***(c) LED lighting fittings*** *Note: The certificate should be specific to this tender and it must be addressed to the procuring entity as defined in this tender document.*
8	Compliance with Technical specifcations	MR8	• Attach relevant technical brochures / catalogues

Bids must meet all the above requirements so as to proceed to the next stage of evaluation. Failure to meet any of the above criteria will render the bidder non-responsive.

PRELIMINARY EVALUATION FOR MECHANICAL INSTALLATION WORKS

Bidders must provide the following;

TABLE C: MANDATORY CRITERIA

S/No.	Completeness and Responsiveness Criteria	Reference	Requirement
1.	Certificate of Incorporation / Business Name Reg. Certificate	MR1	• Copy of certificate • Certified by Commissioner of Oaths
2.	Tax Compliance Certificate	MR2	• Copy of valid Tax Comp Certificate • Certified by Commissioner of Oaths
3.	Registration with National Construction Authority	MR4	• Category NCA 5 and above in Mechanical Works (Plumbing & Drainage; HVAC and (Include practicing license) • Certified by Commissioner of Oaths
4.	Annual Practicing Licence	MR5	• Valid annual contractors practicing license from NCA for works listed in item MR4 • Certified by Commissioner of Oaths
5.	Manufacturer's Authorization	MR7	• Valid Manufacturers Authorization Certificate for the following items being offered: (a) ***Extractor Fan equipment*** (b) ***Sanitary fixtures and necessary Plumbing pipeworks*** *Note: The certificate should be specific to this tender and it must be addressed to the procuring entity as defined in this tender document.*
8	Compliance with Technical specifcations	MR8	• Attach relevant technical brochures / catalogues
9	Technical Forms	MR9	• Duly filled, signed and stamped forms for technical items to be supplied

Bids must meet all the above requirements so as to proceed to the next stage of evaluation. Failure to meet any of the above criteria will render the bidder non-responsive.

Item No.	Qualification Subject	Qualification Requirement	*Documents To be Completed/provided by Tenderer*	*For Procuring Entity's Use (Qualification met or Not Met)*
		B) TECHNICAL EVALUATION		
1.	Financial Capabilities	The Tenderer shall submit 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 Three (3) years shall be submitted and must demonstrate the current soundness of the Tenderer'sfinancial position and indicate its prospective long-term profitability.	Form FIN - 3.1, with attachments	
2.	Average Annual Construction Turnover	The Tenderer shall demonstrate that it has a minimum average annual construction turnover of **Kenya Shillings 100,000,000.00**, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last *5* years, divided by *5* years	Duly filled and signed Form FIN – 3.2	
3.	Financial Resources	The Tenderers shall demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) to meet the cash flow requirements estimated as **Kshs 40,000,000.00** for works the subject contract(s) net of the Tenderer's other commitments. (Attach letter from reputable bank, overdraft facility, line of credit and current bank statements for the last 6 months)	Form FIN - 3.3 with attachments	
4.	Current Contract Commitments / Works in Progress	Tenderers 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. (*Tenderer to attach evidence such as copies of letter of award, Signed contract and copies of interim payment)*	Form FIN - 3.4 with attachments	
5.	General Construction Experience	A minimum of **Five *(5)*** contracts as Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 years, starting 1st January 2018 (*Tenderer to attach evidence such as copies of letter of award and Completion Certificates)*	Duly filled and signed Form EXP – 4.1	

4.	Specific Construction & Contract Management Experience	A minimum number of **Four (*4*)** 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 deadline i.e..... (number) 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 Completion Certificate for therespective projects. Or c) If project is ongoing it must be at least 80% complete Bidder to attach copies of interim payment certificates The similarity shall be based on the physical size, complexity, methods/technology and/or other characteristics described in the Bills of Quantities and Drawings. Summation ofnumber of small value contracts (less than the value specified under requirement) to meet the overall requirement will not be accepted. Substantial completion shall be based on 80% or more works completed under the contract. For contracts under which the Bidder participated as a joint venture member or sub-contractor, only the Bidder's share, by value, shall be considered to meet this requirement.	Duly filled and signed Form EXP 4.2(a) complete with award letters and completion ceritificates.	
5.	Work Methodology & Programme of Works	Submit a brief Work methodology highlighting how the works will be undertaken and Programme of Works indicating timelines for completion.	Provide Work Methodology and Programme of Works that is within the stipulated period for undertaking the works.	

6.	Contractors Key Equipment	The tenderer shall: • Provide evidence of minimum **Six (*6*)** relevant transport machinery and minimum **Ten (*10*)** relevant equipment to used for the works. • If the transport machinery is owned, must provide **CLEAR** copies of logbook or proof of ownership / lease agreements and copies of purchase receipts / invoices for equipment owned by the firm • If equipment is hired or leased from a private firm, the tenderer to provide a commitment letter from the lessor of the equipment addressed to the **MANAGING DIRECTOR – KENYA REINSURANCE CORPORATION** 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; (Except if Lease Agreement is from Mechanical Transport Division (MTD) – State Department for Transport) The equipment listed shall be available on site when required	Form EQU: Equipment	
7.	Contractor's Representativeand Key Personnel	**a) 1No. Project Manager** Minimum qualifications and technical experience 1. Bachelor's degree in Architecture, Quantity Surveying, Construction Management or Civil / Structural Engineering or other construction related course 2. 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** 3. General Experience –15 years. 4. Specific experience on Construction of building works –10 years. **b) 1No. Site Supervisor/Manager** Minimum qualifications and technical experience 1. Bachelor's degree in Architecture, Quantity Surveying,	Form PER-1& Form PER-2	

		Construction Management or Civil / Structural Engineering or other construction related course 2. General Experience –10 years. 3. Specific experience on Building Interior works – 5 years. **c) 2No. 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 – 10 years. **d) 2No. Foremen** <u>Minimum qualifications and technical experience</u> 1. Certificate - Building Construction or equivalent 2. Experience – **5** years **e) 4No. Artisans** <u>Minimum qualifications and technical experience</u> 1 Trade Test certificate in relevant field 2 Experience-5 years **f) 1No. Occupational Health and Safety Personnel** <u>Qualifications and technical experience</u> 1. Certificate- Occupational Safety and Health 2. Experience – **5** years **Note: Certified copies of certificates to be provided as evidence.**		

Note: - Only tenderers who fully meet the technical evaluation stage requirements shall proceed to financial evaluation. The rest shall stand disqualified.

C) FINANCIAL EVALUATION:

Upon completion of the technical evaluation, bidders who qualify will be submitted to a detailed financial evaluation involving checking of the consistency of tender rates and any arithmetic errors in the submitted tender as per the criteria listed in **ITT 31.0, ITT 37.0, ITT 38.0** and its sub paragraphs. Recommendation for award of Contract shall done to the **Lowest Evaluated Tender**, subject to Post Qualification Evaluation.

D) POST QUALIFICATION EVALUATION:

The procuring entity shall conduct due diligence for the purpose of satisfying itself that the information provided in the lowest evaluated tender is accurate.

The lowest evaluated tender shall be rejected if misrepresentation of information or facts is detected during post qualification evaluation.

STAGE C) FINANCIAL EVALUATION

Financial evaluation shall be in accordance to ITT 14, ITT 30, ITT 31, ITT 33, ITT 35, ITT 36, ITT 37 and ITT 38. Financial evaluation shall be in three stages

a) Determination of Arithmetic Errors for the bidder (and all their joint venture partners);
b) Comparison of Rates for the bidder (and all their joint venture partners); and
c) Consistency of the Rates for the bidder (and all their joint venture partners);
d) Application of margin of preference

A) Determination of the Arithmetic Errors

Arithmetic Errors will be corrected by the Procuring Entity as follows:

i) In the event of a discrepancy between the amount as stated in the form of Tender and the corrected tender figure in the Main summary of the Bills of Quantities, the amount as stated in the Form of tender shall prevail. Pursuant to Section 82 of the Public Procurement and Asset Disposal Act 2015, 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;

ii) Error correction factor shall be computed by expressing the difference between the amount and the corrected tender sum as a percentage of the corrected contract works

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

B) Comparison of rates for the bidder

Items that are underpriced or overpriced may indicate potential for non-delivery and front loading respectively. The committee shall promptly write to the tenderer asking for detailed breakdown of costs for any of the quoted items, relationship between those prices, proposed construction/installation methods and schedules.

The evaluation committee shall evaluate the responses and make an appropriate recommendation to the procuring entity's tender committee giving necessary evidence. Such recommendations may include but not limited to:

a) Recommend no adverse action to the tenderer after a convincing response;
b) Employer requiring that the amount of the performance bond be raised at the expense of the successful tenderer to a level sufficient to protect the employer against potential financial losses;
c) Recommend non-award based on the response provided and the available demonstrable evidence that the scope, quality, completion timing, administration of works to be undertaken by the tenderer, would adversely be affected or the rights of the employer or the tenderers obligations would be limited in a substantial way.

C) Consistency of the Rates

The evaluation committee will compare the consistency of rates for similar items in the bills of quantitites and note all detected inconsistencies for similar work items. No adjustments shall be made for inconsistent rates found in a Tenderer's bid.

D) Application of margin of preference

Where tenderers were subject to margin of preference, and if the Lowest Evaluated Tender is a foreign tenderer, all tenders will be subject to application of Margin of Preference Table in which a new ranking will be done and contract awarded to the Lowest Evaluated Tenderer. Below is an example of MoP tabulation.

	Tenderer	Margin of Preference Group	Evaluated Price from Table 8 (c)	Margin of Preference (%)	Preference Price	Total Comparison Price	
		a	b	c	d=b x c	e=b+d	Ranking
1	ABC Ltd (Kenyan)	A	197,950.250	N/A	0	197,950.250	1
2	DEF Ltd (Foreign)	B	197,885,613	15%	29,682,842	227,568,455	2
	ETC.						

STAGE D) DUE DILLIGENCE AND RECOMMENDATION FOR AWARD.

The bidder achieving the lowest evaluated price will be awarded the contract in accordance with section 86 of the Public Procurement and Asset Disposal Act, 2015.

Prior to the award of this tender, Kenya Reinsurance Corporation will carry out due diligence to confirm the details presented by the Lowest evaluated bidder(s) in accordance with section 83 of the Public Procurement and Asset Disposal Act ,2015.

This assessment will include but is not limited to: -

Verification of the bidder's listed physical address and workshops listed in the bidder's tender document.

Verification of equipment owned by the bidder by visting the equipment yards, warehouses etc

Verification of the successfully completed works by visting the sites as listed in the bidder's tender document

Verification of the ongoing works by visting the sites as listed in the bidder's tender document

Verification of authenticity of any other document as may be deemed necessary

Recommendation for award by the Tender Evaluation Committee will be carried out in conformance to section 85 of the Public Procurement and Asset Disposal Act, 2015.

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. FORM EQU: EQUIPMENT

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

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

Omit the following information for equipment owned by the Tenderer.

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

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

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

4. FORM PER - 2:

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

Name of Tenderer

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

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

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

Declaration

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

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

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

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

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

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

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

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 InformationForm

Date:_____

ITT No. and title:_____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 ☐In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: • Legal and financial autonomy • Operation under commercial law 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

52 FORM ELI -1.2

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

Date:_____

ITT No. and title:_____

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

53 FORM CON –2

Historical Contract Non-Performance, Pending Litigation and Litigation History

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

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

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

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

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.

5.4 FORM FIN – 3.1:

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 statements[1] for the _____ years required above; and complying with the requirements

5.5 FORM FIN – 3.2:

Average Annual Construction Turnover

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

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

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

[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.

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					

5.8 FORM EXP - 4.1

General Construction Experience

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

Page _____of _____pages

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

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)
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 Name[2] (as per ITT 34): _____
ITT No. and title: _____

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

1. Key Activity No One: _

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

[2] If applicable

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

2. Activity No. Two
3. ……

OTHER FORMS

6. FORM OF TENDER

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: **KENYA REINSURANCE CORPORATION**

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.:** *Not Applicable*

To: *[insert complete name of Procuring Entity]*

Dear Sirs,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct and complete the Works and remedy any defects therein for the sum[3] of Kenya Shillings [*[Amount in figures]* _____Kenya Shillings *[amount in words]*_____

   The above amount includes foreign currency[4] 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's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Special Conditions of Contract.

3. We agree to adhere by this tender until_____*[Insert date],* and it shall remain binding upon us and may be accepted at any time before that date.

4. 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;

[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.*

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: incase of one lot: Total priceis: *[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, Engineers, 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 here by 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:

a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are no tin any conflict to interest.

(b) Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.

(a) Self-Declaration of the Tenderer - to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.

(d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

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

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

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

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

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

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

Date signed_____day of_____,_____

Notes

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

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

(a) **TENDERER'S ELIGIBILITY-CONFIDENTIAL BUSINESS QUESTIONNAIRE**

Instruction to Tenderer

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

(a) Tenderer'sdetails

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

General and Specific Details

(b) Sole Proprietor, provide the following details.

Name in full_____Age_____
Nationality_____Country of Origin_____
Citizenship_____

(c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

(d) Registered Company, provide the following details.

I) Private or public Company _____

ii) State the nominal and issued capital of the Company_____

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

iii) Give details of Directors as follows.

	Names of Director	**Nationality**	**Citizenship**	**% Shares owned**
1				
2				
3				

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

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

If yes, provide details as follows.

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

(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	Tenderer 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 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.		

	Type of Conflict	Disclosure YES OR NO	If YES provide details of the relationship with Tenderer
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 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_____

Titleor 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. Inparticular, 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 intentiono r 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 pursuan tto 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 toparagraph(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/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/Principal Officer/Director of ……..... (insert name of the Company) who is a Bidder in respect of **Tender No.**…… for …… *(Insert tender title/description)* for …… *(Insert name of the Procuring entity)* and duly authorized and competent to make this statement.

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

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

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

5. THAT what is deponed to 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 Procurementand Asset Disposal and my responsibilities under the Code.

I do here by 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

1. Purpose

1.1 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

2.1 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.

2.2 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 whohas 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 subcontract 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.

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

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

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

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

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

[2] *Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/audits, suc has 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 copyor electronic format) deemed relevant for th einvestigation/audit, and making copies there of 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]

FORM 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]	*[Signature of the Guarantor]*
_____	_____
[Witness]	*[Seal]*

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 ourobligation(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 orstamp

Appendix to Tender

Schedule of Currency requirements

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

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

PART II - WORKS REQUIREMENTS

SECTION V - BILLS OF QUANTITIES

BILLS OF QUANTITIES

Preambles

1. The method of measurement of completed work for payment shall be in accordance with ***the Standard Method of Measurement of Building and Associated Civil Works for Eastern Africa –Second Edition published by the Quantity Surveyors Chapter of the Architectural Association of Kenya***

2. The ***Site is situated in Nairobi City in Starehe Constituency under Nairobi municipality the building sits at the junction between University Way and Monrovia Street, the building directly faces the Main campus of University of Nairobi, the GPS coordinates for the bulding are -1.28181, 36.81634. It is approximately 0.5 Kilometers from Nairobi CBD. Access to the site shall be through University way or Monrovia Street. Both of which are existing tarmacked public roads***. Any damage caused to the surfaces of this roads 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 sitting of all temporary buildings, spoil heaps, temporary access path(s), and storage of materials. The Contractor shall also obtain the Architects 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 after award of the contract but additional copies shall be provided at a cost to be determined by the Architect.

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 involved.

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 there of. 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 progresson 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 are 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 are aand 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 giveh is whole time to the superintendence of the works. (Including works of sub – contractors). Such Agent or Representative shall receive on behalf of the Contractordirections 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 areas 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 contractorshallsourcethenatowncost.

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 existingand 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-upo f his rates.

26. 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.

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 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.

33. 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 ofthe 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 toleavecleanallfloors 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.

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 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 procedureof or 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 Kshs24,000 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 over see the construction industry and coordinate its development. The National Construction Authority Regulations 2014 with an effective date of 6thJune 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 VAT Act Cap 476 clause 19(9). The tenderer must allow for VAT1.19 as instructed else where. The current VAT Rate in Kenya is 16%.

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. 01
PRELIMINARIES

ITEM	DESCRIPTION	AMOUNT
	PARTICULAR PRELIMINARIES	
A	**PRICING ITEMS OF PRELIMINARIES:** Prices **SHALL BE INSERTED** against items of "preliminaries" in the tenderer's priced Bills of Quantities. Please note that failure to price any item of general or particular preliminaries will be construed to mean that the tenderer wishes to provide for that item free of charge.	
B	**VALUE ADDED TAX:** 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 familiarize himself with the said notice and allow in all his Bills of Quantities rates for the net tax. as required by law. The tenderer shall include VAT in their rates as no Lumpsum addition on account of this will be accepted. Failure to do so will render his/her tender **NON-RESPONSIVE** and therefore liable to be disqualified automatically.	
C	**SCOPE OF CONTRACT:** The works to be carried out under this contract shall be the refurbishment and repairs to common areas in the employer's building ie Anniversary Towers . The common areas will include staircases ,shared kitchenettes , corridors ,lobbies ,shared washrooms, repairs to roofs and waterproofing works .The works will also include associated Mechanical and Plumbing installations and Electrical installations .	
D	**DESCRIPTION OF THE WORKS** Anniversary Towers is a 28 storey building .The works on all floors will include :- ***Washrooms*** :- Hacking off existing wall and floor tiles ,pulling down existing aluminium ceilings . Carting away all debris arising from demolitions . Removing existing doors . Replacing all floor and wall tiles . Replacing ceiling finishes .Redoing worktops .Replacing some doors and associated plumbing and drainage works . ***Kitchenettes*** :- Hacking off existing wall and floor tiles ,pulling down existing aluminium ceilings . Carting away all debris arising from demolitions . Removing existing doors . Replacing all floor and wall tiles .Redoing worktops .Replacing all doors and associated plumbing and drainage works . ***Lobbies and corridors*** :- Hacking off existing wall and floor tiles ,pulling down existing aluminium ceilings . Carting away all debris arising from demolitions . Removing existing doors . Replacing all floor and wall tiles . Replacing ceiling finishes .Redoing worktops .Replacing some doors and associated electrical installation works . ***Stairwells*** :- Replacing existing window cills.Replacing existing doors with metallic fire rated doors .Painting walls and ceilings . Painting balustrading and associated electrical installation works.Special attendance for removing and fixing existing security system infrastructure . ***Canopies ,roofing and waterproofing*** : Remove all existing infrastructure and replace with new as will be directed by the Project Architect and Structural Engineer .	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**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 in accordance with the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with the said Conditions.	
B	**LOCATION OF THE SITE** Site is situated in Nairobi City in Starehe Constituency under Nairobi municipality. The building sits at the junction between University Way and Monrovia Street, the building directly faces the Main campus of University of Nairobi, the GPS coordinates for the bulding are -1.28181 , 36.81634. It is approximately *0.5* Kilometers from Nairobi CBD. Access to the site shall be through University way or Monrovia Street. Both of which are existing tarmacked public roads. ***NOTE*** The tenderer shall be deemed to have visited the above sites and familiarised himself with all site conditions prior to submission of tender.No claims arising from the tenderer's failure to do so will be entertained. The purpose of the site visit will be to satisfy tenderer's 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 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 must be given prior to disruption of services.Where necessary the Contractor will provide temporary facilities for use as instructed by the Project Manager.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**EXISTING BUILDING SERVICES** Special precaution shall be required throughout the contract period to avoid damage to the existing building elements, cables, drains and other services. **The Tenderer shall take special note that these are live sites with ongoing government and business organizations and any disruption of services will be devastating and costly**.The contractor shall allow for expeditiously making good any damage arising from his actions during execution of this contract at his own expense.	
B	**GENERAL SPECIFICATIONS** The contractor is referred to the General Specification for Building Works 1976 Edition Pages B1 - B2 inclusive and must allow for all costs in complying with these clauses.	
C	**CONTRACT COMPLETION PERIOD** The contract completion period must be strictly adhered to by the Contractor.The Project Manager shall strictly monitor the contractor's progress in relation to the progress chart and should it be found necessary, the Project Manager shall inform the contractor in writing that his actual performance on any of the sites is not satisfactory.In all such cases, the contractor shall accelerate his rate of performance, production and progress by all means such as additional labour, plant, etc and working overtime all at his cost.	
D	**SPECIAL CONSIDERATIONS FOR DEMOLITIONS AND ALTERATIONS** The Contractor is to allow and price 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, tenants of thr building 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 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. Unless described as set aside for re-use OR listed under items for salvage , all arising debris and surplus materials shall be carefully removed from building and carted away from site.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**WORKING CONDITIONS** The contractor shall allow in his rates for any interference that he may encounter in the course of execution of the works for the Client may in some cases ask the contractor not to proceed with the works until some activities within the sites are completed.	
B	**SIGNBOARD** Provide a signboard not less than 2.5 square meters in size of a design type, and with lettering and coloring and in a position approved by the Project Architect . 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 50mm 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.	
C	**LABOUR CAMPS** The contractor shall not be allowed to house labour on any of the sites. Allow for transporting workers to and from the sites during the tenure of the contract.	
D	**PRICING RATES** The tenderer shall include for all costs in executing the whole of the works, including transport, replacing damaged items, fixing, all to comply with the said Conditions of Contract.	
E	**URGENCY OF THE WORKS** The contractor is notified that these " works are urgent" and should be completed within the period stated in these Particular Preliminaries.The contractor shall allow in his rates for any costs he deems that he may incur by having to complete these works within the stipulated contract period.	
F	**PAYMENT FOR MATERIALS ON SITE** All materials for incorporation in the works must be stored on each site before payment is effected, unless specifically exempted by the Project Manager. This is to include materials of the contractor, nominated sub - contractors and nominated suppliers.	
G	**CREDIT FOR SALVAGE MATERIAL** Demolished material that can be reinstated or whose value is not negligible and whose description in the Bills of Quantities include the element of carting away , must be accounted for by the Main Contractor . The Main Contractor must provide credit to the employer for such items .The value that the Main Contractor provides for these items **must** be included in these Bills of Quantities . The main contractor must seek the written approval of the Project Manager and or the Project Quantity Surveyor prior to the extraction of salvage materials from the site .	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**EXISTING SERVICES** Prior to the commencement of any work, the contractor is to ascertain from the relevant Authority(ies) the exact position, depth and level of all existing services in the area and he shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.	
B	**TENDER DOCUMENTS** Tender documents are as listed in the Contents Page. The Tenderer should check and confirm that all the documents are included otherwise to notify the Project Manager of any discrepancy before submission of the tender.	
C	**DELIVERY OF TENDER** Tenders and all documents in connection therewith, as specified above must be delivered in the addressed envelope which should be properly sealed and deposited at the offices as specified in the letter accompanying these documents or as indicated in the advertisement. Tenders will be opened at the time specified in the invitation to tender accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the specified tender submission date will not be opened.	
D	**ADVANCE PAYMENT** Advance payment shall be guided by the General Conditions of Contract (Clause 14.2) and the Special Conditions of Contract included with this tender document .	
E	**FLUCTUATIONS** This will be a ***fixed price contract*** and not subject to the Fluctuations Clause.	
F	**AS BUILT DRAWINGS FOR ELECTRICAL AND MECHANICAL INSTALLATIONS** Allow for preparing and submitting "As Built Drawings" for all installations in soft and 4No printed copies in A1 size sheets as would be instructed by the Consultants. Allow for preparing and submitting all interim progress reports , operation manuals, test reports and all other handover documents. A minimum of 3 copies of each drawing ,manual ,report ,datasheet e.t.c will be required from the Contractor upon the Employer or Project consultants request . The Main Contractor will be expected to furnish the requested drawings within seven days after the request is formally issued in writing by either the Employer or the project consultants .	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**PARTICULARS OF INSERTIONS TO BE MADE IN APPENDIX TO CONTRACT AGREEMENT** The following are the insertions to be made in the appendix to the Special Conditions of Contract : - **Period of Final Measurement** 6 Months from Practical completion **Defects Liability Period** 6 Months from Practical completion **Date for Possession** **To be determined by the Project Manager.** **Period for Mobilization** ……. Weeks from date of Possession. **Date for Completion** ……. Weeks from date of Possession. **Liquidated and Ascertained Damages** 0.01% of the contract price per day **Prime cost sums for which the contractor desires to tender :-** …… …… …… **Period of Interim Certificates** **Monthly on application by contractor** **Period of Honouring Certificates** Thirty (30) Days **Minimum Certified Amount** **5% of the accepted contract sum** **Percentage of Certified Value Retained** 10% **Limit of Retention Fund** 10% of Contract Sum **Bonds** The Bonds required shall be from approved Banking or Insurance Institutions **ONLY**	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
	COLLECTION FOR PARTICULAR PRELIMINARIES Brought forward from Page 79 Brought forward from Page 80 Brought forward from Page 81 Brought forward from Page 82 Brought forward from Page 83 Brought forward from Page 84	
	TOTAL FOR PARTICULAR PRELIMINARIES CARRIED TO SUMMARY OF PRELIMINARIES	

ITEM	DESCRIPTION	AMOUNT
	GENERAL PRELIMINARIES	
A	**PRICING ITEMS OF PRELIMINARIES AND PREAMBLES**	
	Prices will be inserted against items of Preliminaries in the contractor's priced Bills of Quantities and Specification. Note that the currency to be used for purposes of pricing is the Kenyan Shilling (KSh).	
	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 all the requirements for the proper execution of the whole of the works in the Contract.	
	C.M. or CM Shall mean cubic metre	
	S.M. or SM Shall mean square metre	
	L.M. or LM Shall mean linear metre	
	MM or mm Shall mean Millimetre	
	Kg. or KG Shall mean Kilogramme	
	No. or NO Shall mean Number	
	Prs. or 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.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**PARTICULARS TO CONDITION OF CONTRACT** The following terms referring to parties relating to this contract when appearing in this contract shall be ascribed the meanings as detailed below:- **EMPLOYER** The "Employer" is Kenya Reinsurance Corporation Ltd P.O. Box 30271-00100 **NAIROBI , KENYA** The term "Employer" and "Client" wherever used in the contract document shall be synonymous **CONSULTANTS** **Architects :** Heritage Associate Ltd Architects, Interior designers & Project Managers P.O Box 56293 – 00200, **NAIROBI** **Quantity Surveyor:** Costek Alma Quantity Surveyors , Building Economists & Project Managers , P.O. Box 20852 - 00202, **NAIROBI** **Electrical and Mechanical Engineer:** Gedox Associates, Consulting Engineers P.O Box 64441 - 00620 , **NAIROBI** **Structural Engineer:** Armitech Consulting Engineers, Consulting Engineers , P.O. Box 48453-00100, **NAIROBI**	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**EXCEPTIONS TO THE STANDARD METHOD OF MEASUREMENT** Attendance on nominated Sub-contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work: clearing away rubbish; unloading, checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- contractors' work and being responsible for the accuracy of the same.	
B	**GENERAL PRICING NOTES** *Fix Only:-* "Fix Only" shall mean take delivery, load and transport to Sites where necessary, unload, store, unpack, assemble as necessary, fixing with all necessary accessories ,distribute to position, hoist and fix only and providing all necessary documentation of the operation if and when required . *Supply Only:-* "Supply only" shall mean that the Contractor is to provide for everything in connection with such items except fixing in position. Where a PC purchase rate is provided in the description of the works , bidders should note that is the maximum purchase rate for the particular item and the Contractor will be expected to provide samples to the Project Manager that fall within the specified purchase rate . Bidders are also advised that the PC Rate is inclusive of VAT . Bidders must include in their overall rate the cost of all delivery ,handling ,storage , fixing in position , protection , wastage , profit and overheads . No claims arising from failure to do so shall be entertained during the implementation of the project . Where a manufacturer's name and catalogue references are given ,it is for guidance to the expeted quality and standard only . Alternative manufacturers with production sof equal or better quality will be accepted at the discretion of the Project Manager .	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**FORM OF CONTRACT** The Form of Contract shall be as stipulated in the Republic of Kenya's Standard Tender Document for Procurement of Building and associated Civil Engineering Works (April, 2022 edition) included herein.Particular of insertions to be made in the appendix to the contract agreement will be found in the particular preliminaries part of these Bills of Quantities	
B	**PERFORMANCE BOND.** The contractor shall find and submit on the Form of Tender an approved bank who will be willing to be bound to Kenya Reinsurance Corporation in an amount equal to ten per cent (10%) of the Contract amount for the due performance of the Contract up to the date of completion as certified by the Project Manager and who will, when and if called upon, sign a Bond to that effect on the relevant standard form included herein (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Client, the contractor shall furnish within seven days another Surety to the approval of the Client. 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 or Quantity Surveyor , duly stamped, signed and sealed by an approved bank or insurance company	
C	**PLANT, TOOLS AND VEHICLES** Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for use by 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. All plants, tools ,scaffolding, vehicles shall comply with all regulations whether general or local ,in force through out the period of the contract and shall be altered or adapted during the contract as they may be necessary to comply with any ammendments in or additions to such regulations . Plants ,tools equipment ,scaffolds and vehicles needed to complete this project are not measured hereafter and the Contractor must allow here or in his rates for this .	
D	**PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING** The Contractor shall provide all protective equipment for all his staff as well as all visitors to the site .The Contractor is notified herewith that in certain areas of work the site staff will be required to put on special protective wear on the head ,body and feet .PPE shall include but is not limited to helmets ,gloves ,goggles ,earmuffs ,safety boots ,gumboots ,overalls etc according to the type of work .**Safety helmets and saftey boots must be worn at site at all times**.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**TRANSPORT.** Allow for transporting of workmen, materials and equipment etc., to and from the Site ,workshops ,suppliers and or manufacturers stores at such hours and by such routes as may be permitted by the competent authorities.	
B	**MATERIALS AND WORKMANSHIP.** All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also ensure they are on each site when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
C	**SIGN FOR MATERIALS SUPPLIED BY THE CLIENT.** The contractor will be required to sign a receipt for all articles and materials supplied by the Client at the time of taking delivery 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	
D	**STORAGE OF MATERIALS** The contractor shall provide at his own risk and cost where directed on each 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.	
E	**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 Client, The Project Manager may reject any materials or workmanship not in their opinion to be up to approved samples or standards. 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 Client. The contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works. The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the Project Manager. The contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**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 Occupational Safety and Health Act (OSHA), 2007 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 to the safety, health and welfare of the workpeople. The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained. In particular the contractor shall allow for complying with the Conditions that may be imposed by the National Environmental Management Authority (NEMA).	
B	**SECURITY OF WORKS ETC.** The Main Contractor shall be entirely responsible for the security of all the works, stores, materials, plant, personnel, etc., both his own and sub-contractors' and must provide all necessary watching, lighting and other precautions as necessary to ensure security against theft, loss or damage and the protection of the public.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 , equipment ,material and workers.	
C	**PUBLIC AND PRIVATE ROADS.** Maintain as required throughout the execution of the works and make good any damage to public or private roads arising from or consequent upon the execution of the works to the satisfaction of the local and other competent authority and the Project Manager	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**EXISTING PROPERTY.**	
	The contractor shall take every precaution to avoid damage to all existing property including Building elements, Temporary structures Finishes, Fittings, 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	
B	**VISITING OF SITES .**	
	The contractor is recommended to visit the site described in the Particular Preliminaries and Preambles to the Bills of Quantities hereof. Any prospective tenderer shall be deemed to have acquainted himself therewith as to its nature, position, means of access or any other matter which, may affect his tender. No claim arising from the failure to comply with this recommendation will be considered.	
C	**ACCESS TO SITES AND TEMPORARY ROADS.**	
	Means of access to each 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 Sites. 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.	
D	**AREA TO BE OCCUPIED BY THE CONTRACTOR**	
	The area in each 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 Client. The Contractor shall be responsible for any demarcation that may be required to cut off this area for his use.	
E	**OFFICE ETC. FOR THE CONSULTANTS**	
	The contractor shall provide for Repair and cleaning of any parts that will be assigned and used as the office for the Consultants and or their assistants during the whole period of execution of the works.	
	The contractor shall abide by the Client's instructions regarding the use of washrooms that will be allocated him for the use by his workers. He shall provide a cleaner and detergents for cleaning the same so as to ensure its cleanliness to the satisfaction of the Client and the Project Manager.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**WATER AND ELECTRICITY FOR THE WORKS** The contractor shall provide at his own risk and cost all necessary water, electric light and power required for use in the works. The contractor must make his own arrangements for connection to the nearest suitable water main and/or for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the Project Manager . The contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the contractor must make his own arrangements for augmenting this supply at his own cost. Nominated Sub contractors are to be made liable for the cost of any water or electric current used and for any installation provided especially for their own use. Notwithstanding the foregoing the Contractor may agree with the Client to use the power and water on site and reimburse the Client for the same by use of check meters.	
B	**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	
C	**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. Due to the nature of work (live building), the working hours for this project will be between 5:00PM and 6:00AM except for weekends and public holidays when the Contractor can work during the day. The Contractor shall allow for this working arrangement against this item as no claim regarding this limitation will be entertained or allowed. The contractor can however request the building administration for access to the site during normal working hours should it necessitate.	
D	**PROVISIONAL SUMS.** The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A6 (i) of the Standard Method of Measurement. Such sums are net and no addition shall be made to them for profit.	
E	**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 A6 (ii) of the Standard Method of Measurement. Persons or firms nominated by the Client to execute work or to provide and fix materials or goods described herein as Nominated Sub- contractors. Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**PROGRESS CHARTS & PROGRAMME OF WORKS.** The contractor shall provide within two weeks of Possession of the 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.	
B	**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" following P.C. sums shall be adjusted pro-rata to the physical extent of the work executed (not prorata to the amount paid) and this shall apply through the contractor's Bills show a percentage in the rate column in respect of them. Should the contractor be permitted to tender and his tender be accepted for 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.	
C	**ADJUSTMENT OF PROVISIONAL SUMS.** In the final account all Provisional Sums shall be deducted and the value of the work properly executed in respect of them upon the Project Manager's order added to the Contract Sum. Such work shall be valued as described for Variations in Conditions No. 22 of the Conditions of Contract, but should any part of the work be executed by a Nominated Sub- contractor, the value of such work or articles for the work to be supplied by a Nominated Supplier, the value of such work or articles shall be treated as a P.C. Sum and profit and attendance comparable to that contained in the priced Bills of Quantities for similar items added.	
D	**NOMINATED SUB-CONTRACTORS** When any work is ordered by the Project Manager to be executed by nominated sub contractors, the contractor shall enter into sub-contracts as described in Condition No. 5 of the Conditions of Contract and shall thereafter be responsible for such sub-contractors in every respect. Unless otherwise described the contractor is to provide for sub contractors any or all of the facilities described in these Preliminaries. The contractor should price for these with the nominated Sub-contractor's work concerned in the P.C. Sums under the description "add for Attendance".	
E	**DIRECT CONTRACTS** Notwithstanding the foregoing conditions, the Client 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.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**ATTENDANCE UPON OTHER TRADESMEN, ETC.** The contractor shall allow for the attendance of trade upon trade and shall afford any tradesmen or other persons employed for the execution of any work not included in this Contract every facility for carrying out their work and also for use of his ordinary scaffolding. The contractor, however, shall not be required to erect any special scaffolding for them. The contractor shall perform such cutting away for and making good after the work of such tradesmen or persons as may be ordered by the Project Manager and the work will be measured and paid for to the extent executed at rates provided in these Bills.	
B	**INSURANCE** The contractor shall insure the works ,their equipment ,staff and third party persons and propoerty as required in Clause 17 and 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 and Insurance Certificate that the provision of the foregoing Insurance Clauses have been complied with in all respects. Thereafter the Project Manager shall from time to time ascertain that premiums are duly paid up by the contractor who shall if called upon to do so, produce the receipted premium renewals for the Project Manager's inspection.	
C	**PROVISIONAL WORK** All work described as "Provisional" in these Bills of Quantities is subject to remeasurement in order to ascertain the actual quantity executed for which payment 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. The minimum limits for liability are included under the conditions of contract of these tender document .	
D	**ALTERATIONS TO BILLS, PRICING, ETC.** Any unauthorised alteration or qualification made to the text of the Bills of Quantities may cause the Tender to be disqualified and will in any case be ignored. The contractor shall be deemed to have made allowance in his prices generally to cover any items against which no price has been inserted in the priced Bills of Quantities. All items of measured work shall be priced in detail and the Tenders containing Lump Sums to cover trades or groups of work must be broken down to show the price of each item before they will be accepted.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
A	**MATERIALS ARISING FROM DEMOLITIONS** Materials of any kind obtained from the demolitions shall be the property of the Government. Unless the Client 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 Client, should such permission be given, the contractor shall make due allowance for the value of the materials so used at a price to be agreed.	
B	**PROTECTION OF THE 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 Client 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 Government.	
C	**CLEANING** Collect all rubbish and debris from the Buildings and Sites as it accumulates and at the completion of the works and deposit them where directed by the Project Manager.All waste, plant, scaffolding and unused materials at completion should be removed from the Sites. The Contractor(s) will be expected to clear debris from the site on a daily basis to avoid accumulation on site .Bidders must take care of this requirement when pricing.	
D	**WORKS TO BE DELIVERED UP CLEAN** Clean and flush all gutters, rainwater and waste pipes, manholes and drains, wash (except where such treatment might cause damage) and clean all floors, sanitary fittings, glass inside and outside and any other parts of the works and remove all marks, blemishes, stains and defects from joinery, fittings and decorated surfaces generally, polish door furniture and bright parts of metalwork and leave the whole of the buildings watertight, clean, perfect and fit for occupation to the approval of the Project Manager	
E	**FIRM PRICE CONTRACT** Unless specifically stated otherwise in the Particular Preliminaries this is a firm price contract and **fluctuations clause shall not apply**.	
F	**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, 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.	
	Total 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 and his tender must include for all cost arising therefrom.	
B	**MATERIALS ON SITES** All materials for incorporation in the works must be stored on or adjacent to each 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.No materials of site will be paid for unless a bond for said materials is provided .	
C	**HOARDING** The contractor shall enclose the Sites, as shown on the Sites plan with a hoarding 2.40 metres high, with openings and gates as required constructed of substantial timbers to approval and covered with new galvanised corrugated iron sheeting painted to approval. The contractor shall enclose each of the site with a hoarding 2400mm high consisting of iron sheets gauge 30 on 100 x 50 mm 2nd grade treated sawn cypress timber posts firmly secured at 1500 mm centres with two 75 x 50 mm second grade treated sawn cypress timber horizontal 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.Allow for the following Provisional length; - A length of 100 metres @ ..... (Tenderer must insert rate and extend) Further the Contractor shall allow for dust proof screens between workspaces and adjacent offices as to be instructed and approved by the Project Manager. These shall be in the form of blockboard, marine board or equal and approved material tightly sealed at the joint to cut off dust from adjacent offices or work spaces.	
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 Quantity Surveyor and such directions shall be deemed to have been given to the contractor in accordance with the Conditions of Contract.	
E	**COPYRIGHT** The copyright of these documents is vested in Project Quantity Surveyor. No part of this document may be reproduced in any form or by any means without prior permission from the Project Quantity Surveyor.	
	Total Carried to Collection	

ITEM	DESCRIPTION	AMOUNT
	COLLECTION FOR GENERAL PRELIMINARIES	
	Brought Forward From Page 86	
	Brought Forward From Page 87	
	Brought Forward From Page 88	
	Brought Forward From Page 89	
	Brought Forward From Page 90	
	Brought Forward From Page 91	
	Brought Forward From Page 92	
	Brought Forward From Page 93	
	Brought Forward From Page 94	
	Brought Forward From Page 95	
	Brought Forward From Page 96	
	Brought Forward From Page 97	
	TOTAL FOR GENERAL PRELIMINARIES CARRIED TO SUMMARY OF PRELIMINARIES	

PROPOSED COMMON AREA REFURBISHMENTS AT ANNIVERSARY TOWERS IN NAIROBI COUNTY FOR KENYA REINSURANCE CORPORATION

BILL NO 1 SUMMARY

PRELIMINARY ITEMS SUMMARY

	SUMMARY OF PRELIMINARIES	PAGE	AMOUNT (KShs.)
1	PARTICULAR PRELIMINARIES BROUGHT FROM PAGE 86	85	
2	GENERAL PRELIMINARIES BROUGHT FROM PAGE 99	98	
	BILL NO 01 - PRELIMINARIES TOTAL CARRIED TO GRAND SUMMARY		

BILL NO. 02
DEMOLITIONS

Item	Description	Unit	Qty	Rate	Amount(KShs)
	BILL NO 2				
	DEMOLITIONS AND WORKS OF ALTERATIONS				
	ALL PROVISIONAL				
	Please note the following prior to pricing:-				
i)	The Contractor shall provide the method of carrying out demolition works to the Project Architect for approval prior to commencing any works.				
ii)	The Contractor shall exercise necessary safety measures so as not to cause any damage to the existing structure and adjoining properties.				
iii)	The Contractor shall excercise necessary safety measures so as not to cause injury to users of the building and/or other third parties,and all site staff.				
iv)	The Contractor shall note that all salvage materials shall be the property of the Client unless indicated as " cart away". The Contractor shall be responsible for carting away debris upon approval by the Project Architect.				
v)	No salvage material shall be incorporated in the works without the express written authority of the Project Architect.				
vi)	The Contractor is advised to include in his rates the cost of making good all disturbed areas where it is expressly included in the description of works to be done or otherwise .				
vii)	The Contractor is advised to take all necessary precautionary measures to guard against dirt , dust and noise pollution .				
viii)	The Contractor is advised to take all necessary precautionary measures in the removal ,handling ,storing and fixing of materials recovered from demolitions				
ix)	The works will be carried out in a relatively busy environment and the contractor will be constrained from extremely noisy operations . Consequently he will be expected to carry such noisy activities and other nuisance-causing activities after normal working hours, weekends or public holidays and must allow this in his rates.				

Item	Description	Unit	Qty	Rate	Amount(KShs)
	DEMOLITIONS AND WORKS OF ALTERATIONS				
	ALL PROVISIONAL				
	24th Floor -Tank Rooms				
	Window boards				
A	Carefully remove existing 300mm wide window board in 25mm thick laminated particle board fixed to concrete surfaces using adhesive; load and cart away arising debris and make good all disturbed areas (Approximately 29LM)	ITEM			
	23rd floor - Ground Floor				
	Lift lobbies				
B	Carefully pull down existing natural anodized aluminium ceiling comprising 100mm wide slats suspended from soffits of slab using metal framework;load and cart away arisings and make good all disturbed areas (Approximately 1992 SM)	ITEM			
	Corridors				
C	Carefully pull down existing natural anodized aluminium ceiling comprising 100mm wide slats suspended from soffits of slab using metal framework;load and cart away arising and make good all disturbed areas (Approximately 1232 SM)	ITEM			
	Planters				
D	Carefully hack out existing wall floor tiles including existing 32mm thick cement sand screed; load and cart away debris and make good all disturbed areas (Approximately 62 SM)	ITEM			
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount(KShs)
	DEMOLITIONS AND WORKS OF ALTERATIONS(CONTINUED)				
	Brought forward				
	Washrooms				
	Note: Special care must be taken during demolitions to preserve all existing phenolic washroom partions and frames that are in 25mm thick Laminated MDF boards and framed in 100x50mm thick timber posts				
	Floor				
A	Carefully hack out existing ceramic floor tiles including existing 32mm thick cement sand screed; load and cart away debris and make good all disturbed areas (Approximately 771 SM)	ITEM			
	Walls				
B	Carefully hack out existing ceramic wall tiles; load and cart away debris and make good all disturbed areas(Approximately 2600 SM)	ITEM			
	Ceilings				
C	Carefully pull down existing natural anodized aluminium ceiling comprising 100mm wide slats suspended from soffits of slab using metal framework;load and cart away arising and make good all disturbed areas (Approximately 771 SM)	ITEM			
	Doors				
D	Carefully pull down existing solid core flush door overall size 800x 2100mm high including 100x50mm frames ;load and cart away arising and make good all disturbed areas(35NO)	ITEM			
E	Ditto 900 x2100mm door (Airlock doors -92NO)	ITEM			
	Countertops				
F	Carefully hack out existing 25mm thick terazzo screed finish from surfaces of existing concrete worktops ; load and cart away debris and make good all disturbed areas(Approximately 120 SM)	ITEM			
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount(KShs)
	DEMOLITIONS AND WORKS OF ALTERATIONS(CONTINUED)				
	Brought forward				
	Kitchenettes				
	Floor finish				
A	Carefully hack out existing 40mm thick terrazzo screed; load and cart away debris and make good all disturbed areas (Appproximately 309 SM)	ITEM			
	Wall finishes				
B	Carefully hack out existing ceramic wall tiles; load and cart away debris and make good (Approximately 75 SM)	ITEM			
	Countertops				
C	Carefully hack out existing 25mm thick terazzo screed finish from surfaces of existing concrete worktops ; load and cart away debris and make good all disturbed areas (Approximately 94SM)	ITEM			
D	Carefully hack 50mm thick mass concrete coutertops ; load and cart away debris and make good all disturbed areas (Approximately 35SM)	ITEM			
	Doors				
E	Carefully pull down existing solid core flush door overall size 900x 2100mm high including 100x50mm softwood timber frames ;load and cart away arisings and make good all disturbed areas(Approximately 25 NO)	ITEM			
	Kitchen cabinets				
F	Carefully pull down existing worn down kitchen cabinet overall size 2000mm long 500mm wide and 750mm deep constructed in 20mm thick blockboard ;load and cart away arisings and make good all disturbed areas (Approximately 25NO)	ITEM			
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount(KShs)
	DEMOLITIONS AND WORKS OF ALTERATIONS(CONTINUED)				
	Brought forward				
	Staircases				
	Note: *Doors along the staircase are fitted with special alarm and intrusion security system features that are either bedded into the frame or are surface mounted .Special care must be taken when removing the doors to prevent damage to the existing security features. All existing overhead door closers on the doors must be removed and handed over to the client*				
	Doors				
A	Carefully pull down existing solid core flush door overall size 1100x 2100mm high including 100x50mm frames and all afixed iron mongeries ;load and cart away waste arisings and make good all disturbed areas(Main staircase- Approximately 29NO)	ITEM			
B	Carefully pull down existing solid core flush door overall size 900x 2100mm high including 100x50mm frames and all afixed iron mongeries ;load and cart away waste arisings and make good all disturbed areas(Fire escape staircase- Approximately 54 NO)	ITEM			
	Window boards				
C	Carefully remove existing 200mm wide window board in 25mm thick laminated particle board fixed to concrete surfaces using adhesive; load and cart away waste arising debris and make good all disturbed areas (Approximately 83 LM)	ITEM			
	Podium Roof				
	Roofing sheets				
D	Very carefully pull down existing corrugated iron roofing sheets fixed to existing purlins ;load and cart away arisings and make good all disturbed areas (Approximately 1215 SM)	ITEM			
E	Carefully hack out existing interlocking tiles ,existing screed ,existing waterproofing membrane ;load and cart away all arising debris and make good all disturbed areas (Approximately 1669 SM)	ITEM			
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount(KShs)
	DEMOLITIONS AND WORKS OF ALTERATIONS(CONTINUED)				
	Brought forward				
	Loading bay				
A	Carefully hack out existing 40mm thick terrazzo screed; load and cart away debris and make good(Approximately 40 SM)	ITEM			
	External works				
	Concrete paving blocks along Monrovia Street				
B	Carefully hack out existing concrete paving blocks, 50mm thick murram blinding, load and cart away arisings and make good all disturbed areas(Approximately 166 SM)	ITEM			
	Canopies				
C	Carefully bring down existing 18mm thick plolycarbonate sheet canopy including all sawn timber supporting framework approximately 6000mm from existing ground level and all PVC ceilings or mirror false ceilings attached to supporting canopy framework ;load and cart away arisings and make good all disturbed areas (Approximately 207 SM)	ITEM			
D	Allow a provisional sum of One Hundred and Fifty Thousand shillings (Ksh 150,000/=) for additional works of demolition and alterations	SUM			
	BILL NO 2				
	DEMOLITIONS AND ALTERATIONS				
	TOTAL CARRIED TO GRAND SUMMARY				

