

MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

THE COUNTY COMMISSIONER,
ELGEYO MARAKWET COUNTY

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

Procuring Entity: **THE COUNTY COMMISSIONER,**
ELGEYO MARAKWET COUNTY
P.O. BOX 200-30700
ITEN
Telephone: **.....**
Website: **.....**
E-mail: **.....**

Project Name: **PROPOSED CONSTRUCTION AND COMPLETION OF OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.**

Project No.: .....

Invitation to Tender (ITT) No.: .....

Prepared By: County Public Works Officer
State Department for Public Works
P.O. Box 312-30700
ITEN

CLOSING/OPENING DATE: .....

OCTOBER, 2026

PROPOSED CONSTRUCTION AND COMPLETION OF OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.

TENDER DOCUMENTS

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MINISTRY OF INTERIOR AND NATIONAL ADMINISTRATION

THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.

TENDER DOCUMENT

Supplied as part of the Contract No. **.....**

Issued by: -

County Public Works Officer
State Department for Public
Works P. O. Box 312-30700
ITEN

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

.....	.....
Contractor	**The County Commissioner, Elgeyo Marakwet County**
Date:	Date: .....

SPECIAL NOTES

The Contractor is required to check the numbers of the pages of these Tender Documents and should he find any missing or in duplicate or figures indistinct he must inform the Project Manager Ministry of Transport, Infrastructure, Housing And Urban Development, Nairobi, Department of Land, Housing and Physical Planning, Nairobi at once and have the same rectified. Should the Contractor be in doubt about the precise meaning of any item or figure for any reason whatsoever, he must inform the Project Manager Ministry of Transport, Infrastructure, Housing And Urban Development, Nairobi in order that the correct meaning may be decided before the date for submission of tenders. No liability will be admitted nor claim allowed in respect of errors in the Contractor's Tender due to mistakes in the Specification, which should have been rectified in the manner, described above.

SIGNATURE PAGE AND NOTE

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REPUBLIC OF KENYA

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

1) NAME AND CONTACT ADDRESSES OF PROCURING ENTITY

   Name: **THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY**
   Address: **P.O. BOX 200-30700 ITEN**

   Email address…….

2) Invitation to Tender (ITT) No:

3) Tender Name: **PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY**

INVITATION TO TENDER

PROCURING ENTITY: THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

CONTRACT NAME AND DESCRIPTION: Proposed Construction and Completion of an Office Block For The County Commissioner at ITEN, Elgeyo Marakwet County. The time for completion is TO BE DETERMINED BY THE PROJECT MANAGER

1. **THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY** invites sealed tenders for the construction of the ***PROPOSED CONSTRUCTION AND COMPLETION OF OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.***
2. Tendering will be conducted under open competitive method **National** using a standardized tender document. Tendering is open to **all qualified and interested NCA 3 and above Tenderers**.

3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours ***0900 to 1700 hours*** at the address given below.

THE COUNTY COMMISSIONER,
ELGEYO MARAKWET COUNTY
P.O. BOX 200-30700
ITEN

4. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non- refundable fee of Kshs. 1,000.00 in cash or Banker's Cheque and payable to the address given below. Tender documents may be obtained electronically from the Website(s) PPIP Website .Tender documents obtained electronically will be free of charge

5. Tender documents may be viewed and downloaded for free from the website Public procurement information Portal (PPIP) tenders.go.ke. Tenderers who download the tender document must forward their particulars immediately to …….. 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 156 days from the date of opening of tenders.

7. All Tenders must be accompanied by a tender Security of **Kenya Shillings Four Million, Five Hundred Thousand (4,500,000.00).00** valid for a period of 156 days issued by recognized financial institution CBK or insurance companies listed by PPRA and registered by IRA.

8. The Tenderer Shall Chronologically and sequentially serialize all pages of their bid document submitted in the format of 1,2,3,4…… From the cover page to the last page including all attachment.

9. Completed tenders must be delivered to the address below on or before ***[As per tender advertisement]***. Electronic Tenders ***will not*** *be* permitted.

THE COUNTY COMMISSIONER,
ELGEYO MARAKWET COUNTY
P.O. BOX 200-30700
ITEN

10. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and times specified later. Tenders will be publicly opened in the presence of 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 <u>obtaining further information and for purchasing tender documents</u>

(1) Name of Procuring Entity: **THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY**

(2) Physical address for hand Courier Delivery to an office or Tender Box (**THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY**).

(3) Postal Address: P.O. BOX 200-30700 ITEN

(4) Insert name, telephone number and e-mail address of the officer to be contacted (**As per tender advert**

B. Address for <u>Submission of Tenders.</u>

1) Name of Procuring Entity: **(THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY).**

2) Postal Address: P.O. BOX 200-30700 ITEN
3) Physical address for hand Courier Delivery to an office or Tender Box **As per tender advert**

C. Address for <u>Opening of Tenders.</u>

1) Name of Procuring Entity: **(THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY).**

2) Physical address for the location: P.O. BOX 200-30700ITEN

THE COUNTY COMMISSIONER,
ELGEYO MARAKWET COUNTY

Name_____

(*Official of the Procuring Entity issuing the invitation)*

Designation _____

Signature _____

Date _____

PART I: 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 in formation that would in that respect give such firm any unfair competitive advantage over competing firms.

3.0 Eligible tenderers

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

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

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 director indirect subsidy from another tenderer;

c) Has the same legal representative as an other tenderer;

d) Has a relationship with an other tenderer, directly or through common third parties, that puts it in a position to influence the tender of an other tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;

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

f) Any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as a consultant for Contract implementation;

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

h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:

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

ii) May be involved in the implementation or supervision of such Contract unless the conflicts temming 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. A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.

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 *"SECTION III - 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 Eligiblegoods, 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 again stall 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 al so 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

9.0 Cost of Tendering

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

10.0 Language of Tender

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

11.0 Documents Comprising the Tender

11.1 The Tender shall comprise the following:

a) Form of Tender prepared in accordance with ITT 12;
b) Schedules including priced Bill of Quantities, completed in accordance with ITT 12 and ITT 14;
c) Tender Security or Tender-Securing Declaration, in accordance with ITT 19.1;
d) Alternative Tender, if permissible, in accordance with ITT 13;
e) ***Authorization****:* written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 20.3;
f) *Qualifications:* documentary evidence in accordance with ITT 17 establishing the Tenderer's qualifications to 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 tender liable for disqualification.

12.0 Form of Tender and Schedules

12.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed 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 Billof 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, and in sufficient 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 be dis 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 incomplete, inaccurate 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). At ender 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 itsTender.

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 writtenvin 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 andtimealsospecifiedinthe **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 TenderDocumentsinaccordance 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 afterith as 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 authorizationtorequestthemodificationandisreadoutatTenderopening.

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 Tendere rand 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 shallnot 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 disqualificationofthetenderasnon-responsive.
b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bidpriceshallbe 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 as pecific group of businesses (these groups are Small and Medium Enterprises, Women Enterprises, Youth Enterprises and Enterprises of persons living with disability, as the case may be), and who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses or firms belonging to the specified group are eligible to tender. No tender shall be reserved to more than one group. If not so stated in the Invitation to Tender and in the Tender documents, the invitation to tender will be open to all interested tenderers.

34.0 Nominated Subcontractors

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

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

34.3 Domestic subcontractor's qualifications shall not be used by the Tenderer to qualify for the Works unless their specialized parts of the Works were previously designated so by the Procuring Entity in the **TDS** 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.

352 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.

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

354 Where the tender involves multiple lots or contracts, the tenderer will be allowed to tender for one or more lots (contracts). Each lot or contract will be evaluated in accordance with ITT 35.2. The methodology to determine the lowest evaluated tenderer or tenderers base done lot (contract) or based on a combination of lots (contracts), will be specified in Section III, Evaluation and Qualification Criteria. In the case of multiple lots or contracts, tenderer will be will be required to prepare the Eligibility and Qualification Criteria Form for each Lot.

36.0 Comparison of tenders

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

37.0 Abnormally low tenders and abnormally high tenders

Abnormally Low Tenders

37.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between 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 otherrequirements 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 Anabnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

37.5 Incase of a nab normally high price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not 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 Procuring Entity shall proceed to the Tenderer who offers a substantially responsive Tender with the next lowest evaluated price to make a similar determination of that Tenderer's qualifications to perform satisfactorily.

40.0 Lowest evaluated tender

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

a) Most responsive to the Tender document; and

b) the lowest evaluated price.