BILL NO. 03
BUILDER'S WORK

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	24TH FLOOR				
	Tank Room				
	Wall finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved gypsum filler, smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone walls and concrete columns	SM	272		
B	Previously painted sides of concrete beams	SM	122		
C	Surfaces of concrete water tank support beams	SM	13		
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of matte vinyl paint to:-				
D	Previously painted soffits of concrete slab	SM	288		
	Window board				
	Mass concrete class 15 in :				
E	50mm Thick plinth	SM	12		
	Sawn formwork :-				
F	Edges of concrete plinth ;girth 0-75mm	LM	80		
	Cement and sand (1:3) screed trowelled smooth; to window sill surfaces				
G	12mm Thick to receive ceramic tiles	SM	12		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
H	6mm Thick ceramic floor tiles	SM	12		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	24TH FLOOR-CONTINUED				
	Brought forward				
	Lift Machine Room				
	Wall finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone walls and concrete columns	SM	177		
B	Previously painted sides of concrete beams	SM	43		
C	Surfaces of concrete support beams	SM	22		
	Ceiling finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of matte vinyl paint to:-				
D	Previously painted soffits of concrete slab	SM	113		
	Stairwells				
	Wall finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
E	Previously painted surfaces of stone/concrete walls	SM	104		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	24TH FLOOR-CONTINUED				
	Brought forward				
	Stairwells (Continued)				
	Ceiling finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of matte vinyl paint to:-				
A	Previously painted soffits of concrete slab	SM	31		
B	Previously painted soffits of landings	SM	6		
C	Previoulsy painted soffits of sloping staircases	SM	13		
D	Previously painted sides of beams	SM	8		
	Window board				
	Mass concrete class 15 in :				
E	50mm Thick plinth	SM	1		
	Cement and sand (1:3) screed trowelled smooth; to window sill surfaces				
F	12mm Thick to receive ceramic tiles	SM	1		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based non - shrink grouting in:-				
G	6mm Thick ceramic floor tiles	SM	1		
	Balustrading				
	Carefully sand down old existing paint, touch up primer, prepare and apply one undercoats and two finishing coats of matt oil paint to metal surfaces (both sides measured overall)				
H	Surfaces of mild steel balustrading	SM	27		
	TOTAL FOR 24TH FLOOR CARRIED TO BILL SUMMARY		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR				
	Mezzanine 2 to 23rd Floor- Women's Washroom				
	Floor finishes				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
A	30mm Thick(avg) cement sand (1:4) bed to receive non-slip porcelain floor tiles	SM	336		
	Floor tiles generally				
	Supply,deliver to site and fix approved non-slip full boarded porcelain floor tiles; 95% free from visible defects ; plus or minus 5% maximum side straightness deviation ; group 5 or PEI 5 surface abrasion ; PEI5 stain resistant ; less than 0.5 % water absorption ; frost resistant ; chemical resistant ;bedded and jointed in approved adhesive; to using serrated stainless steel trowel to prepared screeded floor surfaces with and including matching coloured grouting				
B	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and	SM	336		
	Supply,deliver to site and store **ONLY** on site approved non-slip porcelain floor tiles as directed by the Project Manager				
C	Provide a Prime Cost rate of Kenya Shillings Two thousand eight hundred (3,000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for delivery to site ,handling and storing as directed	SM	17		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Women's Washroom(Continued)				
	Brought forward				
	Wall finishes				
	Cement sand (1:3) backing ;wood floated on vertical surfaces				
A	15mm Thick(average) cement sand (1:4) backing to receive glazed wall tiles	SM	1348		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
B	6mm Thick approved ceramic wall tiles	SM	1348		
C	Ditto but **SUPPLY ONLY ;** allow for transporting to site ,handling and storing as directed by the Project Manager	SM	68		
	Tile edge trim(measured provisionally)				
D	12mm wide polished aluminium edge trim as "Promax Alum Formable Edge Trim" or other equal and approved fixed with approved adhesive to butt edges of wall tiles	LM	106		
	Ceiling finishes				
	Moisture resistant gypsum ceiling				
	Water resistant gypsum plasterboard fixed to glavanised mild steel framework of 600mm centres both ways; suspended 450mm from soffites of concrete slabs with 25 x 25 x1.6mm thick mild steel angle sections, perimeter channels ,strap hangers connecting clips ,sawn cypress timber supports ets; butt jointed with scrim joint filler and taped finish ;including skimming with gypsum plaster ,forming and curved cutting all to the satisfaction of the Project Architect in:-				
E	12.5mm Thick gypsum boards;ceilings not exceeding 3.5metres from finished floor level	SM	336		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Women's Washroom(Continued)				
	Brought forward				
	Supply and fix concave profile gypsum cornice with and including approved adhesive to coves surfaces				
A	100 x 50mm moulded cornice with two labours	LM	421		
	Prepare surfaces and apply one coat of approved primer and two coats of matte vinyl emulsion paint all to Architect's approval to :-				
B	Surfaces of gypsum plasterboard ceilling	SM	336		
C	Surfaces of gypsum cornice ; girth 100-200mm	LM	421		
	Doors				
	Note: The contractor to note that all timber sizes are finished sizes and should include in his rates for ex-sizes.				
	Timber Flush doors				
D	50mm Thick solid core timber door size 900 x 2100mm high with and including 3mm thick "walnut" laminate finish on both sides all as per Architect's detailed drawings and schedules	NO	46		
	Door frames and finishings in wrot mahogany or other equal and approved hardwood timber in:-				
E	150 x 50 mm rebated frame with 2 labors plugged	LM	235		
F	50 x 25mm Architraves	LM	235		
G	25mm Thick Quadrant beading	LM	235		
	Prepare and apply one coat of wood preservative to woodwork before fixing				
H	Timber surfaces of girth 100-200mm	LM	235		
	Knot, prime, stop and apply three coats clear varnish to:				
I	Timber surfaces of girth 100-200mm	LM	235		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Women's Washroom(Continued)				
	Brought forward				
	Supply and fix the following ironmongery all as per "UNION" or other equal and approved:-				
A	100x76x3mm Stainless steel bearing hinges as UNION HN - SBB - 403030	PRS	69		
B	3-Lever mortice sash lock complete with stainless steel rose lever polished brass handles as Ref 2000-32 SS	NO	46		
C	Oval satin anodized aluminium door stop as "Union" Ref DS-F-001SS rawl bolted to floor tile	NO	46		
D	Heavy duty overhead door closer as "ASSA ABLOY " or other equal and approved as REF" DS	NO	23		
E	150mm long solid brass with antique brass finish and lacquer coating hat and coat hook	NO	46		
F	700 x 100 X 1.6mm Thick aluminium kicking plates fixed to timber door leafs	NO	46		
G	150 x 75 mm Stainless steel "FEMALE" sign "Union " ref. S-FS-150-75-SSS	NO	23		
	Take from store and fix in position with matching screws the following recovered ironmongery all to the approval of the Project Manager(all provisional)				
H	Overhead door closer	NO	23		
I	"PULL/PUSH " Sign	NO	2		
J	"MALE/FEMALE " Sign	NO	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Women's Washroom(Continued)				
	Brought forward				
	Partition Frames (All Provisional)				
	Wall frames and finishing in wrought mahogany or other equal and approved				
A	150 x 50 mm rebated frame with 2 labors plugged	LM	318		
	Prepare and apply one coat of wood preservative to woodwork before fixing to:-				
B	Timber surfaces of girth 100-200mm	LM	318		
	Knot, prime, stop and apply three coats clear varnish to:				
C	Timber surfaces of girth 100-200mm	LM	318		
	Natural stone wallling				
	Note: The works include adjustment of existing openings both blocking, jointing and opening in several places and the area given is net				
	Machine cut stone walling minimum stregth 7.0N / mm2, bedded and jointed in cement and sand mortar (1:3) reinforced with and including 25mm wide 26 gauge hoop iron at alternate courses and bonding end of walling to the existing walling, concrete beams and columns				
E	200mm Thick walling	SM	57		
F	150mm Thick walling	SM	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Women's Washroom(Continued)				
	Brought forward				
	Joinery Works				
	Cement sand (1:3) backing ;wood floated on horizontal surfaces				
A	15mm Thick(average) cement sand (1:4) backing to receive granite slabs	SM	53		
	20mm Thick approved " Kenya Black" granite:-				
B	20mm Thick polished granite slab tops with rounded edges laid on prepared backing	SM	33		
C	100 x 20mm Thick Fascia with rounded edges ditto	LM	175		
	Sundries				
D	Extra over 20mm Thick granite top for cutting wash hand basin opening size 350 x 550mm wide	NO	69		
	Ceiling access trap door				
	Supply and fix in position moisture proof ,mould proof ,smoke proof ,fireproof powder coated galvanised mild steel ceiling access panel complete with and including powder coated frame all round and push lock and screwing to existing false ceiling framework				
E	600 x 600 x 50mm Thick access door	NO	23		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Brought forward				
	Mezzanine 2 to 23rd Floor- Men's Washroom				
	Floor finishes				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
A	30mm Thick(avg) cement sand (1:4) backing to receive non-slip porcelain floor tiles	SM	336		
	Non -slip porcelain floor tiles				
	Supply,deliver to site and fix approved non-slip full boarded porcelain floor tiles; 95% free from visible defects ; plus or minus 5% maximum side straightness deviation ; group 5 or PEI 5 surface abrasion ; PEI5 stain resistant ; less than 0.5 % water absorption ; frost resistant ; chemical resistant ;bedded and jointed in approved adhesive; to using serrated stainless steel trowel to prepared screeded floor surfaces with and including matching coloured grouting				
B	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured nosn shrink grout all to the Architect's approval	SM	336		
	Supply,deliver to site and store **ONLY** on site approved non-slip porcelain floor tiles as directed by the Project Manager				
C	Provide a Prime Cost rate of Kenya Shillings Two thousand eight hundred (3,000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for delivery to site ,handling and storing as directed	SM	17		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Men's Washroom (Continued)				
	Brought forward				
	Wall finishes				
	Cement sand (1:3) backing ;wood floated on vertical surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive glazed ceramic wall tiles	SM	1379		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
B	6mm Thick approved ceramic wall tiles	SM	1379		
C	Ditto but **SUPPLY ONLY ;** allow for transporting to site ,handling and storing as directed by the Project Manager	SM	68		
	Tile edge trim(measured provisionally)				
D	12mm wide polished aluminium edge trim as "Promax Alum Formable Edge Trim" or other equal and approved fixed with approved adhesive to butt edges of wall tiles	LM	106		
	Ceiling finishes				
	Moisture resistant gypsum ceiling				
	Water resistant gypsum board fixed to galvanised mild steel framework of 600mm centres both ways; suspended 450mm from soffits of concrete slabs with 25x25x2.5mm thick mild steel angle sections, perimeter channels ,strap hangers connecting clips ,sawn cypress timber supports ets; butt jointed with scrim joint filler and taped finish ;including skimming with gypsum plaster ,forming and curved cutting all to the satisfaction of the Project Architect in:-				
E	12.5mm Thick gypsum boards;ceilings not exceeding 3.5metres from finished floor level	SM	336		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Men's Washroom(Continued)				
	Brought forward				
	Supply and fix concave profile gypsum cornice with and including approved adhesive to coves surfaces				
A	100 x 50mm moulded cornice with two labours	LM	393		
	Prepare surfaces and apply one coat of approved primer and two coats of matte vinyl emulsion paint all to Architect's approval to :-				
B	Surfaces of gypsum plasterboard ceilling	SM	336		
C	Surfaces of gypsum ceiling; girth 100-200mm	LM	393		
	DOORS				
	Note: The contractor to note that all timber sizes are finished sizes and should include in his rates for ex-sizes.				
	Timber Flush doors				
A	50mm Thick post formed solid core timber door size 900 x 2100mm high with 3mm thick beech laminate finish on both sides, all as per Architect's detailed drawings and schedules	NO	46		
B	Ditto but 800x2100mm high door	NO	1		
	Door frames and finishings in wrot mahogany or other equal and approved				
D	150 x 50 mm rebated frame with 2 labors plugged	LM	235		
E	50 x 25mm Architraves	LM	235		
F	16mm Quadrant beading	LM	235		
	Prepare and apply one coat of wood preservative to woodwork before fixing to :-				
G	Timber surfaces of girth 100-200mm	LM	235		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Men's Washroom(Continued)				
	Brought forward				
	Prepare and apply three coats clear polyurthane varnish to:				
A	Timber surfaces of girth 100-200mm	LM	235		
	Supply and fix the following ironmongery all as per "UNION" or other equal and approved all to the satisfaction of the Project Manager :-				
B	100x76x3mm Stainless steel bearing hinges as UNION HN - SBB - 403030	PRS	69		
C	3-Lever mortice sash lock complete with stainless steel rose lever polished brass handles as Ref 2000-32 SS	NO	46		
D	Oval satin anodized aluminium door stop as "Union" Ref DS-F-001SS rawl bolted to concrete floor	NO	46		
E	Heavy duty overhead door closer	NO	23		
F	150mm Long solid brass with antique brass finish and lacquer coating hat and coat hook	NO	46		
G	700 x 100 X 1.6mm Thick aluminium kicking plates fixed to timber door leafs	NO	46		
H	150 x 75 mm Stainless steel "MALE" sign "Union " ref. S-MS-150-75-SSS	NO	23		
	Take from store and fix in position with matching screws the following recovered ironmongery all to the approval of the Project Manager				
I	Overhead door closer	NO	23		
J	"PULL/PUSH " Sign	NO	2		
K	"MALE/FEMALE " Sign	NO	1		
L	Rubber door stopper	NO	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Men's Washroom(Continued)				
	Brought forward				
	Partition Frames(All Provisional)				
	Wall frames and finishing in wrot mahogany or other equal and approved				
A	150 x 50 mm rebated frame with 2 labors plugged	LM	318		
	Prepare and apply one coat of wood preservative to woodwork before fixing				
B	Timber surfaces of girth 100-200mm	LM	318		
	Prepare and apply three coats clear polyurethane varnish to:-				
C	Timber surfaces of girth 100-200mm	LM	318		
	Natural stone wallling				
	Note: The works include adjustment of existing openings both blocking, jointing and opening in several places and the area given is net				
	Machine cut stone walling minimum stregth 7.0N / mm2, bedded and jointed in cement and sand mortar (1:3) reinforced with and including 25mm wide 26 gauge hoop iron at alternate courses and bonding end of walling to the existing walling, concrete beams and columns				
D	200mm Thick walling	SM	62		
E	100mm Thick walling	SM	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Men's Washroom(Continued)				
	Brought forward				
	Joinery Works				
	Cement sand (1:3) backing ;wood floated on horizontal surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive granite slabs	SM	53		
	20mm Thick approved " Kenya Black" granite:-				
B	20mm Thick polished granite tops with rounded edges fixed to blockboard backing with approved adhesive	SM	26		
C	100 x 20mm Fascia with rounded edges ditto	LM	123		
	Sundries				
D	Extra over 20mm Thick granite top for cutting wash hand basin opening size 350 x 550mm wide	NO	69		
	Ceiling access trap door				
	Supply and fix in position moisture proof ,mould proof ,smoke proof ,fireproof powder coated galvanised mild steel ceiling access panel complete with and including powder coated frame all round and push lock and screwing to existing false ceiling framework				
E	600 x 600 x 50mm Ceiling access door	NO	23		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Brought forward				
	Mezzanine 2 to 23rd Floor- Kitchenette				
	Floor finishes				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
A	30mm Thick(avg) cement sand (1:4) backing to receive non-slip porcelain floor tiles	SM	309		
	Non -slip porcelain floor tiles				
	Supply,deliver to site and fix approved non-slip full boarded porcelain floor tiles; 95% free from visible defects ; plus or minus 5% maximum side straightness deviation ; group 5 or PEI 5 surface abrasion ; PEI5 stain resistant ; less than 0.5 % water absorption ; frost resistant ; chemical resistant ;bedded and jointed in approved adhesive; to using serrated stainless steel trowel to prepared screeded floor surfaces with and including matching coloured grouting				
B	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured non-shrink grout all to the Architect's approval	SM	309		
	Supply,deliver to site and store **ONLY** on site approved non-slip porcelain floor tiles as directed by the Project Manager				
C	Provide a Prime Cost rate of Kenya Shillings Two thousand eight hundred (3,000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for delivery to site ,handling and storing as directed	SM	16		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Kitchenette (Continued)				
	Brought forward				
	Wall finishes				
	Cement sand (1:4) backing ;wood floated on vertical surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive wall tiles	SM	414		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
B	6mm Thick approved wall tiles	SM	414		
C	Ditto but **SUPPLY ONLY ;** allow for transporting to site ,handling and storing as directed by the Project Manager	SM	25		
	Tile edge trim(measured provisionally)				
D	12mm wide aluminium tile edge trim as "Promax Alum Formable Edge Trim" or other equal and approved	LM	217		
	Wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint or other equal and approved to:-				
E	Previously painted walls	SM	680		
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of "Brilliant white" vinyl matte paint or other equal and approved to:-				
F	Previously painted soffits of concrete slab all to the satisfaction of the Architect	SM	309		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Kitchenette (Continued)				
	Brought forward				
	Doors				
	Note: The contractor to note that all timber sizes are finished sizes and should include in his rates for ex-sizes.				
	Timber Flush doors				
A	50mm Thick post formed solid core timber door size 800 x 2100mm high with 3mm thick beech laminate finish on either side, with and including 250 x 750mm viewing panel infilled with 3mm thick obscure sheet glass and glazing with rubber lining all round glass all as per Architect's detailed drawings and schedules	NO	25		
	Doors, door frames and finishing in wrought mahogany or other equal and approved				
B	150 x 50 mm rebated frame with 2 labors plugged	LM	125		
C	50 x 25mm Architraves	LM	125		
D	16mm Quadrant beading	LM	125		
	Prepare and apply one coat of wood preservative to woodwork before fixing				
E	Timber surfaces of girth 100-200mm	LM	125		
	Prepare and apply three coats of clear polyurethane varnish to:				
F	Timber surfaces of girth 100-200mm	LM	125		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Kitchenette(Continued)				
	Brought forward				
	Supply and fix the following ironmongery all as per "UNION" or other equal and approved:-				
A	100x76x3mm Stainless steel bearing hinges as UNION HN - SBB - 403030	PRS	38		
B	3-Lever mortice sash lock complete with stainless steel rose lever polished brass handles as Ref 2000-32 SS	NO	25		
C	Oval satin anodized aluminium door stop as "Union" Ref DS-F-001SS rawl bolted to concrete floor	NO	25		
D	Heavy duty duty overhead door closer or other equal and approved as REF" DS 7770"	NO	25		
E	150mm long solid brass with antique brass finish and lacquer coating hat and coat hook	NO	25		
F	100 x 700mm Long brass kicking plates	NO	25		
	Joinery works				
	Cement sand (1:3) backing ;wood floated on horizontal surfaces				
G	15mm Thick(avg) cement sand (1:4) backing to receive granite slabs	SM	68		
	20mm Thick approved " Kenya Black" granite:-				
H	20mm Thick polished granite tops with rounded edges fixed to blockboard backing with approved adhesive	SM	34		
I	Ditto but in 100 x 20mm Fascia with rounded edges	LM	87		
J	Extra over 20mm Thick granite top for cutting sink opening size 1000 x 550mm wide	NO	24		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor- Kitchenette (Continued)				
	Brought forward				
	Joinery works				
	Wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint or other equal and approved to:-				
A	Soffits of concrete worktops	SM	34		
	High level kitchen cabinets				
E	Size 2250mm long x 300mm deep x 700mm high comprising 12mm laminate MDF sides, top, bottom and 1 No. divisions; 1 NO. 900mm long shelf; 3 No. full length 50 x 25mm thick timber bearers plugged to walls; 5No. beech laminate MDF doors each size 480mm wide x 700mm high with 24No. MEPLA hinges and 100mm stainless steel handles	NO	24		
	Low level kitchen cabinets				
F	Size 2250mm long x 500mm deep x 700mm high comprising 12mm laminate MDF sides, top, bottom and 1 No. divisions; 1 NO. 900mm long shelf; 3 No. full length 50 x 25mm thick timber bearers plugged to walls; 5No. beech laminate MDF doors each size 480mm wide x 700mm high with 24No. MEPLA hinges and 5 No .100mm wide polished brass handles	NO	24		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-Main Staircase				
	Brought forward				
	Wall finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone/concrete walls	SM	1160		
	Ceiling finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of landings	SM	164		
C	Previoulsy painted soffits of sloping staircases	SM	196		
	Window board				
	Mass concrete class 15 in :				
D	50mm Thick plinth	SM	8		
	Cement and sand (1:3) screed trowelled smooth; to window cill surfaces				
E	15mm Thick to receive ceramic tiles	SM	8		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
F	300 x 300 x 6mm thick ceramic floor tiles	SM	8		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-Main Staircase				
	Brought forward				
	Balustrading & Railing				
	Carefully sand old existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of matt oil paint to metal surfaces (both sides measured overall)				
A	Surfaces of mild steel balustrading	SM	158		
	Carefully sand ,fill all holes with approved filler apply one undercoat and two finishing coats of clear polyurethane varnish to				
B	Surfaces of timber ; 100-200mm girth	LM	178		
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 10mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
C	1100 x 2100mm High door	NO	24		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-North Tower Staircase				
	Brought forward				
	Wall finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone/concrete walls	SM	1087		
	Ceiling finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte emulsion paint to:-				
B	Previously painted soffits of landings	SM	114		
C	Previoulsy painted soffits of sloping staircases	SM	156		
	Window board				
	Mass concrete class 15 in :				
D	50mm Thick plinth	SM	8		
	Cement and sand (1:3) screed trowelled smooth; to window sill surfaces				
E	15mm Thick to receive ceramic tiles	SM	8		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting				
F	300 x 300 x 6mm thick ceramic floor tiles	SM	8		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-North Tower Staircase				
	Brought forward				
	Balustrading & Railing				
	Carefully sand old existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of matt oil paint to metal surfaces (both sides measured overall)				
A	Surfaces of mild steel balustrading	SM	185		
	Carefully sand ,fill all holes with approved filler apply one undercoat and two finishing coats of clear polyurethane varnish to				
B	Surfaces of timber ; 100-200mm girth	LM	201		
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 10mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
C	900 x 2100mm High door	NO	24		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-South Tower Staircase				
	Brought forward				
	Wall finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler,smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone walls	SM	1087		
	Ceiling finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of landings	SM	114		
C	Previoulsy painted soffits of sloping staircases	SM	156		
	Window board				
	Mass concrete class 15/20 in :				
D	50mm Thick plinth	SM	8		
	Cement and sand (1:3) screed trowelled smooth; to window sill surfaces				
E	15mm Thick to receive ceramic tiles	SM	8		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting				
F	300 x 300 x 6mm thick ceramic floor tiles	SM	8		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-South Tower Staircase				
	Brought forward				
	Balustrading & Railing				
	Sand old existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of matt oil paint to metal surfaces (both sides measured overall):-				
A	Surfaces of mild steel balustrading	SM	185		
	Carefully sand down ,fill all holes with approved filler apply one undercoat and two finishing coats of clear polyurethane varnish to :-				
B	Surfaces of timber ; 100-200mm girth	LM	201		
	Doors				
	Purpose made units				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 10mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
C	900 x 2100mm High door	NO	24		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-Lift Lobbies				
	Brought forward				
	Floor finishes				
	Note: The Contractor is to note that adjacent and adjoining surfaces of existing floor tiles must be covered/protected adequately to prevent possible mechanical damage or chemical damage during execution of the works				
	Re-grouting existing floor tiles				
	Application of waterproof non -shrink grouting				
A	Prepare and reprofile visible broken 10mm(avg) wide by 10mm deep vertical and horizontal joints with non-shrink grout as "ECOFILL-NS' or other equal and approved in accordance with the manufacturers written instructions	SM	2225		
	Cleaning and polishing floor tiles				
	Carefully remove all visible residue on surfaces . Clean existing surfaces using an appropriate approved detergent ;remove all visible oil stains ; gently scrub surfaces whilst taking care not to damage existing tile ;rinse and allow surfaces to completely dry off ; apply a uniform coat of "Pro Care Shine" or other equal tile polisher using a rubber squeegee ; apply two fiishing coats and rub down to achieve uniform surface finish to :-				
B	Surfaces of floor tiles	SM	2225		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-Lift Lobbies				
	Brought forward				
	Wall finishes				
	Note: The Contractor is to note that adjacent and adjoining surfaces of existing wall tiles must be covered/protected adequately to prevent possible mechanical damage or chemical damage during execution of the works				
	Re-grouting existing mosaic wall tiles				
	Application of waterproof non -shrink grouting				
A	Prepare and reprofile visible broken 10mm(avg) wide by 10mm deep vertical and horizontal joints with non-shrink grout as "ECOFILL-NS' or other equal and approved in accordance with the manufacturers written instructions	SM	4066		
	Cleaning and polishing mosaic wall tiles				
	Carefully remove all visible residue on surfaces . Clean existing surfaces using an appropriate approved detergent ;remove all visible oil stains ; gently scrub surfaces whilst taking care not to damage existing tile ;rinse and allow surfaces to completely dry off ; apply a uniform coat of "Pro Care Shine" or other equal tile polisher using a rubber squeegee ; apply second coat and rub down to achieve uniform surface finish to :-				
B	Surfaces of mosaic wall tiles	SM	4066		
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
C	Previously painted surfaces of walls (ducts)	SM	1477		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 2 TO 23RD FLOOR(CONTINUED)				
	Mezzanine 2 to 23rd Floor-Lift Lobbies				
	Brought forward				
	Ceiling finishes				
	Powder coated aluminium perforated sheet acoustic ceiling				
A	Supply and fix in position 600 x 600 x 2.5mm thick powder coated perforated aluminium sheet acoustic ceiling tiles on galvansed steel stud framework in 600mm lay -in grid and including 50 x 50mm runners at 600mm centres complete with U-chanel galvanised steel hangers fixed approximately 450mm below soffits of concrete slab with and including 200x25mm shadow batten in 25mm thick block board to perimeter	SM	2225		
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of concrete slab(ducts)	SM	175		
	Refuse chute duct				
	Rubber gasket				
C	Supply and fit 20mm thick heavy duty EPDM rubber gasket all around metal frame of refuse chute door	LM	44		
	Carefully sand old existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of gloss oil paint to:-				
D	Metal surfaces of doors	SM	18		
E	Surfaces of timber duct doors	SM	554		
	TOTAL FOR MEZZANINE 2 TO 23RD FLOOR CARRIED TO BILL SUMMARY		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	PODIUM ROOF				
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 8mm thick toughened glass ;100 x 50 x 1.5mm galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
A	900 x 2100mm High door	NO	2		
	Protective cement sand (1:2) screed laid to fall				
	25mm Thick (avg) in two coats backing; wood floated; with 'Dr. Fixit Pidiproof LW+' or other equal and approved integral waterproofing additive; to concrete surfaces applied in accordance with the manufacturer's printed instructions to :-				
B	Surfaces of concrete roof slab ;laid to fall	SM	1669		
C	Vertical surfaces of concrete wall; 300mm high	SM	298		
D	Vertical surfaces of concrete wall; 750mm high	SM	44		
E	Vertical surfaces of concrete wall; 2000mm high	SM	30		
	Waterproofing (Provisional)				
	APP(ATACTIC POLYPROPYLENE) Bituminous waterproofing membrane: in three layers: laid in accordance with the manufacturer's printed instructions to:-				
F	Concrete surfaces	SM	2041		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	PODIUM ROOF (CONTINUED)				
	Brought forward				
	Roof Skeleton(All Provisional)				
	Ref :Drawing No 102/21/APRIL 2023				
	Note				
	1. Tenderers to include in their pricing for structural steel joint connection accessories; allowance for blanking & gusset plates, bolts, washers and nuts, brackets, welded and bolted connections, flange plates and lugs;including boring holes and fixing tight; and all other necessary accessories				
	2. Prices to include all bolted and welded connections and for the connections to be sanded smooth as necessary and hoisting and fixing in position approximately **10 metres** from existing ground level all framed steelwork;priming with one coat of epoxy zinc chromate primer before delivery and fixing on site all as per Structural Engineer's details and approval				
	Mild steel RHS Rafters				
A	75 x 50 x 3mm RHS rafter ; 5.925 KG/M	KG	249		
B	Build in end of steel rafter through 200mm thick natural stone wall or concrete beam to anchor ends of 75x 50x3mm SHS rafters ; fill exposed surfaces of opening with cement sand(1:3) mortar and make good all disturbed areas	NO	11		
	Mild steel Z-Purlins				
C	177.8x 50.8 x 2mm Thick Z- Purlins with and including all necessary fillet welding to steel rafters ; 4.950 KG/M	KG	634		
	Prime surfaces with one coat of zinc chromate primer before fixing,apply one undercoat and two finishing coats of gloss oil paint to :-				
D	Surfaces of steel rafters ; girth 200-300mm	LM	146		
E	Surfaces of steel purlins	SM	64		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	PODIUM ROOF (CONTINUED)				
	Brought forward				
	Roof covering(all provisional)				
	Roofing sheets				
	"TEKDEK IT5 " Gauge 24 trapezoidal ribbed profile roofing sheets fixed on steel roof members (measured separately) including fitting to place with all necessary fixing screws to the satisfaction of the Structural Engineer				
A	Approved alumi-zinc coloured roofing sheets laid with minimum 75mm side laps and 150mm end laps and fixed to steel purlins with and including approved J-bolts and rubber roof covers and/or washers	SM	1215		
	Ridge cap				
B	600mm Girth pre-painted; gauge 28 flat iron sheets from approved sources;colour to match; folded to profile and nailed over roof covering with and including 5.5mm diameter 75mm long fixing to fastener with integrated washers at 300mm centres	LM	45		
	Flashing in "TEKDEK IT5" gauge 28 plain sheets				
C	600mm Girth pre-painted; flat iron sheets from approved sources;colour to match roofing sheets; folded to profile; one end tucked into wall and nailed to masonry or concrete backing and other end laid flush over roof covering	LM	550		
	Rawl bolts as described				
D	300mm Long 12mm diameter mild steel bolts drilled through 75x50x3mm rafters into 150mm thick concrete slab or upstand beams	NO	300		
	Angle cleats as described				
E	150 x 100 x 3mm Thick mild steel L-angle cleats with and including priming before fixing and welding to rafters all to the approval of the Structural Engineer	NO	150		
	Carried forward				

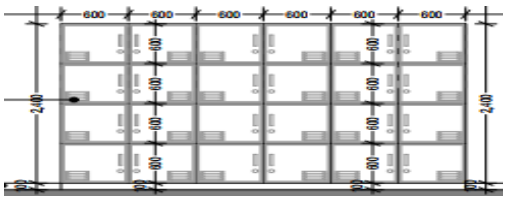
Item	Description	Unit	Qty	Rate	Amt (KShs.)
	PODIUM ROOF (CONTINUED)				
	Brought forward				
	Flag podium				
	Ref :Drawing No HA/06/23/20				
	Flag pole				
	150mm Diameter mild steel CHS to be primed before fixing as described:-				
A	4000mm High x 150mm diameter x 4mm thick CHS anchored to concrete wall or concrete beam on one end with bolted connection (measured seperately)	NO	4		
	Mild steel base plates as described in :-				
B	250 x 250 x 4mm Thick mild steel base plates with and including application of one coat of zinc chromate primer before fixing and two finishing coats of gloss oil paint to surfaces	NO	8		
	Rawl bolts as described in:-				
C	300mm Long 12mm diameter mild steel bolts drilled through 75x50x3mm rafters into 150mm thick concrete slab or upstand beams including applying one coat of primer before fixing	NO	32		
	Prime before fixing,apply one undercoat and two finishing coats of gloss oil paint to :-				
D	Surfaces of mild steel CHS pole	SM	7		
	Kenyan weather resistant flag				
E	1800 x 1220mm 130gsm Rhyfelwr Polyester fabric Kenyan flag with 10000mm long 50mm thick rope with anti-fray netting all round the fabric with and including 15m long halyard rope	NO	4		
	TOTAL FOR PODIUM ROOF CARRIED TO BILL SUMMARY		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1-Washrooms				
	Mens washroom ,womens washroom and staff washrooms ,washrooms behind lift lobby				
	Floor finishes				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
A	30mm Thick(avg) cement sand (1:4) backing to receive non-slip porcelain floor tiles	SM	58		
	Non -slip porcelain floor tiles				
	Supply,deliver to site and fix approved non-slip full boarded porcelain floor tiles; 95% free from visible defects ; plus or minus 5% maximum side straightness deviation ; group 5 or PEI 5 surface abrasion ; PEI5 stain resistant ; less than 0.5 % water absorption ; frost resistant ; chemical resistant ;bedded and jointed in approved adhesive; to using serrated stainless steel trowel to prepared screeded floor surfaces with and including matching coloured grouting				
B	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured nosn shrink grout all to the Architect's approval	SM	58		
	Supply,deliver to site and store **ONLY** on site approved non-slip porcelain floor tiles as directed by the Project Manager				
C	Provide a Prime Cost rate of Kenya Shillings Two thousand eight hundred (3,000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for delivery to site ,handling and storing as directed	SM	6		
	Wall finishes				
	Cement sand (1:3) backing ;wood floated on vertical surfaces				
D	15mm Thick(avg) cement sand (1:4) backing to receive glazed ceramic wall tiles	SM	413		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1-Washrooms (Continued)				
	Brought forward				
	Wall finishes -continued				
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
B	6mm Thick approved ceramic wall tiles	SM	413		
C	Ditto but **SUPPLY ONLY ;** allow for transporting to site ,handling and storing as directed by the Project Manager	SM	21		
	Tile edge trim(measured provisionally)				
D	12mm wide polished aluminium edge trim as "Promax Alum Formable Edge Trim" or other equal and approved fixed with approved adhesive to butt edges of wall tiles	LM	78		
	Ceiling finishes				
	Water resistant gypsum plasterboard fixed to glavanised mild steel framework of 600mm centres both ways; suspended 450mm from soffits of concrete slabs with 25x25x1.6mm thick mild steel angle sections, perimeter channels ,strap hangers connecting clips ,sawn cypress timber supports ets; butt jointed with scrim joint filler and taped finish ;including skimming with gypsum plaster ,forming and curved cutting all to the satisfaction of the Project Architect in:-				
E	12.5mm Thick gypsum boards;ceilings not exceeding 3.5metres from finished floor level	SM	58		
	Supply and fix concave profile gypsum cornice with and including approved adhesive to coves surfaces				
F	100 x 50mm moulded cornice with two labours	LM	116		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1- Washrooms (Continued)				
	Brought forward				
	Prepare surfaces and apply one coat of approved primer and two coats of matte vinyl emulsion paint all to Architect's approval to :-				
A	Surfaces of gypsum plasterboard ceilling	SM	58		
B	Surfaces of gypsum cornice; girth 100-200mm	LM	116		
	Doors				
	Note: The contractor to note that all timber sizes are finished sizes and should include in his rates for ex-sizes.				
	Timber Flush doors				
C	45mm Thick flush door size 800 x 2100mm high with 3mm thick beech laminate finish on both sides, all as per Architect's detailed drawings and schedules	NO	10		
D	50mm Thick solid core timber door size 900 x 2100mm high with 3mm thick beech laminate finish on either side, as per Architect's detailed drawings and schedules	NO	5		
	Door frames and finishing in wrought mahogany or other equal and approved				
E	150 x 50 mm rebated frame with 2 labors plugged	LM	77		
F	65 x 40mm Architraves	LM	77		
G	16mm Quadrant beading	LM	77		
	Prepare and apply one coat of wood preservative to woodwork before fixing				
H	Timber surfaces of girth 200-300mm	LM	77		
	Prepare and apply three coats of clear polyurethane varnish to:				
I	Timber surfaces of girth 200-300mm	LM	77		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1-(CONTINUED)				
	MEZZANINE 1-Washrooms (Continued)				
	Brought forward				
	Supply and fix the following ironmongery all as per "UNION" or other equal and approved:-				
A	100x76x3mm Stainless steel bearing hinges as UNION HN - SBB - 403030	PRS	23		
B	2-Lever mortice sash lock complete with stainless steel rose lever polished brass handles as Ref 2000-32 SS	NO	5		
C	Turn and indicator lock and handles as "Union" ref 456-66-94-AS or other equal and approved	NO	10		
D	Oval satin anodized aluminium door stop as "Union" Ref DS-F-001SS screwed to floor tile	NO	6		
E	Heavy duty overhead door closer or other equal and approved as REF" DS 7770"	NO	5		
F	150mm Long solid brass with antique brass finish and lacquer coating hat and coat hook	NO	15		
G	100 x 700mm Long brass kicking plates	NO	15		
H	150 x 75 mm Stainless "FEMALE/MALE" "UNION " ref. S-FS-150-75-SSS or other equal and approved	NO	5		
	Natural stone walling				
	Note: The works include adjustment of existing openings both blocking, jointing and opening in several places and the area given is net				
	Machine cut stone walling minimum strength 7.0N/mm2, bedded and jointed in cement and sand mortar (1:3) reinforced with and including 25mm wide 26 gauge hoop iron at alternate courses and bonding end of walling to the existing walling, concrete beams and columns				
I	200mm Thick walling	SM	15		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1-(CONTINUED)				
	MEZZANINE 1- Washroom (Continued)				
	Brought forward				
	Joinery Works				
	Cement sand (1:3) backing ;wood floated on horizontal surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive granite slabs	SM	8		
	20mm Thick approved " Kenya Black" granite:-				
B	20mm Thick polished granite tops with rounded edges fixed to block board backing with approved adhesive	SM	8		
C	100 x 20mm Fascia with rounded edges ditto	LM	19		
	Sundries				
D	Extra over 20mm Thick granite top for cutting wash hand basin opening size 350 x 550mm wide	NO	11		
	Compartment lockers				
E	3600 x 2400 x 500mm Clean use heavy duty powder coated 16 gauge steel four- tier horizontal and six tier vertical multi combination lockers in 3 No lockable compartments complete with padlock hasp , stainless steel coat hook , 3No knuckle door hinges ,sloping hoods ,built in keyed locks and keys	NO	2		
					
	Supply and fix in position moisture proof ,mould proof ,smoke proof ,fireproof powder coated galvanised mild steel ceiling access panel complete with and including powder coated frame all round and push lock and screwing to existing false ceiling framework				
E	600 x 600 x 50mm Thick access door	NO	5		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1-(CONTINUED)				
	MEZZANINE 1-Staircases				
	Main staircase, North Tower staircase and South tower staircase				
	Brought forward				
	Wall finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of stone/concrete walls	SM	141		
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of landings	SM	19		
C	Previously painted soffits of sloping staircases	SM	23		
	Mass concrete class 15 in :				
D	50mm Thick plinth	SM	3		
	Cement and sand (1:3) screed trowelled smooth; to window cill surfaces				
E	15mm Thick to receive ceramic tiles	SM	3		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
F	300 x 300 x 6mm thick ceramic floor tiles	SM	3		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1-Main Staircases				
	Main staircase, North Tower staircase and South tower staircase				
	Brought forward				
	Balustrading & Railing				
	Sand off old existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of matt oil paint to metal surfaces (both sides measured overall)				
A	Surfaces of mild steel balustrading	SM	23		
	Carefully sand down ,fill all holes with approved filler apply one undercoat and two finishing coats of clear polyurethane varnish to				
B	Surfaces of timber ; 100-200mm girth	LM	26		
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 10mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
C	1100 x 2100mm High door	NO	1		
D	900 x 2100mm high	NO	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1- Lift Lobby & Corridors				
	Brought forward				
	Floor finishes				
	Note: The Contractor is to note that adjacent and adjoining surfaces of existing floor tiles must be covered/protected adequately to prevent possible mechanical damage or chemical damage during execution of the works				
	Re-grouting existing floor tiles				
	Application of waterproof non -shrink grouting				
A	Prepare and reprofile visible broken 5mm(avg) wide by 10mm deep vertical and horizontal joints with non-shrink grout as "ECOFILL-NS' or other equal and approved in accordance with the manufacturers written instructions	SM	457		
	Cleaning and polishing floor tiles				
	Carefully remove all visible residue on surfaces . Clean existing surfaces using an appropriate approved detergent ;remove all visible oil stains ; gently scrub surfaces whilst taking care not to damage existing tile ;rinse and allow surfaces to completely dry off ; apply a uniform coat of "Pro Care Shine" or other equal tile polisher using a rubber squeegee ; apply second coat and rub down to achieve uniform surface finish to :-				
B	Surfaces of floor tiles	SM	457		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1- Lift Lobby & Corridors				
	Brought forward				
	Wall finishes				
	Note: The Contractor is to note that adjacent and adjoining surfaces of existing wall tiles must be covered/protected adequately to prevent possible mechanical damage or chemical damage during execution of the works				
	Application of non -shrink grouting				
A	Prepare and reprofile visible broken 3mm wide by 10mm deep joints with and including non-shrink grout as "ECOFILL-NS' or other equal and approved in accordance with the manufacturers written instructions	SM	864		
	Cleaning and polishing mosaic wall tiles				
	Carefully remove all visible residue on surfaces . Clean existing surfaces using an appropriate approved detergent ;remove all visible oil stains ; gently scrub surfaces whilst taking care not to damage existing tile ;rinse and allow surfaces to completely dry off ; apply a uniform coat of "Pro Care Shine" or other equal tile polisher using a rubber squeegee ; apply second coat and rub to achieve uniform surface finish to :-				
B	Surfaces of mosaic wall tiles	SM	864		
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
C	Previously painted surfaces of walls	SM	252		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	MEZZANINE 1(CONTINUED)				
	MEZZANINE 1- Lift Lobbies & Corridors				
	Brought forward				
	Ceiling finishes				
	Powder coated aluminium perforated sheet acoustic ceiling				
A	Supply and fix in position 600 x 600 x2.5mm thick powder coated perforated aluminium sheet acoustic ceiling tiles on galvanised steel stud framework in 600mm lay -in grid and including 50 x 50mm runners at 600mm centres complete with U-channel galvanised steel hangers fixed approximately 450mm below soffits of concrete slab with and including 200x25mm shadow batten in 25mm thick block board to perimeter	SM	457		
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of concrete slab	SM	103		
	Refuse chute duct				
	Rubber gasket				
C	Supply and fit 20mm thick heavy duty rubber gasket all around metal frame of refuse chute door	LM	10		
	Sand down surfaces ,apply one undercoat and two finishing coats of gloss oil paint to:-				
D	Metal surfaces of doors	SM	2		
E	Surfaces of timber duct doors	SM	554		
	TOTAL FOR MEZZANINE 1 CARRIED TO BILL SUMMARY		KShs.		

	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR				
	GROUND FLOOR -WASHROOMS				
	North Tower Men's ,Women's and staff washrooms and South Tower Men's and Women's washrooms, Lift lobby washrooms				
	Floor finishes				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
A	30mm Thick(avg) cement sand (1:4) backing to receive non-slip porcelain floor tiles	SM	86		
	Non -slip porcelain floor tiles				
	Supply, deliver to site and fix approved non-slip full boarded porcelain floor tiles; 95% free from visible defects ; plus or minus 5% maximum side straightness deviation ; group 5 or PEI 5 surface abrasion ; PEI5 stain resistant ; less than 0.5 % water absorption ; frost resistant ; chemical resistant ;bedded and jointed in approved adhesive; to using serrated stainless steel trowel to prepared screeded floor surfaces with and including matching coloured grouting				
B	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured non shrink grout all to the Architect's approval	SM	86		
	Supply, deliver to site and store **ONLY** on site approved non-slip porcelain floor tiles as directed by the Project Manager				
C	Provide a Prime Cost rate of Kenya Shillings Two thousand eight hundred (3,000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for delivery to site ,handling and storing as directed	SM	5		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR(CONTINUED)-				
	GROUND FLOOR- WASHROOMS (Continued)				
	Brought forward				
	Wall finishes				
	Cement sand (1:3) backing ;wood floated on vertical surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive glazed ceramic wall tiles	SM	637		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
B	6mm Thick approved ceramic wall tiles	SM	637		
C	Ditto but **SUPPLY ONLY ;** allow for transporting to site ,handling and storing as directed by the Project Manager	SM	31		
	Tile edge trim(measured provisionally)				
D	12mm wide polished aluminium edge trim as "Promax Alum Formable Edge Trim" or other equal and approved fixed with approved adhesive to butt edges of wall tiles	LM	234		
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
E	Previously painted soffits of concrete slab	SM	86		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR(CONTINUED)				
	GROUND FLOOR- WASHROOMS (Continued)				
	Brought forward				
	Doors				
	Note: The contractor to note that all timber sizes are finished sizes and should include in his rates for ex-sizes.				
	Timber Flush doors				
A	45mm Thick post formed flush door size 800 x 2100mm high with 3mm thick beech laminate finish on either side, with and including 800 x 300mm high fanlight infilled with 3mm thick clear sheet glass and glazing with rubber lining all round glass all as per Architect's detailed drawings and schedules	NO	16		
B	50mm Thick post formed solid core timber door size 900 x 2100mm high with 3mm thick beech laminate finish on either side, as per Architect's detailed drawings and schedules	NO	7		
	Door frames and finishing in wrot mahogany or other equal and approved				
C	150 x 50 mm rebated frame with 2 labors plugged	LM	117		
D	50 x 25mm Architraves	LM	117		
E	16mm Quadrant beading	LM	117		
	Prepare and apply one coat of wood preservative to woodwork before fixing				
F	Timber surfaces of girth 200-300mm	LM	117		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR-(CONTINUED)				
	GROUND FLOOR- WASHROOMS (Continued)				
	Brought forward				
	Prepare and apply three coats of clear polyurethane varnish to:				
A	Timber surfaces of girth 100-200mm	LM	117		
	Supply and fix the following ironmongery all as per "UNION" or other equal and approved:-				
B	100x76x3mm Stainless steel bearing hinges as UNION HN - SBB - 403030	PRS	35		
C	3-Lever mortice sash lock complete with and including stainless steel rose lever polished brass handles as Ref 2000-32 SS	NO	7		
D	Turn and indicator lock and handles as "Union" ref 456-66-94-AS or other equal and approved	NO	16		
E	Oval satin anodized aluminium door stop as "Union" Ref DS-F-001SS rawl bolted to concrete floor	NO	23		
F	Heavy duty overhead door closer or other equal and approved as REF" DS 7770"	NO	7		
G	150mm long solid brass with antique brass finish and lacquer coating hat and coat hook	NO	19		
H	100 x 700mm Long aluminium kicking plates	NO	23		
I	150 x 75 mm Stainless "FEMALE/MALE" "Union " ref. S-F/MS-150-75-SSS	NO	7		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR-(CONTINUED)				
	GROUND FLOOR- WASHROOMS (Continued)				
	Brought forward				
	Joinery Works				
	Cement sand (1:3) backing ;wood floated on horizontal surfaces				
A	15mm Thick(avg) cement sand (1:4) backing to receive granite slabs	SM	22		
	20mm Thick approved "Hassan green" granite slabs:-				
B	20mm Thick polished granite tops with rounded edges fixed to block board backing with approved adhesive all to the Architect's approval	SM	11		
C	100 x 20mm Fascia with rounded edges ditto	LM	31		
	Sundries				
D	Extra over 20mm Thick granite top for cutting sink opening size 1000 x 550mm wide	NO	16		
	Mosaic Tile				
E	6mm Thick approved mosaic tiles in 100x100mm high approved patterns fixed on prepared surfaces all to the approval of the Architect	SM	1		
	Compartment lockers				
F	2000 x 2000 x 400mm Clean use heavy duty powder coated 16 gauge steel four- tier horizontal and 4-tier vertical multi combination lockers in 16 No lockable compartments complete with padlock hasp , stainless steel coat hook , knuckle door hinges and all other necessary ironmongery	NO	2		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR(CONTINUED)				
	GROUND FLOOR-STAIRCASES				
	Main Staircase ,North Tower Staircase & South Tower Staircase				
	Brought forward				
	Wall finishes				
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
A	Previously painted surfaces of walls	SM	141		
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
B	Previously painted soffits of landings	SM	19		
C	Previously painted soffits of sloping staircases	SM	23		
	Window board				
	Mass concrete class 15 in :				
D	50mm Thick plinth	SM	3		
	Cement and sand (1:3) screed trowelled smooth; to window sill surfaces				
E	14mm Thick to receive ceramic tiles	SM	3		
	Provide a Prime Cost rate of Kenya Shillings one thousand five hundred(1,500/=) per square metre for the supply of ceramic floor tiles ; allow for handling ,delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured cement based grouting in:-				
F	6mm Thick approved ceramic wall tiles	SM	3		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR(CONTINUED)				
	GROUND FLOOR-STAIRCASES				
	Main Staircase ,North Tower Staircase & South Tower Staircase				
	Brought forward				
	Balustrading & Railing				
	Sand off existing paint, touch up primer, prepare and apply one undercoats and two finishing coat of matt oil paint to metal surfaces (both sides measured overall)				
A	Surfaces of mild steel balustrading	SM	23		
	Carefully sand down ,fill all holes with approved filler apply one undercoat and two finishing coats of clear polyurethane varnish to :-				
B	Surfaces of timber ; 100-200mm girth	LM	26		
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 10mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
C	Door size 1100x2100mm high	NO	1		
D	Ditto but size 900x2100mm high	NO	1		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR				
	GROUND FLOOR - Lift Lobbies & Corridors				
	Brought forward				
	Wall finishes				
	Note: The Contractor is to note that adjacent and adjoining surfaces of existing wall tiles must be covered/protected adequately to prevent possible mechanical damage or chemical damage during execution of the works				
	Application of non -shrink grouting				
A	Prepare and reprofile visible broken 3mm wide by 10mm deep joints with and including non-shrink grout as "ECOFILL-NS' or other equal and approved in accordance with the manufacturers written instructions all to the approval of the Architect	SM	1123		
	Cleaning and polishing mosaic wall tiles				
	Carefully remove all visible residue on surfaces . Clean existing surfaces using an appropriate approved detergent ;remove all visible oil stains ; gently scrub surfaces whilst taking care not to damage existing tile ;rinse and allow surfaces to completely dry off ; apply a uniform coat of "Pro Care Shine" or other equal tile polisher using a rubber squeegee ; apply second coat and rub to achieve uniform surface finish to :-				
B	Surfaces of mosaic wall tiles	SM	1123		
	Carefully wire brush surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of silk vinyl paint to:-				
C	Previously painted surfaces of walls	SM	714		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR				
	GROUND FLOOR - Lift Lobbies & Corridors				
	Brought forward				
	Ceiling finishes				
	Carefully sand surfaces , wash down surfaces, skim and fill all visible cracks and fine lines with approved filler , smoothen out all dents and or bumps ; apply one coat of primer and two finishing coats of vinyl matte paint to:-				
A	Previously painted soffits of concrete slab	SM	243		
B	Previously painted surfaces of concrete beams	SM	80		
	Powder coated aluminium perforated sheet acoustic ceiling				
C	Supply and fix in position 600 x 600 x 2.5mm thick powder coated perforated aluminium sheet acoustic ceiling tiles on galvanised steel stud framework in 600mm lay -in grid and including 50 x 50mm runners at 600mm centres complete with U-channel galvanised steel hangers fixed approximately 450mm below soffits of concrete slab with and including 200x25mm shadow batten in 25mm thick block board to perimeter	SM	561		
	Finishes to planters				
	Cement sand (1:4) backing ;wood floated on horizontal surfaces				
D	30mm Thick(avg) cement sand (1:4) backing to receive non-slip porcelain floor tiles	SM	62		
	Non -slip porcelain floor tiles				
E	Provide a Prime Cost rate of Kenya Shillings Three thousand (Ksh 3000/=) per square metre for the supply of 600 X 600 X 10mm thick porcelain tiles ; allow for taking delivery and fixing tiles on prepared screed with approved adhesive complete with and including approved matching coloured nosn shrink grout all to the Architect's approval	SM	62		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	GROUND FLOOR				
	GROUND FLOOR - LOADING BAY				
	Brought forward				
	TERRAZZO FLOORING				
	Service Passage				
	Polished Terrazzo; of approved colour; white cement and chippings (1:2); washed; with and including laying PVC dividing strips at 1000mm centres in both directions ; all to Architect's approval				
A	Floor; 40mm thick	SM	34		
B	150mm high skirting	LM	24		
	Loading bay				
	Polished Terrazzo; of approved colour; white cement and chippings (1:2); washed; with and including laying PVC dividing strips at approved centres; all to Architect's approval				
C	Floor;40mm thick	SM	4		
D	150mm High skirting	LM	18		
	TOTAL FOR GROUND FLOOR CARRIED TO BILL SUMMARY		KShs.		