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

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

F. AWARD OF CONTRACT

42.0 Award criteria

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

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

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

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

44.0 Stand still Period

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

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

45.0 Debriefing by The Procuring Entity

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

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

46.0 Letter of Award

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

47.0 Signing of Contract

47.1 Upon the expiry of the fourteen days of the Notification of Intention to enter in to contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

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

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

48.0 Performance Security

48.1 Within twenty-one (21) days of the receipt of the Letter of Award from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.

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

48.3 Performance security shall not be required for contracts estimated to cost less than the amount specified in the Regulations.

49.0 Publication of Procurement Contract

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

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

50.0 Procurement related Complaint

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

SECTION II - TENDER DATA SHEET

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

A. GENERAL	
ITT 1.1	The name of the Contract is: **PROPOSED CONSTRUCTION AND COMPLETION OF OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.** The reference number of the contract is**:** The number and identification of Lots (contracts) comprising this tender are: ***Not applicable*** Lot 1 Name: Lot 2 Name: Lot…Name:
ITT 2.3	The information made available on competing firms is as follows: 1. The Bids are to be submitted Manually
ITT 2.4	The firms that provided consultancy services for the contract being tendered for are: **STATE DEPARTMENT FOR PUBLIC WORKS**
ITT 3.1	The maximum number of members in a Joint Venture (JV) shall be: ***THREE (3)***

B. Contents of Tender Document	
ITT 7.1	***(i)*** The Tenderer will submit any request for clarifications in writing at the Address: ***As indicated in the tender advertisement*** To reach the Procuring Entity not later than ***as indicated in the tender advertisement*** ***(ii)*** The Procuring Entity shall publish its response at the website ***as indicated in the tender advertisement***
ITT 7.2	***(A)*** A pre-arranged pretender site visit *[insert "shall" or "shall not"]* take place at the following date, time and place: ***As indicated in the tender advertisement*** Date:_____ Time:_____ Place: _____ ***(B)*** Pre-Tender meeting *[insert "shall" or "shall not"]* take place at the following date, time and place: ***As indicated in the tender advertisement*** Date:- Time:_____ Place:
ITT 7.3	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than ***as indicated in the tender advertisement*** 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: ***as indicated in the tender advertisement***
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is: Name of Procuring Entity: **THE COUNTY COMMISSIONER , *ELGEYO MARAKWET COUNTY*** (1) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) ***As indicated in the tender advertisement*** Postal Address ***P.O. BOX 200-30700, ITEN*** ***(2)*** Insert name, telephone number and e-mail address of the officer to be contacted: ***As indicated in the tender advertisement***
C. Preparation of Tenders	
ITT 11.1 (h)	The Tenderer shall submit the following additional documents in its Tender: ***The list of additional documents is as per the evaluation criteria.***
ITT 13.1	Alternative Tenders **shall not** be considered.
ITT 13.2	Alternative times for completion ***shall not be*** permitted.
ITT 13.4	Alternative technical solutions shall be permitted for the following parts of the Works: ***Not applicable***
ITT 14.5	The prices quoted by the Tenderer shall be: ***Fixed***
ITT 15.2 (a)	Foreign currency requirements ***not allowed.***
ITT 18.1	The Tender validity period shall be ***One Hundred and Fifty Six (156)*** days.
ITT 18.3	(a) The Number of days beyond the expiry of the initial tender validity period will be **Thirty (30)** days. (b) The Tender price shall be adjusted by the following percentages of the tender price: *(i)* By *Not applicable %* *the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and*