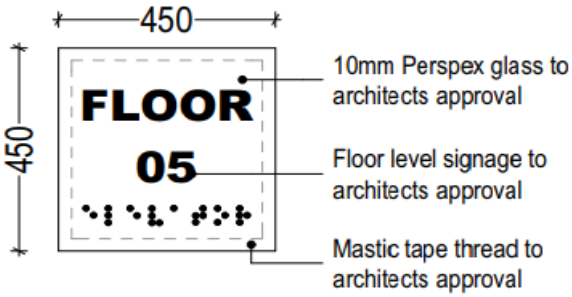
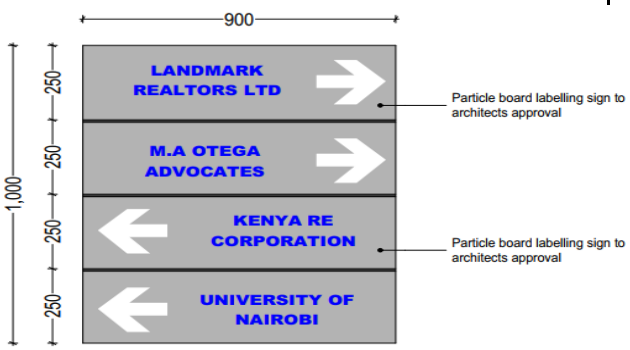
Item	Description	Unit	Qty	Rate	Amt (KShs.)
	BASEMENT				
	CABINETS (All Provisional)				
A	Allow a provisional sum of Two Hundred and Seventy Five Thousand (KSH 275,000) for the construction of Cleaners' storage shelves and cabinets	SUM			275,000.00
B	20mm Thick block board	SM	1		
C	18mm Thick MDF board with "walnut" laminate on both sides	SM	1		
D	25mm Thick MDF board with "walnut" laminate on both sides	SM	1		
E	50 x 50mm Thick sawn cypress in runners and bearers nailed to walls	LM	10		
F	Nickel plated steel "MALPA" hinges with 110degrees opening angle with and including screwing to timber boards	PRS	5		
G	100mm High stainless steel drawer handle	NO	5		
	Prepare and apply one undercoat and two finishing coats of gloss oil paint to :-				
H	Surfaces of blockboard	SM	2		
I	Timber surfaces ;girth 100-200mm	LM	10		
	SUPPORT FOR WATER TANK (ALL PROVISIONAL)				
	Water tank support (Measured provisionally)				
J	75 x 50 x 4mm Thick square hollow sections with and including all welding as necessary	LM	20		
K	4mm Thick mild steel plate welded to SHS framework	SM	2		
	Prime before fixing, apply one undercoat and two finishing coats of gloss oil paint to :-				
L	Surfaces of mild steel plate	SM	4		
M	Surfaces of SHS tubes ;girth 100-200mm	LM	20		
	Carried forward		KShs.		275,000.00

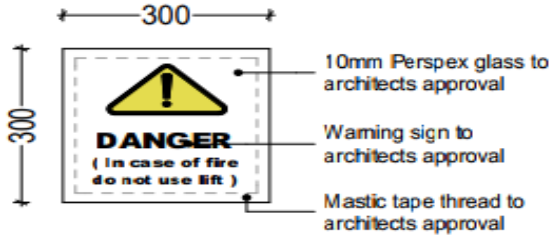
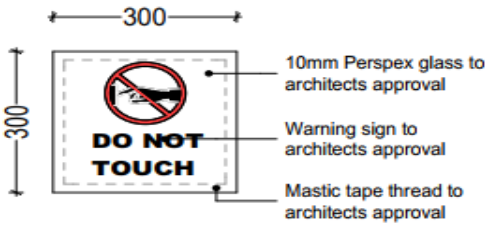
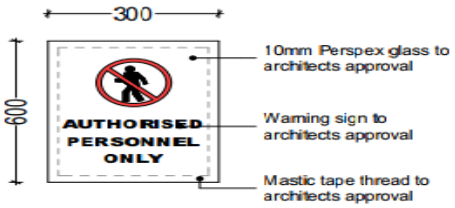
Item	Description	Unit	Qty	Rate	Amt (KShs.)
	BASEMENT				
	Brought forward				275,000.00
	Doors				
	Purpose made units				
	Metal Fire Rated Doors to BS 476-22:1987				
	Supply and fix 50mm thick sixty minutes (FR60) fire rated steel door including fire rated door frames, overhead door closer ,door locks , 3No. spring loaded 360 degree turning heavy duty galvanised steel hinges ,panic bar with and including 20x4mm wide intumescent seals fitted all round ;200 x 1000mm vision panel infilled with 12mm thick toughened glass ;100 x 50 x 1.5mm thick galvanised iron door frames and leafs finished in approved bright red intumescent paint ; all to the approval of the Project Manager in:-				
A	Door size 1100x2100mm high	NO	2		
	TOTAL FOR BASEMENT CARRIED TO BILL SUMMARY		KShs.		275,000.00

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	EXTERNAL CANOPIES				
	NOTE Tenderers are to include in their pricing for structural steel joint connection accessories; allowance for gusset plates, bolts, washers and nuts, brackets, bolted connections, welded connections, flange plates and lugs; including boring holes and fixing tight; and all other necessary accessories				
	Structural Steel Framework to BS 449 Part 2				
	The following in 66No mild steel RHS trusses including priming ,hoisting and fixing in position approximately 6000mm(max) above existing ground level all as per Architect's and Structural Engineer's drawings and details				
	Ref :Drawing No HA/06/23/21 and HA/06/23/22				
A	75 x 50 x 3mm RHS kingpost ; 5.925 KG/M	KG	758		
B	75 x 50 x 3mm RHS rafter ; 5.925 KG/M	KG	1304		
C	75 x 50 x 3mm RHS tie beam ; 5.925 kg/m	KG	1061		
D	75 x 50 x 3mm RHS struts and ties ; 5.925 kg/m	KG	1582		
	Mild steel Tee Sections in 600 x 600mm grid work including priming with one coat of zinc chromate primer ,hoisting and fixing in position and welding to rafters approximately 6000mm(max) above existing ground level all as per Architect's and Structural Engineer's drawings and details in:				
E	25 x 25 x 3mm Thick tee sections ;1.100KG/M	LM	380		
F	20 x 20 x 3mm Thick tee sections ;0.888KG/M	LM	333		
	Framework cover				
	Supply and fix 10mm thick solar glass and glazing with putty to steel framework surfaces not exceeding 30 degrees slope from the horizontal including fixing screws and special glue or approved rubber silicone ; all to Architect's approval and detailed drawing HA/06/23/21				
G	Panes ; exceeding 1.0 but not exceeding 1.5 square metres	SM	204		
	Carried forward		KShs.		

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	EXTERNAL CANOPIES(CONTINUED)				
	Brought forward				
	Framework cover -continued				
	Supply and fix 5mm thick approved tropicalized glass mirror on grey 600mm lay in supporting 28x25x1.5mm mild steel cross T section supporting grid work runners and bearers at 600mm centres complete with metal hangers fixed approximately 3500mm below soffits of roof cover ; with and including 100 x 25mm powder coated aluminium frame along the periphery; including fixing with screws and special glue or approved rubber silicone beading ; all to Architect's approval and detailed drawings				
A	Panes ; exceeding 0.10 but not exceeding 0.50 squares metres	SM	29		
	Finishes to exposed eaves				
	Powder coated aluminium perforated sheet acoustic ceiling				
B	Supply and fix in position 600 x 600 x 2.5mm thick powder coated perforated aluminium sheet acoustic ceiling tiles on galvanised steel stud framework in 600mm lay -in grid and including 50 x 50mm runners at 600mm centres complete with U-channel galvanised steel hangers fixed approximately 450mm below soffits of concrete slab with and including 200x25mm shadow batten in 25mm thick block board to perimeter	SM	178		
	Fascia board in celcured wrot mahogany				
C	225 x 25mm thick fascia board	LM	70		
	Carefully apply one coat aluminium primer before fixing ;after fixing prepare and apply one undercoat and two finishing coats of clear polyurethane varnish to :-				
D	Surfaces of timber ; girth 200-300mm	LM	70		
	TOTAL FOR EXTERNAL COPIES CARRIED TO BILL SUMMARY		KShs.		

Item	Description	Unit	Qty	Rate	Amount
	SIGNAGE AND SIGNWRITING				
	Three Dimensional Backlit Building Signage				
	Supply ,deliver to site and fix in position approved three dimensional well illuminated signage characters comprising the name "**Anniversary Towers**" in 10mm thick heavy duty acrylic sheets cladded all round with150mm wide 3mm thick(min) stainless steel sheet ; the letters must be affixed on 8mm thick gold aluminium composite (Aluco)board with steel framework in 75x50x3mm RHS sections				
A	1000mm High x 1000mm wide by 150mm thick fixed in position approximately 10metres from existing ground level characters all to the approval of the Project Architect	NO	34		
	Signwriting in "Myriad Pro " font				
	Signwriting in paint (measured provisionally)				
C	600 x 600mm High English alphabet letters/Arabic numbers in three coats of silicone base emulsion paint or gloss oil paint on surfaces of steel or plastered concrete walls or natural stone walling all to the satisfaction of the Project Architect	NO	100		
D	300 x 300mm High English alphabet letters/Arabic numbers in three coats of silicone base emulsion paint or gloss oil paint on surfaces of steel or plastered concrete walls or natural stone walling	NO	100		
E	150 x 150mm High English alphabet letters/Arabic numbers in three coats of silicone base emulsion paint or gloss oil paint on surfaces of steel or plastered concrete walls or natural stone walling	NO	100		
F	50 x 50mm High English alphabet letters/Arabic numbers in three coats of silicone base emulsion paint or gloss oil paint on surfaces of steel or plastered concrete walls or natural stone walling	NO	100		
	Carried forward				

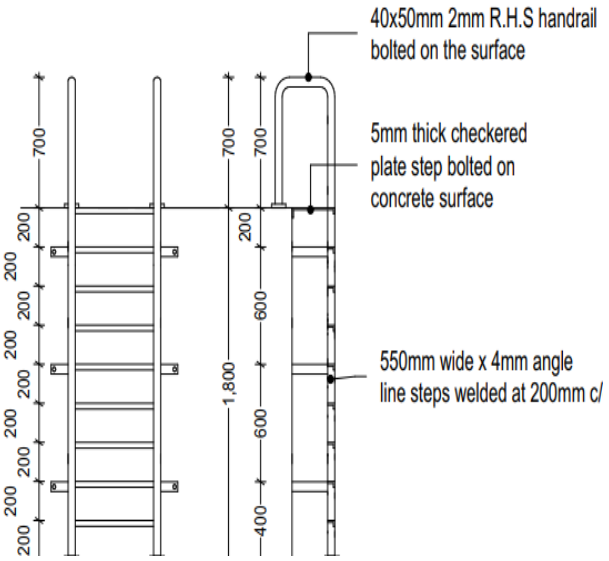
Item	Description	Unit	Qty	Rate	Amount
	SIGNAGE AND SIGNWRITING (CONTINUED)				
	Brought forward				
	Floor markers				
	Floor markers along staircases				
A	Supply ,deliver to site and fix on plastered wall surfaces 450x450x10mm thick toughened perspex sheet glass with and including engraving filled in approved colour paint and mastic tape thread all to the approval of the Project Architect(see detail below)	NO	82		
					
	Floor markers at lift lobbies				
B	Supply ,deliver to site and fix on plastered wall surfaces 450x450x10mm thick untoughened perspex sheet glass with and including engraving filled in approved colour paint and mastic tape thread all to the approval of the Project Architect(see detail above)	NO	116		
	Directional signage				
C	1000x900x25mm Thick particle board signs with and including engraved printed writting filled with red paint or other equal and approved appropriate paint all to the satisfaction of the Project Architect	NO	58		
					
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount
	SIGNAGE AND SIGNWRITING (CONTINUED)				
	Brought forward				
	Caution/ Safety signs(measured provisionally)				
	"Danger" sign (all provisional)				
A	Supply ,deliver to site and fix on tiled wall surfaces 300x300x10mm thick perspex sheet glass with and including engraving filled in approved colour paint all to the approval of the Project Architect(see detail below) 	NO	29		
	"Do not touch' sign (all provisional)				
B	Supply ,deliver to site and fix on tiled wall surfaces 300x300x10mm thick perspex sheet glass with and including engraving filled in approved colour paint all to the approval of the Project Architect(see detail above) 	NO	29		
	Restriction signage (all provisional)				
C	600 x 300 x10mm Thick white perspex signs with and including engraved writting filled with red paint or other equal and approved appropriate paint all to the satisfaction of the Project Architect 	NO	29		
	TOTAL FOR SIGNAGE AND SIGNWRITING CARRIED TO BILL SUMMARY				

Item	Description	Unit	Qty	Rate	Amount
	WINDOWS AND EXTERNAL GLAZED FAÇADE (ALL PROVISIONAL)				
	Note 1: The works in this section shall involve the replacement of worn out rubber linings of external windows making up the curtain wall . These works shall require the use of scaffolds up to a maximum height **90 metres above existing ground level** .Bidders are advised to take note of this requirement.				
	Allow for provision and assembly of motorised cradles, Rope Access Riggs & Anchoring Points / Sway Riggs and all other necessary equipment and accessories for removal and or replacement /repair of glass panes, handles and rubber beading and dismantling of the same and removal from site on completion of the exercise ;include for this under Preliminaries for plants ,tools and equipments				
	Removal of existing glass panes				
A	Carefully remove glass sheet size 950 x 970mm and set aside at a secure location as directed by the project manager ,remove all existing rubber bead residue with rubbing alcohol ;dispose off all arising waste and prepare surfaces to install same glass with new rubber beading to match existing (m.s)	NO	6,498		
	Glazing				
	Refixing recovered glass window panes to **existing** aluminium frames				
B	Take from store and fix in position recovered 8mm thick blue reflective sheet glass of size 950 x 970mm complete with and including 25x20mm approved glazing beads and rubber lining plugged all round the glass pane to match existing all to the approval of the Project Architect	NO	6,498		
	Carried forward				

Item	Description	Unit	Qty	Rate	Amount
	WINDOWS AND EXTERNAL GLAZED FAÇADE CONTINUED				
	Brought forward				
	Replacement of broken panes(all provisional)				
	Supply and fix in position 6mm thick one way (BLUE) laminated reflective sheet glass with and including glazing with and including 25x20mm glazing beads and approved rubber lining plugged all round the glass pane to existing aluminium window frames all to the approval of the Project Architect in panes :-				
A	Panes: exceeding 0.50 but not exceeding 1.0 SM	SM	180		
B	Panes: 1.0 to 1.50 SM	SM	120		
	TOTAL FOR WINDOWS AND EXTERNAL GLAZED FAÇADE CARRIED TO BILL SUMMARY				

Item	Description	Unit	Qty	Rate	Amount
	EXTERNAL WORKS				
	Ground preparation and sub-base				
A	Grade and compact bottom of excavation to receive pavings all to the satisfaction of the Structural Engineer	SM	207		
	Hardcore filling				
B	300mm Thick layer of well compacted handpacked hardcore filling in two layers each 150mm thick all to the approval of the Structural Engineer	SM	166		
	Sand bed				
C	50mm Thick quarry dust blinding to surfaces of well compacted hardcore filling	SM	166		
	Supply , deliver to site and fix pre cast concrete paving blocks:-				
D	Medium duty precast concrete quad shaped paving blocks size 210 x 105 x 60mm strength 70N/mm2 compacted by surface vibration laid on sand bed as directed by the Structural Engineer	SM	166		
	Precast concrete in:-				
E	Provide and lay precast concrete kerbs 250x125mm, half battered on one side with jointing along the edge of parking with and including 450x325mm bed and haunch all to Structural Engineers detail drawing	LM	52		
F	Provide and lay precast concrete chanel block 150x125mm, with jointing along the edge of parking including 350x325mm bed and haunch	LM	112		
	Water meter cubicle				
G	Allow a provisional sum of Thirty Thousand shillings (Ksh 30,000/=) for the construction of a water meter cubicle	SUM			30,000.00
	Carried forward				30,000.00

Item	Description	Unit	Qty	Rate	Amount
	EXTERNAL WORKS (CONTINUED)				
	Brought forward				**30,000.00**
	Cat Ladder				
	Supply and fix 600 mm wide ladder fabricated from stainless steel sections; comprising 40 mm diameter steel rungs forming steps in 5mm thick mild steel chequered plate spaced at 200 mm centers, welded to 2 No. 40 mm diameter stainless steel stringers, curved at the top and rawl bolted to reinforced concrete slab/wall (m.s); stringer fitted with neoprene gasket at rawl bolted ends; with and including all appropriate fixing accessories including any necessary welding, stainless steel plates, cap rail brackets, bolts etc.; all to Architect's approval and detailed drawing				
A	3500mm long (see detail below)  	NO	1		
	TOTAL FOR EXTERNAL WORKS CARRIED TO BILL SUMMARY				30,000

Item	Description	Unit	Qty	Rate	Amount
	SPECIAL ATTENDANCE				
	NOTE:				
	Bidders are advised to note that the existing doors to the stairwells are fitted with security access control and intrusion system biometric features which must be preserved for continued use by Kenya Reinsurance Corporation .Special attendance will therefore be required in the removal of the existing access control and intrusion sytem infrastructure , handling and secure storage and refixing in position of the same features to the reasonable satisfaction of the Electrical Engineer or the appointed Employer's representative(s).				
	*Carefully **remove** the following security features affixed to door leaves ,door frames or encased in door frames ; store on site as directed by the Project Manager with and including preservation of all existing cabling and **refix** on newly installed mild steel door leafs or steel door frames as directed by the Electrical Engineer all to the approval of the Project Architect*				
A	Electromagnetic door contact	NO	89		
B	Electromagnetic door lock	NO	89		
C	Relay boxes	NO	89		
D	Sound buzzer	NO	89		
E	Overhead door closers	NO	34		
	TOTAL FOR SPECIAL ATTENDANCE CARRIED TO BILL SUMMARY				

	BILL SUMMARY -BUILDER'S WORK BILL NO 3 SUMMARY WORK SECTION	FROM PAGE	AMOUNT
1	24TH Floor-Tank rooms and Lift Machine Rooms	110	
2	Mezzanine 2 to 23RD Floor	136	
3	Podium Roof	140	
4	Mezzanine 1	150	
5	Ground floor	160	
6	Basement	162	
7	External Canopies	164	
8	Signage	167	
9	Windows and external façade	169	
10	External works	171	
11	Special attendance	172	
	TOTAL CARRIED TO GRAND SUMMARY		

BILL NO. 04
MECHANICAL INSTALLATIONS

BILL NO 4

BILL OF QUANTITIES FOR PLUMBING, DRAINAGE AND FIRE FIGHTING WORKS

Note : All Rates to include VAT where applicable

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
1.0	**PRELIMINARIES AND GENERAL CONDITIONS**				
A	Preparation of working drawings "As installed" record drawings.	Sum			
B	Printing of paper copies of item A above.	Sum			
	TOTAL CARRIED FORWARD TO SUMMARY PAGE				

M02 - 22FLOOR

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
I	**SANITARY FITTINGS:** To supply and install the following sanitary fittings including all necessary joints to service overflow and waste pipes, jointings and motices, plugs, screws, bolts, and making good. Sanitary fittings will be to Architect's /Engineer approval of the relevant samples Supply and install the following Sanitary Fittings,				
A	**WC SUITES** WC Pan as Duravit D-Code: Back To Wall, White, Code #21150900002 BWHDRDCO16 complete with Seat Cover as Duravit D-Code: Soft Close: White #0067390000	NO	4		
B	**FLUSH VALVE** Docol flush valve code DFLUVAL07 1.5" with cover plate DFLUVAL09 Anti-Vandal, CP #01505006	NO	4		
C	**WASH HAND BASIN** Duravit: D-Code: Under Counter Basin, 49cm, White #0338490000; one tap hole platform with overflow, in vitreous china, TAPIS: Push Open Slotted Basin Euro Waste: 1.25in #A38 code:DBSNWST42 heavy duty plastic bottle trap as Nova: PVC/PP Bottle Trap: 1.25in: Ref. GF027 code: DBOTTRP91, Angle Valve with Extension: 1/2 x 1/2in:CP #7111 as Schlosser code: DANGVAL26 and shall have a Flexible Connector as Tapis - HP Fanski : 1/2in x 1/2in x 40cm code DFLXCON40. Tap as Docol Push Tap with Delay Action, CP #17160806 codeCBSTPDCZZ02	NO	5		
D	**ROBE HOOK** Tapis double robe hook Chrome plated for wall mounting code: EROBHK2042	NO	4		
E	**WALL MIRRORS** Bevelled edge polished glass mirror size 800 x 800 x 6mm thick with silver backing with chromium plated dome shaped nuts and brass screws plugged.	NO	5		
F	**KITCHEN SINK** Kitchen sink SBSD in stainless steel, size 850mmx450x150mm with bowl dimensions as 400x370 as ASL code: D10050PQ complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, chrome plated sink pillar tap with over-arm swivel spout as Jaquar code: FLR-CHR-5357N s,1No. Heavy duty plastic bottle trap & jaquar angle valve Ref:COP-CHR-057PM	NO	1		
G	**TOILET PAPER HOLDER** Jaguar Toilet paper holder with cover flap code: ACN-CHR- 1153N or equal and approved	NO	4		
	TOTAL CARRIED TO NEXT PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	TOTAL BROUGHT FROM PREVOIUS PAGE				
A	**URINAL BOWL** Urinal bowl (Back Inlet) with fixing accessories, as Duravit: D-Code:BWHDRDCO19 Urinal Bowl: Concealed Inlet: White #0829300000 Supplied with In-wall urinal valve as Docol: DFLUVAL52 Anti Vandal Urinal Flush Valve : C.P #17015006 or equal and approved equivalent	No.	2		
B	**URINAL BOWL DIVIDER** Urinal divider as Duravit D code or equal and approved.	NO	1		
C	**CLEANERS SINK** Duravit: Dune : Fireclay Utility Sink+O/Flow 600x480mm #7501000051complete with chrome plated 40mm waste fittings, plugs, chain, Heavy duty plastic bottle trap & jaquar angle valve Ref:COP-CHR-057PM with bib tap as Jeals Victorian: Bib Cock + Hose Union, Chrome Plated Item Code: CBBCKTAJE05 or as equal and approved	NO	1		
D	**PAPER TOWEL DISPENSER** Mediclinics Paper Towel Dispenser with c/z Folds,Wall Mounted Product Code: PTD-DT0106CS or equal & approved	NO	2		
E	**HAND DRIER** Automatic 2100 W Hand driers as Mediclinics; Capacity: 18 m/s or equal and approved	NO	2		
F	**TOILET BRUSH HOLDER** Toilet brush & holder as Duravit D-Code Brush set # 0099271000 code:ETBRHLD067 chrome plated finish or equal & approved	NO	4		
G	**SOAP DISPENSER** Mediclinics Soap Dispenser,Wall Mounted Product Code: ZSOPDSP56 or equal & approved	NO	2		
H	**PROPHYLACTIC DISPENSER** Carefully remove, store and reinstall GoK supplied prophylactic dispenser on a location to be specified by the engineer.	NO	2		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
II	**COLD WATER SUPPLY** Supply and install GI Class C pipe manufactured as per BS 1387 and conforming to EN 10255 / ISO 65. All pipe and fitting to have threaded ends to facilitate easy connection and jointing with fittings. Each pipe shall be clearly marked with relevant information, including the manufacturer's name, size, and class designation.				
A	1" GI Pipe class C	Lm	10		
B	3/4" ditto	Lm	10		
C	1/2" ditto	Lm	10		
	Extra Over Tubbing For:-				
	BEND /ELBOWS				
D	1" Bend	NO	2		
E	3/4" ditto	NO	2		
F	1/2" ditto	NO	2		
	Equal Tee				
G	1" Dia.	NO	2		
H	3/4" Dia.	NO	3		
I	1/2" Dia.	NO	3		
	Sockets				
J	1" ditto	NO	2		
K	3/4" ditto	NO	5		
L	1/2" ditto	NO	5		
	unions				
M	1" ditto	NO	2		
	REDUCERS				
N	1" x 3/4 diameter	NO	5		
O	1" x 1/2" diameter	NO	5		
P	3/4" x 1/2 diameter	NO	5		
	GATE VALVES				
Q	1" diameter gate valve as peglar	NO	2		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
III	**FOUL WATER DRAINAGE** Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste system to BS 5255 with screwed and socketed joints to BS 21, solvent welded joints shall be as per the manufacture's written instructions. Tenders must allow in their pipework prices for all the running lengths of pipework and also where necessary for pipe fixing clips, holder bats, plugs and screwed. The installation must comply with BS 5572. All pipework to be as METRO PLASTICS.				
A	40mm waste pipe	Lm	20		
B	50mm waste pipe	Lm	20		
	Extra Over Drain Pipe				
C	40mm sweep bend uPVC Soil pipe 90°	NO	2		
D	50mm sweep bend uPVC Soil pipe 90°	NO	2		
E	50mm bend uPVC Soil pipe 45°	NO	2		
F	100mm sweep bend uPVC Soil pipe 90°	NO	2		
G	100mm bend uPVC Soil pipe 45°	NO	2		
H	40mm x 50mm PVC reducer	NO	2		
I	uPVC Cast Iron adapter	NO	4		
J	Ring Seal Soil Access Pipe Single Socket - 110mm	NO	2		
K	100mm diameter WC connector	NO	4		
L	**FLOOR TRAP** 150 x 150mm Floor trap with SS cover grating to Arch's approval	NO	5		
	CORE DRILLING Core drill through concrete with thickness of not more than 200mm a hole with following dimensions;				
M	50mm	NO	2		
N	100mm	NO	4		
	TOTAL CARRIED TO COLLECTION PAGE				

COLLECTION PAGE - M2-22 FLOOR

ITEM NO	DESCRIPTION	QTY	AMOUNT	TOTAL KSHS.
2.0				
I	SANITARY FITTINGS BROUHT FROM PAGE 177			
II	COLD WATER SUPPLY BROUGHT FROM PAGE 178			
III	DRAINAGE BROUGHT FROM PAGE 179			
	TOTAL FOR 23 NO. FLOORS CARRIED TO BILL SUMMARY (Multiply by 23 and extend)	23		

GROUND FLOOR & MEZZANINE 01

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
I	**SANITARY FITTINGS:** To supply and install the following sanitary fittings including all necessary joints to service overflow and waste pipes, jointings and motices, plugs, screws, bolts, and making good. Sanitary fittings will be to Architect's /Engineer approval of the relevant samples Supply and install the following Sanitary Fittings,				
A	**WC SUITES** WC Pan as Duravit D-Code: Back To Wall, White, Code #21150900002 BWHDRDCO16 complete with Seat Cover as Duravit D-Code: Soft Close: White #0067390000	NO	11		
B	**FLUSH VALVE** Docol flush valve code DFLUVAL07 1.5" with cover plate DFLUVAL09 Anti-Vandal, CP #01505006	NO	11		
C	**WASH HAND BASIN** Duravit: D-Code: Under Counter Basin, 49cm, White #0338490000; one tap hole platform with overflow, in vitreous china, TAPIS: Push Open Slotted Basin Euro Waste: 1.25in #A38 code:DBSNWST42 heavy duty plastic bottle trap as Nova: PVC/PP Bottle Trap: 1.25in: Ref. GF027 code: DBOTTRP91, Angle Valve with Extension: 1/2 x 1/2in:CP #7111 as Schlosser code: DANGVAL26 and shall have a Flexible Connector as Tapis - HP Fanski : 1/2in x 1/2in x 40cm code DFLXCON40. Tap as Docol Push Tap with Delay Action, CP #17160806 codeCBSTPDCZZ02	NO	16		
D	Surface push button liquid Soap dispenser 0.8 Ltr as Jaquar or equal and approved code: SDR-WHT-DJ0010F	NO	4		
E	Jaquar double robe hook Chrome plated for wall mounting code: ACN-CHR-1161 / 1161N	NO	11		
F	**WALL MIRRORS** Bevelled edge polished glass mirror size 800 x 800 x 6mm thick with silver backing with chromium plated dome shaped nuts and brass screws plugged.	NO	16		
G	**URINAL BOWL** Urinal bowl (Back Inlet) with fixing accessories, as Duravit: D-Code:BWHDRDCO19 Urinal Bowl: Concealed Inlet: White #0829300000 Supplied with In-wall urinal valve as Docol: DFLUVAL52 Anti Vandal Urinal Flush Valve : C.P #17015006 or equal and approved equivalent	No.	7		
H	**URINAL BOWL DIVIDER** Urinal divider as D code or equal and approved.	NO	5		
	TOTAL CARRIED TO NEXT PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	TOTAL BROUGHT FROM PREVOIUS PAGE				
A	Jaguar Toilet paper holder with cover flap code: ACN-CHR-1153N or equal and approved	NO	7		
B	Jaguar Paper Towel Dispenser with c/z Folds,Wall Mounted Product Code: PTD-DT0106CS or equal & approved	NO	2		
C	Automatic 2100 W Hand driers as Mediclinics; Capacity: 18 m/s or equal and approved	NO	2		
D	**KITCHEN SINK** Kitchen sink in stainless steel, size 1000mmx500x166mm wit bowl dimensions as 785x450 as ASL code: D10050PQ complete with chrome plated 40mm waste fittings, plugs, chain stays, overflow, chrome plated sink pillar tap with over-arm swivel spout as Jaquar code: FLR-CHR-5357N s,1No. heavy duty plastic bottle trap and jaquar angle valve code: COP-CHR-057PM	NO	2		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
II	**COLD WATER SUPPLY** Supply and install GI Class C pipe manufactured as per BS 1387 and conforming to EN 10255 / ISO 65. All pipe and fitting to have threaded ends to facilitate easy connection and jointing with fittings. Each pipe shall be clearly marked with relevant information, including the manufacturer's name, size, and class designation.				
A	1" GI Pipe class C	Lm	10		
B	3/4" ditto	Lm	10		
C	1/2" ditto	Lm	10		
	Extra Over Tubbing For:- **BEND /ELBOWS**				
D	1" Bend	NO	2		
E	3/4" ditto	NO	2		
F	1/2" ditto	NO	2		
	Equal Tee				
G	1" Dia.	NO	2		
H	3/4" Dia.	NO	3		
I	1/2" Dia.	NO	3		
	Sockets				
J	1" ditto	NO	2		
K	3/4" ditto	NO	5		
L	1/2" ditto	NO	5		
	unions				
M	1" ditto	NO	2		
	REDUCERS				
N	1" x 3/4 diameter	NO	5		
O	1" x 1/2" diameter	NO	5		
P	3/4" x 1/2 diameter	NO	5		
	TOTAL CARRIED TO NEXT PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	TOTAL BROUGHT FROM PREVOIUS PAGE				
	GATE VALVES				
A	40mm diameter gate valve as peglar	NO	2		
B	Ditto but 32mm diameter	NO	2		
	Male PPR Adaptors				
C	25mm x 20mm diameter	NO	6		
D	32mm x20mm diameter	NO	8		
E	32mm x25mm diameter	NO	4		
	PPR Male Screwed Bend				
F	32 x 25mm Dia	NO	4		
G	25mm x 20mm Dia	NO	6		
H	32mm x 20mm Dia	NO	8		
	PPR Female Adaptor				
I	25mm x 20mm diameter	NO	22		
J	32mm x20mm diameter	NO	8		
K	32mm x25mm diameter	NO	4		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
III	**FOUL WATER DRAINAGE** Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste system to BS 5255 with screwed and socketed joints to BS 21, solvent welded joints shall be as per the manufacture's written instructions. Tenders must allow in their pipework prices for all the running lengths of pipework and also where necessary for pipe fixing clips, holder bats, plugs and screwed. The installation must comply with BS 5572. All pipework to be as METRO PLASTICS.				
	uPVC for Soil Pipe				
A	100mm diameter soil uPVC waste pipe	LM	50		
B	50mm ditto	LM	40		
	MuPVC for Waste Pipe				
C	40mm MuPVC waste pipe	LM	30		
D	50mm ditto	LM	60		
E	75mm ditto	LM	25		
F	100mm ditto	LM	30		
	Extra over drain pipe **uPVC Soil Pipe**				
G	100mm sweep bend uPVC Soil pipe	NO	16		
H	75mm sweep bend uPVC Soil pipe	NO	8		
I	50mm sweep bend uPVC Soil pipe	NO	20		
J	100 to 50mm Reducer	NO	4		
K	50 x 50 x 50mm Wye Tee	NO	3		
L	100mm diameter uPVC access cap	NO	6		
M	100mm diameter Vent cowl (150.4) uPVC	NO	2		
	MuPVC Waste Pipe				
N	50mm Wye Tee MuPVC waster pipe	NO	2		
O	40mm sweep bend MuPVC waste pipe	NO	6		
P	40mm diameter MuPVC access cap	NO	3		
Q	100mm diameter WC connector	NO	8		
R	32mm sweep tee	NO	11		
S	Ditto but 40mm	NO	12		
	TOTAL CARRIED TO NEXT PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	TOTAL BROUGHT FROM PREVOIUS PAGE				
T	**FLOOR TRAP** 150 x 150mm Floor trap with SS cover grating to Arch's approval	NO	5		
U	Core Drilling 2" Hole	NO	11		
V	Core Drilling 4" Hole	NO	11		
	TOTAL CARRIED TO COLLECTION PAGE				

COLLECTION PAGE - OFFICE

ITEM NO	DESCRIPTION	TOTAL KSHS.
3.0		
I	SANITARY FITTINGS BROUGHT FROM PAGE 182	
II	COLD WATER SUPPLY BROUGHT FROM PAGE 184	
III	DRAINAGE BROUGHT FROM PAGE 186	
	TOTAL CARRIED TO BILL SUMMARY PAGE	

EXTERNAL DRAINAGE

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
4.0	**FOUL WATER DRAINAGE** Supply and fix uPVC soil system to BS 4660 and BS 4515 and MuPVC waste system to BS 5255 with screwed and socketed joints to BS 21, solvent welded joints shall be as per the manufacture's written instructions. Tenders must allow in their pipework prices for all the running lengths of pipework and also where necessary for pipe fixing clips, holder bats, plugs and screwed. The installation must comply with BS 5572. All pipework to be as METRO PLASTICS.				
A	100mm MuPVC Waste pipe	LM	50		
B	Ditto but 150mm diameter	LM	300		
C	**Manhole covers** Cast iron manhole covers 24" x 18" as E.A foundry	No.	21		
	GRATINGS **Remove existing drain gratings and install the following;**				
D	Heavy-Duty Parking Entrance Drainage Grating: Dimensions: 300mm x 4160mm Material: Ductile Iron Load Capacity: 25 tonnes Grating Design: Slotted Grating Frame: Cast Iron Frame with Anti-Slip Features Standards: Meets European Standards for Drainage Grating	No.	1		
E	Heavy-Duty Parking Entrance Drainage Grating: Dimensions: 400mm x 400mm Material: Ductile Iron Load Capacity: 25 tonnes Grating Design: Slotted Grating Frame: Cast Iron Frame with Anti-Slip Features Standards: Meets European Standards for Drainage Grating	No.	17		
F	Heavy-Duty Parking Entrance Drainage Grating: Dimensions: 500mm x 700mm Material: Ductile Iron Load Capacity: 25 tonnes Grating Design: Slotted Grating Frame: Cast Iron Frame with Anti-Slip Features Standards: Meets European Standards for Drainage Grating	No.	19		
G	**Fulbora** Cast Iron Fulbora 6"	No.	20		
H	**BUILDERS WORK** Cut and fill through concrete slab	LM	10		
	TOTAL CARRIED TO BILL SUMMARY PAGE				

EXTERNAL WATER RETICULATION

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Supply and install GI Class C pipe manufactured as per BS 1387 and conforming to EN 10255 / ISO 65. All pipe and fitting to have threaded ends to facilitate easy connection and jointing with fittings. Each pipe shall be clearly marked with relevant information, including the manufacturer's name, size, and class designation.				
A	GI Pipe work 4"	LM	100		
B	GI Pipe work 3"	LM	50		
C	GI Pipe work 2 1/2"	LM	50		
D	GI Pipe work 2"	LM	50		
E	GI Pipe work 1"	LM	50		
F	GI Pipe work 3/4"	LM	50		
G	GI Pipe work 1/2"	LM	200		
H	**BUILDERS WORK** Excavate trench for large diameter pipe average width 750mm and depth not exceeding 750mm in black soil, refill ram and back fill with suitable soil, and cut away surplus	LM	650		
I	**TANK ROOM TOP FLOOR** Glass Reinforced Plastic Tanks (GRP) 5000 X 2500 X 2000 mm, 6mm thick plates with capacity of 25 M 3. The tank to have:- 1. Approapriate inlet and outlet connections as per engineer's details 2. An overflow connection 3. 50mm diameter high pressure float/ball valve as pegler 4. A powered water level indicator with gauge 12V mains adaptor, level sensor, sensor cable extension and junction box as Aquameta AN4000 or equal andd approved.	NO	2		
	ANCILLARIES. Supply and install sluice valve to BS				
J	4" dia. Valves	NO	4		
K	3" dia. Valves	NO	4		
L	2" dia. Valves	NO	4		
M	50mm dia.	NO	6		
N	50mm dia. Non Return Valves	NO	4		
	TOTAL CARRIED TO NEXT PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	TOTAL BROUGHT FROM PREVOIUS PAGE				-
	TANK ROOM BASEMENT 01				
A	Glass Reinforced Plastic Tanks (GRP) 5000 X 5000 X 2000 mm, 6mm thick plates with capacity of 50 M 3. The tank to have:- 1. Approapriate inlet and outlet connections as per engineer's details 2. An overflow connection 3. 50mm diameter high pressure float/ball valve as pegler 4. A powered water level indicator with gauge 12V mains adaptor, level sensor, sensor cable extension and junction box as Aquameta AN4000 or equal andd approved.	NO	2		
	ANCILLARIES.				
B	Supply and install sluice valve to BS 4" dia. Valves	NO	4		
C	3" dia. Valves	NO	4		
D	2" dia. Valves	NO	4		
E	50mm dia.	NO	6		
F	50mm dia. Non Return Valves	NO	4		
G	**TESTING AND STERILIZATION** Allow for flow and pressure testing the whole of the water supply system during the works progress and on completion to the satisfaction of the Engineer. (Pressure test records to be kept on site with copies given to the Engineer for approval and record)	Item	Sum		
H	Allow for flushing out and sterilisation of the water storage tanks and pipework system. (Sterilisation and testing to be carried out to appproval and water chemical test/analysis certificates from an approved laboratory given to the Engineer upon completion).	Item	Sum		
I	Any other item not specified and/or indicated on the drawings but necessary for satisfactory completion and operation (Specify……..…….…. ……..……..)	Item	Sum		
J	**FIRE FIGHTING INSTALLATIONS** **Supply and Installation of:** 4 Way Breeching Inlet Cabinet Dimensions: 595mm x 595mm x 295mm, Material; Mild Steel, Thickness; 0.9mm, Glass; Wire Meshed Reinforcement, Installation; Recess Mounted, Paint Finish; Epoxy Powder Red, Manufacture BS 5041 Part 5, Code No. WRS116-MS-004-RD. Cabinet must be labelled appropriately	NO	1		
	TOTAL FOR EXTERNAL WATER RETICULATION CARRIED TO BILL SUMMARY PAGE				

DECOMISSIONING & DISPOSAL

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
6.0 A	**DECOMISSIONING & DISPOSAL** Decommissioning and Removal of Existing Sanitary Fixtures, Piping & breeching inlet cabinet. Description: This item encompasses the complete decommissioning, removal, and disposal of the existing sanitary items, including WC (water closets), hand wash basins, flush valves, steel plate tanks, part of cast iron waste piping and breeching inlet cabinet. Scope of Work: 1. Disconnect and isolate the water supply to the existing sanitary fixtures. 2. Safely decommission and remove all WC units, including cisterns, seats, flush valves, and associated fittings. 3. Carefully dismantle and remove hand wash basins, including taps, waste pipes, and any other related accessories. 4. Remove steel plate tanks used for water storage, ensuring safe drainage and disposal of any remaining water. 5. Properly dismantle and dispose the specified section of cast iron waste piping, including drainage lines and connections, while adhering to local regulations and environmental guidelines. 6. Ensure proper sealing of any openings or connections resulting from the removal process. Measurement: The item for decommissioning and removal of existing sanitary fixtures and piping will be measured and priced as a lump sum. The lump sum price should include all labor, equipment, transportation, and disposal costs necessary to complete the decommissioning and removal activities described above. Note: The supply and installation of new sanitary fixtures, tanks, or piping are not included in this item and should be addressed separately in the bills of quantity. Please refer to the project specifications and drawings for further details and specific requirements related to the decommissioning and removal of existing sanitary items.	Item	sum		
	TOTAL FOR DECOMMISSIONING & DISPOSAL CARRIED TO BILL SUMMARY PAGE				

MECHANICAL VENTILATION FOR STAIRWELL

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
A	**Extract Fan** Window mounted extract fans as xpelair WX12 Fan 220-240V 50/60Hz. 2 speed extract of 322 and 476l/s 2 speed intake of 226 and 269l/s (fan can be reversed using FR22 controller) Silent operation with integral electro-thermal shutter to prevent backdraughts. Required hole size of 434 x 434mm (w x h) Cut to size corrugated plastic wall liner (275 to 375mm wall thickness). IPX4 rated or equal and approved.	NO	9		
	TOTAL CARRIED TO BILL NO 4 SUMMARY PAGE				

BILL SUMMARY

BILL NO 4 -SUMMARY

SUMMARY PAGE FOR MECHANICAL INSTALLATIONS

All Rates to include VAT where applicable

ITEM NO	DESCRIPTION	AMOUNT KSHS.
1	PRELIMINARIES	
2	GROUND FLOOR & MEZZANINE 01 P, D & SANITARY FITTINGS INSTALLATIONS	
3	M02 - 22FLOOR P, D & SANITARY FITTINGS INSTALLATIONS	
4	EXTERNAL SEWER RETICULATION & DRAINAGE INSTALLATIONS	
5	WATER STORAGE TANKS & EXTERNAL WATER RETICULATION	
6	PROVISIONAL SUM FOR WATER TREATMENT FACILITY	4,500,000.00
7	DECOMISSIONING AND DISPOSAL	
8	MECHANICAL VENTILATION INSTALLATIONS FOR STAIR WELL	
9	SALVAGE ITEMS	
	TOTAL CARRIED TO GRAND SUMMARY	

BILL NO. 05
ELECTRICAL INSTALLATIONS

BILL NO 5

BILL OF QUANTITIES FOR ELECTRICAL INSTALLATION WORKS

RATES TO INCLUDE VAT

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	PRELIMINARIES AND GENERAL CONDITIONS				
A	Provide bond as stated in the published conditions of sub-contract.	Sum			IN MAIN WORKS
B	Provide insurance as required in the sub contract conditions.	Sum			IN MAIN WORKS
C	Preparation of working drawings for site use and "As installed" record drawings after completion.	Sum			
D	Printing of paper copies of item C above.	Sum			
E	Preparation and submission of all operation manuals, test reports among other handover documents	Sum			
F	Removal of all existing electrical services from the premises (Lights, sockets, Trunking, cables,switches etc) These should be handed back to the client in the right quantities without fail	Sum			
	TOTAL CARRIED TO BILL NO 5 SUMMARY PAGE				

24TH FLOOR
TANK ROOM & LIFT MACHINE ROOM

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER				
	Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and concealed in partitioning walls on the other part. All conduits to be from Metro Plastics				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls	Item	Item		
B	Additional Lighting points, wired in 3x1.5mm sq single core cables for one way / two switching	No.	12		
C	Signage outlet points, wired in 3x 1.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell and override switch	No.	0		
D	13A twin raw power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	No.	7		
E	Emergency signage points, wired in 3x1.5mm sq single core cables for fire alarms warnings	NO.	0		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	0		
G	Extract fan outlet points, wired in 4C,10mm sq XLPE PVC/SWA/PVC Copper cables enclosed and concealed in PVC conduits	NO.	2		
H	Water pump outlet points, wired in 4C,10mm sq XLPE PVC/SWA/PVC Copper cables enclosed and concealed in PVC conduits	NO.	2		
I	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
J	Single phase MCB's rating as in schematics	NO	6		
K	Three phase MCB's rating as in schematics	NO	6		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Miniature circuit breakers (MCBs) rated at 500Vac for above items (replace faulty breakers in the DBs and Cu)				
A	Blanking plates	NO	10		
B	32A SP Isolator as MEMABB	NO	4		
C					
E	32A TP Isolator as MEMABB	NO	4		
D	4C,6mm2 PVCSWAPVC Copper cables for terminating the three phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	50		
	LIGHT FITTINGS AND ACCESSORIES INSTRUCTIONS				
i	*Lighting control accessories complete with wiring terminations and fixing materials.*				
ii	*All quotation must be accompanied with all data sheets and test reports for the fixtures.*				
iii	*All the LED lighting fixtures should have a minimum warrantty period of 1 year.*				
iv	*All the LED fixtures must be approved before installation.*				
E	6A One gang one way as MK	No.	2		
F	6A Two gang one way as MK	No.	2		
G	6ATwo gang two way as MK	No.	3		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
H	Vulcan LED Corrotion proof Single and Double1.5m100 lumens per circuit watt 5000K cool white light output 50,000 hour average lamp life. Complete with the following features emergency, dimmeable , stainless steel clips - as V-TAC/ROBUS	NO.	26		
I	Caspian Polypropylene bulkhead Wall mounted luminaire in black die - cast aluminium body as MICROMARK MM 7496. For lift shaft	NO.	4		
J	24W ROBUS Oyster SMD LED light fitting with aluminium bas with PMMA twist and lock tim frosted diffuser as TYPE B in the escape stairecase	NO.	4		
K	Ditto as above but complete with emergency kit	NO.	2		
L	Caspian Polypropylene bulkhead Wall mounted luminaire in black die - cast aluminium body as MICROMARK MM 7496 TYPE F	NO.	5		
M	Self illuminated Double sided LED Emergency Exit light as Thorn, Phillips or Osram to Engineer's approval	No.	4		
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
N	13amps twin switched standard socket outlet plate (WHITE) for raw power complete with their top plugs and as MK to Engineer's approval	No.	7		
	TOTAL CARRIED TO COLLECTION PAGE				

24TH FLOOR
TANK ROOM & LIFT MACHINE ROOM

ELECTRICAL WORKS - COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 196	
2	PAGE 197	
	TOTAL FOR 2NO. TOWERS CARRIED TOBILL NO 5 SUMMARY PAGE	

23TH FLOOR ELECTRICAL INSTALLATIONS
COMMON AREA & LOBBIES

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER				
	Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Remove unused cables.	NO.	Item		
B	Additional Lighting points, wired in 3x1.5mm sq single core cables for onetwo way switching	NO.	10		
C	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	2		
D	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	4		
E	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	3		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	2		
G	Extract fan outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	0		
H	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	6		
I	Hand drier outlet point, wired using 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits concealed in the floors and roof space but without the outlet plate	NO.	0		
J	Conceal all exposed cables	Item	Item		
K	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage cables in the office corridoes	LM	10		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
A	10A One gang one way as MK S4870 WHI or Crabtree	NO.	2		
B	10A two gang one way as MK S8872 W1 WHI or Crabtree	NO.	1		
C	10A two gang two way as MK S8872 WHI	NO.	3		
D	10A Four gang two way as MK S8874 WHI *Lighting fittings as shown in the drawings complete with control gears and lamps:-*	NO.	2		
E	Vulcan LED Corrotion proof Single and Double 1.5m 100 lumens per circuit watt 5000K cool white light output 50,000 hour average lamp life. Complete with the following features emergency, dimmeable , stainless steel clips - as V-TAC/ROBUS	NO.	2		
F	2x18W, 1200mm fluorescent fitting with aluminium reflective louvers as Osram Claassic as T8 LA	NO.	2		
G	24W ROBUS Oyster SMD LED light fitting with aluminium bas with PMMA twist and lock tim frosted diffuser as TYPE B in the escape stairecase	NO.	6		
H	Ditto as above but complete with emergency kit	NO.	2		
I	Caspian Polypropylene bulkhead Wall mounted luminaire in black die - cast aluminium body as MICROMARK MM 7496 TYPE F	NO.	6		
J	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	6		
K	32W, 1200mm x 300mm LED Panel light fitting with atleast 30,000 hours lifespan and light output of 3200lumens suitable for both surface and recess mounting.	NO.	4		
L	Ditto as above but with emergency kit	NO.	10		
M	1200mm 1x36W High performance dust and moisture proof impact resistant luminaire as HORN Heat Force in the riser ducts	NO.	4		
N	12W slim dome bulkhead light with 1440 Lumens complete with emergency back up and sensor as Vtac VT-12SE. Lifepsan to be minimum 30,000 hours	NO.	12		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
A	13amps single switched socket outlet plate and as Crabtree or MK S2657DP WHI	NO	8		
B	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	8		
C	Blanking covers for data outlet points as MK S3827 WHI	NO	8		
D	20A DP switch for hand drierac unit with neon indicator as Crabtree Cat. No. 40133 or MK S8423 WHI	NO	4		
E	Universal 360 degrees PIR Recessed or surface mounted Lighting control available in standard or remote control. Time settings 10sec to 40min adjustable as Robus	NO	30		
F	Occupancy sensor system fully wired to 30No. PIR occupancy sensors, lighting distribution board and panel. System fully wired and programed for power management	ITEM	1		
G	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	Miniature circuit breakers (MCBs) rated at 500Vac for above items (replace faulty breakers in the DBs and Cu)				
H	Single phase MCB's rating as in schematics	NO	12		
I	Three phase MCB's rating as in schematics	NO	6		
J	Blanking plates	NO	40		
K	32A SP Isolator as MEMABB	NO	4		
L	32A TP Isolator as MEMABB	NO	4		
M	4C,6mm2 PVCSWAPVC Copper cables for terminating the three phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	20		
N	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage telephone cables in the riser ducts.	LM	20		
O	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

23TH FLOOR ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 199	
2	PAGE 200	
3	PAGE 201	
	TOTAL CARRIED TO SUMMARY PAGE	

GROUND TO 23RD FLOORS
FIRE EXIT & MAIN STAIRCASE

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER				
	Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and concealed in partitioning walls on the other part. All conduits to be from Metro Plastics				
A	Lighting points, wired in 3x1.5mm sq single core cables for one way switching	No.	10		
B	Lighting points, wired in 3x1.5mm sq single core cables for two way switching	No.	5		
C	Signage outlet points, wired in 3x 1.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell and override switch	No.	2		
D	Security door outlet points, wired in 3x 1.5mm sq single core cables enclosed and concealed in 20mm diameter PVC conduits, door frame or through the metal trunking whichever way is convenient complete with micro switch for overide	No.	8		
F	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHT FITTINGS AND ACCESSORIES INSTRUCTIONS				
i	*Lighting control accessories complete with wiring terminations and fixing materials.*				
ii	*All quotation must be accompanied with all data sheets and test reports for the fixtures.*				
iii	*All the LED lighting fixtures should have a minimum warrantty period of 1 year.*				
iv	*All the LED fixtures must be approved before installation.*				
A	6A One gang one way as MK	No.	3		
B	6ATwo gang two way as MK	No.	3		
C	120 degrees adjustable time delay internal PIR sensor as Robus R120PIR3W-01	No.	3		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
D	Recessed 12W, 145mm diameter LED warm white panel light of PF>0.9 as Thorn, Phillips,Lumitec or Osram to Engineer's approval.TYPE A	No.	2		
E	Surface mounted 32W, 600X600mm LED panel light of PF>0.9 as Thorn, Phillips,Lumitec or Osram to Engineer's approval.TYPE B	No.	8		
F	Self illuminated Double sided LED Emergency Exit light as Thorn, Phillips or Osram to Engineer's approval	No.	2		
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
G	240/415V, 50Hz, 3 phase - 4 Pole surge protective device.	NO.	1		
	TOTAL CARRIED TO COLLECTION PAGE				

GROUND TO 23RD FLOORS STAIRCASE- FIRE EXIT & MAIN STAIRCASE

ELECTRICAL WORKS - COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 203	
2	PAGE 204	
	Sub - Total for 0ne Floor	
	MULTIPLY BY 25 FOR 25 NO. TYPICAL FLOORS	X25
	TOTAL FOR GROUND TO 23RD FLOOR CARRIED TO BILL SUMMARY PAGE	

1ST TO 22ND FLOOR ELECTRICAL INSTALLATIONS
TYPICAL LIFT LOBBIES & WASHROOMS

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Remove un used cables	NO.	Item		
B	Lighting points, wired in 3x1.5mm sq single core cables for onetwo way switching	NO.	20		
C	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	2		
D	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	2		
E	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	4		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	4		
G	Extract fan outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	2		
H	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	8		
I	Hand drier outlet point, wired using 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits concealed in the floors and roof space but without the outlet plate	NO.	2		
J	Urinal and sensor tap outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	6		
K	Conceal all exposed cables	NO.	Item		
L	200x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage cables in the office corridoes	LM	20		
M	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
A	10A One gang one way as MK S4870 WHI or Crabtree	NO.	3		
B	10A two gang one way as MK S8872 W1 WHI or Crabtree	NO.	6		
C	10A two gang two way as MK S8872 WHI	NO.	4		
D	10A Four gang two way as MK S8874 WHI	NO.	2		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
E	24W ROBUS Oyster SMD LED light fitting with aluminium bas with PMMA twist and lock tim frosted diffuser as TYPE B in the escape stairecase	NO.	6		
F	Ditto as above but complete with emergency kit	NO.	3		
G	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	12		
H	Pendant lighting suitable for both surface and recess mounting.	NO.	12		
I	32W, 1200mm x 300mm surface mounted LED Panel light fitting with atleast 30,000 hours lifespan and light output of 3200lumens suitable for both surface and recess mounting.	NO.	4		
J	Ditto as above but with emergency kit	NO.	6		
K	1200mm 1x36W High performance dust and moisture proof impact resistant luminaire as HORN Heat Force in the riser ducts and mirror lights	NO.	8		
L	12W slim dome bulkhead light with 1440 Lumens complete with emergency back up and sensor as Vtac VT-12SE. Lifepsan to be minimum 30,000 hours	NO.	12		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
A	13amps single switched socket outlet plate and as Crabtree or MK S2657DP WHI	NO	10		
B	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	9		
C	Blanking covers for data outlet points as MK S3827 WHI	NO	1		
D	20A DP switch for hand drierac unit with neon indicator as Crabtree Cat. No. 40133 or MK S8423 WHI	NO	6		
E	Universal 360 degrees PIR Recessed or surface mounted Lighting control available in standard or remote control. Time settings 10sec to 40min adjustable as Robus	NO	4		
F	Occupancy sensor system fully wired to 30No. PIR occupancy sensors, lighting distribution board and panel. System fully wired and programed for power management	ITEM	4		
G	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	Miniature circuit breakers (MCBs) rated at 500Vac for above items (replace faulty breakers in the DBs and Cu)				
H	Single phase MCB's rating as in schematics	NO	12		
I	Three phase MCB's rating as in schematics	NO	6		
J	Blanking plates	NO	10		
K	32A SP Isolator as MEMABB	NO	1		
L	32A TP Isolator as MEMABB	NO	1		
M	4C,6mm2 PVCSWAPVC Copper cables for terminating the three phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	20		
N	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage telephone cables in the riser ducts. *Lighting fittings as shown in the drawings complete with control gears and lamps:-*	LM	20		
	TOTAL CARRIED TO COLLECTION PAGE				

TYPICAL FLOOR FLOOR ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 206	
2	PAGE 207	
3	PAGE 208	
	TOTAL FOR 1 NO. TYPICAL FLOOR	
	MULTIPLY BY 22 FOR 22 NO. TYPICAL FLOORS	X22
	TOTAL CARRIED TO BILL SUMMARY PAGE	

TYPICAL 1ST TO 23 FLOOR ELECTRICAL INSTALLATIONS

KITCHENETTE

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Removal of unuseed cables.	NO.	Item		
B	Lighting points, wired in 3x1.5mm sq single core cables for onetwo way switching	NO.	3		
C	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	0		
D	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	2		
E	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	2		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	1		
G	Extract fan outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	1		
H	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	1		
I	Undersink heater outlet point, wired using 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits concealed in the floors and roof space but without the outlet plate	NO.	1		
J	Cooker circuit included being a cooker connection point, wired using 2x6mm2+4mm2 ECC PVC insulated copper cable drawn in 25mm dim. PVC heavy gauge conduits, but excluding the cooker control connection units.	NO	1		
K	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage telephone cables in the riser ducts.	LM	20		
L	Allow for dressing cables in the DB's and Labelling them with engraved labels to the satisfaction of the Engineer.	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
A	10A two gang two way as MK S8872 WHI	NO.	1		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
B	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	1		
C	1200mm 1x36W High performance dust and moisture proof impact resistant luminaire as HORN Heat Force in the riser ducts and mirror lights	NO.	2		
D	1x26W, 1200mm fluorescent fitting with aluminium reflective louvers as Osram Claassic as T8 LA for undercabinet lighting	NO.	2		
E	1200mm Bathroom Wall Light in Polished Chrome with Diffuser,IP44 Over-Mirror Strip Light.	No.	6		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
F	13amps single switched socket outlet plate and as Crabtree or MK S2657DP WHI	NO	2		
G	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	2		
H	20A DP switch for hand drierac unit with neon indicator as Crabtree Cat. No. 40133 or MK S8423 WHI	NO	2		
I	45A rated cooker control unit incorporating a 13A switched socket outlet and fitted with pilot lamps and as MK Cat No S5061 WH1	NO	1		
J	Cooker connection unit capable of terminating 2x10mm2 conductors as MK Cat No S5045 WH1	NO	1		
K	Blanking covers for data outlet points as MK S3827 WHI	NO	4		
L	Universal 360 degrees PIR Recessed or surface mounted Lighting control available in standard or remote control. Time settings 10sec to 40min adjustable as Robus	NO	1		
M	Occupancy sensor system fully wired to 30No. PIR occupancy sensors, lighting distribution board and panel. System fully wired and programed for power management	ITEM	1		
	TOTAL CARRIED TO COLLECTION PAGE				

TYPICAL FLOOR KITCHENETTE ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 210	
2	PAGE 211	
	TOTAL FOR 1 NO. TYPICAL FLOOR	
	MULTIPLY BY 25 FOR 25 NO. TYPICAL FLOORS	X25
	TOTAL CARRIED TO BILL SUMMARY PAGE	

PODIUM ROOF LEVEL ELECTRICAL INSTALLATIONS

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Removal of un-used cables.	Item	Item		
B	Lighting points, wired in 3x2.5mm sq flexible copper cables for one/two way switching	NO.	3		
C	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	1		
D	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	2		
E	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	2		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	1		
G	Extract fan outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	2		
H	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	4		
I	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage telephone cables in the riser ducts.	LM	5		
J	9 Way TPN distribution boards incorporating 100A integral isolator, lockable cover and labelling but without MCB and as Sapphire screwless or equivalent	NO	1		
K	Single phase MCB's rating as in schematics	NO	9		
L	Three phase MCB's rating as in schematics	NO	6		
M	Blanking plates	NO	10		
N	Powder coated IP rated enclosure for the following check meters made of 16Gauge black sheet metal and lockable. The enclsure to have a perspex window and an emegency shut. The meters to have incoming and outgoing protection/isolator breakers.	NO	1		
O	Single phase kwh meter 63A modbus mid	NO	10		
P	Triphase kwh meter 63A pulse mid	NO	10		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
A	4C, 16mm2 PVCSWAPVC copper cable for distribution of power from riser duct to the AC platform DB above	LM	120		
B	Cable glands and shroud for terminating 4C, 16mm2 PVCSWAPVC cable	NO	8		
C	2C,6mm2 PVCSWAPVC Copper cables for termionating the single phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	60		
D	4C,6mm2 PVCSWAPVC Copper cables for terminating the three phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	60		
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
E	10A two gang two way as MK S8872 WHI	NO.	4		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
F	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	4		
G	24W ROBUS Oyster SMD LED light fitting with aluminium bas with PMMA twist and lock tim frosted diffuser as TYPE B in the escape stairecase	NO.	4		
H	Ditto as above but complete with emergency kit	NO.	2		
I	100W LED flood light complete with motion sensor	NO.	6		
J	Four function timer complete with contactor and enclosure as schneider electric RE48AML12MW	NO.	2		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
K	13amps single switched weather proof socket outlet plate and as Crabtree or MK S2657DP WHI	NO	2		
L	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	2		
M	Blanking covers for data outlet points as MK S3827 WHI	NO	8		
N	32A SP Isolator as MEMABB	NO	4		
O	32A TP Isolator as MEMABB	NO	3		
	TOTAL CARRIED TO COLLECTION PAGE				

SMATV - SATELLITE MASTER ANTENNA TELEVISION
FOR SHOPS

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Supply, install and set to work the following: - Rates to include, Vat, labour and any others items required for proper operation of DSTV and local channels				
A	Satelite dish (c/ku-band) complete with dish clamp and mounting set	NO	2		
B	Grid UHF & VHF aerials	NO	4		
C	Aluminium aerials mast for mounting the aerials	NO	2		
D	Multiswitch, IF amplifier/combiner, aerial clamp and accessories	NO	4		
E	High resolution TV cable	ROLL	10		
F	4- way splitter (5-2300mhz)	NO	10		
G	Any other materials necessary to complete the works, Specify	Item			
H	Testing and commissioning the entire satelite installation	Item			
	TOTAL FOR MATV SYSTEM CARRIED IN SUMMARY				

PODIUM LEVEL

ELECTRICAL WORKS - COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 213	
2	PAGE 214	
3	PAGE 215	
	TOTAL CARRIED TO BILL SUMMARY PAGE	

MEZZANINE FLOORS
SHOPS, STAFF TOILETS ELECTRICAL INSTALLATION

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Removal of un-used cables.	NO.	Item		
B	Additional Lighting points, wired in 3x1.5mm sq single core copper cables for one/two way switching	NO.	50		
C	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	8		
D	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	6		
E	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	12		
F	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	6		
G	Extract fan outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	8		
H	Urinal and sensor tap outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	8		
I	Hand drier outlet point, wired using 3 x 4mm2 single core PVC insulated copper cables drawn in 25mm diameter PVC heavy gauge conduits concealed in the floors and roof space but without the outlet plate	NO.	12		
J	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	24		
K	300x50mm powder coated cable tray complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth for data or electrical cables complete with cover. The cable tray to be atleast 2.0mm thick. To manage telephone cables in the riser ducts.	LM	10		
L	12 Way SPN Consumer Units incorporating 63A DP integral isolator, lockable cover and labelling but without MCB and as Sapphire screwless or equivalent. (to replace the existing broken CU's)	NO	23		
M	Single phase MCB's rating as in schematics	NO	69		
N	Blanking plates	NO	46		
O	2C,6mm2 PVCSWAPVC Copper cables for termionating the single phase machine isolators complete with their shrouds and cable glands drawn in 32mm diameter PVC heavy gauge conduits	LM	360		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
A	10A One gang one way as MK S4870 WHI or Crabtree	NO.	8		
B	10A two gang one way as MK S8872 W1 WHI or Crabtree	NO.	3		
C	10A two gang two way as MK S8872 WHI	NO.	4		
D	10A Four gang two way as MK S8874 WHI	NO.	2		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
E	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	24		
F	Vulcan LED Corrotion proof Single and Double 1.5m 100 lumens per circuit watt 5000K cool white light output 50,000 hour average lamp life. Complete with the following features emergency, dimmeable , stainless steel clips	NO.	32		
G	24W ROBUS Oyster SMD LED light fitting with aluminium bas with PMMA twist and lock tim frosted diffuser as TYPE B in the escape stairecase	NO.	14		
H	Ditto as above but complete with emergency kit	NO.	6		
I	Recessed 110ϕ round dichroic LED down light with brushed silver effect with a glass diffuser for the mirrors as Eglo Eglo (SPEZIA 1) Cat. No. 90057 TYPE E	NO.	20		
J	Caspian Polypropylene bulkhead Wall mounted luminaire in black die - cast aluminium body as MICROMARK MM 7496 TYPE F	NO.	8		
K	Suspended decorative elaborate main entrance chandelier complete with dimmable lamps with all the mounting accessories as Thorn Fata Morgana	NO.	4		
L	LED Neone strip light with uniform illuminance complete with connecting couplers and compatible with the lighting control system or equalequivalent and approved	LM	75		
M	1200mm Bathroom Wall Light in Polished Chrome with Diffuser,IP44 Over-Mirror Strip Light.	No.	6		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
N	13amps single switched weather proof socket outlet plate and as Crabtree or MK S2657DP WHI	NO	6		
O	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	12		
P	Blanking covers for data outlet points as MK S3827 WHI	NO	8		
	TOTAL CARRIED TO COLLECTION PAGE				

MEZZANINE FLOORS ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 217	
2	PAGE 218	
	TOTAL CARRIED TO BILL SUMMARY PAGE	

GROUND FLOOR ELECTRICAL INSTALLATION WORK

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and in partitioning board on the other part.				
A	Repair of damaged Conduits complete with couplers, saddles, links and loops properly bend to specific lighting/power outlet points to engineers approval concealed in slab and walls. Removal of un-used cables.	NO.	Item		
B	Lighting points, wired in 3x1.5mm sq single core copper cables for one/two way switching	NO.	30		
C	Lighting points, wired in 3x2.5mm sq flexible copper cables for one/two way switching	NO.	15		
D	Signage outlet points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell	NO.	8		
E	13A single power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits	NO.	20		
F	13A twin power points, wired in 3x 2.5mm sq single core cables in ring circuit enclosed and concealed PVC conduits	NO.	12		
G	AC outlet points, wired in 3C, 2.5mm sq XLPE Copper cables enclosed and concealed in PVC conduits	NO.	2		
H	3C 1.5mm sq copper flexible cables for Maintained Emergency Exit sign Thornsapphire with direction sign and inscribed EXIT	NO.	10		
I	300x50mm Heavy duty metallic perforated cable tray complete complete with tees, crossover, bends end cap, jacking, mounting brackets etc and bonded to earth. The cable tray to be complete with cover and atleast 1.5mm thick.	LM	20		
	LIGHT FITTINGS AND ACCESSORIES Lighting control accessories complete with wiring terminations and fixing materials				
J	10A One gang one way as MK S4870 WHI or Crabtree	NO.	1		
K	10A two gang two way as MK S8872 WHI	NO.	2		
L	10A Four gang two way as MK S8874 WHI	NO.	4		
M	Four function timer complete with contactor and enclosure as schneider electric RE48AML12MW	NO.	2		
N	300 x 50mm steel galvanised cable tray from complete with bends,anchorage bolts and nuts concealed on the ceiling for power distribution	LM	60		
O	PC SUM for cable Management at KCB	ITEM	ITEM		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
A	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	10		
B	600mmx600mm recessed LED dimmeable panels as V - TAC VT6060 complete with drivers	NO.	12		
C	LED Neone strip light with uniform illuminance complete with connecting couplers and compatible with the lighting control system or equalequivalent and approved	LM	40		
D	Recessed 80ϕ round dichroic LED down light with brushed silver effect with a glass diffuser for the mirrors as Eglo (SPEZIA 1) Cat. No. 90057 TYPE C	NO.	20		
E	External Wall mounted luminaire in black die - cast aluminium body complete with warm white energy saving bulb as EGLO PARK 88302 for security lights	NO.	24		
F	Abira antigue brown traditional post garden lantern complete with base, mounting screws, column and lamp head with warm white energy saving bulb as EGLO 92234 TYPE SE	NO.	12		
G	IP65 Olympic flood range, black. 50,000hour average lamp life.100o beam angle. Highly Energy efficient fitting	NO.	10		
H	36W, 1x1200mm single fluorescent fitting as THORN Cat. No. PP136 to be installed under the reception' counter. TUBE TO BE WARM WHITE IN COLOUR	NO.	3		
I	Vtac garden light for compound lighting wired using 2C 2.5mm2 PVC/SWA/PVC copper cables	NO.	10		
J	Suspended decorative elaborate main entrance chandelier complete with dimmable lamps with all the mounting accessories as Thorn Fata Morgana	NO.	4		
K	Eglo Maserlo Black Large Round Pendant Light (Eglo 31605) simplistic and modern light with energy saving lamp and fabric under cover	NO.	6		
	Lighting fittings as shown in the drawings complete with control gears and lamps:-				
	Supply and install power point accessories & equipment complete with associated wiring terminations & fixing materials				
L	13amps single switched weather proof socket outlet plate and as Crabtree or MK S2657DP WHI	NO	12		
M	13amps twin switched socket outlet plate as crabtree or MK S2647DP WHI	NO	14		
N	Blanking covers for data outlet points as MK S3827 WHI	NO	4		
	TOTAL CARRIED TO COLLECTION PAGE				

GROUND FLOOR ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 220	
2	PAGE 221	
	TOTAL CARRIED TO BILL SUMMARY PAGE	

BASEMENT LEVELS

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	LIGHTING AND POWER				
	Final sub-circuits complete with accessories and fittings as detailed below wired in 20mm diameter conduits clipped onto the ceiling using spacer saddles on one part and concealed in partitioning walls on the other part. All conduits to be from Metro Plastics				
A	Lighting points, wired in 3x1.5mm sq single core cables for one/ two way switching	No.	13		
B	Signage outlet points, wired in 3x 1.5mm sq single core cables in ring circuit enclosed and concealed in PVC conduits integrated to photocell and override switch	No.	3		
C	Occupancy sensor outlet point wired in 3x1.5mm sq single core cables inside 25mm dia. PVC heavy gauge conduits concealed in the floor and walls but without the sensor.	NO.	3		
D	Extract fan outlet points, wired in 4C,10mm sq XLPE PVC/SWA/PVC Copper cables enclosed and concealed in PVC conduits	NO.	2		
E	1200mm 1x36W High performance dust and moisture proof impact resistant luminaire as HORN Heat Force in the riser ducts and mirror lights	NO.	6		
F	1200mm Bathroom Wall Light in Polished Chrome with Diffuser,IP44 Over-Mirror Strip Light.	No.	6		
G	Self illuminated Emergency Exit light with sign as Thorn With arrows for directions	NO.	3		
H	Universal 360 degrees PIR Recessed or surface mounted Lighting control available in standard or remote control. Time settings 10sec to 40min adjustable as Robus	NO	3		
I	Kenya Power Ltd Liaison and attendance charges for provision of power supply to the development and issuance of 3No. Three phase and 22No. Single phase KPLC meters.	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

ITEM NO.	DESCRIPTION	UNIT	QTY	RATE KSHS.	TOTAL KSHS.
	Supply, install and set to work the following:				
	SHOPS METER SUB BOARD				
A	Power LV sub board to be mounted free standing as manufactured by strictly Schneider Electric formerly Power technics or ABB with the following: - a) 1No. 630A 4P Molded case Circuit Breaker 4P4T MICROLOGIC 2.3 630A NSX630F b) 44NO. TP 63A MCCB c) 8NO. TP 32A MCCB d) 1No. Set of 4P 630A BURSBAR e) 1No. Digital power meter as PM2220 with 630/5A CT class 0.5 indication of voltage, current, KW, KWh, KVA Power Factor, frequency, etc. f)Three- phase surge arrestor type 1/2 completes with protection g) 630/5A Current transformer wired to terminals for P.F. sensing. h)Set of phase presence indicators lights i) Appropriate knockouts for incoming/ out going cables j) Space for 30No. Three phase post-paid KPLC meters. k) Sealable CT chamber	Item	1		
B	Earthing comprising of copper earth mat in lattice configuration 1000mmx1000mm. Conductor size of lattice 25x3mm with tail to tie copper tape	NO.	1		
C	4C 300 mm2 PVC/SWA/PVCcopper cable for distribution of power from the Transformer to the switch board in A above;	NO.	30		
D	Cable glands, lugs and shrouds for terminating 4C, 300 mm2 PVC/SWA/PVC copper cable	NO.	16		
E	Allow for a 100mm x 3mm and 1000mm long Copper earth bar for earthing equipment in electrical room.	NO.	2		
F	600 x 75 mm Heavy Gauge Galvanized/powder coated metallic cable Ladder complete with tees, crossover, bends end cap, jacking mounting brackets etc. and bonded to earth. The cable ladder should be bonded and provided with cover. The *workmanship to be done to engineers approval.*	NO.	65		
G	Kenya Power Ltd Liaison and attendance charges for provision of power supply to the development and issuance of the KPLC Metres	Item	Item		
	TOTAL CARRIED TO COLLECTION PAGE				

BASEMENT FLOOR ELECTRICAL INSTALLATION COLLECTION PAGE

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD FROM:	
1	PAGE 223	
2	PAGE 224	
	TOTAL CARRIED TO SUMMARY PAGE	

PROPOSED RENOVATION & REFURBISHMENT OF ANNIVESARY TOWERS ALONG UNIVERSITY WAY

BILL NO 5 :ELECTRICAL INSTALLATION WORKS

BILL SUMMARY

ITEM NO.	DESCRIPTION	AMOUNT KSHS.
	TOTAL BROUGHT FORWARD	
1	PRELIMINARIES AND GENERAL CONDITIONS	
2	24TH FLOOR - TANK ROOM & LIFT MACHINE ROOM	
3	23RD FLOOR	
4	GROUND TO 23RD FLOORS - TYPICAL STAIR CASES	
5	GROUND TO 23RD FLOORS - TYPICAL LIFT LOBBIES & WASHROOMS	
6	GROUND TO 23RD FLOORS - KITCHENETTES	
7	PODIUM LEVEL	
8	MEZZANINE 01 & 02	
9	GROUND FLOOR	
10	BASEMENT LEVELS	
	TOTAL CARRIED TO GRAND SUMMARY	

BILL NO. 06
PROVISIONAL SUMS

BILL NO 6

BILL NO 6 -PROVISIONAL SUMS

Item	Description	Unit	Qty	Rate	Amt (KShs.)
	Allow for the following provisional sums to be expended in whole or in part at the direction and discretion of the Project Manager /Architect in accordance with sub clause 13.6 of the General Conditions of Contract				
	Building permits and approvals				
A	Allow a provisional sum of Three Hundred and Fifty Thousand Kenya Shillings (KShs. 350,000/=) for application of Nairobi City Council building approvals and renovation permits .				350,000.00
	Contingency				
B	Allow a provisional sum of Twelves Million Five Hundred Thousand Kenya Shillings (KShs. 12,500,000/=) for contingencies	SUM			12,500,000.00
	BILL NO 6				
	PROVISIONAL SUMS				
	TOTAL CARRIED TO GRAND SUMMARY		KShs.		12,850,000.00

BILL NO. 07
CREDIT FOR SALVAGE MATERIAL

Item	Description	Unit	Qty	Rate	Amount(KShs)
	BILL NO 7				
	CREDIT FOR SALVAGE MATERIALS				
A	Solid core flush door overall size 900x 2100mm high including 100x50mm frames (Secondary staircase ,Fire escape doors, Kitchenette doors , airlock doors)	NO	171		
B	Solid core flush door overall size1100x 2100mm high including 100x50mm frames;(Main Staircase doors)	NO	29		
C	Solid core flush door overall size 800x 2100mm high including 100x50mm frames,architraves and quadrants	NO	35		
D	Natural anodized aluminium ceiling comprising 100mm wide slats and existing metal framework	SM	3,995		
E	Gauge 21 corrugated iron roofing sheets	SM	1,215		
	BILL NO 7				
	CREDIT FOR SALVAGE MATERIALS				
	TOTAL CARRIED TO GRAND SUMMARY				

GRAND SUMMARY

PROPOSED COMMON AREA REFURBISHMENTS AT ANNIVERSARY TOWERS NAIROBI FOR KENYA REINSURANCE CORPORATION

GRAND SUMMARY

	BILL NO	FROM PAGE	AMOUNT (KES.)
1	PRELIMINARIES	100	
2	DEMOLITIONS AND ALTERATIONS	107	
3	BUILDERS WORKS	174	
4	MECHANICAL WORKS	194	
5	ELECTRICAL WORKS		
6	PROVISIONAL SUMS		
7	*Less* CREDIT FOR SALVAGE MATERIALS		
	TOTAL CARRIED TO FORM OF TENDER	**KSHS.**	

Total in words: …….

Name of Contractor: ……

Address: ……..

Telephone:…….

Signature: …….

Official Stamp & Date: …….

SECTION VI
SPECIFICATIONS

GENERAL DESCRIPTION OF MATERIALS AND WORKMANSHIP

The following apply to all sections hereafter.

A ALTERATIONS, ADDITIONS AND EXTENSIONS

In alterations or extensions to existing works, buildings and/or external works, new work is to match up in all respects to the existing work unless otherwise specified, shown on the Drawings or approved before-hand by the Architect.

QUALITY, SAMPLES, TESTING AND APPROVAL

B MATERIALS

All materials, commodities, components and equipment are to be new and unused unless otherwise specified or approved by the Architect. Handle, store, fix and protect all commodities with care to ensure that they are in perfect condition when incorporated into the works and handed over on completion.

C MANUFACTURER'S RECOMMENDATIONS

Handling, storage and fixing of every commodity shall be in accordance with the printed or written recommendations of the manufacturer and/or supplier. Supply the Architect with copies of manufacturer's recommendations. Inform the Architect if the manufacturer's recommendations conflict with any other specified requirements, and obtain his instructions before proceeding.

D STANDARDS

Where commodities or workmanship are specified by reference to British Standard (B.S) or codes of practice (C.P.) or International (I.S.O) or Kenyan Standard or other Standards, such standards are deemed to be the latest published at the time of tendering. The Contractor will be deemed to have read and understood the standards specified, and no claim for want of knowledge will be allowed. The substitution of commodities or standards of workmanship complying with other standards may be well allowed at the discretion of the Architect, but application for permission for such substitution must be made in writing in sufficient time to allow adequate investigation. Obtain Certificate of Compliance with standards and supply to the Architect on request.

E LOCAL CONDITIONS

All materials, commodities, components and equipment must be suitable for use in tropical climates.

A **SAMPLES**

Where samples of commodities or specimens of finished work are specified submit samples or specimens to the Architect and obtain his approval before confirming orders or carrying out the work. Retain approved samples and specimens on Site for comparison with the finished work. Finished work must conform in all respects with the samples or specimens approved. Remove samples and specimens when no longer required. The cost of supplying samples and specimens may form part of the finished work where approved by the Architect.

GENERAL DESCRIPTIONS OF MATERIALS AND WORKMANSHIP

The following apply to all sections hereinafter.

DEMOLITIONS AND ALTERATIONS

A GENERALLY

The Contractor is required to visit the existing buildings and ascertain for himself the nature of the Works and no claim arising from want of knowledge in this respect will be allowed. The dimensions and quantities given in this section are approximate given for guidance only and the Contractor is referred to the Site to ascertain the exact nature of the works.

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

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

During demolition works the Contractor shall keep the debris constantly watered to minimise the dust arising and this shall be included in his prices.

The Contractor is to erect dust-proof screens to the approval of the Architect where deemed necessary and to remove them on completion of the work, all to the Architect's satisfaction.

All materials arising from the demolitions, unless specifically stated otherwise, are to become the property of the Contractor and any credit allowed for the value of such materials shall be shown in the space provided.

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

DEMOLITIONS AND ALTERATIONS (CONTINUED)

A INTERPRETATION OF TERMS

Demolish' shall be deemed to mean cutting away, breaking up, demolishing, pulling down, taking down, removing, etc., as the context requires and shall include in all cases temporarily strutting and supporting and making good remaining work as necessary, and clearing away and removing from Site all debris, etc

Remove' shall mean taking down, hacking up, breaking down, removing etc., and clearing away from Site and all other expenses thereby entailed.

Make good' shall be deemed to mean , all making good, fitting, facing, plastering, paving, repairing and painting to match and jointing to remaining existing work.

To 'match' shall mean to be all equal to relevant existing work in design, workmanship and all other aspects.

Re-fix' shall apply to existing materials arising from the Works and shall mean take from store and fix in new position, including making good, repairing and adjusting as necessary.

EXCAVATIONS

A EXAMINE THE SITE

The Contractor is assumed to have visited and examined the Site carefully and ascertained for himself its nature and the kind of materials to be excavated.

B EXCAVATIONS

Excavations shall be to the widths and depths indicated on the Drawings subject to the rules of working space or to such lesser or greater depths as the Architect may deem necessary and so instruct the Contractor in order to obtain satisfactory foundations.

Any difference in the quantity of work actually executed under such instructions and that provided in the Bills of Quantities shall be measured and valued by the Surveyor as a Variation under the relevant Conditions of Contract.

If, however, the Contractor excavates to any greater depths or widths than are shown on the Drawings or directed, then the Contractor shall at his own expense, fill in such extra depth and width with concrete similar to that described for foundations to the Architect's satisfaction.

C BOTTOMS OF EXCAVATIONS TO RECEIVE FOUNDATIONS

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

The Surface of the bottoms of excavations to receive foundations shall be leveled or graded to falls as required.

D SIDES OF EXCAVATIONS

Sides of excavations shall be maintained vertical by means approved by the Architect, and the Contractor shall also allow for keeping same free from fallen materials in his rates for excavations.

The Contractor shall also allow for keeping excavations free from, water and mud by baling, pumping or otherwise, in his rates for excavations.

EXCAVATIONS (CONTINUED)

A ROCK

Excavation in rock shall exclude all materials which can be removed by hand and does not necessarily require the use of compressors or other mechanical equipment although the Contractor may use such equipment to loosen the material for ease of its removal. All top soils, black cotton and other clay soils, murram, stone and other fill and all similar materials will NOT be classified as rock.

Rock has been measured hereafter as extra over excavation for excavating in soft or hard rock.

Soft rock shall be deemed to mean any material which cannot reasonably be removed without the use of mechanical plant such as rippers, compressors, traxcavators, but which does not require drilling, wedging or blasting. Local tuffs, magadi highly-consolidated literate, weather, lavas, boulders or outcrops of harder rock not exceeding one cubic metre in volume, Nairobi building stone and similar materials shall be classified as soft rock.

Hard rock shall be classified as material which is massive and geologically homogeneous and which requires the use of drilling, wedging or blasting for its removal such as blacktrap or similar material.

The Engineer's decision shall be final with regard to the classification of excavated materials.

B STARTING LEVEL

Unless otherwise described the starting level of all excavations has been measured from the level remaining after completion of reduced level excavation. However, the Contractor's prices should include for carrying out the excavation work in any alternative sequence that he may require.

C BLASTING

No blasting will be permitted without the prior approval of Local Authorities and the Architect.

EXCAVATIONS (CONTINUED)

A CART AWAY

All surplus excavated materials where so directed and all rubbish are to be removed from the Site and the Contractor is to find his own dump and shall pay all charges.

B BORROW PITS

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

C FILLING OBTAINED FROM THE EXCAVATIONS

Filling obtained from surplus excavation materials will only be incorporated if suitable material arises and it is to be free from all weeds, roots, vegetable soil or other unstable materials and is to be filled in layers each of not more than 250mm finished thickness. Each layer to be wetted and consolidated as described hereafter.

D HARDCORE FILLING

Hardcore for filling under floors, etc., shall be good hard stone, ballast or quarry waste to the approval of the Architect broken to pass not greater than 150mm ring or to be 75% of the finished thickness of the layers being compacted, whichever is the lesser. Hardcore shall be free from all weeds, roots, vegetable soil, clay, black cotton soil or other unstable materials.

It shall be well graded with smaller stones and fine materials to give a dense compact mass after consolidation. Sufficient fine material shall be added to each layer to give gradation of materials as necessary to obtain a solid compact mass after rolling. Hardcore filling is to be laid in layers each of consolidated thickness not exceeding 250mm. Each layer shall be compacted by at least 8 passes of 10 tonne smooth-wheeled roller or a 2 tonne vibrating roller until all movement ceases. Sufficient water is to be added to obtain maximum compaction to the Architect's approval. To each layer a 25mm thick layer of sand complying with the specification for fine aggregate for concrete shall be spread over the surface and forced into the hardcore by the use of a vibrating roller weighing not less than 2 tonnes. This operation should be carried out when the materials are dry and repeated whilst the sand is well watered. Should all the sand be absorbed the Architect may require a further layer to be applied and the process repeated.

EXCAVATIONS (CONTINUED)

A HARDCORE FILLING (CONTINUED)

The top surface of the hardcore shall be leveled or graded to falls as required, and shall then be blinded with a layer of similar materials broken to 25mm gauge and finished with a 10 ton smooth-wheeled roller. The surfaces so obtained shall be to the Architect's approval.

B MATERIALS FOUND IN EXCAVATIONS

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

C RATES FOR EXCAVATIONS

The rates for excavation, including excavation in rock, shall include for trimming, leveling and preparing bottoms and all faces to receive concrete, etc., and for any extra excavation required for planking and strutting.

Prices shall include for excavating in any material encountered unless specifically otherwise described, handling, etc., of extra bulk after excavating, or before consolidating, any extra excavation required for formwork or planking and strutting, circular work, grubbing up any old drains, roots etc., that may be encountered, for trimming sides and leveling and ramming bottoms, forming steppings and trimming excavation or filling to embarkments and batters as required.

In his prices for the item 'allow for keeping the whole of the excavations free from water' the Contractor shall allow and make provision for keeping the whole of the Works thoroughly drained and clear of water below the lowest level of any part of them so long as may be required if considered necessary by the Architect, continuously day and night by petrol or hand pumps or other mechanical appliances, pipes, chutes, dams, manholes, sumps, diversions or any other means necessary for that purpose. Water pumped from the trenches shall not be allowed to run down the road channels but shall be conveyed to the nearest surface water sewer, ditch or river through troughs, chutes or pipes.

EXCAVATIONS (CONTINUED)

A RATES FOR DISPOSAL

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

B DIOTHENE SHEETING

Diothene sheeting shall be 500 gauge or 1000 gauge as shown and as produced by Plastics Africa Limited, or other equal and approved. Joints in sheeting shall be treble folded with 150mm fold and taped at 300mm intervals with 50mm wide black plastic adhesive taps as manufactured by Cellotape Limited. The sheeting shall not be stretched but shall be laid loose with sufficient wrinkles to permit shrinkage up to 15%.

C CUTTING DOWN TREES

The Contractor must consult the Architect before cutting down or pruning any trees or shrubs encountered on the Site.

CONCRETE WORK

A ARCHITECT/ENGINEER

For the purposes of the concrete structure the Structural Engineer, hereafter referred to as 'the Engineer', shall be deemed invested with the duties and be the representative of the Architect.

B CODE OF PRACTICE

All materials, workmanship, tests and performances in connection with reinforced work are to be in conformity with the latest edition of the British Standard Code of practice B.S. (8110 for 'The Structural Use of Concrete') where not inconsistent with these Preambles.

C SUPERVISION

A competent person approved by the Engineer shall be employed by the Contractor whose duty shall be to supervise all stages in the preparation and placing of the concrete. All cubes shall be made and Site tests carried out under his direct supervision, in consultation with the Engineer.

D CONTRACTOR'S PLANT, EQUIPMENT AND CONSTRUCTION PROCEDURES

Not less than 30 days prior to the installation of Contractor's plant and equipment for processing, handling, transporting, storing and proportioning ingredients, and for mixing, transporting and placing concrete, the Contractor shall submit drawings for approval by the Engineer, showing proposed general plant arrangements, together with a general description of the equipment he proposes to use.

After completion of installation, the operation of the plant and equipments shall be subject to the approval of the Engineer.

Where these Preambles, the Bills of Quantities or the Drawings require specific procedures to be followed, such requirements are not to be construed as prohibiting use by the Contractor, of alternative procedures if it can be demonstrated to the satisfaction of the Engineer that equal results will be obtained by the use of such alternatives.

Approval of plant and equipment or their operation, or of any construction procedure, shall not operate to waive or modify any provision or requirements contained in these preambles governing the quality of the Materials or of the finished work.

CONCRETE WORK (CONTINUED)

A CONTRACTOR'S PLANT, EQUIPMENT …... (CONTINUED)

Where suspended floor slabs are to be construed without expansion joints, concreting is to be in panels of sizes and positions to the approval of the Engineer. To permit setting shrinkages to occur, some panels will be left unconcreted until 7 days or more after main areas have been concreted. The Contractor must include for this method of construction in his pricing.

B TOLERANCE

On all setting out dimensions of 5 metres and over a maximum non-accumulative tolerance of plus or minus 5 millimetres will be allowed. On all setting out dimensions under 5 metres, a maximum non-accumulative tolerance of plus or minus 3 millimetres will be allowed. On the cross-sectional dimensions of structural members, unless otherwise required by the Drawings, a maximum tolerance of plus or minus 3 millimetres will be permitted.

The top surface of concrete floor slabs and beams shall be within 6 millimetres of the normal level and line shown on the Drawings. Columns shall be truly plumb and non-accumulative tolerance of 3 millimetres in each storey and not more than 6 millimetres out of plumb in their full height will be permitted. The Contractor shall be responsible for the cost of all corrective measures required by the Engineer to rectify work which is not constructed within the tolerances set out above.

C MATERIALS GENERALLY

All materials which have been damaged, contaminated or have deteriorated or do not comply in any way with the requirements of these Preambles shall be rejected and shall be removed immediately from the Site at the Contractor's expense. No materials shall be stored or stacked on floors without the Engineer's prior approval.

The sources of supply for all materials used for concrete work shall be approved by the Engineer before these materials are delivered on the Site. All materials shall comply with the requirements of the latest appropriate British Standard unless otherwise agreed with the Engineer whose approval shall be obtained in writing.

The suppliers of materials shall give the Engineer access to their Premises when directed for the purpose of obtaining samples of the materials for testing.

CONCRETE WORK (CONTINUED)

A SAMPLES

Samples of materials shall be submitted as soon as possible after the Contract is let. No deliveries in bulk shall be made until the samples are approved by the Engineer. All condemned materials shall be removed from the Site within 24 hours.

Every facility shall be provided to enable the Engineer to obtain samples and carry out tests on the materials and construction. If these tests show that any of the materials or construction do not comply with the requirements of this Specification, the Contractor will be responsible for the cost of the tests and the replacement of defective materials and/or construction.

Samples of all materials proposed to be used shall be submitted to the Engineer and shall be tested, where required, by the Materials Branch of the Ministry of Works or other approved testing place, and receive his approval prior to being delivered in bulk upon the Works.

The Contractor's attention is drawn to the fact that the testing of samples of aggregate, sand and cement by the materials Branch, M.O.W. or any other testing laboratory, takes time and it is of the utmost importance that the samples should be submitted for testing as soon as possible after the letting of the Contract. The Ministry or other testing Laboratory will not accept any responsibility whatsoever for delay in the commencement of the Contractor in submitting samples.

B CEMENT

Cement, unless otherwise specified, shall be Portland cement of a brand approved by the Engineer and shall comply with the requirements of B.S. 12 with the exceptions that it may contain reactive volcanic ash (of not more than 10% of the total weight) and the quantity of insoluble residue permitted in B.S. 12 may be exceeded. A manufacturer's Certificate of Test in accordance with B.S. 12 shall be supplied for each consignment delivered to the Site.

Should the Contractor require to use cement of the rapid hardening variety, he shall obtain the approval of the Engineer and also obtain any instructions regarding modifications to these Preambles caused thereby. Any additional cost that may be caused by the use of rapid hardening cement shall be at the Contractor's expense.

CONCRETE WORK (CONTINUED)

A CEMENT (CONTINUED)

Cement may be delivered to the Site either in bags or in bulk.

If delivered in bags, each bag shall be properly sealed and be marked with the manufacturer's name and on the Site is to be stored in weather-proof shed of adequate dimensions with a raised floor. Each consignment shall be kept separate and marked so that it may be used in the sequence in which it is received. Any bag found to contain cement which has set or partly set, shall be completely discarded and not used in the Works. Bags shall not be stored more than 1,500mm in height.

If delivered in bulk the cement shall be stored in a water-proof silo either provided by the cement supplier or by the Contractor, but in either case the silo shall be to the approval of the Engineer.

B AGGREGATES

The aggregates shall conform with the requirements of B.S. 882 and the sources and types of all aggregates are to be approved in all respects by the Engineer before work commences.

The grading of aggregates shall be one within the limits set out in B.S. 882 and as later specified and the grading, once approved, shall be adhered to throughout the Works and not varied without the approval of the Engineer. Fine aggregate shall be clean, coarse, siliceous sand of good, sharp, hard quality and shall be free from lumps of stone, earth, loam, dust, salt, organic matter and any other deleterious substances. It shall be graded within the limits of Zone 1 or 2 Table 2 of B.S. 882

Coarse aggregate shall be good, hard, clean approved blacktrap or similar stone, free from dust, decomposed stone, clay, earthy matter, foreign substances or friable thin elongated or laminated pieces. It shall be graded within the limits of Table 1 of B.S. 882 for its respective nominal size.

If in the opinion of the Engineer the aggregate meets with the above requirements but it is dirty or adulterated in any manner it shall be screened and/or washed with clean water if he so directs at the Contractor's expense.

Aggregates shall be delivered to the Site in their prescribed sizes or gradings and shall be stockpiled on paved areas or boarded platforms in separate units to avoid intermixing. On no account shall aggregates be stockpiled on the ground.

CONCRETE WORK (CONTINUED)

A WATER

The water used for mixing concrete shall be from an approved source, clean, fresh and free from harmful matter and comply with the requirements of B.S. 3148

B READY-MIXED CONCRETE

Ready-mixed concrete may only be used with the prior permission of the Engineer, subject to special additional conditions laid down by the Engineer.

C CONCRETE MIXES

Concrete mixes have been described either by the volumetric proportions or by the 28-day cube strength.

D CONCRETE STRENGTHS

Concrete mixes shall have the following minimum strengths as given by the Works Cube Test: -

	Minimum crushing Strength at 28 Days N/mm
Class 40	40
Class 30	30
Class 25	25
Class 20	20

The average strength obtained from cube tests shall be 10% higher than the minimum strength shown above.

Works Cube Test will not be required for class 15 blinding concrete which shall comprise 1:3:6 by weight.

Volumetric mixes shall comprise the following: -

CONCRETE WORK (CONTINUED)

A CONCRETE STRENGTHS (CONTINUED)

	Cement/Kg	Fine Aggregate/CM	Coarse Aggregate/CM
1:1.5:3	50	0.05	0.10
1:2:4	50	0.07	0.14
1:3:6	50	0.10	0.20
1:4:8	50	0.13	0.26

B MEASURED PROPORTIONS OF CONCRETE

Cement

The quantity of cement shall be measured by weight. When delivered in bags, each batch of concrete is to use one or more whole bags of cement.

Aggregates

Concrete aggregates shall be measured by weight in a weigh batching machine.

Weigh batching machines shall be of an approved type and shall be properly maintained and checked for accuracy at regular intervals.

C CONCRETE CLASSES 20, 25, 30 & 40

The weights of fine and coarse aggregate to be used in concrete Classes 20 to 25 shall be limited in accordance with the table below. The proportions of fine to coarse aggregate and cement which the Contractor proposes to use for each of the mixes specified shall first be approved by the Engineer. The Contractor will then be required to prepare Preliminary Test Cubes and have these cubes tested as described for Work Cube Tests. The test results should be submitted to the Engineer in sufficient time for further tests to be carried out should they prove unsatisfactory. Cube strengths in the preliminary tests must show crushing strengths at least 25% higher than the strengths specified for Works Cube Test. If the Contractor is unable to produce specified cube strengths he will be required at his own cost to increase the cement content of the mix until satisfactory results are produced.

The Engineer may require at any time during the Contract the proportions of fine to coarse aggregate to be altered in order to produce a mix of greater strength or improved workability and providing that the total proportions of aggregate to cement remain unchanged, no claim for additional cost will be considered.

CONCRETE WORK (CONTINUED)

A MINIMUM CEMENT CONTENT

Concrete Class	Minimum Cement Content by weight to combined total weight of aggregate
Class 40	1 to 5
Class 30	1 to 6.5
Class 25	1 to 7
Class 20	1 to 7.5
Class 15	1 to 9

CONCRETE WORK (CONTINUED)

B WATERPROOF CONCRETE

Where waterproof concrete is specified, "Sealopruf Integral Water-proofing Compound" and "Sealoplaz Plasticiser" as manufactured by Sealocrete Group Sales Ltd., Atlantic Works, Hythe Road, London NW10 5RD, England, are to be added to the mixing water strictly in accordance with the manufacturer's instructions and at the rate of 0.50 litres and 0.25 litres respectively to each 50 Kg. bag of cement to which the aggregates have already been added and mixed. Not more than 25 litres of water per 50 Kg. bag of cement are to be used unless otherwise approved by the Engineer

C EXPANSION JOINTING

Expansion joint filler shall be "Flexcell" as manufactured by Expandite Ltd., or "Resilex" as manufactured by Evomastics Ltd., or other equal and approved.

D JOINT SEALER

Sealers shall be either hot or cold applied. Hot applied sealers shall comply with B.S. 2499. Cold mastics shall be applied by gun and where more than 12mm deep shall include filling with loose packing yarn to within 2 mm from the outer face. All joint sealers are to be approved by the Engineer prior to their use.

CONCRETE WORK (CONTINUED)

A WATERBAR

Waterbar shall be as shown on the drawings or as described in the Bills of Quantities. PVC waterbar shall be as manufactured by Expandite Limited, or other approved type and shall be provided in the positions indicated on the Drawings. Joints shall be heat welded in accordance with the manufacturer's instructions and where the waterbar is to be fixed vertically, metal clips as manufactured by the supplier of the waterbar or of other approved design shall be provided to suspend the waterbar from the reinforcement.

Where waterproof concrete is used the Contractor shall adhere strictly to the position and type of construction joints as detailed on the Drawings. Any deviation from this procedure or the provision of additional construction joints will require the prior approval of the Engineer and any additional waterbar so required will be at the Contractor's expense.

Formwork shall be designed with sufficient timber formers and blocking pieces to support the waterbar and to ensure that it is not displaced during concreting. In the case of horizontal joints in vertical walling and similar members the formwork shall be so constructed as to permit the starter or upstand of concrete surrounding the lower half of the waterbar to be poured in the same operation as the slab or other concrete from which it springs. Formwork to walls or similar members where the waterbar is positioned at the base of the lift shall have sufficient temporary openings not less than 300mm square at approximately 200mm above the level of the waterbar to permit checking that the waterbar is correctly positioned and is not displaced during concreting.

No concreting will be permitted to portions where upstand starters form an integral part until the formwork to the starter has been fixed and approved.

B TESTING EQUIPMENT

The Contractor shall provide the following equipment for carrying out control tests on the Site:

a) Straight edges 3 metres and 1 metre long for testing the accuracy of the finished concrete;

b) A glass graduated cylinder for use in the silt test for organic impurities in the sand;

CONCRETE WORK (CONTINUED)

A TESTING EQUIPMENT (CONTINUED)

c) Slump test apparatus;

d) Four 150mm steel cube moulds with base plates and tampering rods to B.S. 1881

B WORKS CUBE TESTS

Works cubes are to be made at intervals as required by the Engineer in accordance with B.S 8110 and the Contractor shall provide a continuous record of the concrete work. The cubes shall be made in approved 15mm moulds in strict accordance with the Code of Practice.

Four cubes shall be made on each occasion.

Each cube shall be marked with a distinguishing number (numbers) to run consecutively and the date, and a record shall be kept on Site giving the following particulars: -

a) Cube No.

b) Date Made

c) Location in work

d) 7-day Test

Date

Strength

e) 28-day Test

Date

Strength

Cubes shall be forwarded, carriage paid, to an approved Testing Authority, in time to be tested one at 7 days and the remaining three twenty eight days. No cube shall be dispatched within 3 days of casting.

CONCRETE WORK (CONTINUED)

A WORKS CUBE TESTS (CONTINUED)

Copies of all Works Cube Tests shall be forwarded directly to the Engineer by the testing laboratory.

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

B MIXING AND PLACING OF CONCRETE

The concrete shall be mixed only in approved power-driven mixers of a type and capacity suitable for the work, and in any event not smaller than 0.40/0.28 cu.m. capacity.

The mixer shall be equipped with an accurate water measuring device. All materials shall be thoroughly mixed dry before the water is added and the mixing of each batch shall continue for a period of not less than two minutes after the water has been added and until there is a uniform distribution of the materials and the mass is uniform in colour.