	(ii) By Not applicable % 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 either be *Cash, Bank guarantee, Insurance company registered and licensed by IRA, guarantee issued by a financial institution approved and licensed by CBK* in the amount of ***Kenya shillings Four Million, Five Hundred Thousand (4,500,000.00)*** in the prescribed format **valid for 156 days** from the tender opening date. Bidders will be required to submit an original tender security together with the tender document.
ITT 20.1	In addition to the original of the Tender, the number of copies is: ***None***
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of ***Delegated Authority through Power of Attorney certified by a Commissioner of Oaths***.
D. Submission and Opening of Tenders	
ITT 22.1	(A) For Tender submission purposes only, the Procuring Entity's address is: **(1)** Name of Procuring Entity: ***THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY*** ***(1)*** Postal Address: ***P.O. BOX 200-30700, ITEN*** ***(2)*** Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room) ***As indicated in tender advertisement*** ***(3)*** Date and time for submission of Tenders: ***As indicated in tender advertisement*** (4) Tenders shall **shall not submit** tenders electronically.
ITT 25.1	The Tender opening shall take place at the time and the address for Opening of Tenders Provided below: ***As indicated in the tender advertisement*** (1) Name of Procuring Entity: (2) Physical address for the location (City, Street, Building, Floor Number and Room) (3) State date and time of tender opening.
ITT 25.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below *[insert a description of the electronic Tender opening procedures}:* ***NOT APPLICABLE***
E. Evaluation, and Comparison of Tenders	
ITT 30.3	The adjustment shall be based on the ***"average"*** price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.
ITT 31.2	The error shall be considered a major deviation that leads to disqualification of the tender if the percentage of the error (error over the tender price quoted) is: **More than 0%** of the Quoted Sum.
ITT 32.0	The currency that shall be used for Tender Evaluation and comparison purposes to convert at the selling exchange rate all Tender prices expressed in various currencies into a single currency is Kenya Shillings
ITT 33.2	A margin of preference ***shall not*** apply.
ITT 33.4	The invitation to tender is extended to the following group that qualify for Reservations ***Not applicable***
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's may propose subcontracting: Maximum percentage of subcontracting permitted is: 25 % *of the total contract amount.* Tenderers planning to subcontract more than 2% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.
ITT 34.3	The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows: ***ELECTRICAL WORKS*** ***MECHANICAL WORKS*** For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.
ITT 35.2 (e)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 48.1	Other documents required in addition to the Performance Security are: 1. All the requisite Insurances 2. Program of Works / Progress Chart
ITT 48.2	Additional requirements are: **Not applicable**
ITT 49.1	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: ***As indicated in the tender advertisement*** For the attention: *[insert full name of person receiving complaints}* Title/position: *[insert title/position}* Procuring Entity: *[insert name of Procuring Entity]* Email address: *[insert email address}* In summary, a Procurement-related Complaint may challenge any of the following (among others): (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award thecontract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1.0 GENERAL PROVISIONS

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

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

a) For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

b) Value of single contract - Exchange rate prevailing on the date of the contract signature.

(c) Exchange rates shall be taken from the publicly available source identified in the ITT 14.3. Any error in determining the exchange rates in the Tender may be corrected by the Procuring Entity.

1.2 EVALUATION AND CONTRACT AWARD CRITERIA

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

2.0 PRELIMINARY EXAMINATION FOR DETERMINATION OF ESPONSIVENESS

The Procuring Entity will start by examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Procuring Entity's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded. The Standard Tender Evaluation Report for Goods and Works for evaluating Tenders provides clear guidelines on how to deal with review of these requirements. Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

EVALUATION AND QUALIFICATION CRITERIA

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

1. Preliminary examination
2. Technical Examination.
3. Financial Evaluation.
4. Recommendation for award
5. Post qualification: Due diligence

A. PRELIMINARY EVALUATION

The Following is the Preliminary / Mandatory Evaluation Criteria

S/No	CRITERIA / MANDATORY REQUIREMENTS FOR MAIN CONTRACTOR
MR1	Dully filled and signed form of tender prepared in accordance with ITT 12
MR2	Provide proof of registration with the National Construction Authority **(NCA) category 3 and above** under builders works category with valid current annual contractors practicing license
MR3	Submission of Original in the format required by the procuring entity and all the tender document to be **BOUND**
MR4	Properly bound (perfect cover, hard cover or case bound), paginated, **serialized tender document** (each page of the tender submission must have a number and the numbers must be in chronological order). **For pagination, Arabic Numerals shall be used, i.e. 1,2,3,4,5,6,7,8,9,10…..n** (n being the last numerical page of the tender document)
MR5	Original Tender Security in accordance with ITT 19.1;.
MR6	Provide proof of power of attorney (of tender signatory if not director of the company/ partner, signed and stamped by Commissioner of Oaths)
MR7	Valid Copy of Certificate of Incorporation/ Registration. (Certified by a Commissioner of Oaths)
MR8	Valid Current Tax Compliance Certificate
MR9	Dully filled, signed and stamped Confidential Business Questionnaire
MR10	Valid Copy of Current Business permit from county government authorizing the said tenderer to conduct business
MR11	Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 1 year) and National Identity Card(s) for all directors of the company, Sole Proprietorship or Partnership
MR12	Confirmation of business premises or workshops with evidence of valid lease agreements or office ownership documents.
MR13	Contractor must provide Programme of Works and Work Methodology
MR14	Letter of authority to seek references from the Tenderer's bankers.
MR15	Must fill and submit the Certificate of Independent Tender Determination in the format provided
MR16	The tenderer SHALL provide the latest Audited financial reports for the last 3 years signed by a certified public accountant and company directors. Submit Valid ICPAK Practicing License of the certified public accountant
MR17	Must fill and submit the Self-declaration form that the person/tenderer is not debarred in the matter of the Public Procurement and Asset Disposal Act 2015 in the format provided **- Form SD1.**
MR18	Must fill and submit the Self-declaration that the person/tenderer will not engage in any corrupt or fraudulent practice in the format provided **- Form SD2**
MR19	Must fill and submit the Beneficial Ownership Disclosure Form in the format provided **- Form No.9**
MR20	Must fill and submit Declaration and Commitment to The Code of Ethics in the format provided - **Form SD3**
MR21	Domestic Contractor's Agreement- A duly signed and stamped Agreement dated within the period of tender for this works between the Main contractor and the **a) Electrical Installation works subcontractor** **b) Mechanical Installation works subcontractor** Stating that if the main contractor is awarded the contract, he shall work with the firms as their domestic subcontractors The agreement must be witnessed by an attorney/advocate (Not necessary if the main contractor is registered for specialist work)

S/No	CRITERIA / MANDATORY REQUIREMENTS FOR ELECTRICAL WORKS
MR1	Provide proof of registration with the National Construction Authority **(NCA) for the following** with valid current annual contractors practicing license (Verifiable);- **Electrical: NCA 6 and Above**
MR2	Valid Copy of Certificate of Incorporation/ Registration. (Certified by a Commissioner of Oaths)
MR3	Valid Current Tax Compliance Certificate
MR4	Valid Copy of Current Business permit from county government authorizing the said tenderer to conduct business
MR5	Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 1year) and National Identity Card(s) for all directors of the company, Sole Proprietorship or Partnership
MR6	Electrical - Current Class of Licenses with Energy and Petroleum Regulatory Authority (EPRA) category C2 and above
MR7	Confirmation of business premises or workshops with evidence of valid lease agreements or office ownership documents.

S/No	CRITERIA / MANDATORY REQUIREMENTS FOR MECHANICAL WORKS
MR1	Provide proof of registration with the National Construction Authority **(NCA) for the following** with valid current annual contractors practicing license (Verifiable);- **Mechanical: NCA 5 and Above**
MR2	Valid Copy of Certificate of Incorporation/ Registration. (Certified by a Commissioner of Oaths)
MR3	Valid Current Tax Compliance Certificate
MR4	Valid Copy of Current Business permit from county government authorizing the said tenderer to conduct business
MR5	Submission of valid CR12 form showing the list of directors /shareholding (issued within the last 1year) and National Identity Card(s) for all directors of the company, Sole Proprietorship or Partnership
MR6	Plumber and Drain Layer Licence
MR7	Confirmation of business premises or workshops with evidence of valid lease agreements or office ownership documents.

Clarification/confirmation, if necessary, to confirm authenticity/compliance of any condition of the tender by the Employer shall be conducted.

Category	**Bidder 1**	**Bidder 2**	**Bidder n**
Builder's – Main Works			
Electrical Works			
Mechanical Works			
Remarks	**MET or NOT MET**	**MET or NOT MET**	

NB: The tenderers who do not satisfy any of the above requirements shall be considered non-Responsive and their tenders including those of their subcontractors will not be evaluated further.

B. TECHNICAL EVALUATION

The following is the technical qualification requirement – The Tenderer to also refer to the Qualification form