The entire contents of the mixed drum shall be discharged before recharging. The volume of mixed materials shall not exceed the rated capacity of the mixer. Whenever the mixer is started, 10% extra cement shall be added to the first batch and no extra payment will be made on this account.

As a check on concrete consistency, slump tests may be carried out and shall be in accordance with B.S. 1881. The Contractor shall provide the necessary apparatus and carry out such tests as are required. The slump of the concrete made with the specified water content, using dry materials shall be determined and the water be added under wet conditions shall be so reduced as to give approximately the same slump.

CONCRETE WORK (CONTINUED)

A MIXING AND PLACING OF CONCRETE (C0NTINUED)

The concrete shall be mixed as near to the place where it is required as is practicable, and only as much as is required for a specified section of the work shall be mixed at one time, such sections being commenced and finished in one operation without delay. All concrete must be efficiently handled and used in the Works within twenty (20) minutes of mixing. It shall be discharged from the mixer direct either into receptacles or barrows and shall be distributed by approved means which do not cause separation or otherwise impair the quality of the concrete. Approved mechanical means of handling will be encouraged, but the use of chutes for placing concrete is subject to prior approval of the Engineer.

Concrete shall be placed from a height not exceeding 1,500mm directly into its permanent position and shall not be worked along the shutters to that position. Unless otherwise approved, concrete shall be placed in a single operation to the full thickness of slabs, beams, and similar members, and shall be placed in horizontal layers not exceeding 1,500mm deep in walls and similar members.

Concrete in columns may be placed to a height of 4 metres with careful placing and vibration and satisfactory results. Where the height of the column exceeds 4 metres suitable openings must be left in the shutters so that this maximum lift is not exceeded.

Concrete shall be placed continuously until completion of the part of the work between construction joints as specified hereinafter or of a part of approved extent. At the completion of a specified or approved part a construction joint of the form and in the positions hereinafter specified shall be made. If stopping of concreting be unavoidable elsewhere, a construction joint shall be made where the work is stopped. A record of all such joints shall be made by the Contractor and a copy supplied to the Engineer.

Any accumulation of set concrete on the reinforcement shall be removed by wire brushing before further concrete is placed.

The Contractor shall provide runaways for concreting to the satisfaction of the Engineer. Under no circumstances will the runaways be allowed to rest on the reinforcement.

Care shall be taken that the concrete is not disturbed or subjected to vibrations and shocks during the setting period.

CONCRETE WORK (CONTINUED)

A MIXING AND PLACING OF CONCRETE (C0NTINUED)

Mixing machines, platforms and barrrows shall be clean before commencing mixing and be cleaned on every cessation of work.

Where concrete is laid on hardcore or other absorbent materials, the base shall be suitable and sufficiently wetted before the concrete is deposited.

B COMPACTION

At all times during which concrete is being placed the Contractor shall provide adequate trained and experienced labour to ensure that the concrete is compacted in the forms to the satisfaction of the Engineer.

Concrete shall not be placed at a rate greater than will permit satisfactory compaction nor to a depth greater than 400mm before it is compacted.

During and immediately after placing, the concrete shall be thoroughly compacted by means of continuous tamping, spading, slicing and vibration. Vibration is required for all concrete of Classes 40, 35, 25 and 20.

Care shall be taken to fill every part of the forms, to work the concrete under and around the reinforcement without displacing it and to avoid disturbing recently placed concrete which has began to set.

Any water accumulating on the surface of newly placed concrete shall be removed and no further concrete shall be placed thereon until such water is removed.

Internal vibrators shall be a frequency of not less than 7,000 cycles per minute and shall have a rotating eccentric weight of at least 0.50 Kg, with an eccentricity of not more than 12mm. Such vibrators shall visibly affect the concrete within a radius of 250mm from the vibrator.

Internal vibrators shall not be inserted between layers of reinforcement less than one and one half times the diameter of the vibrators apart. Contact between vibrators and reinforcement and vibrators and formwork shall be avoided.

CONCRETE WORK (CONTINUED)

A COMPACTION (CONTINUED)

Internal vibrators shall be inserted vertically into the concrete wherever possible at not more than 500mm centres and shall constantly be moved from place to place. No internal vibrator shall be permitted to remain in any one position for more than ten seconds and it shall be withdrawn very slowly from the concrete.

In consolidating each layer of concrete the vibrating head shall be allowed to penetrate and re-vibrate the concrete in the upper portion of the underlying layer. In the area where newly placed concrete in each layer joins previously placed concrete more than usual vibration shall be performed, the vibrator penetrating deeply at close intervals along these contacts. Layers of concrete shall not be placed until layers previously placed have been vibrated thoroughly as specified.

Vibrators shall not be used to move concrete from place to place in the formwork.

At least one internal vibrator shall be operated for every 1.5 cubic metres of concrete placed per hour and at least one spare vibrator shall be maintained on Site in case of breakdown during concreting operations.

External formwork vibrators shall be of the high frequency low amptitude type applied with the principal direction of vibration in the horizontal plane. They shall be attached directly to the forms at not more than 1,200mm centres.

In addition to internal and external vibration the upper surface of suspended floor slabs shall be levelled by tamping or vibrating to receive finishes. Vibrating elements shall be of the low frequency high amptitude type operating at a speed of not less than 3,000 r.p.m.

B CONSTRUCTION JOINTS

Construction joints shall be permitted only at the positions pre-determined on the drawings or as instructed on the Site by the Engineer. In general they shall be perpendicular to the lines of principal stress and shall be located at points of minimum shear, viz., vertically at, or near, mid-spans of slabs, ribs and beams.

CONCRETE WORK (CONTINUED)

A CONSTRUCTION JOINTS (CONTINUED)

Suspended concrete slabs are generally to be cast using alternate bay construction in bays not exceeding 20 metres in length. No two adjacent bays are to be cast within a minimum period of 48 hours of each other. The joints between adjacent bays are to be in positions agreed with the Engineer.

Under no circumstances shall concrete be allowed to tail off, but it shall be deposited against stopping-off boards.

Before placing new concrete against concrete already hardened, the face of the old concrete shall be thoroughly hacked roughened and cleaned, and laitance and loose material removed therefrom, and immediately before placing the new concrete the surface shall be saturated with water and covered with a coat of mortar at least 25mm in thickness composed of cement and fine aggregate in in the proportions used in the concrete.

B CURING AND PROTECTION

Care must be taken that no concrete is allowed to become prematurely dry and the fresh concrete must be carefully protected within two hours of placing from rain, sun and wind by means of hessian sacking, polythene sheeting, or other approved means. This protective layer and the concrete itself must be kept continuously damp for at least seven days after the concrete has been placed. The Contractor will be required to provide complete coverage of all fresh concrete for a period of 7 days. Hessian or polythene sheeting shall be in the maximum widths obtainable and shall be secured against wind. The Contractor will not be permitted to use old cement bags, hessian or other material in small pieces.

Concrete in foundations and other underground work shall be protected from admixture with falling earth during and after placing.

Traffic or loading must not be allowed on the concrete until the concrete is sufficiently matured, and in no case shall traffic or loading be of such magnitude as to cause deflection or other movement in the formwork or damage to the concrete members. Where directed by the Engineer props may be required to be left in position under slabs and other members for greater periods than those specified hereafter.

CONCRETE WORK (CONTINUED)

A FAULTY CONCRETE

Any concrete which fails to comply with these Preambles, or which shows signs of setting before it is placed shall be taken out and removed from the Site. Where concrete is found to be defective after it has set, the concrete shall be cut out and replaced in accordance with the Engineer's instructions. On no account shall any faulty, honeycombed or otherwise defective concrete be repaired or patched until the Engineer has made an inspection and issued instructions for the repair. The whole of the cost whatsoever, which may be occasioned by the need to remove faulty concrete, shall be borne by the Contractor.

B ROD REINFORCEMENT

The steel reinforcement shall comply with the latest requirements of the following British Standards: -

Hot rolled bars for the reinforcement of concrete	to B.S 4449 (metric units)
Cold worked steel for the reinforcement of concrete	to B.S. 4461 (metric units)

The Contractor will be required to submit a test certificate of the rollings. Reinforcement shall be stored on racks above ground level. All reinforcement shall be free from loose mill scale or rust, grease, paint or other substances likely to reduce the bond between the steel and concrete.

C FABRIC REINFORCEMENT

To be electrically cross-welded steel wire mesh reinforcement to B.S 4483, 1969 and of the size and weight specified.

D FIXING ROD REINFORCEMENT

Reinforcement shall be accurately bent to the shapes and dimensions shown on the Drawings and Schedules and in accordance with B.S. 4466 (1969). Reinforcement must be cut and bent cold and no welded joints will be permitted unless so detailed.

CONCRETE WORK (CONTINUED)

A FIXING ROD REINFORCEMENT (CONTINUED)

Reinforcement shall be accurately placed in position as shown on the drawings, and before and during concreting, shall be secured against displacement by using No. 18 S.W.G. annealed binding wire or suitable clips at intersections, and shall be supported by concrete or metal supports, spacers or metal hangers to ensure the correct position and cover.

No concreting shall be commenced until the Engineer has inspected the reinforcement in position and until his approval has been obtained and the Contractor shall give two clear days' notice of his intention to concrete.

The Contractor is responsible for maintaining the reinforcement in its correct position, according to the Drawings, before and during concreting. During concreting a competent steel fixer must be in attendance to adjust and correct the position of any reinforcement which may be displaced. The vibrators are not to come into contact with the reinforcement.

B POSITION AND CORRECTNESS OF REINFORCEMENT

Irrespective of whether any inspection and/or approval of the fixing of the reinforcement has been carried out as above, it shall be the Contractor's sole responsibility to ensure that the reinforcement complies with the details on the Drawings or Schedules and is fixed exactly in the positions shown therein and in the positions to give the prescribed cover. The Contractor will be held entirely responsible for any failure or defect in any portion of the reinforced concrete structure and including any consequent delay, claims, third party claims, etc., where it is shown that the reinforcement has been incorrectly positioned or is incorrect in size or quantity with respect to the detailed Drawings or Schedules.

C SPACER BLOCKS

Spacer blocks of approved size and shape made of concrete similar to that used in the surrounding construction and fixed to the reinforcement or formwork by No. 18 S.W.G. wires set into the spacer blocks or other approved means shall be provided where necessary to ensure that the requisite cover is obtained. Where hollow concrete block construction is used, spacer blocks are to be provided as shown on the Drawings. These will consist of concrete blocks as described above made to fit the width of the rib less 3mm tolerance and with single or double grooves (depending on the number of reinforcement bars used per rib) in the top surface with wire ties at each groove.

CONCRETE WORK (CONTINUED)

A CONCRETE COVER TO REINFORCEMENT

Unless otherwise directed the concrete cover to rod reinforcement over main bars in any face shall be: -

Foundations against earth face	75mm
Foundations against Building	50mm
Columns	40mm
Beams	25mm
Slabs	15mm

B FIXING FABRIC REINFORCEMENT

The fabric shall be free from scale, rust, grease or other substance likely to reduce the bond between the steel and the concrete and shall be laid minimum 300mm laps and bound with No. 18 S.W.G. annealed iron wire.

C PROJECTING REINFORCEMENT

Where reinforcement projects from a concrete section of the structure and this reinforcement is expected to remain exposed for some time, it is to be coated with a cement grout to prevent rust staining on the finished concrete. This grout is to be brushed off the reinforcement prior to the continuation of concreting.

D CHASES, HOLES, ETC. IN CONCRETE

The Contractor shall be responsible for the co-ordination with the Electrical and other Sub-Contractors for incorporating electrical conduits, pipes, fixing blocks, chases, holes and the like in concrete members as required and must ensure that adequate notice is given to such Sub-Contractors informing them when concrete members incorporating the above are to be poured. The Contractor shall submit full details of these items to the Engineer for approval before the work is put in hand. All fixing blocks, chases, holes, etc., to be left in the concrete shall be accurately set out and cast with the concrete.

E POSITION OF ELECTRICAL CONDUITS

Unless otherwise instructed by the Engineer all electrical conduits to be positioned within the reinforced concrete shall be fixed inside the steel cages of beams and columns and between the top and bottom steel layers in slabs and similar members.

CONCRETE WORK (CONTINUED)

A POSITION OF ELECTRICAL CONDUITS

The proposed position of all electrical conduits 25mm and over in diameter which are to be enclosed in the concrete shall be shown accurately on a plan to be submitted to the Engineer, whose approval shall be obtained before any such conduit is placed. The dimensions and positions of all holes, sleeves, or ducts required in the structure for electrical cables or conduits shall be advised to the Engineer in sufficient time for them to be approved and shown on the structural Drawings. No other holes or sleeves shall be cut on site without the Engineer's prior approval.

B FORMWORK

The method and system of formwork which the Contractor proposes to use shall be approved by the Engineer before construction commences. Formwork shall be substantially and rigidly constructed of timber or steel or precast concrete or other approved material.

All timber for formwork shall be good, sound, clean, sawn well-seasoned timber, free from warps and loose knots and of scantlings sufficiently strong for their purpose.

C CONSTRUCTION OF FORMWORK

All formwork shall be of sufficient thickness and with joints close enough to prevent undue leakage of liquid from the concrete and fixed to proper alignment, level and plumb and supported on sufficiently strong bearers, shores, braces, plates, etc., properly held together by bolts or other fastenings to prevent displacement, vibration or movement by the weight of materials, men and plant on same and so wedged and clamped as to permit f easing of and removal of the formwork without jarring the concrete. Where formwork is supported on previously constructed portions of the reinforced concrete structural frame, the Contractor shall by consultation with the Engineer ensure that the supporting concrete structure is capable of carrying the load and/or sufficiently propped from lower floors or portions of the frame to permit the load to be temporarily carried during construction.

Soffits shall be erected with an upward camber of 5mm for each 5 metres of horizontal span or as directed by the Engineer.

CONCRETE WORK (CONTINUED)

A CONSTRUCTION OF FORMWORK (CONTINUED)

Great care shall be taken to make and maintain all joints in the formwork as tight as possible, to prevent the leakage of grout during vibration. All faulty joints shall be caulked to the Engineer's approval before concreting.

The formwork shall be sufficiently rigid to ensure that no distortion or bulging occurs under the effects of vibration. If at any time the formwork is insufficiently rigid or in any way defective the Contractor shall strengthen or improve such formwork as the Engineer may direct.

The Contractor's attention is drawn to the various surface textures and applied finishes required and the faces of formwork next to the concrete must be of such material and construction and be sufficiently true to provide a concrete surface which will in each particular case permit the specified surface treatment or applied finish.

All surfaces which will be in contact with concrete shall be oiled or greased to prevent adhesion of mortar. Oil or grease shall be of a non-staining mineral type applied as a thin film before the reinforcement is placed. Surplus moisture shall be removed from the forms prior to placing of the concrete.

Temporary openings shall be provided at the base of columns, wall and beam forms and at any other points where necessary to facilitate cleaning and inspection immediately before the pouring of concrete. Before the concrete is placed the shuttering shall be trued-up and any water accumulated therein shall be removed. All sawdust, chips, nails and other debris shall be washed out or otherwise removed from within the formwork. The reinforcement shall then be inspected for accuracy of fixing. Immediately before placing the concrete the formwork shall be well wetted and inspection openings shall be closed. The erection, easing, striking and removing of all formwork must be done under the personal supervision of a competent foreman, and any damage occurring through faulty formwork or its incorrect removal shall be made good by the Contractor at his own expense.

After removal of formwork, all projections, fins, etc., on the concrete surface shall be chipped off, and made good to the requirements of the Engineer. Any voids or honeycombing shall be treated as described in "Faulty Concrete".

CONCRETE WORK (CONTINUED)

A STRIPPING FORMWORK

All formwork shall be removed without undue vibration or shock and without damage to the concrete. No formwork shall be removed without the prior consent of the Engineer.

Removal of props (partly subject to 7 days concrete cube strength being satisfactory) to:-

Slabs	14 days
Beam soffits	21 days
Cantilevered beams and slabs	28 days
Beam sides, walls and columns	2 days

If the Contractor wishes to take advantage of the shorter stripping times permitted for beam and slab soffits when props are left in place, he must so design his formwork that sufficient props as agreed with the Engineer can remain in their original positions without being moved in any way until expiry of the minimum time for removal of props, stripping and re-propping will not be permitted.

The above times may be reduced in certain circumstances, at the discretion of the Engineer, provided an approved method is adopted at the Contractor's expense to ensure that the required concrete strength is attained before the forms are stripped.

Solid strips in composite slabs shall be considered as beams. The tops of retaining walls shall be adequately supported with stout raking props at intervals required by the Engineer. These props are not to be removed until 7 days after casting of the floor slab over.

B SUPPORTING PROPS TO WALL AND BEAM SOFFITS

Where directed by the Engineer supporting props to wall and beam soffits are to be left in position until completion of the whole reinforced concrete structure.

The props are to be to the approval of the Engineer and the Contractor must submit the suggestion method of propping to the Engineer prior to removal of formwork to the relevant surfaces.

CONCRETE WORK (CONTINUED)

EXPOSED CONCRETE FINISHES

A GENERAL

Contractors will be required at an early stage in the Contract, to prepare samples for the approval of the Architect of the various concrete finishes specified hereafter. Samples are to be prepared using the same materials and the same methods of construction, compaction, curing,etc., as the Contractor proposes to use for executing the full quantity of the work.

A record of the mix, water content, method of compaction, any additives used, etc., is to be kept for each sample prepared. When the Architect has approved a sample it will be kept on Site in an approved location. The finishes in construction will be expected to be up to a standard equal to the approved sample. The Contractor is to include for all costs in preparing samples in his rates for the respective finish.

Consistency in cement colour, grading and quality of aggregates must be maintained in all finished concrete work.

B TAMPED FINISH

Areas so specified shall be finished at the time of casting with a tamped finish to the Architect's approval, produced by an edge board. Board marks are to be made to a true pattern and will generally be at right angles to the traffic flow. Haphazard or diagonal tamping will not be accepted.

C CHAMFERS AND REBATES TO EXPOSED CONCRETE

Wherever concrete surfaces are to remain exposed and otherwise where specified or shown on the Drawings, rebates and chamfers are to be provided at junctions, corners and changes in direction of concrete members.

Rebates will also be required to surrounds to chisel-dressed, brushed, or similar concrete finishes.

Rebates and chamfers are to have a fair face finish.

Unless otherwise instructed concrete pours to columns and to other members where applicable are to terminate only at the pre-determined rebate positions.

CONCRETE WORK (CONTINUED)

A FAIR FACE

Fair face surfaces shall be clean, smooth, even, true to form, line and level , and free from all board marks, joint marks, honeycombing, pitting, and other blemishes. Forms are to be provided with a smooth lining of plywood, steel, or other approved material which will achieve the required finish without any general rubbing down. Rubbing down will only be permitted to remove any projecting fins at corners or joints.

B FINE FACE

Fine face shall be as for fair face but to a higher standard obtained from forms provided with an impervious sheet lining of metal or plastics faced plywood in large panels arranged in an approved pattern.

Rubbing down shall only be permitted after inspection by the Engineer. The finished surface shall be capable of receiving paint.

C BRUSHED CONCRETE FINISH

Brushed concrete finish shall be provided to precast concrete members where specified or shown on the Drawings.

The surface is to be sprayed with water and brushed within 2 hours of casting to expose the aggregate to an extent to be approved by the Architect.

The brushed face will generally be contained within a surround of fair face concrete and the Contractor is to allow for retaining the fair face forms or otherwise protecting the surround whilst achieving the brushed finish.

D BOARD-MARKED FINISH

The required finish is to be a board-marked pattern and the boards are to be arranged vertically or horizontally to the patterns shown on the Drawings or as otherwise agreed by the Architect.

Formwork shall be made from timber of sufficiently strong grain to the Architect's approval in matching widths with straight sawn staggered joints. Short make-up lengths will not be permitted and boards shall generally be in the longest lengths practical. Construction joints shall be at predetermined positions and at recesses where so detailed.

CONCRETE WORK (CONTINUED)

A CHISEL-DRESSED FINISH

Chisel-dressed finish is to be carried out on any grade of concrete but not until it is at least 30 days old.

The surfaces are to be fully chisel-dressed to remove a maximum of 12mm (average 9mm) of the surface by shearing and exposing the aggregate without excessive cracking of the surrounding matrix.

Arrises of columns, beams, etc., are pre-formed fair face with timber fillets (which have been measured separately) set in the formwork and care must be taken in working up to these to preserve a clean line.

For vertical surfaces of walls and columns particular care must be taken to remove all sharp projections. For beam soffits this requirement is not necessary.

All surfaces requiring this treatment are to have the margins chisel-dressed by hand for a minimum width of 75mm commencing from the fillet edge. Thereafter mechanical chisel-dressing may be used but the Contractor must ensure that a uniform texture and even plan surface is achieved.

The use of sharply pointed steel tools for both hand and mechanical chisel-dressing is essential.

Upon completion the surfaces are to be thoroughly wire brushed and washed down.

B PROTECTION OF FINISHES

Wherever possible in-situ exposed concrete finishes should be commenced at the highest level and worked progressively down the building.

Precaution shall be taken to avoid staining or discoloration of previously finished concrete faces by leakage of grout from newly placed concrete. The Contractor shall during all stages of construction adequately protect all concrete finishes from damage by leaking grout, knocking, paint stains, falling plaster, etc. In cases of balustrade walls to staircases and members where damage is otherwise likely, concrete finishes shall be protected by cladding with timber, celotex, or other approved sheeting. All Sub-Contractors shall be informed accordingly on the precautions to be taken.

CONCRETE WORK (CONTINUED)

A PRECAST CONCRETE

All precast concrete shall be of mix 1:2:4 unless otherwise specified.

The maximum size of coarse aggregate in precast concrete shall not exceed 20mm except for thicknesses less than 75mm where it shall not exceed 10mm

The compaction of precast concrete shall conform with requirements given elsewhere in these preambles except for thin slabs where use of immersion type vibrations is not practicable. The concrete in these slabs may be consolidated on a vibrating table or by any other methods approved by the Engineer.

Steam curing of precast concrete will be permitted. The procedure for steam curing shall be subject to the approval of the Engineer.

The precast work shall be made under cover and shall remain under the same for seven days. During this period and for a further seven days the concrete shall be shielded by sacking or other approved material kept constantly wet. It shall then be stacked in the open for at least a further seven days to season before being set in position. Where steam curing is used these times may be reduced subject to the approval of the Engineer.

Precast concrete units shall be constructed in individual forms. The method of handling the precast concrete units after casting, during curing and during transport and erection shall be subject to the approval of the Engineer, providing that such approval shall not relieve the Contractor of responsibility for damage to precast concrete units resulting from careless handling.

Repair of damage to the precast concrete units, except for minor abrasions of the edges which will not impair the installation and/or appearance of the units will not be permitted and the damaged units shall be replaced by the Contractor at his own expense.

Except where precast work is described as "fair face" the moulds shall be made of suitably strong sawn timber true in form to the shapes required. Unless otherwise described faces are to be left rough from the sawn moulds.

Where precast work is described as "fair face" the moulds are to be made of metal or are to have metal or plywood linings or are to be other approved moulds which will produce a smooth dense fairface to the finished concrete suitable to receive a painted finish direct and free from all shutter marks, holes, pittances, etc.

The precast units shall be installed to the lines, gradients and dimensions shown on the Drawings or as directed by the Engineer.

A CONCRETE SURFACE BEDS

The concrete shall be placed as soon as possible after being mixed. In transporting the concrete adequate precautions shall be taken to avoid damage to the prepared base. The concrete shall be spread to such a thickness that when compacted it shall have the finished thickness as specified or shown on the Drawings. A layer of concrete 50mm less than the finished thickness shall first be spread and struck off at the correct level to receive the top fabric reinforcement. The top layer shall then be added. Not more than 30 minutes shall elapse between spreading the bottom layer and the start of compaction of the top layer. The Contractor shall be responsible for maintaining the reinforcement in its correct position during the placing and compaction of the concrete.

The compacting and finishing of the concrete shall be effected by immersion vibrators and a hand mechanical tamper weighing not less than 10 Kg. per linear metre and having a tamping edge shod with a steel strip 75mm wide fixed to the tamper by countersunk screws. Immersion vibrators with "spade" attachments will be permitted. Compaction shall be continued until a dense, scaled surface finish is achieved. Over-compaction causing an excessive amount of fines to be brought to the surface shall be avoided.

The surface of the concrete shall be finished with a wood float finish to the levels, falls and crossfalls, as directed or shown on the Drawings and shall be subject to the following tolerances:-

1. The level shall be within + or - 6mm of the levels directed.

2. The falls shall be within 10% of the falls directed.

3. The smoothness shall be such that departures from a 3 metre straight edge laid in any direction shall not exceed 3mm.

Minor irregularities shall be made good by the use of a steel float but in no circumstances shall mortar be used to make good the surface. Before the concrete has finally set and after completion of the floating the concrete shall be brushed with a strong-headed broom to produce a grooved finish in parallel lines to the satisfaction of the Engineer.

CONCRETE WORK (CONTINUED)

A CONCRETE SURFACE BEDS (CONTINUED)

As soon as the surface has been finished it shall be protected against too-rapid drying by means of damp hessian, polythene sheeting or other approved means placed carefully on the surface and kept damp and in position for 7 days and the concrete shall be kept wet for a further 21 days. The most critical period is the first 24 hours after placing and curing during that time shall be very thorough. The Contractor is to obtain the Engineer's approval to the material and method he proposes to use for curing and no concreting will be permitted

Forms shall not be moved from freshly placed concrete until it is at least 24 hours old. Care shall be taken that in their removal no damage is done to the concrete, but should any damage occur the Contractor shall be responsible for making it good.

B HOLLOW CLAY POTS

The hollow clay pots for suspended floor shall be manufactured by Messrs. Clayworks Ltd., P.O. Box 48202, Nairobi and shall be suspended floor units size 350mm x 300mm x 230mm deep. Care shall be taken in unloading, stacking and placing hollow pots in position. Damaged units shall not be incorporated in the works and shall be removed from the Site.

C HOLLOW BLOCK SUSPENDED FLOORS

The hollow blocks shall be set out to the dimensions shown on the drawings. Slip tiles will not be required. Care shall be taken when placing and vibrating the concrete to avoid damage to or displacement of the pots. Any blocks damaged shall be replaced before concreting.

D NOTES CONCERNING PRICING

The Contractor must allow for all costs incurred during the progress of the Contract for complying with the provisions concerning the preparation and use of graded mixes.

CONCRETE WORK (CONTINUED)

A NOTES CONCERNING PRICING (CONTINUED)

Prices for plain or reinforced concrete shall include for mixing, hoisting, depositing, compacting, curing and protection at the various levels required throughout the building, and shall also include for forming or hacking a satisfactory key for all faces receiving asphalt and plaster work. Prices for slabs shall include for forming construction joints at bay edges, including all necessary temporary formwork and supplying records of such joints to the Engineer.

Prices for steel rod reinforcement shall include for cutting to lengths and all labour in bending and cranking, forming hooked ends, handling, hoisting and fixing in position and for providing all necessary tying wire, spacer blocks and supports. Prices for fabric reinforcement shall include for all straight cutting and waste, handling, hoisting and fixing in position, providing all necessary tying wire, and supports and all extra material in laps

The prices for formwork shall include for extra material at joints, extra labour and waste for narrow widths, small quantities, overlaps, passings, etc., and for fixing at the various levels including battens, struts, and supports and for bolting, wedging, easing striking and removal. Prices for linear items such as boxing shall include for angles and ends.

Prices of all precast concrete shall include for all moulds, finishing as described, handling, reinforcement, hoisting and fixing at the required levels and for casting or cutting to the exact lengths required and any waste resulting from such cutting.

Prices for expansion joints shall include for cutting to size and all temporary supports and prices for expansion joint sealers shall include for all temporary battens or fillets required to form the necessary grooves.

Prices for hollow concrete block suspended construction must be "all inclusive" to include for concrete hollow tiles, in-situ concrete ribs, concrete topping, concrete filling to open ends of hollow concrete tiles and solid concrete bearings and beams.

The Contractor is to allow in his prices for carrying out all tests as specified in this Section apart from work cube tests for which a provisional item is included in the preliminaries section of these Bills of Quantities.

The price for wrought formwork shall include for fair face finish either by rubbing down or by smooth lining all as described in these preambles.

WALLING

A STONE

Stone for walling shall be hard, dense, stone from an approved quarry with accurately dressed faces on all sides.

Stone walling described as load-bearing shall have a minimum crushing strength of 14.00 Newtons per square millimetre and shall comply with B.S. 5628: Part 2.

B CONCRETE BLOCKS

All hollow or solid concrete blocks for general use shall comply with B.S. 2028, Type 'A' and with C.P. III : Part 2., of minimum crushing strength of 3.5 Newtons per square millimetre, and must be obtained from an approved manufacturer, equal to samples deposited with and approved by the Architect.

Concrete block walling described as load-bearing shall have a minimum crushing strength of 7.0 Newtons per square millimetre.

All concrete blocks must be cured for a minimum period of four weeks before use and all testing of blocks is to be carried out by the Ministry of Works Materials Testing Laboratory or a Laboratory approved by the Structural Engineer.

C WALL REINFORCEMENT

All walling described as reinforced shall be reinforced with hoop iron 25mm wide or similar reinforcement centrally in every alternate joint (vertically for the full length of the walls, lapped and crimped 300mm at running joints and full width of wall at angles and intersections).

D WALL TIES

20 Gauge hoop iron ties 25mm wide x 450mm long to be provided for every alternate course at all connections between block walls and reinforced concrete columns or walls. One end to be cast into concrete and other end bent and built into mortar joint of walling.

E CHASING

Chasing in load-bearing walls for electrical conduits, pipes, etc., is to be kept to a minimum size of cut and positions and runs of chases are to be approved by the Architect before any cutting is commenced. Horizontal runs will not be permitted.

WALLING (CONTINUED)

A CEMENT

The cement shall be as described in "Concrete Work".

B SAND

The sand for mortars shall be as described in "Concrete Work", except that it shall be fine sand.

C LIME

The lime for plastering shall comply with B.S. 890, Class 'A' for non-hydraulic lime and shall be as rich as obtainable and to approval. It must be freshly burnt and shall be slaked at least one month before being used by drenching with water, well broken up and mixed and the wet mixture shall be passed through a sieve of sixty-four meshes to the square inch. Lime putty shall consist of freshly slaked lime as above described, saturated with water until semi-fluid and passed through a fine sieve; it shall then be allowed to stand until superfluous water has evaporated and it has become of the consistency of thick paste, in no case for a shorter period than one month before being used, during which it must be kept damp and clean and no portion of it allowed to become dry.

Alternatively, hydrated lime with 70% average calcium oxide content may be used and it must be protected from damp until required for use. It shall be soaked to a putty at least 24 hours before use.

D MORTARS

Cement mortar shall consist of one part of portland cement, to three parts of sand by volume.

The cement/lime mortar shall consist of one part of Portland cement, one part of lime and six parts of sand of volume.

The ingredients of mortar shall be measured in proper gauge boxes on a boarded platform, the ingredients being thoroughly mixed dry, and again whilst adding water. In the case of cement/lime mortar the sand and lime shall be mixed first and then the cement added.

All mortar is to be thoroughly mixed to a uniform consistency with only sufficient water to obtain a plastic condition suitable for trowelling. No mortar that has commenced to set is to be used or remixed for use.

WALLING (CONTINUED)

A SETTING OUT

The Contractor shall provide proper setting out rods and set out on the same all work showing openings, heights, sills and lintels and shall build the various walls and piers to the thicknesses, widths and heights shown upon the Drawings. No part of the walling shall be carried up more than one metre higher at one time than any other part and in such cases the jointing shall be made in long steps so as to prevent cracks arising and all walls shall be levelled round at floor and wall heads.

B BONDING WALLING

All blocks shall be properly bonded together and in such a manner that no vertical joints in any one course shall be within 100mm of a similar joint in the courses immediately above and below. Alternative courses of walling at all angles and intersections shall be carried through the full thickness of the adjoining walls.

All perpends, reveals, quions and other angles and joints of the walls, etc., shall be built strictly true and square.

C LAYING AND JOINING

All bricks and blocks are to be well wetted before laying and tops of walls where left off shall be well wetted before commencing building. All joints are to be 10mm thick and flush up and grouted in solid as the work proceeds.

All exposed faces of walls for plastering are to be left rough and the joints raked out while mortar is green to form adequate key.

All other faces shall be cleaned down on completion with a wire brush or as necessary and mortar droppings, smear marks, etc., removed and rates must include for this.

D PUTLOG HOLES

All putlog holes shall be carefully, properly and completely filled up on completion of walling and before plastering is commenced.

E FAIR FACE

Walling described as fair-faced shall be built with selected blocks and pointed with neat flush joints. Stone walling shall be fine chisel dressed.

WALLING (CONTINUED)

A BRICKS

All bricks shall be obtained from Clayworks Limited, P.O. Box 45154, Nairobi, of sizes as required and shall be hard, sound, square, well-burnt, uniform in shape and free from cracks, stones and other defects.

B DAMP-PROOF COURSES

Damp-proof courses shall be bituminous felt to B.S 743 weighing 7 lbs.. per square yard, free from tears and holes, and be laid with 150mm minimum laps on and including a levelling screed of cement mortar.

C PRICES TO INCLUDE

The rates for walling shall include for all reinforcement, all straight cutting, bonding, plumbing angles, forming reveals, pinning up to underside of concrete soffits and cutting up to sides of columns and building in ends of lintels and sills.

D BRICK WORK

Brick work shall be build to a gauge of 4 courses to 340mm of wall height including 10mm bed joints.

Facing walls shall be built in stretcher bond and be tied to the blockworks or concrete backing walls with 10mm gauge galvanised wire wall ties 500mm girth, formed to a figure 8 and twisted together at the lap.

Three wall ties per square metre are to be used, wall ties for concrete backing walls shall be cast into the concrete including all temporary fixing to formwork.

Facing walls shall be pointed as the work proceeds. External walls shall have recessed joints and internal walls shall have flush joints. Facing walls shall be kept perfectly clean and no rubbing down of brickwork will be allowed.

E FAIR FACE

Walling described as fair faced shall be built with selected bricks and pointed with neat recesses joints.

ROOFING

A PREPARATION OF SURFACES

All surfaces to receive roofing shall be clean, dry, free from fins or projections and loose materials, and with cracks or voids filled with cement mortar.

B LIGHTWEIGHT ROOF SCREEDS

Roof screeds will be executed to the approval of the specialist Roofing Sub-Contractor and will consist of cement, sand and pumice (1:3:7) finished with 6mm layer of cement and sand (1:4) topping. Screeds shall not be laid in areas exceeding ten square metres during any period of 24 hours. As bays are formed batten strips must be used to retain the exposed edge of the screed. Screeds shall be finished to falls and currents to receive roofing.

C ASPHALT ROOFING

Asphalt roofing will be executed by an approved specialist Roofing Sub-Contractor. Before any application of roofing, the Contractor is to ensure that all roof surfaces are thoroughly cleaned by sweeping.

Roofing asphalt to B.S. 988/1966 Table 3, Column III, Tropical Mastic asphalt laid in two coats to a total thickness of 20mm on and including black sheathing felt and finished with two coats aluminium paint to horizontal and vertical surfaces.

D GALVANISED CORRUGATED STEEL SHEETING

The roof sheeting shall be of the gauge specified and comply with B.S. 3083. The roof sheeting shall be laid and fixed with steel hook bolts and nuts, steel roofing bolts and clips or steel roofing screws to B.S. 1494: Part 1.

E GALVANISED LT5 LONG TROUGH STEEL SHEETS

Where specified the roof sheeting and fittings shall be 24 gauge LT5 galvanised steel long trough as manufactured by GALSHEET KENYA LTD P.O. Box 78162, Nairobi or other equal and approved manufacturer. The roof sheeting shall be laid and fixed with approved purpose made hook bolts, washers, etc. to 'z' purlins. Where so specified the roofing shall be prepainted with a RESINCOT FINISH.

ROOFING (CONTINUED)

A GALVANISED IT4 LONG TROUGH STEEL SHEETS

Where specified, the roof sheeting and fittings shall be 24 gauge IT4 roofing as manufactured by GALSHEET KENYA LTD. P.O. BOX 78162, NAIROBI or other equal and approved manufacturer. The roof sheeting shall be laid and fixed with approved purpose made hook bolts, washers, etc, to 'z' purlins. The ridge flashing sheets shall be IT4 profiled sheeting curved to the radii shown on the Drawings. Where so specified the roofing shall be prepainted with a RESINCOT FINISH.

B CONCRETE TILE ROOFING

Concrete single lap tiles and fittings shall be to B.S 473 & 550 Part 2, Group B of the colour, finish, type, size and manufacturer approved by the Architect. A full range of fittings must be available to match the tiles. Tiles shall be 380 x 230mm nominal unless otherwise specified. Tiles and fittings must be true to shape and of uniform structure. Surface coatings shall be firmly bonded.

Fixing shall include nailing to battens at every third course, at eaves, verges, and at the top course under the ridge.

Ridges and hips shall be bedded in cement mortar and roofs shall be left watertight.

C MANGALORE TILE ROOFING

Mangalore clay tiles shall be "best" or selected quality as manufactured by the Miritini Brick and Tile Works.

Tiles shall be well wetted before use and all dropped or broken tiles shall be rejected before carrying.

Cutting of tiles, where necessary at hips or valleys, shall be carefully and neatly carried out with properly sharpened tools.

Tiling shall be executed to the Architect's satisfaction and roofs left watertight.

D PROTECTION

All roof surfaces shall be kept clean and protected and handed over watertight at completion.

CARPENTRY, JOINERY AND IRONMONGERY

A ALL TIMBER

All timber shall be in accordance with the latest approved Grading Rules issued by the Government of Kenya (Legal Notice No. 358). Timber for Carpentry shall be SECOND (OR SELECT) GRADE and timber for joinery shall be FIRST (OR PRIME) GRADE.

B GENERALLY

All timber as it arrives on the Site shall be inspected by the Contractor, and any timber brought on the Site and not complying with the Specification or not approved, must be removed forthwith from the Site and only timber as approved shall be used in the Works.

The Contractor shall upon signing the Contract purchase sufficient supplies of specified hardwoods to avoid possible shortages at a later date.

C SPECIES OF TIMBER

The following timber shall be used.

Standard Common Name	Botanical Name
Cypress	Cypress spp.
Podocarpus	Podocarpus spp.
Cedar	Juniperus procera
E.A. Camphor wood	Ocotea usambaransis
African Mahogany (Munyama)	Khaya anthotheca
Mninga	Pterocarpus Angolensis
Mvule	Clorophora excelsa
Elgon Olive	Olea welwitschii

D TOLERANCE IN THICKNESS

Shall conform with the following extracts of Government of Kenya Grading Rules: -

1. Hardwood Grading: (First and Second Grades)

   The following tolerances in thickness will be admitted:

   a) 1.5mm oversize on pieces up to 25mm in thickness,

A TOLERANCE IN THICKNESS (CONTINUED)

b) 3mm oversize on pieces over 25mm and up to 50mm in thickness,

c) 6mm oversize on pieces over 50mm in thickness.

Undersize will not be permitted.

2. Softwood Grading: Strength Grades (for Carpentry)

First and Second grades.

Undersize not allowed.

Oversize: All timber to be sawn oversize by 1.5mm for 25mm thickness and width. Not more than 3mm in thickness and not more than 6mm in width.

3. Softwood grading: Appearance Grades (for joinery)

First and Second Grades.

All as for Strength Grades above.

B INSECT DAMAGE

All timber shall be free of live borer beetle or other insect attacks when brought upon the Site. The Contractor shall be responsible up to the end of the maintenance period for executing at his own cost all work necessary to eradicate insect attacks on timber which becomes evident, including the replacement of timber attacked or suspected of being attacked, notwithstanding that the timber concerned may have already been inspected and passed as fit for use.

C SEASONING OF TIMBER

All timber shall be seasoned to a moisture content of not more than 22% Carpentry and 15% for Joinery.

CARPENTRY, JOINERY AND IRONMONGERY (CONTINUED)

A PRESSURE IMPREGNATION PRESERVATIVE TREATMENT

All carpentry timbers, sawn joinery and timber grounds for fixing joinery shall be treated with pressure impregnated "Celcure" or Tanalith" solution with a minimum nett retention of 0.35 lbs. of dry salt per cubic foot. If so required "charge sheets" issued after treatment with"Celcure" or Tanalth" shall be submitted by the Contractor to the Architect for his retention. All cut ends and any other cut faces of timbers sawn after treatment shall be treated before fixing with "Celcure B" or "Wolmanol" solution brushed on.

The Contractor's prices for such timber hereinafter must allow for the above treatment.

B INSPECTION AND TESTING

The Architect shall be given facilities for inspection of all work in progress whether in workshop or on Site. The Contractor is to allow for testing of prototypes of special construction units and the Architect shall be at liberty to select any samples he may require for the purpose of testing , i.e. for moisture content, or identification, species, strength, etc., such tests will be carried out by the Forestry Department.

C CLEARING UP

The Contractor is to clear out and destroy or remove all cut ends, shavings and other wood waste from all parts of the buildings and the Site generally, as the work progresses and at the conclusion of the work.

This is to prevent accidental borer infestation and to discourage termites and decay.

D WORKMANSHIP

All Carpenter's work shall be accurately set out in strict accordance with the Drawings and shall be framed together and securely fixed in the best possible manner with properly made joints; all brads, nails and screws, etc., shall be provided as necessary, directed and approved, and the Contractor's prices shall allow for all the foregoing.

All workmanship shall be of the best quality.

All Carpenter's work shall be left with sawn surfaces except where particularly specified to be wrought.

CARPENTRY, JOINERY AND IRONMONGERY (CONTINUED)

A DIMENSIONS

Dimensions of timber for Carpentry left with sawn faces shall comply with the previous Clause specifying tolerances in thickness. Dimensions for wrought members shall be as described in "Joinery".

B JOINTING

All timber shall be as long as possible and practicable to eliminate joints. Where joints are unavoidable surfaces shall be in contact over the whole area of the joint before fastenings are applied.

No nails, screws, or bolts are to be fixed in any split end. If splitting is likely, or is encountered in the course of any work, holes for nails are to be prebored at diameter not exceeding 4/5th of the diameter of the nails. Clenched nails must be bent at right angles to the grain.

Lead holes are to be bored for all screws. When the use of bolts is specified the holes are to be bored from both sides of the timber and are to be of the diameter D + D/16, where D is the diameter of the bolt. Nut must be brought up tight but care is to be taken to avoid crushing of the timber under the washers.

JOINERY

C GENERALLY

All joiner's work shall be accurately set out on boards to full size for the information and guidance of the artisans before commencing the respective works, with all joints, iron work and other works connected therewith fully delineated. Such setting out must be submitted to the Architect and approved before such respective works are commenced.

All joiner' s work shall be cut out and framed together as soon after the commencement of the building as is practicable, but not to wedged up or glued until the building is ready for fixing same. Any portions that warp, wind or develop shakes or other defects within six months after completion of the works shall be removed and new fixed in their place together with all other work which may be affected thereby, all at the Contractor's own expense.

CARPENTRY, JOINERY AND IRONMONGERY (CONTINUED)

JOINERY (CONTI NUED)

A GENERALLY (CONTINUED)

All work shall be properly mortised, tenoned, housed, shouldered, dove-tailed, notched, pinned, branded, etc., as directed and to the satisfaction of the Architect and all properly glued up with the best quality glue. All horns to be cut off neat and square with back of jambs before incorporating into the walls. The feet of all door jambs are to be cut off square with the floor finish and are to be dowelled to the structure with steel dowels.

Joints in joinery must be as specified or detailed, and so designed and secured as to resist or compensate for any stresses to which they may be subjected. All nails, springs, etc., are to be punched and puttied. Loose joints are to be made where provision must be made for shrinkage, glued joints where shrinkage need not be considered and where sealed joints are required. Glued for load-bearing joints or where conditions may be damp must be of the resin type. For non-load-bearing joints to where dry conditions may be guaranteed casein or organic glues may be used.

All exposed surfaces of joinery work shall be wrought and all arrises "eased off" by planing and sandpapering to an approved finish suitable to the specified treatment.

B DIMENSIONS

All joinery has been described by nominal sizes and a 3mm reduction off specified sizes will be allowed for each wrought face except where described as finished sizes in which case joinery shall hold up full dimensions.

C FIXING JOINERY

All beads, fillets and small members shall be fixed with round or oval brads or nails well punched in and stopped. All large members shall be fixed with screws. Brass screws shall be used for fixing of all hardwoods, the heads let in and pelleted over with wood pellets to match the grain.

D BEDDING FRAMES, ETC.

The Contractor's rates must include for bedding frames, sills, etc., in mortar or dressing surfaces of walls, etc., in lieu.

CARPENTRY, JOINERY AND IRONMONGERY (CONTINUED)

A PLUGGING CONCRETE AND WALLS

Round wood plugs shall not be used. All work described as plugged shall be fixed with screws to plugs formed by drilling concrete, walls etc., with a masonry twist drill of suitable size at 750mm spacing and filling the holes completely with "Philplug" rawl plastic or plastic wall plugs as manufactured by Sumaria Industries, P.O. Box 42565, Nairobi, (or equal and approved) in accordance with the manufacturer's instructions.

All holes in masonry to take fixings should be drilled using the appropriate size masonry twist drill and shall not be cut by chisels or punches.

B FIBREBOARD

Fbireboard shall be 12mm "Celotex", or other equal and approved termite-proofed softboard, cut to panels with V-edges.

C PLYWOOD

Plywood for general purposes shall be manufactured to comply with KS. 02-301. Marine plywood shall comply with B.S. 1088.

D BLOCKBOARD

Blockboard shall be laminated board to approval, and exposed edges shall be lipped with 20mm hardwood.

E CHIPBOARD

Chipboard shall be manufactured to comply with B.S 5669.

F PLASTIC SHEETING

Plastic sheeting shall be "Formica" sheeting 1.5mm thick and securely fixed with approved type waterproof adhesive, and the colours approved by the Architect.

G SELECTED FOR CLEAR FINISH

All timber and joinery work described as selected for clear finish shall be executed by a specialised joinery firm. The name of the firm shall be submitted to the Architect before any works commence.

CARPENTRY, JOINERY AND IRONMONGERY (CONTINUED)

A PROTECT JOINERY

Any fixed joinery which in the opinion of the Architect is liable to become bruised or damaged in any way, shall be completely cased and protected by the Contractor until the completion of the Works. The casing shall consist of two layers of polythene sheeting or plywood coverings.

B FLUSH DOORS

Semi-solid flush doors shall be manufactured to the thicknesses specified and consist of 100mm wide framing all round with minimum 25 thick horizontal core battens at not more than 75mm centres, pressure-impregnated as described and bored with 15mm diameter ventilation holes at 300mm centres. Doors shall have two lock blocks and be faced both sides with 6mm plywood and have 25mm mahogany twice rebated lipping all round and otherwise be equal to the requirements of B.S. 459 Part 2A, and equal to an approved sample.

C BOTTOM EDGES

Bottom edges of doors shall be painted with one coat of approved primer before fixing.

D IRONMONGERY

All locks and ironmongery shall be fixed with screws, etc., to match. Before the woodwork is painted, handles shall be removed, carefully stored and refixed after completion of painting and locks oiled and left in perfect working order. All keys shall be labelled with the door reference marked on labels before handing to the Architect on completion.

E PRICES TO INCLUDE

Prices of items hereafter shall include for the foregoing labours, etc., and in addition the prices for linear items are to include all internal and external angles, either mitred or tongued, all fair, fitted, stopped, notched or returned ends, all similar incidental labours and all short lengths.

METAL WORK

A ALL MATERIALS

All materials shall be of the best quality, free from defects. The materials in all stages of transportation, handling and piling shall be kept clean and damage from breaking, bending and distortion prevented.

B STRUCTURAL STEELWORK

Materials and workmanship shall conform with the requirements of B.S. 449. Steel frames, trusses and purlins shall be carried out by a Nominated Sub-Contractor.

C NAILS, SCREWS AND BOLTS

Nails, screws and bolts shall be of the best quality mild steel of lengths and weights approved by the Architect. Nails shall be to B.S. 1202 and bolts to B.S. 916.

Bolts shall project at least two threads through nuts and all bolts passing through timber shall have washers under heads and nuts.

D WORKMANSHIP

All work shall be carried out in the most workmanlike manner and strictly as directed by the Architect.

Welding shall be neatly cleaned off and units shall be prefabricated in the workshop wherever possible, the minimum of site welding being employed.

All screw work shall have full internal and external threads and holes shall have been cleaned off. Countersinking must be concentric.

E RAINWATER GOODS

Prices shall include for building in, casting in or cutting mortices for fastenings, all making good, jointing, short lengths and all extra joints in the case of fittings.

METAL WORK (CONTINUED)

A METAL WINDOWS AND DOORS

Metal windows and doors shall be manufactured to B.S. 990 from hot rolled mild steel sections produced by reputable mills and to be of dimensions and weights laid down in B.S. 990. Where specified all casements and doors are to be made from heavy sections. Corners of frames are to be mitred and welded, and glazing bars, etc., either tenon riveted or welded into frames. Top-hinge casements are to be hung on projecting hinges and fitted with bronze single point handle and cabin hook with concealed sliding stays. Window stays and fasteners shall be to the approval of the Architect.

B FIXING METAL WINDOWS, DOORS, ETC.

The Contractor's prices for fixing metal windows, doors etc., shall include for assembling and fixing, including screwing to wood frames or cutting mortices for lugs in concrete or walling and running with cement mortar (1:4), bedding frames in similar mortar and pointing in mastic, bedding sills, transoms and mullions in mastic, making good plaster around both sides, and fixing, oiling and adjusting all fittings and frames.

C QUALITY OF MATERIALS AND WORKMANSHIP

The quality of materialsand workmanship used in this contract shall conform to the requirements of the following British Standards: -

B.S. 15	Mild steel for general structural purposes.
B.S. 449	The use of structural steel in building.
B.S. 4 p.2	Hot Rolled Hollow Sections.
B.S. 994	Cold Rolled Steel Sections.
B.S 938	General requirements for the metal Arc Welding or Structural Steel Tubes to B.S. 1775.
B.S. 1856	General requirements for the Metal Arc Welding of Mild Steel.
B.S. 639	Covering Electrocodes for the Metal Arc Welding of Mild Steel.

Materials may be required at any time to be tested in accordance with the British Standards listed above.

The cost of successful tests will be borne by the Client, but the Sub-Contractor shall supply at his own expense test specimens when required. The cost of tests which do not comply with the standard will be borne by the Sub-Contractor.

A STRUCTURAL HOLLOW SECTIONS

All hollow sections are to be connected by electrical welding.

For butt welds, the fusion surface of each member must be properly aligned and prepared.

B ELECTRICAL WELDING

All welding is to be in accordance with the requirements of B.S. 1856 and 938 and the electrodes shall comply with B.S. 639.

Fusion faces shall be free from irregularities which could interfere with the welding material. These faces shall also be free from any deleterious material such as rust, grease and paint.

All welds shall be of the specified finished sizes and the sequence of the welding shall be carried out in a manner that will give minimum distortion to the welded parts.

Edges for welding shall be prepared by planing or machine flame cutting.

During welding all parts will be maintained in their correct position.

Welds shall be carried out with each run closely following the one prior with sufficient time between to allow for removal of slag.

Each run of weld is to be inspected and the Sub-Contractor shall ensure that unsatisfactory welds are cut out or remade to the required standard.

The minimum size of fillet weld shall be 6mm.

All completed welds shall have a regular and smooth surface. The weld material shall be solid with complete fusion throughout the weld and to the farecut metals.

METAL WORK (CONTINUED)

A ELECTRICAL WELDING (CONTINUED)

Any defects shall be cut or made good to approval.

External faces of butt welds to be ground smooth.

B PAINTING

All steel is to be wire brushed and any loose scale, dirt or grease shall be removed before any painting is commenced. One coat of red oxide primer Type A to B.S. 2523 shall be applied at the shop.

Any damage to the priming paint shall be made good to the Architect's satisfaction.

PLASTERWORK AND OTHER FINISHES

MATERIALS

A CEMENT

The cement shall be as previously described in "Concrete Work".

B SAND

The sand shall be as described for fine aggregate but that for plastering shall be light in colour and well graded to a suitable fineness in accordance with the nature of the work in order to obtain the finish directed.

C LIME

The lime for plastering shall comply with B.S. 890 Class "A" for non-hydraulic lime and shall be as rich as obtainable and to approval. It must be freshly burnt and shall be slaked at least one month before being used by drenching with water, well broken up and mixed and the wet mixture shall be passed through a sieve of sixty-four meshes to the square inch. Lime putty shall consist of four freshly slaked lime as above described, saturated with water until semi-fluid and passes through a fine sieve; it shall then be allowed to stand until superfluous water has evaporated and it has become of the consistency of a thick paste, in no case for a shorter period than one month before being used, during which it must be kept damp and clean and no portion of it allowed to become dry.

Alternatively, hydrated lime with 70% average calcium oxide content may be used and it must be protected from damp until required for use. It shall be soaked to a putty at least 24 hours before use.

D LIME PLASTER

Lime plaster shall consist of a backing coat in cement, lime and sand (1:2:9) and a finishing coat of lime putty skim with 10% cement added

E CONMIX DECORATIVE PLASTER GLITTERLITE

All decorative finishes as indicated must be pre-mixed Conmix Decorative Plaster-Glitterlite, to be supplied by Conmix Ltd., P.O. Box 5936, Sharjar, U.A.E.
Tel: 971-6-314165 or their authorized distributor, in the colour or colours and texture selected by the Architect.

Factory manufactured Conmix Glitterlite, consists of White Portland Cement, special fillers, specially crushed glass or de-dusted, oven dried and graded silca stand, marble chips, non fading iron oxide pigments and chemical additives.

PLASTERWORK AND OTHER FINISHES - (CONTINUED)

A CONMIX DECORATIVE PLASTER GLITTERLITE - (CONTINUED)

Conmix Glitterlite application and the necessary substrate preparations must be in accordance with the Manufacturer's data sheet recommendations, complying with the relevant BS, ASTM and DIN Standards.

The background for application of Glitterlite should be clean, free of dust deposits, loose mortar, chemical impurities (Salts and sulphates) and other contamination, which may adversely affect adhesion and cause variation in colour of Glitterlite. The substrata should be sound, free of undue shrinkage, structural, tensile and thermal movements.

B POLISHED GRANOLITHIC

Polished granolithic shall consist of one part cement (by volume) coloured light brown with an approved dye, to two parts (by volume) of metamorphic coral chipping graded from 6mm down to 3mm with not more than 15% to pass a No. 40 B.S. sieve.

C POLISHED TERRAZZO

All terrazzo work shall be carried out by an approved Sub-Contractor.
Polished terrazzo shall consist of a first coat of cement and sand (1:3) and a 12mm finishing coat of "Snowcrete" and marble chippings (1:2), coloured with "Cemmentone No.1" colouring compound mix in the proportions of 1:10, compound to cement. The overall thickness will be as specified in the measured work.

Where terrazzo paving is specified as incorporating especially selected large aggregate the thickness of the finishing coat shall be increased as required.

The price shall include for all grinding and waxing to the Architect's satisfaction.

PLASTERWORK AND OTHER FINISHES - (CONTINUED)

A GLAZED WALL TILES

White glazed wall tiles shall be size 150 x 150 x 6mm thick, manufactured to comply with B.S. 1281.

B QUARRY TILES

Quarry tiles shall be manufactured to B.S. 1286 type A and shall be chosen from the manufacturer's standard colour range.

Quarry tiles shall be bedded in 10mm thick cement mortar (1:3) with 10mm joint laid straight both ways. The joints shall be filled with cement mortar neatly flush pointed. The tiles are to be soaked in water before laying

C PRECAST TERRAZZO TILES

Precast terrazzo tiles are to be as manufactured by the Linotic Flooring Company Ltd., P.O. Box 42290, Nairobi, or equal and approved.

D MARBLE GLOMERATE TILES

Marble glomerate tiles shall be as manufactured by the Linotic Flooring Company Ltd. All edges shall be square and faces polished , or equal and approved.

E BEDS AND BACKINGS

Beds and backings shall be composed of cement and sand in the volumetric proportions stated in the measured work.

WORKMANSHIP

F GENERALLY

All screeds and pavings shall be finished smooth, even and truly level unless otherwise specified and paving shall be steel trowelled.

Rendering and plastering shall be finished plumb, square, smooth, hard and even, and junctions between surfaces shall be perfectly true, straight and square.

PLASTERWORK AND OTHER FINISHES (CONTINUED)

WORKMANSHIP (CONTINUED)

At the junction of all concrete work and block walling a 150mm wide strip of expanded metal lathing must be included to avoid plaster cracks.

All arrises and angles shall be clean and sharp or slightly round or thumb coved as directed including neatly forming mitres.

All surfaces to be paved or plastered must be brushed clean and well wetted before each coat is applied. All cement pavings and plaster shall be kept continually damp in the interval between application of coats and for seven days after the application of the final coat.

Where dubbing out is required, it shall be composed of one part cement to six parts of sand.

Partially or wholly set materials will not be allowed to be used or remixed. The plaster, etc., mixes must be used within two hours of being combined with water.

A SAMPLES

The Contractor shall prepare samples minimum one square metre of each of the screeds, pavings and plastering for the approval of the Architect, after which all work executed shall conform with the approved samples.

B LIME PLASTERING

Lime plastering shall be carried out in two coats having a total thickness of not less than 15mm to walls and 10mm to ceilings.

The first coat shall be trowelled to a perfectly true and even surface and finished with a wood float, the surface being sprinkled with water from a brush during the process and before it has set thoroughly scratched to form a key. The finishing coat shall not be less than 1.5mm thick, thoroughly worked with a steel trowel, sprinkled with water as before and be brought to a uniform smooth and hard surface.

C TYROLEAN RENDERING

Tyrolean rendering shall consist of a trowelled backing coat in cement and sand mortar (1:4) gauged with 10% lime, to a thickness of 10mm and a finished coat of cement sand mortar (1:4) applied with an approved machine to a thickness of between 5 and 10mm, to provide an even and uniform texture. Coloured cement or pigment is to be used if so directed by the Architect.

PLASTERWORK AND OTHER FINISHES (CONTINUED)

A GRANOLITHIC AND TERRAZZO PAVING

Granolithic and terrazzo paving shall be spread and well compacted and given only sufficient trowelling to produce a perfectly level surface immediately after laying. When the granolithic or terrazzo has stiffened sufficiently so that a hard surface can be obtained without laitance, then the surface shall be machine ground to a perfectly even and smooth surface. On no account will dusting with neat cement to the surface be permitted.

B MARBLE TILES AND TERAZZO TILES

The tiles are to be bedded in 10mm thick cement mortar (1:3) with fine butt joints. The surface is to be washed and polished on completion.

C CERAMIC WALL TILES

Wall tiles shall be fixed with a cement-based adhesive with 3mm wide joints straight both ways. When an area of tiles is complete the joints should be grouted with white cement.

D BEDS AND BACKING

Floor screeds shall not be laid in areas exceeding ten square metres during any period of 24 hours. As bays are formed steel edge strips must be used to retain the exposed edge of the screed.

The thicknesses and mixes of the screeds shall be adjusted to suit the various top dressing and the Contractor must first ascertain what finish is intended to each specified area before the work of laying screeds is put in hand.

Screeds shall be finished with a wood float for wood blocks and steel trowel for thermoplastic and similar tiles.

E MAKING GOOD

All making good shall be cut out to a rectangular shape, the edges undercut to form a dovetail key and finished flush with the face of surrounding paving or plaster. Cut out and make good all cracks, blisters, and other defects and leave the whole of the work perfect on completion.

PLASTERWORK AND OTHER FINISHES (CONTINUED)

A PRICES GENERALLY

In addition to the foregoing, prices of superficial items are to include for work in narrow widths, all liner labours, angles and arrises, all fair edges, for making good up to or stopping to a line at the required level at top of skirting or dados where directed and for making good up to windows, door frames and similar.

The prices for all linear items unless otherwise measured are to include for all short lengths, angles and arrises, mitres, and ends of every description.

Prices for pavings are to include for adequate covering and protection during the progress of the Works to ensure that the floors are handed over in perfect condition on completion.

Prices for all pavings and plastering, etc., shall include for hacking concrete surfaces and for raking out joints of walls 12mm deep and for cross-scoring undercoats to form a proper key.

Plastering on walls generally shall be taken to include flush faces of lintels, beams, etc., in the same.

B PROTECTION

The Contractor's rates for all finishings shall allow for adequate protection against damage by all following trades or any other causes, to the satisfaction of the Architect.

GLAZING

A GLASS

All glass shall be manufactured complying with B.S. 952, free from flaws bubbles, specks and other imperfections.

Glass panes shall be cut to sizes to fit the openings with not more than 1.5mm play all round and where puttied shall be sprigged to wood or clipped to metal frames.

Clear sheet glass shall be ordinary glazing (O.Q) quality. Polished plate glass shall be (G.G.) quality.

Anti-bandit glass shall be 9mm thick laminated glass of approved type.

B PUTTY

Putty for glazing in wood frames shall be composed of pure linseed oil and powdered whiting free from grittiness in accordance with B.S. 544 Type 1 putty.

Putty for glazing in metal frames shall be composed of hard-setting tropical putty specially manufactured for use with steel windows.

Rebates of metal frames receiving glass shall be prepared and treated with primer for putty prior to glazing and putty shall be primed ten days after glazing.

C BEDDING STRIPS

Bedding strips shall be of plastic or washleather approved by the Architect and shall be cut to fit exactly the line of frame and beads.

D ON COMPLETION

Remove all broken, scratched or cracked panes and replace with new to the satisfaction o the Architect. Clean inside and out with an approved cleaner. On no account shall windows be cleaned by scraping with glass.

PLUMBING

A EXECUTION OF THE WORKS

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

a) By-laws of the Local Authority

b) British Standard Code of Practice C.P. 301 : 1971, Building Drainage.

c) British Standard Code of Practice C.P 310 : 1965, Water Supply

d) British Standard Code of Practice C.P. 304 : 1968, Sanitary Pipework above Ground.

e) British Standard Code of Practice C.P. 305 : 1974. Sanitary Appliances.

f) British Standard Code of Practice C.P. 342 : 1970, Centralised Hot Water Supply.

g) All other relevant British Standard Specifications and Codes of Practice (hereinafter referred to as B.S. And C.P. Respectively)

h) The Working Drawings

i) The Architect's instructions.

B EXTENT OF THE WORKS

The Works include, unless otherwise specified, the supply, installation, testing and commissioning, and delivery up clean and in working order of the installations shown on the Drawings and specified in the Specifications, including all details such as: -

Cold and hot water pipes, discharge pipes (the discharge pipe is used as a comprehensive all-embracing description in place of the traditional soil and waste terms), drain and ventilating pipes, valves, fire fighting installations and equipment, thermal insulation, etc., and all labour, materials, tools, instruments and scaffolding necessary to execute the work in a first-class manner.

The Contractor shall undertake all modifications demanded by the Authorities in order to comply with the current regulations and produce all certificates, if any, from the Authorities without extra charge.

PLUMBING (CONTINUED)

A EXTENT OF THE CONTRACTOR'S DUTIES

At the commencement of the work, the Contractor shall investigate and report to the Architect the availability of all materials and equipment to be used in the work. If not available, the Contractor shall at this stage place orders for the materials in question and copy the orders to the Architect. Failure to do so shall in no way relieve the Contractor from supplying the specified materials and equipment in time.

The Contractor shall be responsible for verifying all dimensions relative to his work by actual measurements taken on the Site.

B RECORD DRAWINGS

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

Record Drawings may, subject to the approval of the Architect, include approved Working Drawings adjusted as a correct record of the installation of the Contract Works.

Record Drawings shall be prepared on approved translucent linen or plastic material suitable for reproduction by the Dyeline process or similar.

C MATERIALS AND WORKMANSHIP GENERALLY

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

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

The Contractor shall, if required by the Architect, submit samples of materials to the Architect for his approval before placing an order.

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

PLUMBING (CONTINUED)

A MATERIALS AND WORKMANSHIP GENERALLY (CONTINUED)

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

The Contractor will be entirely responsible for all materials, apparatus, equipment, etc., furnished by him in connection with his work, and shall take all special care to protect all parts of finished work from damage until handed over to the Employer.

The work shall be carried out by competent workmen under skilled supervision. The Architect shall have the authority to have any of the work taken down or changed, which is executed in an unsatisfactory manner.

B TUBING GENERALLY

All tubing exposed on faces of walls shall, unless otherwise specified be fixed at least 25mm clear of adjacent surfaces with approved holderbats built into walls, cut and pinned to walls in cement mortar; where fixed to woodwork, suitable clips shall be used.

All tubing specified as fixed to ceilings, roofs or roof structures shall be fixed with approved mild steel hangers cut and pinned to ceilings, roof or roof structures. Where three or more tubes are fixed to ceilings, roofs or roof structures close to each other, they shall be fixed in positions which leave the lower surfaces at the same horizontal level, unless otherwise specified.

Where insulated, tubing shall be fixed with the insulation at least 25mm clear of adjacent surfaces and with at least the same clearance between insulated pipes.

Tube fixings and supports shall, if nothing else is specified, be arranged at intervals not greater than those given in the following tables:-

Mild Steel Tubing

	Maximum Spacing of Fixing in mm	
Diameter of Pipe in mm	Horizontal Runs	Vertical Runs
15	1,800	2,400
20	2,400	3,000
25	2,400	3,000
32	2,700	3,000
40	3,000	3,600

PLUMBING (CONTINUED)

A TUBING GENERALLY (CONTINUED)

MILD STEEL TUBING

Diameter of Pipe in mm	Horizontal Runs	Vertical Runs
50	3,000	3,600
65	3,600	4,600
80	3,600	4,600
100	4,000	4,600

Unplasticised P.V.C. Pipe

	Maximum Spacing of Fixing in mm	
Diameter of Pipe in mm	Horizontal Runs	Vertical Runs
12	300	900
19	400	900
25	400	900
32- 152	500	1,200

Each support shall take its due proportion of the weight of the tube or pipe and shall allow free movement for expansion and contraction.

Full allowance shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any forces produced by pipe movements are not transmitted to valves, equipment or plant.

All tubing specified as chased into walls shall have the wall face neatly cut and chased, the tubing wedged and fixed and plastered over.

Where tubing is laid in trenches care shall be taken to ensure that fittings are not strained.

All water systems shall be provided with sufficient drain points 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 a position as to be difficult to reach from a shore step-ladder, extension spindles with floor or wall pedestals shall be provided.

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.

PLUMBING (CONTINUED)

A TUBING GENERALLY (CONTINUED)

All formed bends shall be made so as to retain the full diameter of the pipe.

Sleeves shall be provided where tubes pass through walls and soiled floors to allow movement of the tubes without damage to the structure. The overall length of the sleeve shall be such that it projects at least 2mm beyond the finished thickness of the wall or partition.

Tubing shall be cut by hacksaw or other method which does not reduce the diameter of the tube or form a bead or feather which might restrict the flow.

B GALVANISED MILD STEEL TUBING

Galvanised mild steel tubing shall be in accordance with B.S. 1387 : 1967 with screwed and socketed joints; medium-duty for pipes above ground, heavy-duty for pipes under ground, cast into concrete or chased into walls.

Fittings for same shall be galvanised malleable iron to B.S. 1940 : 1965, with threads to B.S. 21 : 1957.

Joints shall be made with fine hemp and an approved jointing compound or tape. Compound containing red lead must not be used.

Long screw connectors and flat-faced unions shall not be used, unless otherwise specified.

Where laid underground or cast in concrete, galvanised mild steel tubing shall be protected by "Densotape" or similar, wound on at least two layers thick, or given two coats of approved bitumen. Minimum earth cover to underground tubing shall be 450mm.

Where chased into walls or cast into concrete galvanised mild steel tubing carrying hot water shall be wrapped in hair felt secured by copper wire.

The fixing of galvanised mild steel shall use: -

a) Malleable iron "schoolboard" pattern brackets for building in or for screwing to structure,

or b) Malleable iron pipe rings, with either back plate, plugs or girder clips;

or c) purpose-made straps to the Architect's approval.

PLUMBING (CONTINUED)

A UNPLASTICISED P.V.C. PIPES

Unplasticised P.V.C. discharge and ventilating pipes and fittings shall be to B.S. 4514 : 1964, Grade 2.

U.P.V.C. ventilating pipes passing through roofs shall terminate at least 300mm above the roof level and shall be protected against insect penetration by a copper wire mosquito-proof ballon grating securing bound on the top of the pipe with stout copper wire.

Joints for U.P.V.C. discharge and ventilating pipes shall be spigot and socket joints which incorporate synthetic rubber rings or they shall be closely fitting spigots and sockets jointed together by means of a solvent solution provided by the pipe maker.

Joints of U.P.V.C. discharge and ventilation pipes to cast iron drain pipes shall be by means of purpose-made cast iron sleeves jointed with tarred yarn and fibrous lead yarn properly caulked into the wetted sockets. Joints to pitch fibre drain pipes shall be made with approved adaptors.

The fixing of U.P.V.C. pipes shall use holderbats of metal, or plastic-coated metal, care being taken that they do not damage the pipe when tightened. Where anchor points are specified to control thermal movement, the holderbars shall be fitted on the pipe sockets. Intermediate holderbars fitted to the pipe barrel shall be such as to allow thermal movement to take place.

At the foot of all U.P.V.C. ventilating stacks and where shown on the Drawings and in other positions as directed or necessary for cleaning, inspection pipes with door shall be provided, with a bolted oval recess door, shaped internally to bore of pipe.

B VALVES, COCKS, TAPS, ETC.

Draw-off taps and stop valves shall comply with B.S. 1010 ; 1959.

Brass ball valves shall comply with B.S. 1212 : 1953 and copper floats for ball valves shall comply with B.S. 1968 : 1953, and plastic floats for same shall comply with B.S 2456 : 1954.

Sluice valves shall comply with B.S. 1218 :1946
Gate valves on main supply shall comply with B.S. 3465.

A VALVES, COCKS, TAPS, ETC.

Manually operated mixing valves for ablutionary and domestic purposes shall comply with B.S. 1415 : 1955

Drain taps shall comply with B.S. 2879 : 1957

Safety valves, stop valves and other safety fittings for air receivers and compressed air installations shall comply with B.S. 1123 : 1961

Safety valves, for thermal storage water heaters shall comply with B.S. 959 : 1967.

B THERMAL INSULATION

Thermal insulating material for hot and cold water supply installation shall conform to B.S. 1334 : 1966, unless otherwise specified. The Contractor shall ensure that the thermal insulating materials used conform to the requirements of the Local Fire Authority.

All thermal insulating materials shall be delivered to the Site in a dry condition and housed in a store until drawn upon for use.

All surfaces to be insulated shall be cleaned carefully before fixing the insulating material.

The installation of insulating materials shall be entrusted only to operatives skilled in the work. All insulating material, however fixed, shall be in close contact with the surface to which it is applied and all joints shall be sealed after ensuring that edges or ends of any section are built up close to one another. Edges or ends shall be cut either non-corrodable material or adequately protected against rust.

Each pipe or item shall be insulated separately.

Fixing of insulating material shall suit the progress of other installation works in the building.

Insulation, where pipes are fixed exposed, shall be pre-formed rigid sections with approved finish. Where pipes are fixed in close ducts, above false ceilings, etc., matts cut in suitable sections on the site shall be used, well secured with copper or galvanised wire, finally covered with asphalt roofing paper.

PLUMBING (CONTINUED)

A THERMAL INSULATION (CONTINUED)

Where subject to outside weather or other potentially damp or wet conditions, the insulation shall be adequately protected against moisture pick-up.

If nothing else is specified, the minimum thickness of insulating material for cold and hot water pipes shall be as specified in B.S. 1588 : Table 1.

B SANITARY APPLIANCES

The installation of sanitary appliances shall be in accordance with C.P. 305 : 1952 and B.S. 3202 : 1959.

The appliances shall be fixed in the positions shown on the Drawings or as directed by the Architect.

For all sanitary appliances, the necessary number of supports, brackets, plugs, screws, washers, jointing materials, etc., shall be provided.

Where supports, brackets etc., are screwed to wall or structures, "Rawlplugs" or similar shall be used.

No traps for any appliances whatsoever shall have a seal less than 75mm.

Fixing shall, if required by the Architect, include for temporarily erecting appliances in the required position of service and discharge pipes, taking down, storing and permanently fixing after completion of wall finishings and connecting to service and discharge.

Care shall be taken at all times and particularly after fixing, to protect appliances from damage.

Upon completion of the work, all appliances shall be cleaned of plaster, paint, etc., and carefully examined for defects.

C FIRE FIGHTING EQUIPMENT

The specified fire fighting shall be supplied and installed by the Contractor in the position shown on the Drawings.

Portable fire extinguishers shall comply with the following B.S. :

A FIRE FIGHTING EQUIPMENT(CONTINUED)

a)	Water type (soda acid)	-	B.S. 138 : 1948
b)	Foam type (chemical)	-	B.S. 740 : Part 1 : 948
c)	Foam type (gas pressure)	-	B.S. 740 : Part 2 : 1952
d)	Water type (gas pressure)	-	B.S. 1382 : 1948
e)	Halogenated hydrocarbon type (carbon tetrochloride and chlorobromomethane)	-	B.S. 1721 : 1968
f)	Carbon dioxide type	-	B.S. 3326 : 1960
g)	Dry powder type	-	B.S. 3465 : 1962
h)	Water type (stored pressure)	-	B.S. 3709 : 1964

Fire hose couplings and ancillary equipment shall comply with B.S. 336 : 1965.

Hose reels: Hoses to be 20mm reinforced red rubber canvas double braided, to comply with B.S. 3169 : 1970. Waterway pressure castings machined throughout. Hose plates 560mm diameter steel. Inlet valve with inlet screwed 3/4" B.S.P. Controller plastic jet spray pattern and shut-off. Test pressure : 2.5 Kg/square centimetre. Finish fire red.

The installation of fire extinguishers shall be in accordance with C.P. 402 : Part 3 : 1964.

B TESTING

The whole of the water and discharge installation shall be tested to the satisfaction of the Architect and the Local Authority. The Contractor shall provide all necessary testing apparatus and facilities for testing the installations and any defective work shall be replaced immediately and shall be the subject of re-testing until found satisfactory.

Where pipes are to be lagged, chased into walls or otherwise concealed, the work shall be tested prior to lagging, making good chases, etc.

PLUMBING (CONTINUED)

A TESTING (CONTINUED)

All hot and cold water installations shall, if nothing else is specified, be tested to 1.5 times normal working pressure, minimum 4KG/cm squared; and compressed air systems tested with minimum 10 Kg/cm squared.

The test pressure shall be applied by means of a manually-operated test pump or, in the case of long mains or mains of large diameter, by a power-driven test pump. Pressure gauges shall be recalibrated before the test.

The test pressure shall be maintained by the pump for about one hour and a leak as specified in C.P. 310, section 502 J, shall be approved, but any visible individual leak shall be repaired.

Valves, cocks and taps shall be absolutely tight under the test pressure for the corresponding pipes as well as under a small pressure.

Testing drain pipes shall be carried out in accordance with C.P. 304, 1968.

Testing drain pipes shall be carried out in accordance with C.P. 301 : 1950.

Tests shall, if necessary, be done in sections as work proceeds without extra payment.

All tests shall be carried out in the presence of a representative of the local Authority and/or the Architect or his representative.

Upon completion of the work, including re-testing if necessary, the installation shall be thoroughly flushed out.

B STERILISATION OF WATER SUPPLY PIPES

Sterilisation shall be carried out strictly in accordance with C.P. 310 : 1065. The sterilisation will not be approved unless the final test for residual chroline mentioned in the above C.P. proves positive.

C COMMISSIONING

Before handing over, the Contractor shall confirm that the installation has been examined, tested, is ready for use, that it will operate and can be maintained efficiently.

A COMMISSIONING (CONTINUED)

When handing over, the Contractor shall demonstrate to the Employer the methods of operation, limitations, and the maintenance requirements and safety precautions to be observed; and shall also hand over any tools for operating, cleaning, testing and maintenance of the installation.

On acceptance the Contractor shall provide the Employer with operation and maintenance instructions and any other documents of information appropriate to the installation.

B MEASUREMENT

Prices for tubing shall include for all short lengths and sockets. Connectors, elbows, bends, formed bends, tees, reducing pieces and other fittings are measured separately and are to include for any extra joints and other extra labour required. The prices for the reducing tees shall include for any extra reducing pieces which may be required, if the correct reducing tee is not available.

All pipes have been measured over all bends, tees and other fittings and the Contractor shall include in his prices for all cutting and waste.

DRAINAGE

A SETTING OUT

Lines of drains shall be accurately set out and trenches excavated and bottoms trimmed to accurate gradients to approval before pipe laying commences.

B DRAIN TRENCHES

Excavation shall be made to such depths and dimensions as may be required by the Architect to obtain proper falls and firm foundations. No permanent construction shall be commenced on any bottom until the excavation has been examined and approved by the Architect. Should the Contractor in error, or without instructions of the Architect, make any excavation below the required level of the drain or bed, as the case may be, he will be required to refill such excavation to the correct levels with Class 15 concrete at his own expense.

Prices for excavation must include for excavating in all materials met with and for trimming bottoms to the necessary falls and for any extra excavation required for planking and strutting and working space, all as described under "Excavation". Excavation in hard rock requiring the use of compressors or wedging is measured separately.

C KEEP EXCAVATIONS DRY

The Contractor shall keep the whole of the trenches or other excavations free from water, and he shall execute such works and install such pumps as may be required to keep the excavations dry at all times. No subsoils water shall be discharged into the sewers without the written permission of the Architect.

D PITCH FIBRE DRAIN PIPES AND FITTINGS

Pitch fibre drain pipes and fittings shall be to B.S. 2760 and of approved manufacture. Joints shall be made with straight couplings as indicated in the B.S. and the laying, cutting and jointing shall be carried out strictly in accordance with the manufacturer's printed instructions.

DRAINAGE (CONTINUED)

A BACKFILLING

The first backfilling of pipe trenches is to be of soft material free from stones and shall be watered and carefully tamped over and around the pipes in 300mm layers until they are covered to a depth of 600mm. Subsequent filling is to be in 150mm layers, watered and rammed. Only materials approved by the Architect are to be used as backfilling.

Where hardcore is used for backfilling it is not to exceed 150mm gauge and all interstices shall be properly filled with small pieces and fine binder. Surplus excavated materials are to be removed from the Site.

If, in the opinion of the Architect, care has not been exercised in refilling trenches, he may order a fresh test to be made on the drain. In the event of the drain failing to pass the test the Contractor will be required to remedy the fault at his own expense.

B CONCRETE BEDS AND SURROUNDS

Concrete beds and surrounds shall be Class 25 concrete to the thicknesses and widths specified.

Where pipes are specified to be haunched, the concrete shall be carried up from the outside edge of the bed to meet the pipe barrel tangentially.

Where pipes are specified to be surrounded, the concrete shall be carried up from the bed in a square section with a minimum of 150mm in thickness over the barrel of the pipe.

Rates for beds and surrounds shall include for forming recesses and filling with concrete, for mortar layer, etc., and for any necessary formwork.

C LAYING PIPES

Each pipe shall be carefully examined on arrival, any defective pipes shall be removed immediately from the Site and not used in the Works. Minor damage to the protective coating of cast iron pipes shall be made good by painting with hot tar; if major defects in the coating exist, such pipes shall be rejected and removed from the Site.

Drains shall be laid in straight lines and to even gradients as required and to the satisfaction of the Architect.

DRAINAGE (CONTINUED)

A LAYING PIPES (CONTINUED)

Great care shall be exercised in setting out and determining the levels of the pipes and the Contractor shall provide suitable instruments and set up and maintain all sight rails, boning rods and bench marks, etc., necessary for the purpose.

All drains shall be kept free from earth, debris, superfluous cement and other obstructions or water during laying and until completion of the Contract when they shall be handed over in a clean condition.

Pipes shall be laid with the sockets leading uphill and shall rest on solid and even foundations for the full length of the barrel. Socket recesses shall be formed in the foundation, as short as practicable but sufficiently deep to allow the pipe jointer room to work right round the pipe. Such recesses shall be filled with cement mortar (1:4) on completion of laying.

B INSPECTION CHAMBERS

Inspection chambers shall be constructed in the positions indicated on the Drawings or as required by the Architect. Such chambers shall be to the depths required to obtain even gradients in the drain and of sufficient size to contain the requisite main channel and any branches thereto and all to the entire satisfaction of the Architect and the Local Authority.

Rendering shall be trowelled smooth, coved at all internal angles and rounded on arrises.

C TESTING

Each length of drain and manhole shall be tested as described hereinafter and approved by the Engineer before any backfilling of the trench takes place.

Testing shall not be carried out until at least 12 hours have elapsed after the jointing of the last pipe.

The test shall be as follows:

(i) The lower end of the pipe and all junctions shall be securely stoppered and the whole length under test filled with water.

DRAINAGE (CONTINUED)

A TESTING (CONTINUED)

(ii) When full, a further stopper shall be inserted at the top leaving a pipe attached to the drain plug. This pipe shall be bent through a 90^0 and shall terminate in a header tank 225mm square. The vertical distance between the concrete line of the drain plug and the top of the header tank shall be not less than 900mm.

(iii) Water shall then be poured into the header tank which shall be kept full for a minimum period of 3 hours to allow absorption to take place. At the expiration of this period the header tank shall be topped up and the testing of the drain commenced. If, after a further period of 30 minutes, the water level in the header tank has not fallen by more than 2mm the test will be considered satisfactory.

(iv) In the event of a pipe failing to withstand the test, the point of failure shall be completely surrounded, at the Contractor's expense, with class 25 concrete 19mm maximum aggregate, so that there is a minimum cover of 150mm in all directions. The length shall then be re-tested.

(v) Immediately a length of drain has been approved the trench shall be backfilled for a depth of at least 300mm above the top of the pipes.

B GULLEYS

Gulleys shall be approved 100mm salt glazed stoneware or cast iron trapped gulleys with 150 x 150mm cast iron gratings to receive the waste fittings. Bed the gulleys on and surround with Class 25 concrete 100mm thickness, carried up to form a 75 x 75mm kerb with all exposed surfaces finished in cement and sand (1:2) trowelled hard and smooth and all angles rounded. Make good cement joint to drain pipe and run drain to adjacent manhole.

C MEASUREMENT

Drain pipes have been measured over all bends, junctions and other fittings, and the Contractor shall include in his prices for all joints, short lengths, cutting and waste. Prices for bends, junctions, etc., shall include for the extra joints, cutting and waste and any extra labour required.

PAINTING AND DECORATING

A APPROVED SPECIALIST

All work under this trade must be executed by an approved specialist.

B GENERALLY

The Contractor shall so arrange his programme of work that all other trades are completed and away from the area to be painted, when painting begins. Before painting the Contractor must remove all concrete and mortar droppings and the like from all work to be decorated and remove all stains from and obtain uniform colour to be oiled and polished.

All plaster, metal, wood or other surfaces which are to receive finishes of paint, stain, polish, distemper or paintwork of any description are to be carefully inspected by the Contractor before he allows any of his painters to commence work. The Contractor will be held solely responsible for all defective work condemned as a result of his painter's failure to insist on receiving from the other trades surfaces in the proper condition to allow first-class finishes of the various kinds specified being applied to them.

C PAINTING GENERALLY

All materials are to be of the best quality and shall be of an approved proprietary brand selected from the latest Schedule of Approved Paints issued by the Ministry of Works.

All materials to be applied externally shall be of exterior quality and/or recommended by the manufacturers for external use.

All materials shall be delivered on Site intact in the original sealed drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instructions and to the approval of the Architect.

Unless specially instructed or approved by the Architect, no paints, distemper, etc., are to be thinned, or otherwise adulterated, but are to be as supplied by the manufacturers and direct from the tins.

If required by the Architect, the Contractor is to provide at his own expense samples of paints, etc., with containers and cases to be forwarded carriage paid by the Contractor for analysis to a laboratory.

PAINTING AND DECORATING (CONTINUED)

A PAINTING GENERALLY (CONTINUED)

The priming, undercoats and finishing coats shall each be of differing tints and the priming and undercoats shall be the correct brands and tints to suit the respective finishing coats, in accordance with the manufacturer's instructions. All finishing coats shall be of colours and tints selected by the Architect. Each coat must be approved by the Architect before the next coat is applied.

Each coat shall be properly dry and in the case of oil or enamel, paints shall be well rubbed down with fine glass paper before the next coat is applied. The paintwork shall be finished smooth and free from brush marks.

Colour cards of all paints, etc., shall be submitted to, and samples prepared for approval of the Architect before laying on, and such samples, when approved, shall become the standard for work.

All paints, emulsion paints, and distempers shall be applied by means of a brush or spray gun or rollers of an approved type, where so agreed by the Architect.

No painting is to be done on surfaces which are not thoroughly dry.

Prices of paint, distemper, etc., shall include for preparation of surfaces, rubbing down between each coat, stopping, knotting, etc., and all other work in connection and as described and as necessary to obtain a first-class and proper finish to approval.

Emulsion paint on ceilings and all undercoats of emulsion paint and complete oil painting on walls shall be completed before thermoplastic floorings are laid. Final coats of emulsion paint on walls shall be applied after such flooring has been laid complete.

B SAMPLES

The Contractor shall furnish at the earliest possible opportunity before work commences and at his own cost, samples of painting for the Architect's approval and any further samples in the case of rejection until such samples are approved by the Architect and such samples, when approved, shall be the minimum standard for the work to which they apply.

The Architect may reject any materials or workmanship not in his opinion up to the approved sample, and these must be removed from the Site without delay.

PAINTING AND DECORATING (CONTINUED)

A WOOD PRESERVATIVE

All woodwork in contact with walling or plaster shall be treated after cutting and preparation but before assembly or fixing with one coat of "TIMCIDE" wood preservative manufactured by Timsales Ltd., P.O. Box 18080, Nairobi. The solution is to be brushed on all faces of all timbers unless exposed to view and painted.

The Contractor shall note that this solution is POISONOUS and shall take all necessary precautions and instruct his workmen accordingly.

B WAX POLISH

Wax polish shall be furniture polish of an approved brand and wood surfaces shall be clean, smooth, free from oil or grease or any other blemishes. A minimum of two coats shall be applied to approval.

C PREPARATION AND PRIMING OF PLASTER, ETC… SURFACES

Plaster surfaces shall be perfectly smooth, free from defects and ready for decoration. All such surfaces shall be allowed to dry for a minimum period of six weeks, stopped with approved plaster compound stopping and rubbed down flush, as necessary, and then be thoroughly brushed down and left free from all efflorescence, dirt and dust immediately prior to decorating.

Plaster surfaces which are to be finished with emulsion, oil or enamel paint, shall be primed with an alkali resisting primer complying with the particular paint manufacturer's specification and applied in accordance with their instructions.

Fibreboard or similar surfaces shall be lightly brushed down to remove all dirt, dust and loose particles and have all nail holes or other defects stopped with an approved plaster compound stopping, rubbed down flush and left with a texture to match surrounding material and shall receive one coat petrifying liquid as last.

D PREPARATION AND PRIMING OF METAL ETC… SURFACES

All surfaces shall be thoroughly brushed down with wire brushes and scraped where necessary to remove all scale, rust, etc., immediately prior to decorating. Where severe rust exists and if approved by the Architect as proprietary, derusting solution may be used in accordance with the manufacturer's instructions

PAINTING AND DECORATING (CONTINUED)

A PREPARATION AND PRIMING OF METAL ETC… SURFACES (CONTINUED)

Shop-primed and unprimed surfaces shall be given one coat of metal chromate primer.

Galvanised surfaces shall be treated before painting with an approved proprietary mordant of de-greasing solution before priming.

Coated surfaces already treated with bituminous solution shall be scraped to remove soft parts and then receive two isolating coats of aluminium primer or other approved anti-tar primer.

B PREPARATION AND PRIMING OF WOODWORK

All woodwork shall be rubbed down, all knots covered with a thick coat of good shellac or aluminium knotting; primed with one coat of approved ready-mixed proprietary wood primer and all cracks, nail holes, defects and uneven surfaces, etc., stopped and faced up with hard stopping rubbed down flush.

C PREPARATION OF PREVIOUSLY PAINTED METAL SURFACES

Thoroughly wash down with water containing an approved cleaning agent and rinse with clean water. Wire brush to remove all rust and loose paint and touch up bare patches with zink-rich primer.

D PREPARATION OF PREVIOUSLY PAINTED WOODWORK

Thoroughly wash down with water containing an approved cleaning agent and rinse with clean water. Lightly rub down with glass paper and prime and bring forward all bare patches for decoration.

E PREPARATION OF PREVIOUSLY PAINTED PLASTER, ETC., … SURFACES

Thoroughly wash down with water containing an approved detergent to remove stains and rinse with clean water. Make good all defect (cracks and the blemishes) with plaster, sand/cement or polyfilla (on internal surfaces) of same porosity as wall surface. Rub down with sand paper and dust clean.

F EMULSION PAINT

After preparation as specified above a minimum of THREE coats, unless otherwise specified, shall be applied using a thinning medium of water only if and as recommended by the manufacturer.

An approved plaster primer tinted to match may be substituted for the first coat in three-coat work.

PAINTING AND DECORATING (CONTINUED)

A DURACOAT DURAPLAST

Loose, flaking, powdery material must be removed prior to painting. Any surface cracks or holes should be raked out and filled with SUPAFIX crack filler (SUPAFIX crack filler is not recommended for external use). Treat surfaces for mould or algae if present and ensure that the surface is completely dry. Apply at least one coat of DURA penetrating primer to seal the surface prior to applying DURACOAT DURAPLAST. Apply two or three coats using brush, roller or conventional spray.

Application of subsequent coats requires four hours between coats in dry weather conditions. Otherwise longer drying times will be required.

B ENAMEL PAINT

Apply two undercoats and one finishing coat, after preparation and priming as specified above.

C CLEAR POLYURETHANE VARNISH

Surfaces are to be treated with "Ronseal" or other equal and approved, in three coats. The first is to be applied with a linen pad and well rubbed in and second and successive coats are to be applied by brush. The first and second coats are to be lightly rubbed with Grade 'O' and Grade 'OO' wire respectively.

D POLYURETHANE CLEAR LACQUER

To be applied strictly as per the manufacturer's instructions.

E IRONMONGERY

All ironmongery shall be removed from joinery, steel windows and louvres before painting is commenced, and shall be cleaned and renovated if necessary and refixed after completion of painting.

F PAINTING ITEMS

Painting items as billed hereafter, shall include for preparing all priming surfaces as above described.

G COVER UP

Cover up all floors, fittings, etc., with dust sheets when executing all painting and decorating work.

H CLEAN AND TOUCH UP

Paint splashes, spots and stains shall be removed from floors, woodwork, etc., any damaged surfaces touched up and the whole of the work left clean and perfect upon completion.

EXTERNAL WORKS

DRIVEWAYS AND PARKING AREAS

A EXCAVATIONS

Excavations to areas to receive bitumen macadam or other road or paved finish shall be carried out in a manner ensuring that excavation plant and vehicles do not cause shear failure more than 250mm in the sub-grade. Wheel loads and tyre pressures shall be limited and work shall be interrupted to let the sub-grade dry out as necessary to avoid such subgrade failure.

If shear failure more than 250mm deep occurs in the sub-grade, the soil affected shall be excavated and replaced by soil filling as described.

If the soil develops a highly elastic condition as excavation approaches formation level, excavations shall be interrupted until the excess pore consequently disappears.

Before any further work is executed the formation level must be inspected and approved by the Engineer.

B COMPACTION

The sub-grade shall be compacted by a smooth-wheeled roller of 8 to 10 tonnes weight or vibrating roller of minimum 1,300Kg., or other approved plant. The number of coverages shall be at least 10 and there shall be a 50% overlap of successive coverages. If so instructed by the Engineer, water shall be added during compaction to obtain optimum water content. Filling shall be compacted as above but in maximum 200mm deep layers.

C SUB-GRADE SURFACE FINISH

The surface of the sub-grade shall be finished to the levels, falls and crossfalls shown on the Drawings within the following tolerance:

(i) The level shall both be above and not more than 50mm below the level shown on the Drawings.

(ii) The falls shall be within 10% of the falls shown on the Drawings.

(iii) The smoothness shall be such that departures from a 3 metre straight edge laid in any direction shall not exceed 50mm and there shall be no ponding of water.

EXTERNAL WORKS (CONTINUED)

A COARSE AGGREGATE

Coarse aggregate for the base shall be crushed stone or rock conforming to the following requirements: -

(i) It shall be from sound, hard, igneous rock, limestone, quartzite or hard coral, and shall be free from weathered or disintegrated stone, clay, organic or other foreign matter.

(ii) The shape shall be thoroughly cubical and the grading shall conform to: -

Passing 75mm standard sieve:	100%
Passing 38mm standard sieve:	20 - 80%
Passing 19mm standard sieve:	0 - 20%

B CRUSHER DUST

Crusher dust shall mean material in accordance with the table for 5mm nominal maximum size below:

B.S. Sieve Size	Percentage Passing
5mm	100
No. 7	80 - 100
No. 14	50 - 80
No. 25	30 - 60
No. 52	20 - 45
No. 200	10 - 25

Notes

(i) Not less that 10% shall be retained between each pair of successive sieves specified for use, excepting the largest pair.

A CRUSHER DUST (CONTINUED)

Notes: (continued)

(ii) The material passing the No. 36 sieve shall have the following characteristics (B.S. 1377): -

Liquid Limit not exceeding 25%

Plasticity Index not exceeding 8%

B CRUSHER FINES (2 to 10mm)

All the materials in crusher fines shall pass the 13mm B.S. sieve and be retained on the No. 25 B.S. sieve, evenly graded with no excess of any size.

C SUB-BASE

The material for us in the sub-base shall consist of crusher dust as described, or other approved material. It shall be placed in one layer of such thickness that when compacted it shall attain the finished thickness shown on the Drawings. The material shall be watered as necessary and compacted as described. The sub-base material shall have CBR value (unsoaked) of not less than 25.

D BASE

The material for use in the basecourse shall consist of one layer of coarse aggregate as described of which the interstices are filled with fine material consisting either of crusher dust or a mixture of crusher fines. The proportions of crusher dust and crusher fines in the fine material shall be such as to obtain the maximum density of basecourse when compacted.

The procedure for construction shall be as follows: The coarse aggregate shall be placed in a layer of such thickness so as to obtain the required thickness after compaction. It shall be compacted lightly until the Engineer is satisfied that a layer true to shape and level has been obtained. The fine material shall then be spread over the layer by hand or by mechanical means. The application of fine material shall be made gradually in successive layers not exceeding 25mm in thickness and each layer shall be worked into the voids in the coarse aggregate before the application of the succeeding layer. The fine material shall be laid as described and brushed into the coarse aggregate and rolled and consolidated by an approved vibrating roller to feed fines to the bottom of the layer.

EXTERNAL WORKS (CONTINUED)

A BASE (CONTINUED)

Additional blinding material shall be applied as above until the surface will accept no more. In no case shall the blinding material be applied so thickly that it cakes or bridges on the surface in such a manner as to prevent the direct bearing of the roller or other compacting plant on the stones.

Final compaction shall be by an 8 - 10 tonnes smooth-wheeled roller until there is no visible movement under the action of the roller and until the required tolerances are achieved. Water may be applied during final compaction subject to the Engineer's approval.

Compaction shall in any case achieve 100% maximum dry density in accordance with B.S. 1377.

B QUARRY WASTE

Quarry waste shall mean material to the same specification as crusher dust, except as follows: -

(i) The Plasticity Index taken on material passing the No. 36 sieve shall not exceed 16%

(ii) The material may have up to 35% of stones not larger than 38mm, provided that the material passing the 5mm sieve is within the limits specified.

Quarry waste shall be clean and completely free from earth, organic or other foreign matter.

C BASECOURSE FINISH

The surface of the basecourse shall be finished to the levels shown on the Drawings subject to the following tolerances: -

(i) The level shall be within + or - 12mm of the levels shown on the Drawings.

(ii) The falls shall be within 10% of the falls shown on the Drawings.

(iii) The smoothness shall be such that departure from a 3 metre straight edge laid in any direction shall not exceed 12mm.

EXTERNAL WORKS (CONTINUED)

A BASECOURSE FINISH (C0NTINUED)

The surface of basecoarse shall be inspected and approved by the Engineer before bitumen paving is commenced.

B BITUMEN PRIMING COAT

Immediately before applying the priming coat, the surface of the basecourse shall be brushed free from dust and loose stones. The material for the priming coat shall be a cutback bitumen of M.C.O. grade or other approved.

Approximately 30 minutes before applying the priming coat the surface of the basecourse should be made slightly damp by use of a water spray. The priming coat shall be applied at a temperature of 100 -150 degrees Fahrenheit and at a rate of 0.60 litres per square metre.

After application of the primer, a period of at least two days shall elapse before the road surfacing is applied. During this period all traffic shall be kept off the treated surface.

C BITUMEN MACADAM SURFACING

A single course open graded premix of 30mm to 40mm compacted thickness shall be used, with a seal coat.

Coarse aggregate shall be crushed blacktrap with particles having a cubicle shape to the Engineer's approval and shall be washed free from dust.

The coarse aggregate gradings shall be: -

Sieve Size	Percentage Passing
19mm	100
13mm	60 - 100
10mm	45 - 70
6mm	30 - 50
4 mesh	25 - 40
8 mesh	15 - 25
200 mesh	2 - 5

A BITUMEN MACADAM SURFACING (CONTINUED)

The binder shall be Shellmac MC/RC2 or other approved. The percentage by weight of binder shall be 4.5%. Mixing shall be in an approved mixer and mixing shall proceed until the stone is evenly coated with binder. The temperature (at mixing) shall be within the following range: -

	Aggregate	Binder
Mixing Temperature:	50^0 - 95 F^0	125^0 - 150 F^0

The laying temperature shall be not less than 20 F below the mixing temperature.

The mix shall be spread evenly over the primed surface and shall be thoroughly compacted by rolling with a minimum of 6 passes. A smooth-wheeled roller of not less than 5 tonnes weight and with rear wheel loading 0.25 Kg. per square millimetre width shall be used.

B ROLLING

Any longitudinal joints shall be rolled first, after which rolling shall start longitudinally at the side and proceed towards the centre of the carpet. Each pass of the roller shall overlap the preceding one by at least one half width of the rear wheel. Alternate passes of the roller shall be of varying length. Immediately following initial compaction, the surface shall be checked with a straight edge to ensure that it meets the surface finish requirements.

Minor variations shall be corrected by rolling, but major imperfections shall be compacted by adding or taking away mix while it is still workable.

C SURFACE FINISH

The surface of the bitumen macadam shall be finished to the levels, contours and slopes shown on the Drawings with the following tolerance: -

(i) The level shall be within + or - 6mm of the level shown on the Drawings.

(ii) The gradient shall be within 10% of the gradient shown on the Drawings.

(iii) The smoothness shall be such that departures from a 3 metre straight edge laid in any direction shall not exceed 6mm.

EXTERNAL WORKS (CONTINUED)

A SEAL COAT

The seal coat shall consist of precoated fines consisting of crushed blacktrap stone graded from 3mm to dust, or coarse sand. The binder shall consist of 4.5% by weight of MC/RC2. The seal coat shall be spread and brushed into the macadam surface at the rate of 180 square metres per tonne and compacted by rolling as for the macadam.

FENCING

B CONCRETE POSTS AND STRUTS, GENERALLY

Concrete posts and struts shall be manufactured to B.S. 1722: Part 1, Appendix A by an approved manufacturer, using concrete Class 20 (10mm), and reinforced in accordance with the following table: -

Intermediate posts not exceeding 2450mm long	4No. 6mm bars
Intermediate posts exceeding 2450mm long	4No. 8mm bars
Straining posts not exceeding 2450mm long	4No. 8mm bars
Straining posts exceeding 2450mm long	4No. 10mm bars
Struts not exceeding 2450mm long	4No. 6mm bars
Struts exceeding 2450mm long	4No. 8mm bars

Bars shall be made up into cages with 12 swg stirrups at centres not exceeding 380mm. Bars shall extend to 25mm from the end of the post or strut and have minimum cover of 16mm.

C CONCRETE POSTS AND STRUTS FOR CHAINLINK FENCES

Concrete posts and struts for chainlink fences shall be to B.S. 1722: Part 1, Table 3.

D CONCRETE POSTS AND STRUTS FOR STRAINED WIRE FENCES

Concrete posts and struts for strained wire fences shall be to B.S. 1722: Part 3 Table 2.

EXTERNAL WORKS (CONTINUED)

FENCING (CONTINUED)

A STEEL ANGLE POSTS AND STRUTS GENERALLY

Steel angle posts and struts shall be to B.S. 1722: Parts 1 & 3. Angles shall be to B.S. 4: Part 1 and B.S. 4360 with ends ragged for casting in and supplied primed with one coat of red oxide to B.S. 2524.

B STEEL HOLLOW SECTION POSTS AND STRUTS

Steel hollow section posts and struts shall be to B.S. 1722: Parts 1 & 4. Sections shall be to B.S. 4: Part 2 and B.S. 4360 with ragged ends for casting on and supplied primed with one coat of red oxide to B.S. 2524.

C STEEL TUBE POSTS AND STRUTS

Steel tubes for posts and struts shall be to B.S. 1775, with ragged ends for casting in and supplied primed with one coat of red oxide to B.S. 2524.

D STEEL ANGLE, HOLLOW SECTION AND TUBE POSTS AND STRUTS FOR CHAINLINK FENCING

Steel angle, hollow section and tube posts and struts for chainlink fencing shall be to B.S. 1722: Part 1, Tables 4A and 4B.

E TIMBER POSTS AND STRUTS FOR STRAINED WIRE FENCING

Timber posts and struts for strained wire fencing shall be cedar of diameters specified, reasonably straight and free from bark and excessive sapwood with tops cut at a slight angle to shed water. Straining posts shall be notched for struts.

F GALVANISED LINE WIRE

Galvanised line wire for chainlink fencing shall be to B.S. 4102 of the following diameters: -

Medium pattern chain link	3mm
Heavy pattern chain link	3.55mm
Extra heavy pattern chain link	4mm

Galvanised line wire for strained wire fencing shall be to B.S. 4102 and 4mm diameter.

EXTERNAL WORKS (CONTINUED)

FENCING (CONTINUED)

A GALVANISED TYING WIRE

Galvanised tying wire shall be B.S. 4102 and 2mm diameter.

B GALVANISED BARBED WIRE

Galvanised barbed wire shall be to B.S. 4102 of two strands of 2.5mm line wire with barbs of 2mm point wire at centres not exceeding 90mm.

C GALVANISED CHAINLINK

Galvanised chainlink shall be to B.S 4102: Table 6 of the pattern specified, of 50mm mesh, and of the following wire diameters: -

Medium pattern chain link	2.5mm
Heavy pattern chain link	3mm
Extra heavy pattern chain link	3mm

D EXTENSION ARMS

Extension arms for barbed wire shall be of mild steel to B.S. 1722: Part 1, cranked at 45 degrees and slotted for three strands of barbed wire at centres not exceeding 150mm.

Arms for concrete, steel and timber intermediate posts shall be of 35 x 6mm mild steel flat. Arms for concrete and timber attaining posts shall be of 50 x 50 x 6mm mild steel angle. Arms for steel straining posts shall be of similar section to the post.

E SUNDRIES

Galvanised steel eye bolt strainers and winding brackets shall be to B.S. 1722.

Bolts, nuts and washers shall be ISO metric to B.S. 4190.

Galvanised wire staples shall be to B.S. 1494: Part 2: - 9s.w.g. x 32mm.

Black bitumen coating solution shall be to B.S. 3416: Type 1.

EXTERNAL WORKS (CONTINUED)

FENCING (CONTINUED)

A PREPARING POSTS

Timber posts shall be drilled for line wire at the height specified, notched for struts in the top third of the exposed pole, and coated at the bottom end with bitumen to a height 300mm above ground level.

Steel posts and struts shall be drilled for connection by two 10mm diameter bolts at a point in the top third of the exposed post.

B FIXING POSTS

Straining posts shall be provided at all ends and changes of direction or level and in straight runs at intervals not exceeding 50 metres.

Struts shall be fitted to straining posts in the direction of each line of fencing.

Intermediate posts shall be provided at intervals not exceeding 3 metres.

Post and strut holes shall be excavated not less 450 x 450mm on plan:
600 deep for fences not exceeding 1400mm high and 750mm deep for fences exceeding 1400mm high.

Concrete bases shall be as specified and not less than half the depth of the post holes.

Wires and fencing shall not exert strain until at least seven days after posts are fixed in bases.

C FIXING LINE WIRES

Line wires shall be threaded through posts, connected to eye bolt strainers at ends and angles and strained taut to approval.

D FIXING BARBED WIRE

Barbed wire shall be slotted into steel extension arms, stapled to timber posts or wired firmly to concrete posts as specified and strained taut to approval.

E FIXING CHAIN LINK

Chain link fencing shall be wired firmly to each wire at horizontal centres not exceeding 600mm.

GENERAL SPECIFICATION FOR PLUMBING INSTALLATION

1.0 GENERAL REQUIREMENTS

1.01 Introduction

This specification details the requirements for the materials supply, installation, testing and commissioning of the Plumbing and fire fighting installation as shown on the Contract Drawings.

The Sub-Contractor shall include for all appurtenances and appliances not necessarily called for in this specification or shown on the Contract Drawings but which are necessary for the completion and satisfactory functioning of the contract works.

If there is a difference between the requirements of this Specification and the Contract Drawings or lack of clarity in either specification or the Contract Drawings, the Contractor must clarify such differences with the Engineer before tendering. No claim for extra payments shall be entertained from the Contractor due to failure to comply with this requirement.

1.02 Scope of Works

The Sub-Contract works shall comprise the supply and installation of all the sanitary appliances, the internal drainage system up to the nearest man-hole outside the building, the internal cold and hot water supply and storage system, the external water reticulation system, together with the installation of the fire fighting equipment all as shown on the Contract Drawings and as here-in specified.

1.03 Regulations and Standards

All the Plumbing works shall be carried out by a licensed and experienced plumber under the Government Regulations. The work shall be executed in accordance with the best principles of modern plumbing practice.

The Contractor shall be responsible for ensuring compliance with all the governing regulations and in particular, his attention is drawn to the following specific codes and regulations:-

a) The Local Authority by-laws and regulations
b) The current Republic of Kenya Building Code
c) The M.O.W latest issue of "General Specification for Building Works"
d) B.S. 5572 - Code of practice for sanitary pipework
e) B.S. 8301 - Code of practice on building drainage
f) B.S. 6465 - Sanitary Appliances
g) B.S 5955 - Code of Practice for uPVC pipework
h) C.P. 310 - Water Supply
i) B.S. 6700: 1987 - Water supplies within buildings
j) The I.E.E Regulation
k) The Kenya Bureau of Standard (K.B.S) Specification

All plumbing shall be executed in accordance with Regulations of the Local Authorities and the Water Supply Companies. The Contractor shall give all Notices and pay all fees required thereunder. The amount of such fees shall be deemed to be included in the Contract Sum unless otherwise expressly stated.

1.04 Occupation Certificate

The plumbings Contractor shall upon completion obtain an "Occupation Certificate" from the Local Authority and forward it to the Engineer. The cost of obtaining the certificate shall be deemed to be included in the Contract Sum.

1.05 Materials and Standards

All equipment and materials shall be new, strong and of durable construction. All the items must meet the relevant quality standards and of reputable manufacture. Safety devices such as pressure relieve valves, thermal expansion joints, thermal and over-load protectors etc must be installed wherever deemed necessary.

1.06 Builders Work

Holes, trenches and wall chase in building fabric to accommodate pipes, cable trays etc., together with concrete plinths for pumps, tanks etc. shall be carried out by the Main Contractor at no cost to the Sub-Contractor. However, the Sub-Contractor must inform the Main Contractor of his requirements well in advance to allow such requirements to be incorporated before casting of the building fabric. Drill holes in concrete for anchor channels, clamps, supports etc. shall be carried out by this Sub-Contractor but he must liaise with the Main Contractor before carrying out such works. The Sub-Contractor shall not make any holes nor cut the building fabric without the express consent of the Structural Engineer and consultation with the Main-Contractor.

1.07 Water meters

These shall be to BS 5728 part I and I.S. 4064/1. The meters shall be suitable for water temperature upto 30 o c and 10 bar Nominal pressure.

These shall have counter registration in cubic meters (or liters), and be able to register down to 1 litre of water volume. These shall be installed to the requirements of BS 5728 part 2 and to the approval of the local council.

The subcontractor shall on behalf of the client apply for and secure the meter connection from the Local Authority. He shall therefore allow for all the costs for permits, materials and attendance in connection thereof.

2.0 WATER SUPPLY INSTALLATION:

2.01 Galvanised Mild steel pipes

Tubing shall be galvanised mild steel to B.S. 1387, with tapered pipe thread to B.S 21:1985. These shall be medium gauges for general use and heavy gauge for underground use, with screwed and socketed joints and of approved manufacture. Tubes must be cleanly finished with smooth surfaces, free from defects and scales.

All pipes below ground are to be protected by coating with bitumen reinforced with glass fibre tissue, hessian cloth or other approved material.

Fittings shall be galvanised wrought steel to B.S 1740, with B.S. thread, or galvanised malleable cast iron to B.S. 143 and 1256, of approved manufacture, for use with galvanised steel pipes to B.S. 1387. Castings must be smooth and free from blow holes, pittings and other defects.

Where flanged connections are used, these shall comply with B.S. 4504, welded or screwed .All flanges shall withstand a Nominal pressure of 1.6 Mpa (PN 16) and shall be of either grey cast iron or steel.

Flanged joints shall have gaskets complying with B.S. 4865 part 1 of 1972, for pressures upto 6.4 Mpa (64 bars).

Galvanising of pipes and fittings shall be to B.S. 729:1971

2.02 Copper Pipework

Copper pipes shall be used to B.S. 2871:1971 part 1, of approved manufacture. These must be solid drawn, round, clean, smooth and free from all defects and deleterious films in the bore. Fittings shall be capillary or compression type to B.S. 864:1983 Part 2, of approved manufacture, free from internal fins and designed for minimum resistance of fluid flow. Compression fittings to be type A (Non-manipulative), unless otherwise specified.
Copper tubing is to be used as shown on the drawings and as connection tube between steel pipe work and sanitary/laboratory fittings.

In order to avoid direct contact a brass straight connector shall be positioned between the steel tube and the copper tube.

2.02 u.P.V.C. Cold Water Service Pipe System

Pipes shall comply in all respects with British Standard 3305:1968 and shall bear the British Standard Kite Mark together with the appropriate class colour coding at one metre intervals.

Fittings shall comply in all respects with British Standard 4346 Part 1:1969 and shall bear the British Standard Kite Mark.

Pipes shall be supplied in plain-ended lengths.

The minimum acceptable wall thickness of pipe and fittings shall be as follows:

12mm nominal 1.7mm	40mm nominal 3.1 mm
20mm nominal 1.9mm	50mm nominal 3.9mm
25mm nominal 2.2mm	75mm nominal 5.7mm
30mm nominal 2.7mm	100mm nominal 7.3mm

The method of jointing to be employed for dimensions 40mm and smaller shall be that of solvent welding socket using the manufacturers approved solvent cement.

For dimensions 50mm and larger the method of jointing shall be with lock-ring integral socket and coupling.

The grade of Polymer used for the pipe shall have a minimum softening point of 75 °C and for the fittings a minimum softening point of 72°C when tested by the 'Vicat' method 102J and a Tensile strength of Min. 45MN/m^2 at 20 °C as described in British Standard 2782:1975.
The pipes and fittings shall be colour grey.

2.03 Valves, Taps and Ball-valves

a) Brass stop valves and draw-off taps (bibtaps, pillar taps combination taps etc) shall be to B.S. 1010 Part 2:1973 or B.S. 5412; screw-down pattern, to comply to test pressure of 2.0 Mpa (20 Bars) and of approved manufacture.
b) Draw off taps shall be of metal body with chromium plated finish unless otherwise specified.

c) Copper alloy valves (gate, globe, stop and check valves) shall be to B.S. 5154 and tested to B.S. 5146 Part 2; 1984. These shall be with screwed, flanged or capillary compression ends. fLanged check valves shall be to B.S. 5153:1974 as type Glenfield No. 5003. The body, door cover to be of meehanite cast iron with fun-metal seat to B.S, 1400.

d) Gate valves of sizes above 80mm shall be of cast iron wedge type to B.S. 5163:1974 as Glenfield R.S. No. 3500 series. These are of meehanite cast iron body to B.S. 1452 with rubber covered meehanite cast iron gate.

e) Brass draining taps to be screw down pattern to B.S. 2879:1980, type A (Bushed) unless otherwise specified.

f) Ball valves shall be of brass body and to B.S. 1212 Part 1:1953 piston type for low, medium or high pressure (3.58 bars, 7.72 bars and 12.62 bars respectively) as directed and with provision for removable seats, supplied with copper floats to B.S. 1968:1953, or plastic floats to B.S. 2456., approximately marked.

2.04 Pipe Thermal Insulation

All exposed and under-ground hot water and chilled water supply pipes and fittings shall be adequately thermally insulated. The insulation shall be to B.S. 5422:1977, and B.S. 5970:1981. The insulation shall be pre-formed fibre-glass insulation for hot water and steam, and expanded polystyrene (styropor) in sections for chilled water.

The insulation shall be covered with proprietary cladding material or, where no proprietory material exists, with cotton canvas for indoor pipework and o.25mm thick aluminium sheet or foil for external and under-ground piping. The sheet jointing shall be water proofed to the Engineers approval. Underground Cladding shall be finished with two coats of bituminous painting.

Pipe insulation thickness for hot water supply shall be as given in the table below; and the density of the fibre glass shall be 100 kg/c.m., and 0.045 w/m^2 ^oC declared max. thermal conductivity.

Pipe diameter	15-20mm	25-80mm	100-200mm
Insulation thickness	20mm	25mm	30mm

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

a) Apply a coating of suitable filler until the canvas weave disappears and allows to dry.
b) Apply two undercoats of an approved paint and finish in suitable gloss enamel to colours approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts, and above false ceilings which, shall be covered with a reinforced aluminium foil finish and banded in colours to be approved by the Engineers.

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

Hot water pipes chased in walls shall be wrapped with hair felt or tobacco paper and secure with copper wire.

2.06 Jointing of Water Supply Pipework

a) All joints must be air tight and water tight.
b) Compounds containing red-lead shall not be used in jointing water supply pipes.
c) Steel pipes shall be screwed together using an approved compound/proprietary thread tape. Exposed threads above ground shall be rust-proof painted using non-toxic bituminous paint while those to be buried shall be thickly coated with bitumen.

d) Joints of copper to steel pipes of less than 38mm diameter shall be by copper unions or union ferrules. Those of 38mm diameter and above shall be by screw, braze, or weld copper flange to copper pipe jointing to steel flange with copper allow bolts and nuts.

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

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

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

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Where falls are not shown on the drawings or stated elsewhere in the specification, pipework shall be installed parallel to the lines of the building 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 a position as to be difficult to reach from a short 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 allowance shall be made for the expansion and contraction of the pipework, precautions being taken to ensure that any forces 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 or Boss white proprietory compound.

2.07 Expansion Joints and Anchors

Where practicable, hot water 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. Specifications.
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.

When arranging piping it shall be ensured that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.

Flexible joints shall be supplied to prevent vibrations and other movements being transmitted from pumps to the piping systems or vice versa.

All bends, valves and hydrant tee etc. in the line of the water mains shall be adequately anchored to resist thrust due to internal water pressure. A concrete block shall be cast under and the around the pipe and between it and the sides of the trench. Well rammed materials shall be used to support the pipe on either side of the concrete.

2.08 Pipe Supports and Fixings

(a) General

This sub-clause deals with pipe hangers, slider and roller type supports, clamps, cages, cantilevers etc supports securing pipes to the structure of buildings for above ground application. These shall be manufactured to B.S. 3974.

The variety and type of supports 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 direction only.

Pipes shall be fixed in a position which leaves the lower surfaces at the same horizontal level, unless otherwise instructed.

Pipes shall be fixed to true lines parallel to adjacent lines of the building unless otherwise specified.

Where insulated, pipes shall be fixed with the insulation at least 25mm clear of adjacent surfaces.

The Plumbing Contractor shall apply and install all steelwork forming part of the pipe support assemblies and make good any damage to builder's work associated with the pipe support installation.

All proposals for pipe supports shall be submitted to the Engineer for approval before any erection work commences.

b) Spacing for Pipe Supports

Pipe runs shall be secured by pipe clips connected to pipe hangers, 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 spacings in metres for steel and copper pipe and tube is given in the following table for horizontal runs.

Size Nominal Bores	Copper Tube To B.S. 2871	Steel Tube To B.S. 1387
15mm	1.25mm	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	2.7m
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	3.5m	4.5m
150mm	4.5m	5.5m

The Support spacings for vertical runs shall not exceed one and half times the distances given for horizontal runs, or as given by the manufacturers.

c) Pipe Sleeves

Where pipes pass through concrete or block wall, pipe sleeves of galvanised steel tube shall be used; these shall be of sufficient sizes to give at least 3mm clearance around the pipe. The annular space shall be filled with bitumastic material and caulked at the ends.

2.09 Trench Excavation – Water Main

As described in B.S 8301 Clause 18 and the following:-

(a) The Contractor shall excavate the pipe trenches in the line to the depths indicated by the Engineer. Except where otherwise indicated on the drawings or directed by the Engineer, all pipes must have a minimum cover of 500mm over top of the barrel of the pipe when laid, plus or minus a tolerance of 75mm either way. All trenches shall be excavated in open cuttings.

(b) Where the trench passes through grassland, arable land or garden, whether enclosed or otherwise, the turf, if any, shall be pared off and stacked, and the productive soil shall be carefully removed from a width of 600mm greater than the normal trench width, or equal to the overall width of track of the excavating machine whichever is greater, and laid aside to be subsequently used in reinstating the surface of the ground after the trench has been refilled.

(c) The bottom of the trench shall be properly trimmed off, and all low places or irregularities shall be levelled up with fine material. Where rock or large stones are encountered, they shall be cut down to a depth of at least 75mm below the level at which the bottoms of the barrels of the pipes are to be laid, and covered to a like depth with fine material (sand or red soil) so as to form a fine and even bed for the pipes.

(d) Joint holes shall be excavated to such minimum dimensions as will allow the joints to be well and properly jointed.

(e) The pipe trench shall be kept clear of water at all times.

(f) The Contractor shall, wherever necessary, by means of timbering or otherwise, support the sides of the trench so as to make them thoroughly secure, and afford adequate support to adjoining roads, lands, building and property, during the whole time the trench remains open and shall remove such timbering when the trench has been backfilled. The cost of such timbering or other work shall be deemed to be included in the rates for excavation and backfilling. In case the Contractor is instructed by the Engineer to leave any portion of such timber in position, he will be paid for it accordingly.

(g) The clear width inside the timbering, in the case of single pipes shall be at least 320mm in excess of the external diameter of the pipe being laid, in order to allow it to be freely lowered into position in the trench without damage to the external protection.

(h) Where more than one pipe is to be laid parallel, then the clear width inside the timbering shall be at least 520mm in excess of the combined external diameters of the pipes.

(i) Any excavation below the specified depth, in error or otherwise, shall be refilled to the correct levels, at not extra cost, with mix 1:3:6 concrete or other approved material.

(j) If a mechanical excavator is used by the Contractor, he shall indemnify the Employer against all claims for damage which, in the opinion of the Engineer, may have been caused by the use of this plant. When a mechanical excavator issued the bottom 200mm of excavation shall be excavated by hand to ensure an even bed for the pipes.

2.10 Concrete Bedding, Haunching and Surround

Concrete bedding, haunching and surround shall be provided as necessary of where called for by the Engineer in accordance with the requirements laid down in B.S. 8301:1985 Clause 11.

2.11 Backfilling

Backfilling of trenches, shall be carried out in accordance with the methods described in B.S. 8301:1985 Clause 5.7.6.

2.12 Reinstatement of Surfaces

Following the final backfilling of all trenches and manhole surrounds, the surface of the excavated areas shall be fully reinstated to the approval of the Engineer.

Where the excavations have been carried out in public highways or other areas not forming part of the site, prices will be deemed to allow for all charges associated with the temporary and final reinstatement requirements of the Local Highway Authority.
No claims for extras in this respect will be accepted.

2.13 Identification of Pipelines

All pipes conveying fluids shall be identified by applying the basic identification colours or the colour code indication as specified in B.S. 1710. The following table is given as a guide.

Pipe Contents		Basic identification colour
1.	Water	Green
2.	Drainage	Black
3.	Steam	Silver Grey
4.	Fire extinguishing	Red
5.	Compressed air and vacuum	Light Blue
6.	Oils	Brown
7.	L.P.Gas	Yellow

The method of application shall be as here-in specified and/or shown on the drawings.

2.14 Lettering

The lettering for sluice valves, fire hydrants, air valves and washouts abbreviated SV, FH, AV and WO respectively shall be in accordance with the normal practice and as details shown on the drawings and colour coded as above with letters in white or black on the appropriate background colour.

2.15 Surface Boxes

Sluice valves, air valves and fire hydrants shall be covered with surface boxes in accordance with details as shown on the drawings. In roads and footpaths the boxes shall be laid flush with the surface.

2.16 Water Supply Pipework Testing

The whole of the water supply system shall be tested to the approval of the Engineer as follows:-

Plug-off valves of main service line and/or terminals in the section to be tested.
Fill pipes with drinking water and apply test pressure which shall be the maximum working pressure plus 50%, or as directed by the Engineer.
There must be no measurable loss of pressure at the end of one hour and system must be water tight.
Open all taps and check for satisfactory rate of outflow.
Test all cisterns as directed, at pressure not less than the working pressure.
Locate and make good all defects and re-test to the satisfaction of the Engineer.

2.17 Testing – Mains Installation

(a) The test pressure shall be one and a half 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 as in the case of the cast or spun iron pipes, where the test pressures should not exceed 120, 180 and 240 metre/head for Clause B, C, or D pipes, respectively.

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.

(b) When a section of the main has been jointed, the ends shall be closed with caps, plugs, or flanges which must be strongly strutted against a solid surface to the satisfaction of the Engineer. The trench shall be properly backfilled and rammed as herein specified, and as shown on the drawings, for its whole length so as to cover the main to a depth of not less than 500mm, except at the joint places which shall be kept clear of all backfilling, if necessary by the use of timbering, so that each joint is left fully exposed for inspection. No backfilling of joints will be permitted before testing of each section.

As long as a section of main as possible shall be tested at one time subject to the maximum length of open trench approved by the Engineer or permitted by the Highway Authority, and the test shall be carried out within 12 working days of the completion of such sections of mains.

Where a main is laid across a road or in such as position as to interfere seriously with the normal use of the road, the Contractor may, with the consent of the Engineer and at his own risk, fill in such joint holes as may be necessary. He shall, at his own expense, re-excavate any or all joint holes necessary to locate a leak and carry out repair work should the results of his hydraulic test prove unsatisfactory.

The section shall then be filled with mains water, great care being taken to drive out all air through air valves ferrules or otherwise to the approval of the Engineer.

(c) After the section to be tested has been charged and all air liberated it shall remain standing under moderate pressure for several days for final airing.

The leakage from the mains and connections from each section tested shall not exceed 4 litres of water per 25mm diameter of main, per 2 km length each 24 hours, every 30 metres head of pressure, and any visible individual leak shall be repaired.

To determine the rate of leakage, the Contractor shall furnish a suitable hydraulic test pump, pressure gauge, connections and water meter or other appliance, for measuring the amount of water pumped.

If the leakage to be at a greater rate than that specified the Contractor shall re-excavate the trench where necessary and shall remake the joints and replace defective work until the leakage shall be reduced to the allowable amount.

(d) The Employer shall charge the Contractor the cost of any couplings required to join up tested lengths of main if, in the Engineer's opinion, greater lengths could reasonably have been tested or if failure under test requires the pipe to be cut, or other methods of laying should have been adopted.

Water used by the Contractor in testing the main shall be supplied by the Main Contractor. The Contractor shall carry out all work which may be necessary for making temporary connections to the existing mains to obtain water for testing at his own expense.

(e) In carrying out the test for watertightness the Engineer only shall authorise the operation of all valves, but the Contractor shall provide all the necessary labour to assist in the opening and closing of the valves to the Engineer's instruction, and he shall allow in his prices for all his expenses in connection with testing on completion.

The Engineer shall be the sole judge of water tightness.

2.18 Sterilization of Installation

After testing, all the water supply system shall be sterilized before taking into use, and after being opened up for any repairs.

Sterilizing shall be done in accordance with C.P. 310:1965 Clause 409, or as detailed below, to the satisfaction of the Engineer.

a) Fill the whole system with drinking water and flash out.

b) Re-fill the system, adding sterilizing chemical gradually as the storage cistern fills. Use proprietary chemicals or bleaching powder at the rate of 0.15 kg per 1000 litres.

c) When the cistern is full, open the taps successively working away from the cistern, and closing each tap as the discharge begins to small chlorine.

d) Top up the cistern with water and the sterilizing chemical and leave still for 24 hours.

e) Empty system and flush-out thoroughly with clean water.

2.19 Cleansing and Sterilizing the Mains

When a pipeline is complete and where applicable, has successfully passed the test, it shall be thoroughly washed out using, if possible an open end. Thereafter it shall be sterilized by being filled with a suitable solution containing not less than 20 p.p.m of free available Chlorine or such other sterilizing agent, as the Engineer shall prove. After standing for 24 hours the main shall again be washed out and refilled with main water prior to the taking of bacteriological samples. The Contractor shall provide all necessary stop ends, fitting and chemicals for this work.

Empty and washing out of the pipes shall be done in such a manner as not to damage the trench or cause flooding, and the Contractor shall supply and use such piping, specials and/or hose as may be necessary to facilitate the flow of water to the nearest drain or watercourse. Water used for washing out and sterilizing will be supplied by the Main Contractor.

Before any section of the main is put into use a bacteriological sample or samples will be taken in the presence of the Engineer and only on receipt of satisfactory certificate from the Medical Research Laboratory will the main or section of main be permitted to be put into supply and be considered as having been substantially completed.

Any expenditure involved in providing facilities or materials for the taking of samples shall be included in the Contractor's tendered rates and the Engineer will specify and shall be the sole judge as to the number of samples required and the points at which they are to be taken.

The cost of the bacteriological examination will be borne by the Employer but if the sample or samples are not satisfactory the cost of any subsequent analysis will be borne by the Contractor.

2.20 Existing Installation

Where pipes for cold water are to be connected up to existing installations, the condition of the existing installation it to be reported to the Engineer in order to establish if part of the existing installations is to be replaced or serviced. The Sub-Contractor shall allow for keeping the services in use with minimum interruptions. All service interruptions must be reported and agreed to with the client at least 24 hours in advance.

2.21 Clearance of the Site

The Contractor shall remove all surplus pipes, specials and other fittings from the site, upon completion of the works and prior to handing over. The site of works shall be levelled and all surplus excavation, debris, cut trees or bushes shall be carted to approved tip sites.

3.08 Booster Pumps

These will comprise of 2 No. Electrically driven pumps, one for duty and one for standby.
The pump vital parts (seal drivers, head cover, intermediate chamber, impeller, shaft, washer outer sleeve etc.) shall be in stainless steel, with tungsten carbide seal ring and cast iron pump head and a maintenance free mechanical shaft seal. This shall be coupled to a totally enclosed squirrel cage 2 pole fan cooler motor.

Flange connections on each pump are to be BS 4504NP.16.

Each pump is to be supplied with isolating valves, non-return valves and test cocks on the pump body, all as shown on the drawings or elsewhere in this specification.

The pump and motors are to be assembled on a mild steel fabricated support base plate which is to be bolted down to a concrete plinth in an approved manner.

Flexible coupling with flange connections are to be supplied and fitted to both suctions and delivery pipes to reduce pump vibrations being transmitted via the connection pipework.

3.09 PUMP CONTROL PANEL

The control panel shall house the pump motor starters, selector switches, alarm devices and overload protection gear together with a micro-door switch to isolate all power upon opening the panel door.

The panel shall be fabricated from heavy duty sheet steel with stove enamelled finish and clear Perspex front cover, forming a dust and damp proof enclosure.

All control buttons and indicator lights shall be mounted on the panel door and suitably labelled and shall include the following:-

a) Main isolator switch
b) Pump No. 1 switch on push button
c) Pump No. 2 switch on push button
d) Automatic and manual change-over switches
e) Pump running (green light) indicator light for each pump
f) Pump failure

4.0 DRAINAGE SYSTEM
MATERIALS AND WORKMANSHIP

4.01 Cast Iron Spigot and Socket Pipes

These shall conform to B.S. 416:1973 for above ground pipework and of approved manufacture. Castings must be sound and free from defects, and must ring clearly when struck with a light metal hammer. All pipes and fittings to be coated with tar or bitumen based solution suitable for tropical conditions by the manufacturer.

Jointing shall be by packing the joint space with a gasket of firmly caulked tarred yarn, then caulked with molten lead or fibrous lead yarn.

Cast iron socketed pipes shall generally be supported at every socket joint by means of either holderbats secured rigidly to the structure, or purpose made straps for attachment to rigid steel support brackets.

When holderbats are used, they shall conform to the requirements of B.S. 416.

Suitable anchors shall be provided at all changes of pipe direction, junctions and tees, to counteract the effect of end thrust loads.

All cast iron pipework, branches, tees, bends and other fittings shall be supplied complete with inspection covers for cleaning purposes. These inspection covers shall be included as part of the fittings and shall comply with the requirements of B.S. 146.

4.02 u.P.V.C. Soil and Water System

The pipes and fittings shall comply in all respects to B.S.S. 4514 and B.S 5255 and shall where appropriate bear the British Standard Kite Mark.
Pipe will be supplied in plain ended lengths.

The minimum acceptable wall thickness of pipe and fittings will be as follows:-

32mm pipe	1.8mm
40mm pipe	1.9mm
50mm pipe	2.0mm
80mm pipe	3.20mm
100mm pipe	3.20mm
150mm pipe	3.30mm

The method of jointing to be employed shall be that of solvent welding using the manufacturers approved cement. Seal ring fittings shall be used where necessary to accommodate thermal movement, or the sockets of standard fittings shall be converted to seal ring joints by the addition of a seal ring adaptor.

The grade of Polymer used for the pipe shall have a minimum softening point of 82 deg. C and for the fittings a minimum softening point of 79 deg. C when tested by the 'Vicat' method 102D as described in British Standard 2782:1975.

The pipe and fittings shall be colour grey, to British Standard 5252:1976, 10.A.07 with the exception of water closet connections, which may be colour white.

The rubber seals for seal ring joint shall be of 'W' section and shall be to the material requirements of British Standard 2494:1976. Water closet connections shall be to the same British Standard.

Water boss connections when fitted to pipes shall consist of two parts with inner and outer flanges, solvent welded as a complete unit with inbuilt gradients for the waste pipes of 1.25 degrees. Where it is not possible to gain access to the bore of the soil pipe, self locking bosses with integral clamping action may be used provided that the mating surfaces are suitable for and used with solvent weld cement.

Water boss connections to branch fittings as necessary shall be solvent welded to set positions of its branch fittings.
Alternative waste boss connections may be made using unequal junctions conforming to British Standard 4514:1969 with solvent weld joints conforming to the same.

Holderbats shall be made of mild steel protected from corrosion by galvanising. They shall have a two position fixing suitable for either acting as pipe support but allowing thermal movement or as a clamp fit on a fitting creating a fixed point. For optimum fit to pipe supports P.C.V packing pieces may be used.

Access shall be provided when necessary either by means of an integrally moulded door in an access fitting with an externally fitted rubber seal and secured with two galvanised bolts and nuts or alternatively two-piece clamp type door fitted into the pipe run. The system shall be as described in a 'Product Handbook' complying with the recommendations of B.S. 4940:1973.

4.03 u.P.V.C. Rainwater Fittings

All fittings shall be injection moulded and shall be compatible with pipes and gutters/

All gutters, pipes and fittings shall be colour grey to British Standard 5252:1976 10.A.07, or black or white.

Gutter connecting fittings shall have integrally moulded seal retaining cavities housing a polychloroprene seal of hollow section.

The fittings shall incorporate a gutter retaining clip:-

Gutter connecting fittings shall incorporate provision for fixing the fascia boards, rafters or blockwork such that the fixing screws shall not be in contact with the inner surface of the gutter and shall have provision for expansion of the gutter clearly marked in the fitting.

The grade of Polymer used for pipes and fittings shall have a minimum softening point of 75 deg.C when tested by the 'Vicat' method 102J as described in the British Standard 2782:1975.

Gutters shall be supported on support brackets at one metre centres.

Gutters shall be installed to accommodate thermal movement.

Expansion joints shall be provided at maximum 4 metre centres.

All rainwater system shall be installed in accordance with the manufacturer's site work instructions.

4.04 u.P.V.C Underground Drainage System

The pipes and fittings shall comply in all respects to British Standard 4660:1973 and shall bear the British Standard Kite Mark.

Pipes shall be supplied win plain ended lengths.

The minimum acceptable wall thickness of pipe and fittings will be as follows:-

80mm pipe	2.25mm
110mm pipe	3.2mm
160mm pipe	4.10mm
80mm junction	3.2mm
110mm junction only	3.50mm socket 3.80mm body
All other fittings	3.20mm socket 3.40mm body
160mm all fittings	4.30mm socket 4.70mm body

The method of jointing to be employed shall be solvent weld or lip-seal socketed fittings. Jointing to other materials shall be made in the manner specified by the manufacturer.

The grade of polymer used for the pipe shall have a minimum softening point of 82 deg. C when tested by the 'Vicat' method 102D as described in British Standard 2782:1975, and for fittings 79 deg.C.

The pipes and fittings shall be of colour golden brown approximating to British Standard 381C:1971 No. 414. The seal retaining caps and seal rings shall be black .

The rubber for lip seal joints shall be to British Standard 2494:1976.

The base of soil and vent stack connection to the below ground drain shall be made with a bend of minimum centre line radius 250 mm.

Minor changes of direction where permitted shall be made with a variable bend.

Where pipes are laid under floor slab, these shall be laid on 150mm thick concrete class "15" (1:3:6 mix) bed on full width of trench or min. 400mm wide, and the pipe shall be completely surrounded with similar concrete thickness. In all other cases, the pipes shall be laid on prepared ground in trench and backfilling to manufacturer's recommendations. Pipes shall not be left exposed to the sub during construction period.

4.05 Waste Fitment Traps

a) Standard Traps

These shall be generally of the same diameter and material as the waste outlets to which they are connected to or as specified on the drawings. All wastes shall comply to B.S. 3380.

Wastes connected to main drains through an intermediate gully trap may have a trap with a minimum water seal depth of 40mm. All other traps shall have a water seal of minimum depth – 75mm. Bottle traps shall not be used for waste connections to sinks.

Copper and copper alloy traps shall be case, solid drawn or hot formed to B.S. 1184.

Plastic traps shall be B.S. 3943, of approved manufacture. These and the uPVC pipe work must be supplied by the same manufacturer.

b) Anti-Syphon traps

Where specified, anti-syphon traps shall be as manufactured by "Caradon Terrain Ltd", self-resealing type or by "Marley Extrusions Ltd", Anti-syphon type, or equal and approved.

4.06 Sealing off Existing Drains and Manholes

Existing foul, surface water and sub-soil drains exposed during progress of work are to be reported to the Engineer. Where not required to be reused seal off with concrete or grout solid as directed. Seal off connection to manholes, demolish walls to 500mm below surrounding ground level and fill remainder of manhole with consolidated approved rubble and cover to level of surrounding ground as directed.

4.07 Drain Trenches

Excavation of trenches shall be made to such depths as shall be required to obtain proper falls and firm foundation. No permanent construction shall be commenced on any trench until the excavation has been approved by the Engineer. Where trenches have been excavated below the required depths they shall be re-filled to the correct level with Class "10" mass concrete (1:4:8 mix) for indoors and compacted granular or other approved fill for outdoors. Backfilling of the pipe trenches shall be by soft material free from stones and shall be watered and carefully tamped over and around the pipe concrete surround in 300mm layers until they are covered to a depth of 600mm. Subsequent filling is to be in 150mm layers, watered and rammed.

4.08 Cast Iron Man-hole Covers and Frames

Covers and frames shall be to B.S. 497, of approved manufacturer. Covers are to be cleanly cast, free from air-holes, sand holes and voids, and to fit well in the frame. Covers and frames shall be coated using hot applied coal-tar based material complying with B.S. 4164:1980.

Unless otherwise specified, covers are to 600 x 450 mm, single or double seal, flat type or recessed top for light or medium duty as specified on the Contract drawings.
Heavy duty as " East Africa foundry works"
Medium duty (Grade B): Minimum weight 143 Kg.
Light duty (Grade C): Minimum weight 37 Kg.

Step irons for deep man-holes, where specified shall be of cast iron to B.S. 1247.

4.09 Sundries

Galvanised steel wire baloons shall be B.S. 416, table 22, of approved manufacture. Vent cowls, weathering slates and aprons for uPVC piping shall be supplied from the manufacture of the plastic pipeworks system.
Fixing of all pipework shall be by holder-bats, pipe-rings and fixing clips, screwed, nailed or bolted to the structure to manufacturers recommendations and to the Engineer's approval.

4.10 Inspection and Testing

All inspection and testing shall be carried out as laid down in B.S. 5572:1978 and to the Engineer's approval. All apparatus and water for testing shall be provided by the Contractor.

Drainage pipework shall be tested as soon as practical after erection. Concealed pipework shall be tested to approval before enclosing.
Testing shall be carried out as follows:-

a) Carry out air-test as described in B.S. 5572, Clause 12.3.1.
b) Carry out water test as described in B.S. 5572, Clause 12.3.2.3.
c) Carry out performance tests as described in B.S. 5572 Clause 12.3.3.

Keep record of all tests carried out for inspection by the Engineer.

5.0 SANITARY APPLIANCES

5.01 General

All sanitary appliances shall be installed in accordance with the best standard of modern practice as described in B.S. 6465, and to the approval of the Engineer.

The appliances shall be as here-in specified and as described on the Contract drawings. The item specification is given as a guidance only, including manufacturers reference numbers, but the Contractor shall ascertain and procure all the necessary accessories specified or not, but which are required for complete installation and proper functioning of the appliance. The Contractor shall also ensure that all items ordered comply with the general regulations, standard and by-laws as specified in this document.
Where specific items are unobtainable, the Engineer shall be entitled to reject any of the alternatives on grounds of appearance or for any other reason, notwithstanding compliance with the terms of this specification.

5.02 Protection

Protection covers for the appliances etc shall be retained during and after fixing as far as possible.
None of the equipment for the Contract works shall be used for preparing or soaking materials for washing tools, disposing waste or for any other purpose for which they are not designed.
All appliances must be stored under cover and kept dry prior to installation.
Where existing sanitary fittings are to be removed or replaced, the fitting is to be removed with utmost care and all fittings and taps to be handed over to the Employer.

5.03 Fixing

All fixtures shall be fixed in accordance with the manufacturer with the manufacturer's recommendations and to the Engineer's approval.

Fastenings and fixings supplied by the equipment manufacturers shall be used wherever possible.

TECHNICAL SCHEDULE

The Tenderer must complete the following schedule comprehensively, indicating the names of Manufacturers and/or suppliers and unit types and must submit Technical brochures for the equipment he proposes to supply for the work.

ITEM **MANUFACTURE & MODEL Nos.**

1. Sanitary Appliances ……
2. Stainless steel sinks …….
3. Wash Hand Basins ……..
4. Taps …….
5. Galvanised Mild Steel pipes and fittings ……...
6. u.P.V.C pipes and fittings (drainage) …….
7. u.P.V.C pressure pipes and fittings …….
8. Valves …….
9. Water Tanks ……..
10. Laboratory Sinks …….....
11. Hot Water Cylinders ……...
12. Portable fire fighting units ……..
13. Hose Reels ……..

Signature: ……..…….. Date: …… 20 ……

Tenderer

PLUMBING INSTALLATION

WATER PIPES TESTING REPORT

Project…… Date …….. 20……..

Foreman/Plumber ……

DATA RECORDED ON SITE

Location and Ref. Drawing:					
Length/Diameter of Pipe:					
Class/Type of pipe					
Test Pressure Required					
Water filled at –					
Test Pressure Reached at –					
Loss of Water/Pressure – Reading	1st Hr.	2nd Hr.	3rd Hr.	4th Hr.	6th Hr.
Quantity of water pumped to Retain test pressure:					
Allowable Quantity of Leakage					
Remarks					

Signature: ……. Date: …… 20 ……...
(C.O.W/R.E)

Signature: ……. Date: …… 20 ……...
Foreman/Plumber

FIRE FIGHTING/PROTECTION INSTALLATION

A .PORTABLE FIRE EXTINGUISHERS
The Contractor shall supply and install portable fire extinguishers as shown on the Contract Drawings and as directed on site by the Engineer. These shall be containing an extinguishing medium of water, foam powder, carbon dioxide or halon, contained in a metal body, rechargeable or non-rechargeable.
The units shall comply in all respects to B.S. 5423:1980 and B.S. 5306 Part 3, 1985.

Where fixed on the wall, an appropriate fixing method shall be used, with rawl plugs in the wall to ensure permanent fix.

Timber pegs shall not be acceptable for wall fixing. The units shall be supplied sealed to manufacturer's recommendation and the seal shall be easily breakable to facilitate quick use during fire fighting operation.

B. HOSE-REEL INSTALLATION
The Contractor shall supply and install the hose-reel fire fighting installation all as shown on the Contract Drawings and as directed by the Engineer.

The hose reels shall comply in all respects to B.S. 5274:1985; automatic type, with the reel-hose complying to B.S. 3169:1981.

Each hose-reel shall be fitted with a screw down globe valve to B.S. 1010, on the inlet to the reel.

The hose-reel booster pump shall be of centrifugal type, with a minimum capacity as shown on the drawings. The pump shall be complete with an electric motor, a pressure cylinder, a base plate together with a gate valve and a strainer on the suction side plus a non-return valve on the discharge side all as shown on the Contract Drawings.
Control for the pump shall be by a pressure switch.

Piping for the hose-reel water supply shall be galvanised steel tubing to B.S 1387:1967, Class B with pipe threads to B.S. 21:1985. Pipe fittings shall be seamless wrought steel to B.S. 1974 Part 1, 1971.

Gate valves shall be of bronze body and solid wedge with a non-rising stem and wheel, conforming to B.S. 5154:1983, and generally as Crane type DM 160. Check valves shall be Lift type with bronze body and composition disc conforming to B.S. 5154:1983 and generally as crane type DM 118.

All hose-reel supply pipework and fittings shall be painted etching primer and two coats of red enamel paint to comply to B.S. 1710:1984. All painting shall be applied to manufacturer's instructions.

C. DRY-RISER INSTALLATION
Pipes shall be galvanised steel tubing to B.S. 1387:1967 Class B with pipe threads to B.S. 21.

Pipe fittings shall be wrought steel seamless pipe fitting to B.S. 1740 Part 1: 1971.

Flanges: steel flanges to B.S. 4504:1969 PN 16.

Fire Brigade Breeching inlet shall consist of twin inlets; each inlet consisting of 65mm diameter male instantaneous coupling to B.S. 336 with a non-return valve and a blank cap secured with a short chain.

The breeching inlet shall be enclosed in a sheet metal inlet box, finished in 'fire red' backed enamel paint, with wired glass door to B.S. 3980. The door shall be secured with spring lock such that it can only be opened from the inside by breaking the glass and releasing the catch on the lock.

The door glass front shall be clearly marked with 50mm high red lettering 'DRY RISER BREECHING CONNECTOR'.

Landing valves shall be 65mm diameter gunmetal gate pattern dry riser outlets with flanged inlets and female instantaneous outlets fitted with plugs secured by short chain and conforming to B.S 5041: Part 2:1976.

Air Release Valve shall be fixed to the dry riser terminating at least one metre above the topmost landing valve.

The above valve shall be automatic air release valve conforming to B.S. 1452.

The valve and the dry riser projecting over the roof shall be effectively earthed to prevent damage from lighting.

D. FIRE HYDRANTS

The fire-hydrant system shall comply to the requirements of B.S. 5306 Part 1.

The fire hydrants shall be of the screwdown type to B.S. 750 type 2. These shall be of meehanite cast iron body with bronze spindle rings and nut and nickel-plated mild steel bearing plate.

Units shall have discharge capacity of not less than 34 1/s (450 gal/min) at a constant running pressure of 1.7 bars.
Units shall be installed underground in a concrete block chamber with surface box manufactured from meehanite cast iron (medium or heavy traffic design as specified) all to B.S. 750. The cover shall be inscribed **F.H** and chained to the box, all as manufacturer by Glenfield Ltd., or equal, approved.

An indication plate to B.S. 3251 and of approved manufacture shall be installed at a nearby and conspicuous position.

E. SPRINKLER SYSTEM

The specification shall comply with the Fire offices (FOC) rules for ordinary Hazard Group I.
This is a wet pipe system that is permanently charged with water under pressure both above and below the installation alarm (wet pipe) valve.

F. PIPEWORK

1. All pipework above ground shall be heavy grade (class C) galvanized steel conforming to BS 1387 suitable for screwing to BS 21 pipe threads .
2. Pipes laid underground must conform to BS 3505 Unplasticised PVC pipe for cold water supply.
3. Joints must be made with fittings of the manipulative compression type to BS 864 part 2 only. Pipe bending is not allowed.
4. All welding of sprinkler pipework must be carried out in accordance with the provisions of BS 2640, BS 2971 or heating and ventilating contractors' association manual-welding of mild steel pipework , except that the use of "set in type branches or sockets" and "cut and shut" or "segmented" bends is not permitted.
5. All pipework shall be given 2 coats of red paint..

6. Slope of pipes for drainage: Sprinkler pipes of installations , whether on the wet , dry or alternate system must be installed such that the system can be thoroughly drained. Sprinkler pipes must be laid to the following minimum slopes:

- Wet pipe systems -2mm in 1 m
- Dry pipe and alternate wet and dry pipe systems with pipe diameter 50mm and above -4mm in 1 m
- Dry pipe and alternate wet and dry pipe systems with pipe diameter less than 50mm – 12mm in 1 m.

7. Support of pipework:
The contractor shall make use of the following items to support the pipework as necessary:

- Hangers
- Fasteners
- Primary support brackets
- Pipe clips
- Sling rods
- U – bolts and
- toggles

8. spacing and location of hangers:
There must be at least one hanger for each pipe section : the distance between hangers for horizontal and vertical sprinkler pipework shall not exceed the following:

Nominal diameter of pipe(mm)	maximum spacing(m)
Less or equal to 65	4.0
More than 65 and upto 100	6.1
More than 100 and upto 250	6.5

G. PRESSURE GAUGES

1. On all installations, there must be a pressure gauge (c) fitted immediately above the alarm valve and another (b) immediately below the alarm and main stop valves.
2. Pressure gauges shall conform to BS 1780. The maximum scale value of such gauges should be of the order of 150 per cent of the known maximum pressure. Pressure gauges must have divisions not exceeding 0.2 bar for a maximum scale value of 10bar, not exceeding 0.5 bar for a maximum scale of 16 bar and not exceeding 1 bar for a maximum scale exceeding 16 bar.
3. Means must be provided to enable each pressure gauge to be readily removed without interruption of installation water supplies.

FITTINGS

VALVES

Installation control valves:
The installation must be provided with a set of installation control valves comprising:

a) a main stop valve
b) an alarm valve suitable for a wet system and
c) a water motor alarm and gong.

STOP VALVES:

1. All stop valves must be right handed i.e they must be so constructed that in order to shut the valve , the spindle must turn clockwise. The control wheels must be clearly marked showing in which direction the wheel is to be turned to close the valve. There must be an indicator also to show whether the valve is open or closed.

2. The following types of installation valves are allowed:
   a) Gate / sluice valves designed and constructed to one or other of the following specifications or equal and approved :
      - BS 5150- cast iron wedge and double disc gate valves for general purposes
      - BS 5163- Double flanged cast iron wedge gate valves for water works purposes.
      - BS 1952-copper alloy gate valves for general purposes
      - BS 5157-steel gate valve for general purposes.

   b) Gear operated butterfly valves designed and constructed in accordance with the following specifications or its equivalent subject to approval----BS 5155 cast iron and carbon steel butterfly valves for general purposes

BALL VALVES

Ball valves for use in connection with the incoming water main to be brass gun metal or other corrosion resistant material preferably equilibrium type to BS 1212 (1953) as GLENFIELD AND KENNEDY LTD.

All ball valves to be classified as high pressure Ball valves rated at 14.10 kg/sq. cm maximum.

CHECK VALVES

to be of cast body incorporating flanges , for service of over 54 mm nominal bore to BS 5153 (1974). Services of 54 mm nominal bore and under to be copper alloy to BS 5154 (1974).

SPRINKLERS:

The sprinklers in this installation shall be 15mm conventional pattern suitable for pendent position and a temperature rating of 68 deg. C.

GENERAL SPECIFICATION FOR ELECTRICAL INSTALLATION WORKS

A. GENERAL CLAUSES

2.01 Regulations

This specification covers the requirements of lighting and power installation in Kenya. All apparatus and material supplied and all work carried out shall comply with the Kenya Government Electrical Specifications, GES.1 and GES.2 and local Statutory Regulations. Installations should also be generally in accordance with the requirements of the 16th Edition of the "Regulations of the Electrical Equipment for Buildings" issued by the institution of Electrical Engineers, Which should be used as a “Code of practice" except where they conflict with Kenya Government Legislation regarding electrical installations.

2.02 Standards

Except where otherwise indicated in this Specification the Contract Works and all manufactured items shall comply with the relevant Specification of the British Standards Installation. Such Specification are here in after referred to as "BS". In each case, the latest edition of such Specification shall apply.

Should it be desired to offer equipment covered by other National or International Standards, the approval of the Engineer must be obtained, in Writing, before completion of the tender.

2.03 Records Drawings

The sub-contractor shall mark accurately on one set of drawings the conduit laid during the progress of the work. This information must be made available on site for inspection by the Engineer.

At the completion of the Contract, the Contractor shall supply the engineer with one set of transparent originals, and two complete sets of prints showing the complete installation.

The drawing shall include the location of all apparatus conduits and cable routes and a schematic diagram of the main distribution indicating the phasing of the system.

2.04 Contract Drawings

These drawing form part of this specification and are to be read in conjunction with this specification to enable the sub-contractor to prepare a tender. Where there are any omissions in the bills of quantities, contract drawings supersede the bills of quantities.

These drawings are not intended to be used as working drawings unless they are released for that purpose.

2.05 **Working Drawings**

The sub-contractor shall prepare the working drawings as may be necessary. These shall be submitted to be Engineer for approval before the execution of the works.

Working drawings, to be prepared by the Sub-contractor, shall be detailed as below but not restricted only to these:-

1. General arrangement of drawings showing plants, M.V. Switchgear, distribution boards, consumer units, fittings, switches, switched sockets outlets etc.

2. Layout drawings of concealed and surface conduits, ducts, trucking etc.

3. Any other drawings that are not called for in the Specification.
Two copies of all working drawings shall be submitted to the Engineer for approval.
Thereafter, the Sub-contractor shall submit copies of approved working drawings for distribution to the parties concerned. The sub-contractor shall not be relieved of any of this obligations under the sub-contract or from correction any errors on site or elsewhere found subsequently in the approved working drawings by the Engineer.

2.06 **Labels**

All switchgear, switch fuses, distribution boards, etc., shall be clearly labeled with black on white background engraved labels to indicate the name, purpose and position of the gear. All circuits in distribution boards shall be clearly identified in respect of the number and location of the M.C.B. The charts shall be securely fixed inside the covers of the distribution boards.

2.07 **Galvanizing**

Galvanizing shall be applied by the hot process and shall consist of a smooth clean zinc coating free from defects and be uniform in thickness.

The thickness shall be not less than 610gms of zinc per square meter of surface and tested in accordance with the requirements of B.S 729 where applicable. Sheradiling or other alternative processes shall not be used without approval in writing of the Engineer.

The preparation for galvanizing itself shall not adversely affect the mechanical properties of the coated material. Surfaces which are normally in contact with oil shall not be galvanized or cadmium plated.

All out-door structures, access ladders, platforms, equipment cubicles shall be galvanized.

2.08 **Cleaning and painting**

Having due regard to the destination and climate conditions under which the plant is to operate, extreme care shall be exercised in the manufacture of the equipment to prevent the formation of any corrosion.
All equipment shall be cleaned of all dust, oil, grease, dirt, scale and rust by power tool operated

metal brush or preferably by shot or grit blasting and then ground smooth where necessary. Unless otherwise approved, they shall then immediately have applied to them two coats of approved primer paint. After inspection any rough surface shall be filled in and smoothed over and further painting in the factory shall be as follows:-

(a) All interior of cubicles, kiosks, boxes etc., containing wiring or other apparatus and internal components of the plant which are dispatched to site in an assembled conditions, shall be finish painted with at least two coats of white enamel. The final coat shall be of white anti-condensation finish, where so specified.

(b) The external surface of the panels shall be finished in gray stove enamel to B.S. shade 631 or other shade as may be approved by the Engineer.

(c) All interior surface of tanks and other oil filled chambers and external surface of piping therein shall be painted finally with an oil resisting coating to the approved by the Engineer.

(d) All wall and floor mounted junction boxes, loose starters, etc., throughout the works shall be finished in grey stove enamel or painted finally with to B.S. 381C shade 631 or other shade as may be approved by the Engineer.

After all erection has been made completed at site, the contractor shall make good all defects in painting and galvanizing which have arisen during transport, storage and erection on site and shall apply undercoat and one finished coat of gloss paint to B.S. 311C shade as may be approved by the Engineer to the external surface of all equipment.
Where galvanized metal work has been damaged it shall either be repaired by cold galvanizing at site or alternatively at the discretion of the Engineer, be returned to the manufacturer for re-galvanizing by the hot process.

2.09 Lighting and Distribution Boards

General lighting and power distribution boards shall comply with the B.S. 3817, 5861 and B.S. 214 and shall be of the metal clad pattern, flush mounted, except where otherwise specified on the drawings.

2.10 Construction

Enclosures shall be substantially constructed from 16S.W.G. Minimum thickness sheet steel having hinged front cover, and shall be vermin and insect proof. Each unit shall house M.C.B.'s and shall be supplied complete with bus-bars, earthing terminal, neutral bar, circuit chart, and blanking plate for any spare ways. The incoming isolator switch shall be integral with the distribution board in consumer Units only.

2.11. Miniature Circuit Breakers

All distribution boards shall be supplied with M.C.B.'s manufactured to B.S. 3871 and of a rating as specified on the drawings. The circuit breakers shall incorporate both thermal overload and magnet short circuit tripping, with a trip-free mechanism.

Three phase circuits shall be controlled by integrally manufactured three pole circuit breakers, with one common operating lever. An intertripping mechanism shall ensure isolation of all three poles in the event of an overload or short circuit on any one phase.

2.12 **Earth leakage Circuit Breakers**

If specified or indicated on the Contract drawings the use of E.L.C.B. for isolation of incoming supply in the distribution board shall be of an approved type for flush mounting. The general requirements of the E.L.C.B. are as follows:-

(a) It shall have high sensitivity i.e. it shall operate in 30 milliseconds for a leakage current of 30 mill ampere.

(b) Its operation shall not rely on the mains supply for tripping under fault conditions. For example, in the event of a leakage from the live to earth conductor occurring at the same time as break in the neutral supply wire, the breaker shall trip.

2.13. **Labeling**

A circuit chart in each board shall show the name, location and current loading of each circuit connected. Each board shall be fitted with an engraved identification label in black on white, such as "Distribution Board D.I.", etc, and all three phase distribution boards shall be labeled in white on red, "DANGER 415 VOLTS".

B. NON-METALLIC CONDUIT

2.14. **Standards and Installation**

All non-metallic conduits shall be class `A' heavy gauge, high impact, PVC complying with BS 4606 part 2 type
All. The minimum size to be used on the Contract is 20mm external diameter. The required sizes are shown on the Contract drawings. All conduit installation shall be concealed in the walls and floors or in structural slabs.

2.15. **Joints**

Conduit will be joined and terminated utilizing the appropriate rigid PVC compounds as detailed below, or standard conduit entry electrical equipment. Jointing will conform to one of the following techniques:-

No. 1 - Permanent Adhesives - The solvent cement supplied by the conduit manufacturers will be used to produce a rigid sealed connection.

No. 2 - Flexible Adhesive - A non-hardening adhesive supplied by the conduit manufacturers will be used to produce a flexible sealed joint where allowance is necessary for longitudinal movement (e.g. expansion couplers).

2.16. **Bends**

Bends and sets in the conduit will be made in accordance with the manufacturer’s instructions. The radius of the bend shall not be less than 2.5 times the outside diameter of the conduit or such greater radius which will facilitate easy drawing in of cables.

2.17. **Expansion**

Adequate allowance shall be made for longitudinal expansion and contraction of the conduit under normal working temperature variations as follows:-

(a) Expansion couplers should be used in straight runs exceeding 6 meters with a loose or flexible type joint
N0.2 above) at the long spout end of the coupler.

(b) Saddles as supplied by the manufacturers shall include a sliding support tolerance for longitudinal expansion.

Special consideration may need to be given to the fixing of accessories where this may prevent natural conduit movements. Over size or slotted fixing holes may be necessary or the introduction of expansion couplers.

2.18. **Support**

Conduits should be supported by saddles, at not more than 900mm intervals. Where working temperatures tend to be high this should be reduced to 600mm.

2.19. **Conduit Boxes and Fittings**

(a) All conduit boxes shall be circular or square pattern of Rigid PVC suitable for plain connections conforming to sheet 62 B.S. 4607 part 2. Boxes for supporting a fitting or accessory shall be fitted with a PVC lid held in position by means of two 2BA round headed screws Boxes shall have metallic screwed inserts.

(b) Circular or square boxes shall be provided at all outlet points, unless otherwise specified and lighting fitting, ceiling switches and other accessories will be screwed to the internal lugs of the boxes. Care must be taken when considering the use of totally enclosed fitting with PVC circular boxes where the temperature within the box is likely to rise above 60 C [140 F]. Special steel insert clips should be used in conjunction with circular boxes where heavy pendants are used.

(c) Looping in boxes of circular P.V.C. pattern to sheet 63B.S. 4607 part 2 may be used in such work as dictated by the structure of the buildings. Conduit entry shall be made by means of P.V.C. bushes.

(d) Adaptable boxes shall be of molded or fabricated PVC of square or oblong shape complete with P.V.C. Lids secured by 2 BA or steel plates round-headed screws. All adaptable boxes and lids of the same size shall be interchangeable. No adaptable box smaller than 75mm x 50mm or larger than 300mm x 300mm shall be employed. Boxes shall be of adequate depth in relation to the size of conduit entering them.

(e) Conduits shall be terminated at adaptable boxes, fuse-board switches, sockets outlets or other equipment not possessing push-in or threaded spouts, by means of appropriate size female adapter and PVC hexagonal headed Bare Bush. All cemented joints to be made to a depth of not less than the diameter of the conduit being used.

2.20 **Earth Continuity**

Earth continuity shall be provided by a separate insulated conductor drawn into the plastic conduit and rated in accordance with circuit loadings and appropriate regulations, or as mentioned, on the drawings.

Where required under the Regulations, an earth continuity conductor shall be provided for lighting fittings in which case the control switches shall be equipped with an appropriate earth terminal.

2.21. **Arrangement of Conduit Layout**

The conduit system shall be carefully planned and erected to avoid unnecessary bends or changes in direction. Conduits shall be laid in straight horizontal or vertical lines with easy sets. Where several conduits follow similar routes, they shall be laid out from a common center.

Where draw-in boxes for right angled change of direction are required in multiple runs, adaptable boxes shall be used for such size as to allow conduits to enter the box without sets. Where conduits are concealed or laid on constructional floors, they shall be secured by fixing as approved by the Engineer. Where it is essential that conduits cross one another in floors, the chases shall be deepened and the conduits set to create the minimum desirable diversion.

Care shall be taken to ensure that there are no obstructions to cables within the conduits caused by the ingress of plaster, concrete, or other matter. Conduit ends must be square and cleaned of burrs.

2.22. **Conduit Draw-in Points**

Conduits for each circuit shall be completely erected before any cable is drawn in. Adequate draw-in points shall be provided. Straight runs shall have drawn-in facilities at distance not exceeding 12 metres. Runs incorporating sets of bends shall have drawn-in facilities at a distance not exceeding 9 metres. These distances may need to the reduced in difficult situations or with particular cable complexes.

Not more than four easy sets, or two right angle bends or sets may be installed between draw-in points. Solid elbows or tees shall not be accepted.

C. FINAL SUB-CIRCUIT WIRING

2.23. **Type**

All power and lighting wiring cables shall be 600/1000 volt grade, single core, P.V.C. insulated, with stranded copper conductors, manufactured in accordance with B.S. 6006. The minimum size of lighting circuits shall be 1.5 sq.mm sizes, 4.0sq.mm on power spur circuits and 2.5sq.mm on ring main circuits.

2.24. **Installation**

Cables forming sub-circuits connected to different sub-distribution boards shall not be drawn into the same conduit or draw-in box. The cables shall be coloured in accordance with Table B4 of the IEE Regulations.

Cables used on extra low voltage circuits shall be of distinctive colours other than these colors.

No reduction of the strands forming the conductors shall be allowed at switch or other terminals, but all strands shall be effectively secured by screws, nuts and washers or other approved means. Cables shall be joined together at the terminals of ceiling boxes and other accessories. Under no circumstances will joints be permitted in the run of the cable.

D. P.V.C. INSULATED ARMOURED CABLES

2.25. **Type**

These shall be 600/1000 voltage grade to BS.6346 or B.S 6004 having copper wire insulated,

P.V.C. sheathed, single wire armoured and P.V.C. sheathed overall. The cores of four core cables shall be distinctively coloured red, yellow, blue and black. The Sub-Contractor shall provide suitable glands and accessories for all armoured cable termination, and where cables are suspended shall provide the necessary rack, cleat or hanger supports and fixing.

Cable supports and racks shall be made by a recognized manufacturer and shall be to the approval of the Consulting Engineer.

All supports and racks shall be arranged as far as is practicable for the easy removal of any single cable in a multi-cable run, without threading cables through supports and racks. The number of types of supports and racks shall be kept to a minimum commensurate with meeting the requirements of the Contract Works.

2.26. **Laying of Cables**

The work of excavating and back-filling of all trenches for cables, is included in this sub-contract and the responsibility for positioning, width and depth of trenches, and for laying and bedding of all cables and protective covers is included with the Electrical Works covered by this Specification. Cables shall be laid in trenches at the following minimum depths.

For M.V. cables in open ground	0.55m
For M.V. cables under roads and Pavements	0.85

Where more than one cable is laid in a trench, cables shall be spaced as follows:

Between M.V. cables	0.1m
Between M.V. and telephone cables	0.4m
Between M.V. and L.V. cables	0.4m
Between L.V. and telephone cables	0.4m
Between L.V. cables	0.1m

In straight run trenches cable crossings shall not be permitted except where cables branch from the main run.

At every draw-in point or junction box the cable should be snaked.

Before cables are laid the bottom of the trench shall be evenly graded and cleared of all loose stones, and shall then be covered with an 80mm layer of sand or sifted soil and lightly compacted, and a further 80mm layer shall be placed on top of the cables. The approved cable protection, see Clause 2.27, shall then be laid and the excavated materials in 0.2m layers, each layer being well compacted by hand or mechanical punners before the next layer is filled.

The width of the trench shall be such that a clearance of 80mm shall be provided between outermost cable and the side of the trench. Where cables are disposed in more than one layer, the vertical spacing shall be 0.4. Between centers of cables or cable groups, the depth of the trench being made suitable accordingly.

2.27 . **Protective Covers**

The protective covers, of approved local manufacture to BS.2484 shall be provided over cables laid in the ground each complete with an interlocking device to prevent lateral displacement. These protective covers shall extend at least 50mm laterally beyond the outside of the outer cable in each group of cables so protected.

2.28. **Cable Position Markers**

These should be placed adjacent to all points where cables change direction, and at all intervals of not more than 30m and at other positions designated by the Architect or the Consulting Engineer.

2.29. **Sealing of Cable Entries**

Where cables enter a building in pipes, or ducts, the mouths of the pipes or ducts shall be effectively sealed by means of close fitting solid impregnated wooden plugs and mixture of compound and transformer oil, or other approved manner.

All cables passing through interior walls or floors shall be effectively sealed to the approval of the Engineer
By means of asbestos cement after the cables have been pulled through, in order to prevent the accumulation of moisture and the ingress of debris, sand or vermin. The cost of sealing the cables shall be included in the rates for erection and laying.

2.30. **Protection Against Mechanical Damage**

All cables located in such positions where they are vulnerable to damage by mechanical or other means shall be protected by suitable lengths of steel pipe bushed to prevent damage to the cable.

2.31. **Rating Plates**

Each cable when completely erected shall have permanently attached to it at each end, and in such intermediate positions as may be considered necessary by the Engineer, metal plates upon which is engraved, or stamped, the identification number of cable together with it supplies. This information shall be recorded by the sub-contractor so that it may appear on drawings of the completed installation.

2.32. **Cable Jointing**

The Sub-Contractor shall be wholly responsible for sealing and jointing of all cables supplies and erected under the contract. The cable boxes, loop-boxes and glands for power and L.V. cables on all items of equipment shall be provided under the contract.

Sealing and jointing shall be in accordance with the best current practices and of first class workmanship. Where cable armouring is used as earth continuity conductors the glands shall have the necessary contact surfaces or straps to provide a low resistance path under fault conditions.
The Tender shall include for all cable jointing where appropriate and also all labour, jointing material and compound, together with the use of all jointer`s tools and making of the tails to the apparatus terminals.
Generally, cable terminations on switchgear, transformers, joint boxes, outgoing, and incoming circuits on the switch-boars shall be glanded in an approved manner.

E. SOCKET OUTLETS

2.33 **General**

In all areas, general power outlets shall be of the 13 Amp.3 pin fused plug type complying with BS. 1363. They shall be flush pattern with white or ivory plates unless otherwise specified on the drawings. Where the circuits are supplied from a common feed, two outlets shall form a twin unit in a common box. The earthing terminal of every socket outlet shall be connected to the earth

continuity conductor of the final sub-circuit by an appropriately sized insulated copper conductor. Unless otherwise stated they shall be mounted at 300mm above finished floor level.

2.34. **Plugs**

One fused plug top shall be supplied for each socket outlet installed. Fuses shall be 13 Amp unless otherwise specified.

F. FUSED CONNECTION UNITS

2.35. **General**

All fused connection units shall be 13 Amp. with fuse and neon indicator lamp. Boxes shall be flush type with white or ivory copper plates and shall be switched type unless otherwise specified on the drawings.

2.36. **Fuses**

All fused connection units shall be fitted with 13 Amp. fuses, unless otherwise specified.

2.37. **Labeling**

The front plate of each fused connection unit shall, unless otherwise specified, be engraved with the name of the appliance connected to it.

G. LIGHTING SWITCHES

2.38. **Type**

Lighting switches shall be of the all insulated rocker operating plate switch type to BS. 3676 of ample rating. Switch inserts shall be white set in white or ivory cover plates.

Switches controlling points in bathrooms shall be placed outside the bathroom or consist of a ceiling switch operated by a non-conducting cord, as specified. Switches mounted outdoors shall be of a weather tight pattern.

Switches shall be one way, two ways or intermediate as specified and where a number of switches are mounted together they shall be tilted in a common box.

Ceiling switches shall be white or ivory semi recessed
pattern, and shall only be used where specified. Pull cords shall be fitted with shock absorbing springs.

H. LIGHTING FITTINGS

2.39. **General**

The Sub-Contractor shall supply and fit all lighting fittings of the type indicated on the drawings and in the schedules. All fittings shall be suitable for operation on a 240V, 50Hz supply. Lighting fittings rated other than 240 volts will not be accepted. All lighting fittings shall be supplied with lamps.

2.41 **Reflectors and Diffusers**

All reflectors for fluorescent fittings shall be made of sheet metal suitably shaped and stiffened, and shall be of white enamel finish. The diffusers shall be of white enamel finish. The diffusers shall be of white opal type in extruded plastic with external reeding.

2.42. **Lamps**

All lighting fittings shall be supplied complete with lamps of the type and rating specified. Fluorescent tubes shall be of the "white" type, except where otherwise stated. Pearly type tungsten lamps will be fitted in open fittings.

I. FLEXIBLE CORDS

2.43. **General**

These shall be of 250 volt grade PVC insulated and shall comply with BS.7. Flexible cords shall not be less than 24/.20(23/.0076).
Flexible cords for pendant fittings shall be circular type, heat resistant and white in colour.

J. EARTHING

2.44 **Earthing Electrodes**

Earth electrodes shall be minimum 1.4 metres long by 12mm diameter hard drawn copper rod, and shall be located not less than 3 metres apart at a convenient position 6 metres away from the building. The terminal head of each electrode shall be in a concrete inspection pit, with cover. If the resistance to earth is not satisfactory with one electrode, then additional electrodes or an earth mat shall be provided as directed by the Engineer.

2.45 **Distribution System Earthing**

All distribution boards shall be earthed in accordance with the I.E.E. Regulations. All metal work associated with the regulations currently in force.

2.46 **Testing of Earthing System**

The resistance of the earth continuity system when measured between earthing point and other point in the installation, including all conduit and metal work which may provide a path or earth, shall not exceed 0.5 ohm where steel conduit forms part or the whole part of the system, or 1.0 ohm, if the earth continuity system is composed entirely of copper, copper alloy or aluminum. When the installation is complete the Sub-Contractor shall carry out tests for earth loop impedance, polarity insulation resistance, ring circuit continuity and earth electrode resistance, in the presence of, and to the satisfaction of the Engineer and the K.P. &L. The Sub-Contractor shall rectify all work not giving test results within the limits prescribed.

2.47. **P.M.E. system**

Provision shall be made for P.M.E. System at supply intake (where applicable) and on the isolators of the adjacent building. "P.M.E." means that system whereby the neutral conductor of the supply network is earthed at a prescribed number of points along its route, together with the installation earth continuity conductor, at each consumer's installation, so providing a metallic path for the flow of earth fault currents. The connections between the neutral conductors of the installation shall be made by the supply. Authority at the point of intake only. The connection at the isolators will be

made by the Sub-Contractor in the presence of the Engineer after completion of all tests.

2.48. **Commissioning**

All installations shall be tested to the statutory requirements of the Electricity Authority, and commissioned in the presence of and to the satisfaction of the Engineer.

Four copies of tests reports shall be provided within seven days of carrying out the tests; and reports shall include full details of how each test was carried out, and a copy of all readings taken.

PARTICULAR SPECIFICATION FOR ELECTRICAL WORKS

The Specification contained hereinafter relates to specific electrical installation in the **"PROPOSED REFURBISHMENT OF ANNIVERSARY TOWERS FOR KENYA REINSURANCE CORPORATION LTD ."**

The Sub-Contract works shall be carried out in accordance with the current Code of Practice applicable to outside and inside electrical installation in Public buildings and shall comply in all aspects with current regulations enumerated in Part B of this Specification. In carrying out the installation, the Sub-Contractor shall ensure that terminations and outlets for various appliances and machinery are correctly wired and rated.

1.1 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.

1.2 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.

1.3 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.

1.4 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.

1.5 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 trip free 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.

1.6 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.

1.7 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-contractors 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, and 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 withdraw able 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.

1.9 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. Pat tresses shall be fitted where required to outlets on surface conduit runs.

Adaptable boxes are to be of PVC or mild steel (of not less than 12swg) and black enameled or galvanized 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.

2.0 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 switch

b) Special current rating

c) Item of equipment controlled

(iv) Shall indicate on MCB panels
a) Reference number
b) Type of board, i.e.; lighting, sockets, etc,
c) Size of cable supplying panel
d) where to isolate feeder cable

(v) Shall be generally not less than 75mm x 50mm.

2.1 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 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.

2.2 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
PVC 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.

2.3 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.

Where cables rise from floor level to switchgear etc., they shall be protected by P.V.C. conduit, to a height of 600mm from finished floor level, whether the cable is run on the surface or recessed into the wall.

2.3 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 cost cables hooks or clamps, or 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 back straps described above which shall in turn be secured to walls or ceilings of ducts by raw bolts.

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 blackstrap 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

2.4 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.

2.5 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.

2.6 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

2.7 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 Heller man 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.

2.8 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

SYSTEM	INSULATION COLOUR	CABLE END MARKED
Main and Sub-Main		
a) Phase	Red	Red
b) Neutral	Black	Black
1) Sub-Circuits Single Phase		
a) Phase	Red	Red
b) Neutral	Black	Black

2.9 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 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

2.10 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.

2.11 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.

2.12 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

2.13 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

2.14 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

2.15 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

2.31 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.

2.32 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 lamp holders 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.

2.33 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.

2.34 LIGHTING FITTINGS AND STREET LIGHTING LANTERNS

ALL LIGHT FITTINGS SPECIIFIED SHALL BE OF THE LED TYPE.

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.

2.35 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.

2.36 STREET/SECURITY OUTDOOR LIGHTING COLUMNS:

The column shall be at a minimum of 225mm in the ground on 75mm thick concrete foundations and the pole up to 150mm shall be surrounded with concrete. The top bracket and plain section of the columns shall be common to and interchangeable with all brackets with maximum mismatching tolerance of 3mm between any pole and bracket. After manufacture and before erection the columns shall be treated with an approved mordant solution which shall be washed off and the whole allowed to dry. Thereafter, the columns shall be painted with one undercoat and two coats of gloss paint to an approved colour. All columns shall be complete with fused cut-outs.

2.39 METAL CONTROL PILLAR

These shall be metal clad and fabricated as per contract drawings and specification. The Sub-Contractor shall supply, install, test and commission control pillars including supplying, fixing connecting switchgears as detailed on the appropriate drawings.

2.40 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.

2.41 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

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 meters. 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 colored 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.

2.42 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 enameled finish except where specified otherwise. Where installed externally or in damp conditions they shall be galvanized. Conduit fittings, accessories or equipment used in conjunction with galvanized conduits shall also be galvanized 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 galvanized, the links shall be made by galvanized 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 fuse boards, 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 galvanized conduit and trunking, the trunking shall be deemed to be Powder Coated 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 galvanized 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 bed 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 enameled or galvanized 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 bit mastic 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.

2.43 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.

The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.

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.

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.

SCHEDULES & BILLS OF QUANTITIES

SCHEDULES

(i) The Tenderer shall complete all the schedules. The schedules shall be read in conjunction with the specifications and the drawings.

(ii) The total prices in the main summary of price schedules shall be deemed to include all obligations under the Contract including and not limited to supply of materials equipment, apparatus, fittings, spares, tools, insurance, delivery to site, storage, installation, testing and commissioning in accordance with this specification.

(iii) Any prices omitted from any section or part of price schedule shall be deemed to have been included in another item, section or part.

(iv) All prices shall be duty paid and shall also be inclusive of all taxes current at the time of tendering.

NOTES.

The bill of quantities listed hereunder as provisional are approximate and as such are subject to re-measurement on completion.

The quantities listed hereunder are not to be used for ordering purposes. The contractor is to make his own assessment from the documentation provided and from site measurement for the purpose of ordering materials.

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, and storage on site, installation, testing, commissioning and all taxes (All prices shall be duty paid and shall also be inclusive of all taxes current at the time of tendering).

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 Engineer, the sub-contractor shall remove the Material in question and, at his own cost, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the Form of Tender.

SECTION VII - DRAWINGS

LIST OF DRAWINGS USED IN THE PREPARATION OF THESE BILLS OF QUANTITIES

ARCHITECTURAL DRAWINGS

Drawing No	Title	Scale
HA/06/23/01	Ground floor washrooms floor plans	As shown
HA/06/23/02	Ground floor washrooms floor plans	As shown
HA/06/23/03	Ground floor washrooms floor plans	As shown
HA/06/23/04	Ground floor washrooms floor plans	As shown
HA/06/23/05	Ground floor washrooms floor plans	As shown
HA/06/23/06	Mezzanine 2 washrooms floor plans	As shown
HA/06/23/07	Mezzanine 2 washrooms floor plans	As shown
HA/06/23/08	Mezzanine 2 lift lobby floor plans	As shown
HA/06/23/09	Typical kitchenette floor plans	As shown
HA/06/23/10	Duct doors	As shown
HA/06/23/11	Duct doors	As shown
HA/06/23/12	Duct doors	As shown
HA/06/23/13	Main staircase window board details	As shown
HA/06/23/14	Secondary staircase window board details	As shown
HA/06/23/15	Tank room window board details	As shown
HA/06/23/16	Fire escape doors	As shown
HA/06/23/17	Airlock doors	As shown
HA/06/23/18	Signage details	As shown
HA/06/23/19	Cat ladder details	As shown
HA/06/23/20	Flag post details	As shown
HA/06/23/21	Canopy details	As shown
HA/06/23/22	Canopy details	As shown
HA/06/23/23	Planter details	As shown
Various	As buillt drawings	

STRUCTURAL DRAWINGS

2016/102/20	Mezzanine 2 Roof Layout	As shown
2016/102/21	Mezzanine 2 Roof Sections	As shown
2016/102/23	External Paving works details	As shown

Bidders may consultant the Supply Chain Department for further assistance should they wish to study these drawings.

PART III - THE CONDITIONS OF CONTRACT AND CONTRACT

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

NAME OF PROCURRING ENTITY: KENYA REINSURANCE CORPORATION

NAME OF CONTRACT: PROPOSED REFURBISHMENT OF ANNIVERSARY TOWERS

NAME AND ADDRESS OF ARCHITECT: HERITAGE ASSOCIATES

P.O BOX 56293-00200

NAIROBI, KENYA

General Conditions of Contract

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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" meansthedateofcompletionoftheWorksascertifiedbytheEngineer.

"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'sPersonnel" 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 timeby 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 maybe) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], whichextendsoverthedaysstated intheSpecialConditionsofContract.

"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 [ApplicationforFinalPaymentCertificate].

"Force Majeure" is defined in Clause19 [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.

"Tests on 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.

1.2 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.

1.3 Communications

1.3.1 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, sentor transmitted to the addressf 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.

1.3.2 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.

1.4 Law and Language

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

1.4.2 The ruling language ofthe Contract shall be **English.**

1.5 Priority of Documents

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:

a) 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.

1.6 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 formannexed 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.

1.7 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 as sign 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.

1.8 Care and Supply of Documents

1.8.1 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.

1.8.2 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over bythe Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.

1.8.3 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.

1.8.4 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, theParty shall promptly give notice to the other Party of such error or defect.

1.9 Timely provision of Drawings or Instructions

1.9.1 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.

1.9.2 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.

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

1.9.4 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 Asagreed 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 Entityf or 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 permitor 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 ofthe Procuring Entity's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of in eligibility 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 thetime (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 ofanyfoundation, 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.

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

2.1.5 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.

2.2 Permits, Licenses or Approvals

2.2.1 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.

2.3 Procuring Entity'sPersonnel

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) ofSub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

2.4 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

3.1.1 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.**

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

3.1.3 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 S**pecial Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.

3.1.4 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 toprovideevidence of such approval before complying with the instruction.

3.1.5 Except as otherwise stated in these Conditions:

a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Architect shallbedeemedtoactfortheProcuring 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 within 14 days of receipt.

3.1.6 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-Clause13.4: Specifying the amount payable in each of the applicable three currencies.

3.1.7 Not withstanding 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.

3.2 Delegation by the Engineer

3.2.1 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].

3.2.2 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.

3.3 Instructions of the Engineer

3.3.1 The Architect may issue to the Contractor (at anytime) instructions and additional or modified Drawings which may benecessary 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.

3.3.2 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 Architec tor 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).

3.4 Replacement of the Engineer

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

3.5 Determinations

3.5.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause3.5 to agreeor 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 agree mentor 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, ands hall 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.

4.1.4 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 designor specification of the Permanent Works.

4.1.5 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.

4.1.6 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 Architectthe "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

4.2.1 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.

4.2.2 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.

4.2.3 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executedand 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.

4.2.4 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.

4.2.5 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.

4.2.6 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copyof the Taking-Over Certificate.

4.2.7 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.

4.3 Contractor's Representative

4.3.1 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.**

4.3.2 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 with held 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.

4.3.3 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint are placement.

4.3.4 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.

4.3.5 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

4.3.6 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.

4.3.7 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreter savailable during all working hours in a number deemed sufficient by the Engineer.

4.4 Sub-contractors

4.4.1 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.

4.4.2 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if theyweret heacts 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].

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

4.4.4 Wher epracticable, 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

4.6.1 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.

4.6.2 Any such instruction shall constitute a Variation if and to the extent that it cause sthe Contractor to suffer delays and/ortoincur 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.

4.6.3 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

4.7.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contractor 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.

4.7.2 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.

4.7.3 If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an errorin 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 thise.

4.8 Safety Procedures

The Contractor shall:

a) Comply with all applicable safety regulations,

b) Takec are 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.

4.9 Quality Assurance

4.9.1 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 entitledto audit any aspect of the system.

4.9.2 Details of all procedures and compliance documents shall be submitted to the Architectf or information 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 TheContractor 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 shal ldescribe 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 Contractorwhen submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor'sinterpretationofanysuchevidence.

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 out side 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 be tween 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 a vailability 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 thetransport 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 hall 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 Entitys hall 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-Clause3.5 [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.

4.20.3 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

4.21.1 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.

4.21.2 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

4.23.1 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 adjacentl and.

4.23.2 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.

4.23.3 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

4.24.1 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.

4.24.2 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 hisobligations 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].

5.3 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].

5.4 Evidence of Payments

5.4.1 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, directto 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

6.2.1 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 theContractor.

6.2.2 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.

6.3 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.

6.4 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.

6.5 Working Hours

No work 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.

6.6 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.

6.7 Health and Safety

6.7.1 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.

6.7.2 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.

6.7.3 The Contractor shall send, to the Engineer, details of any accident as soon as practicable after itsoccurrence. 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.

6.7.4 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 superintendence 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 ofthe 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 Sitea n 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 a tall 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 there of 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 employ mentor retirement, and discipline.

7. PLANT, MATERIALS AND WORKMANSHIP

7.1 Manner of Execution

The Contractor shall carry out the manufacture/assemble 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 placef ort he 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, not withstanding 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 thespecified tests have be enpassed, 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 Not withstanding any previous test or certification, the Architect may instruct the Contractorto:

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 able 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 in corporated in the Works;

b) When the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

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 orman-made), except to the extent that disposal are 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 condition shave 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-Clause1 6.2 [Terminationby Contractor].

8.1.3 The Contractor shall commence the execution of the Works as soon as is reasonably practicable after the Commencement Date and shal lthen 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 Testson 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 within1 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.

8.3.2 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.

8.3.3 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.

8.3.4 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.

8.4 Extension of Time for Completion

8.4.1 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.

8.4.2 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 Architec tshall review previous determinations and may increase, but shall not decrease, the total extension of time.

8.5 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 mayrequire 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 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 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 everyday 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.

8.9.2 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause3.5 [Determinations] to agree or determine these matters.

8.9.3 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 ProlongedSuspension

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 receivingf rom the Architec tan 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 resultsof these Tests to the Engineer.

9.2 Delayed Tests

9.2.1 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.

9.2.2 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 Testson such day or days within that period as the Contractor may fix and of which he shall give notice to the Engineer.

9.2.3 If the Contractor fails to carryout the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Test sat 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 asaccurate.

9.3 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.

9.4 Failure to Pass Tests on Completion

9.4.1 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-Clause1 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 Contract or 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 Contract or, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor out standing 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 undert his Sub-Clause.

10.1.4 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 thel ast day of that period.

10.2 Taking Over of Parts of the Works

10.2.1 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.

10.2.2 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.

10.2.3 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.

10.2.4 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 Contractor 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.

10.2.5 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.

10.3 Interference with Tests on Completion

10.3.1 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.

10.3.2 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.

10.3.3 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 appl yto any defectsor 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[Costo f 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) Requirethe 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 Contractas 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 defector 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 defector 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

Unti lthe 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 defecton 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 30days after the latest of the expiry dates of the Defects Liability Period, or as soon there after 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 Completionn 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 EVALUATION

12.1 Works to be Measured

12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractorshall 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 agreet her ecords 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 paymentofthe 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 workd 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 Clause13 [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, wouldhavebeen 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 in validate 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 otherc haracteristics 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 Quantity Surveyor:

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 Works rendered useless by any such variation,
b) Thecostof 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 financec osts, 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 forth with 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-Clause31.3.

13.3 Value Engineering

13.3.1 TheContractor 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].

13.2.3 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 behalf (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 writinga s 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 a 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 Paymentin 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 inpart, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include onlysuch 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, Materialso r 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.

13.7 Dayworks

13.7.1 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.

13.7.2 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.

13.7.3 Except for any items for which the Daywork Schedule specifies that payment is not due, the Contractor shall delive reach 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.

13.7.4 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].

13.8 Adjustments for Changes in Legislation

13.8.1 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.

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.

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

13.8.3 Not withstanding 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].

13.9 Adjustments for Changes in Cost

13.9.1 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.

13.9.2 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 a mounts to cover the contingency of other rises and falls in costs.

13.9.3 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 shall be of the following general type:

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 Im/Io
Where:

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

A and **B** a 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 **Io**c 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.

13.9.4 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, itshall 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.

13.9.5 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.

13.9.6 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.

13.9.7 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 applicableo n 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.

13.9.8 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:

a) 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;

b) 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 Clause12 [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 a dvance 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.

14.2.6 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 thec ase 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.

14.3 Application for Interim Payment Certificates

14.3.1 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 aform 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 there porton the progress during this month in accordance with Sub-Clause4.21 [Progress Reports].

14.3.2 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 Contractor otherwise, including those under Clause 20 [Claims, Disputes and Arbitration]; and

g) the deduction of amounts certified in all previous Payment Certificates.

14.4 Schedule of Payments

14.4.1 I fthe 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.

14.4.2 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 a resatisfied:

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-Clause14.2 [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 Statemen tif any.

14.6.2 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.

14.6.3 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.

14.7 Payment

14.7.1 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].

14.7.2 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.

14.8 Delayed Payment

14.8.1 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 isissued.

14.8.2 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.

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

14.9 Payment of Retention Money

14.9.1 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.

14.9.2 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 behalf (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

14.9.3 However, if any work remains to be executed under Clause 11 [Defects Liability], the Architects hall be entitled to withhold certification of the estimated cost of this work until it has been executed.

14.9.4 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause13.8 [Adjustments for Changes in Cost].

14.9.5 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.

14.9.6 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 Contractor 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 be comes 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 out standing 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 30days 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 theContractor 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 in demnification 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) otherpaymentsanddeductions 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 theseacts 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, incompeting for or in executing the Contract.

15.2.2 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.

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

15.2.4 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.

15.2.5 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.

15.2.6 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

Assoon 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 [Procurin 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-Clausein 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 door 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 there of 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 bea nd 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 [Terminationby 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/ori ncurs 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-Clause1 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 Contractor 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 PaymentonTermination

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 outo for 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 actor 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 actor 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 Contractorisresponsiblefor 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 to 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 TimeforCompletion], 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 un avoidable result of the Contractor's compliance with the Contract, or
b) A result of any Works be ingused 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 again stand 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.

17.5.5 IfaPartyisentitledtobeindemnified 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.

17.5.6 For operation and maintenance of any plan to requipment 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

17.6.1 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 in direct or 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].

17.6.2 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.

17.6.3 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

17.7.1 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).

17.7.2 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 at tempts 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 Contractor 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, liabilitieso r 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, Materials 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) apart of the Works which is lost or damaged inorder 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) apart 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].

18.2.5 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 asthe 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

18.3.1 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.

18.3.2 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.

18.3.3 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

18.4.1 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.

18.4.2 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 Contractoror any othe rof 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.

18.4.3 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 over come, 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, s olong 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 maybeattributabletotheContractor'suseofsuchmunitions, 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 Not withstanding 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-

Clause18.2 [Insurance for Works and Contractor's Equipment].

19.4.2 After receiving this notice, the Architect shall proceed in a ccordance 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) theamountspayableforanyworkcarriedoutforwhichapriceisstatedintheContract;
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'sdisposal;
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

Not withstanding 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 Partyofsucheventorcircumstance:

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 42days 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 eventor 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 Conditionsor 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 afte rthe 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 arbitrationa fter 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 Not withstanding 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 a ward 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 Thetermsofthere muneration 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 Contractis with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws ofKenya. 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-Clause1.4 [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 Failureto Comply with Arbitrator's Decision

20.9.1 The award of such Arbitrator shall be final and binding up on the parties.

20.9.2 In the even tthat 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 REINSURANCE CORPORATION
Name and Reference No. of the Contract	Heading and 1.1	*PROPOSED REFURBISHMENT OF ANNIVERSARY TOWERS*
Architects Name and address	Heading and 3.1.1	HERITAGE ASSOCIATES Architects, Interior designers & Project managers P.O.Box 56293-00200 Nairobi
Contractor's Representative's name	4.3.1	*[insert the name of the Contractor's Representative agreed by the Procuring Entity prior to Contract signature]*
Key Personnel names	6.9.1	*[insert the name of each Key Personnel agreed by the Procuring Entity prior to Contract signature]*
Time for Completion	1.1.	_____days *If Sections are to be used, refer to Table: Summary of Sections below*
Defects Notification Period	1.1	182_days
Sections	1.1	*If Sections are to be used, refer to Table: Summary of Sections below*
Electronic transmission systems	1.3	
Time for the Parties entering into a Contract Agreement	1.6	Within 30days
Commencement Date	8.1.1	21 days after signing of the Contract Agreement OR as agreed upon with the Project Manager in consultation with Kenya Reinsurance Corporation
Time for access to the Site	2.1.1	No later than the Commencement Date, and not later than 21 days after Commencement Date
Architect Duties and Authority	3.1.6 (b) (ii)	Variations resulting in an increase of the Accepted Contract Amount in excess of__1.00__% shall require approval of the Procuring Entity._
Performance Security	4.2.1	The performance security will be in the form of a *unconditional demand bank Guarantee* in the amount(s) of 10 percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
Normal working hours	6.5	6am to 8pm Monday to Friday. This is a live site and restrictions on normal working hours will apply.
Delay damages for the Works	8.7	0.10 % of the Contract Price per day.
Maximum amount of delay damages	8.7.1	10% of the final Contract Price.
Provisional Sums	13.6. (b)(ii)	*3% of the amount spent as part of the provisional sum as profit and attendance to be paid to the main contractor **only if** the works are subcontracted by the Client to a nominated subcontractor .*
Adjustments for Changes in Cost	13.9	*This clause shall NOT apply.*

Conditions	Sub-Clause	Data
Total advance payment	14.2.1	5% Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable. *Recovery of advance payment shall be guided by provisions of the Public Procurement Regulatory Authority.*
Repayment amortization rate of advance payment	14.2.5 (b)	20.00%
Percentage of Retention	14.3.2 (c)	10% of the **gross** amounts due for each payment.
Limit of Retention Money	14.3.2 (c)	10% of the Accepted Contract Amount
Plant and Materials	14.5.3(b)(i)	If Sub-Clause 14.5 applies: Plant and Materials for payment Free on Board _____ *[list].*
	14.5.3(c)(i)	Plant and Materials for payment when delivered to the Site _____ *[list].*
Minimum Amount of Interim Payment Certificates	14.6.2	5% of the Accepted Contract Amount.
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	14% rate per month of delayed payment.
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	The product of 1 times the Accepted Contract Amount
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1.6	 ***14 days*** ***30 days***
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	*Ksh 500,000*
Minimum amount of third-party insurance	18.3.2	*Ksh 100,000,000*
The place of arbitration	20.7.2	*Nairobi ,Kenya*

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 ProcuringEntity]*
   - *ii)* Project: *[insert name ofproject]*
   - *iii)* Contract title: *[insert the name of thecontract]*
   - *iv)* ITT No: *[insert ITT reference number from ProcurementPlan]*

   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) OtherTenderers

   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 (5) Business Days of receip tof your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) 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 a vailable 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 ……TO BE NOTIFIED…….
ii) The Standstill Period lasts fourteen (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 NO. 2- REQUEST FOR REVIEW

FORM FOR REVIEW (r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO…….OF……..….20……...

BETWEEN

……...…….APPLICANT

AND

……RESPONDENT (Procuring Entity)

Request for review of the decision of the…… (Name of 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 *[amoun tin 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 Worksknownas_____should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Worksand 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) theNotification 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.

   Signeda nd 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 informedthat_____(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 it self or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the……...Day of……, 2...…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, inresponse 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.*

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[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 a readvised to use Performance Security – Unconditiona lDemand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]*

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insertnameandAddressof*ProcuringEntity*]*

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 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 vailable 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_____

Inthepresenceof_____

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* ProcuringEntity*]*

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, oronthe _____ dayof _____ ,2 _____ ,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year],* in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

_____

[Name of Authorized Official, signature(s) and seals/stamps]

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

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[1] *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance paymen tas specified in the Contract.*

[2] *Insert 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 executionof _____ *[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 upported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifyingthedemand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or showgrounds 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 ofApplicant's bank]*.

5. This guarantee shall expire no later than the.....Day of.....2.....[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

_____

[Name of Authorized Official, signature(s) and seals/stamps]

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

[1] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.*

[2] *Insert a date that is twenty-eight days after the expiry of retention period after the actua lcompletion 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---------- % of shares Indirectly---------- % of shares	Directly…….% of voting rights Indirectly---------- % 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---- 2. Is this right held directly or indirectly?: Direct…… Indirect……	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…….. Indirect……
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality					
	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)**
2.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …….% of voting rights Indirectly---------- % 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---- 2. Is this right held directly or indirectly?: Direct…… … Indirect…… ...	1. Exercises significant influence or control over the Company body of the Company (tenderer**)** Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…….. Indirect……
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth *[dd/mm/yyyy]*					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
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

PROPOSED COMMON AREA REFURBISHMENTS AT ANNIVERSARY TOWERS FOR KENYA REINSURANCE CORPORATION LTD

SITE VISIT FORM

SITE LOCATION : ANNIVERSARY TOWERS, NAIROBI

Kenya Re Representative

NO.	STATION	NAME OF KENYA RE REPRESENTATIVE	SIGN	DATE OF VISIT
1.	Anniversary Towers, Nairobi L.R Number 209/9744 on University Way, CBD Nairobi			

Tenderers Representative

NO.	STATION	NAME OF TENDERER'S REPRESENTATIVE	SIGN	DATE OF VISIT
1.	Anniversary Towers, Nairobi L.R Number 209/9744 on University Way, CBD Nairobi			

PUBLIC

KENYA REINSURANCE CORPORATION LIMITED

QUALITY POLICY

As a ***leading partner in securing the future***, we commit to ***provide sustainable risk and financial solutions*** through:

- Provision of risk management solutions that secure the future and create value for our stakeholders.
- Compliance with International Standards as well as Quality Management System (QMS) requirements as outlined in ISO 9001.
- Compliance with all applicable regulatory and statutory requirements, and any other requirements that may not be statutory/regulatory.

We undertake to realize the above by tracking and monitoring the performance of our Corporate Objectives, as outlined below:

i) **Growing shareholders' value** by improving the quality of reinsurance business portfolio; maximizing return on investments; containing management expenses and improving credit control operations.

ii) **Improving customer centricity** through enhancing customer satisfaction; maintaining ISO 27001 and ISO 9001 certifications and initiating IT capability and maturity assessment.

iii) **Improving analytics capabilities** by utilizing smart analytics to increase efficiency and grow into new markets.

iv) **Leveraging on technology to improve processes** by enhancing use of new information technologies; providing a robust and secure IT infrastructure; enhancing collaboration across the Corporation through digital solutions and protecting integrity of the Corporation's information and IT assets.

v) **Growing market share** through enhancing brand visibility and recognition; improving credit rating; and advocating for domestication of insurance and reinsurance for government projects.

vi) **Strengthening the human resource capacity** by attracting and retaining competent and diverse human resource; building staff capacity; implementing a culture change programme and strengthening performance management systems.

vii) **Strengthening governance practices** by reviewing the existing legal and regulatory framework and streamlining decision-making authority levels within the Kenya Re Group.

viii) **Enhancing enterprise risk management** through enhancing risk maturity; enhancing business continuity and enhancing actuarial function.

ix) **Strengthening internal controls** by enhancing assurance reporting to the HQ and subsidiary audit committee boards and enhancing internal controls.

Consistent with this policy, specific quality objectives have been established at relevant functions and levels within the Corporation. By mutual encouragement, commitment and cooperation through teamwork, all Kenya Re employees will perform their tasks diligently towards the achievement of our quality objectives and continual improvement of the quality management system.

This Policy shall be communicated and understood internally by all employees, and externally by all other stakeholders as well (through our website: www.kenyare.co.ke). It shall be reviewed for continuing suitability taking into account changing Quality Management System requirements and other best practices.

DR. HILLARY WACHINGA,
MANAGING DIRECTOR

DATE: 18/5/2023

PUBLIC

KENYA REINSURANCE CORPORATION LIMITED

INFORMATION SECURITY POLICY

It is the policy of the Kenya Reinsurance Corporation (Kenya Re) that information confidentiality, integrity, and availability requirements, needs and expectations of interested parties are identified and that information is protected through a systematic process of risk assessment and risk treatment to satisfy, as appropriate, interested parties and needs of the Corporation in consideration of its mission to provide risk management solutions that secure the future and create value for stakeholders.

To ensure the integration and effective management of information security practices within Kenya Re, an Information Security Management System (ISMS) has been established, implemented, maintained, and shall be continually improved in accordance with the requirements of ISO/IEC 27001. The management system shall be independently audited for conformity at least once annually and results reported to the Managing Director.

As part of this framework, measurable information security objectives shall be established and monitored in the Corporation at all departmental levels. The overall performance of the ISMS shall be reviewed by the Management at planned intervals, and at least once annually or in the event of significant changes to ensure the continuing suitability, adequacy, and effectiveness of the ISMS.

The Corporation is committed to:-

- Establishing, implementing, maintaining, and continually improving the ISMS in accordance with the requirements of ISO/IEC 27001,
- Establishing and reviewing Information Security objectives at all Functions,
- Managing of information security risks through risk assessment and treatment,
- Reviewing the ISMS at planned intervals and in the event of significant changes to ensure its continuing suitability, adequacy, and effectiveness, and
- Providing assurance to interested parties of the Corporation's information security capability and commitment in meeting their requirements and expectations though third-party audits.

This Policy shall be communicated and understood internally by all employees, and externally by all other stakeholders as well (through our website: www.kenyare.co.ke). It shall be reviewed for continuing suitability taking into account changing Information Security Management System requirements and other best practices.

DR. HILLARY WACHINGA,
MANAGING DIRECTOR

DATE: 18/5/2023

PUBLIC

KENYA REINSURANCE CORPORATION LIMITED

ANTI – CORRUPTION POLICY

Kenya Re has committed itself to "Zero" tolerance on corruption and working with the government and other agencies in tackling the vice. Part of our corporate values is "integrity"; Kenya Re does not engage in corruption or any form of unethical inducement or payment including facilitation payments and "kickbacks".

In order to achieve this, Kenya Re is committed to ensure that:

- No form of bribery or corruption is tolerated.
- Strong internal controls to avert any form of corruption are put in place at all times.
- All employees avoid any activities that might lead to or suggest a conflict of interest with the business of the Corporation.
- Employees declare gifts accepted or offered which will be subjected to managerial review.
- A strong corporate governance framework which encompasses accountability, transparency, participation, equality, rule of law, capacity and competence and responsiveness to people's needs is consistently embraced.
- Immoral behaviour, favouritism, discrimination and nepotism are not tolerated.
- All corruption cases reported by any employee are handled expeditiously and fairly.
- The protection of the identity of persons making corruption disclosures and also take all possible actions to protect individuals subject to unfair or malicious allegations.
- For disciplinary cases, the process as detailed in the HR Policy will be followed.
- Staff are continuously sensitized and trained on matters of ethics and integrity once every year.

This Policy document shall be reviewed from time to time at such intervals as management may determine.

DR. HILLARY WACHINGA,

MANAGING DIRECTOR

DATE: 18/5/2023