i) Evaluation technical

S/No	Requirement	Comment
1	Copies of the following documents as proof of access to liquid assets of not less than **Kshs.300 Million** or capacity to have a minimum cash flow of **Kshs 300 million**. This shall be evidenced by any of the following: 1. Letter showing line of credit from an approved financial institution specific to this project and indicating the amount available. 2. Overdraft facility from a commercial bank specifically for this project and indicating the amount to be availed. 3. Current bank statement for the last six months 4. Or a combination of the above	Must Meet
2	Average annual turnover of not less than **Kshs.900 Million** for the last three consecutive years as demonstrated by the submitted Audited Accounts for the years (2023, 2024 and 2025).	Must Meet
3	**Company past works experience in the last 5 years** Proof of **at least Three (3) similar** works in general building works, of similar magnitude, nature and complexity costing not less than Kshs**. 200** million **(Kenya Shillings Two Hundred Million)** on average previously undertaken in the last **Five** years (2021 to date) Proof of **at least Three (3) similar** works in mechanical works, of similar magnitude, nature and complexity costing not less than Kshs**. 20** million **(Kenya Shillings Twenty Million)** on average previously undertaken in the last **Five** years (2021 to date) Proof of **at least Three (3) similar** works in electrical works, of similar magnitude, nature and complexity costing not less than Kshs**. 15** million **(Kenya Shillings Fifteen Million)** on average previously undertaken in the last **Five** years (2021 to date) ***(If builders work had evidence of electrical and mechanical works the condition will suffice)*** Bidder shall attach copies of the following: 1. Letters of Award and, 2. Signed Contract and Completion Certificate for the respective projects, and 3. Recommendation letters from clients If project is ongoing, it must be at least 70% complete. Bidder to attach copies of interim payment certificates for the ongoing projects.	Must Meet
4	**Equipment and Machinery** Must demonstrate access to the following key minimum equipment (invoices, receipts, leased or hire agreement) necessary to undertake the work; 1. Lorries / Tippers – Three (3) 2. Pick Ups – Two (2) 3. Concrete Mixer – One (1) **Notes** • If the equipment is owned, must provide **CLEAR** copies of log book or proof of ownership; • If equipment is hired or leased Provide a commitment letter from the lessor of the equipment addressed to the ***County Commissioner, Elgeyo Marakwet County;*** **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	Must Meet

S/No	Requirement	Comment
	list of equipment and their corresponding copies of log books or proof of ownership by lessor; The equipment listed shall be available on site when required	
5	**Work Plan and methodology** The firm should provide a logical, well-structured work plan consistent with the time frame for the completion and demonstrate: a. Understanding of the Scope of Construction of Building and civil works. (Detailed Write up) and Methodology clearly indicating how to execute the works b. Logical Work plan that clearly indicate time-frames and deliverable indicating all the elements.	Must Meet
6	**Qualifications and technical experience of site personnel to manage and execute the works on the site.** **Bidders shall submit the following documents which shall be certified by the employer as true copies of the original to be used for evaluation:** • Copies of academic certificates • Copies of professional certificates • Copies of current practicing license **Director of the firm.** 1. Qualification in any of construction related field with degree/diploma/certificate in any field. **Project Manager – 1No.** 1. Bachelors in any of the following: Architecture, Quantity Surveying, Construction Project Management/Building Construction or Engineering field. 2. General Experience – Minimum **Five (5)** years. 3. Specific experience on Construction of building works – **3 years.** **Site Agent – 1No.** 1. Higher Diploma in Building and Construction related field. 2. General Experience – Minimum **Five (5)** years. **Site Foreman – 1No.** 1. Diploma in relevant field. 2. General Experience – Minimum **Three (3)** years. **Technician – 2No. for; Building Works** 1. Trade Test/ Craft Certificate in in relevant field. General Experience – Minimum **Three (3)** years. **Technician – 2No. Electrician** 1. Diploma holder in the specific field: Electrical Engineering field. 2. General Experience – Minimum **Five (5)** years. 3. Specific experience on Construction of building works – **3 years.** 4. Electrician to have valid EPRA license **Technician – 2No. Plumber** 1. Diploma holder in the specific field: Mechanical Engineering field. 2. General Experience – Minimum **Five (5)** years. 3. Specific experience on Construction of building works – **3 years.** 4. Electrician to have valid Plumber and Drain layer Licence	Must Meet

Item No.	Qualification Subject	Qualification Requirement	*Document To be Completed by Tenderer*	*For Procuring Entity's Use (Qualification met or Not Met)*
7	Nationality	Nationality in accordance with ITT 3.6	Forms ELI - 1.1 and 1.2, with attachments	
8	Conflict of Interest	No conflicts of interest in accordance with ITT3.3	Form of Tender	
9	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender	
10	State- owned Enterprise	Meets conditions of ITT 3.8	Forms ELI - 1.1 and 1.2, with attachments	
11	Goods, equipment and services to be supplied underthe contract	To have their origin in any country that is not determinedineligible under ITT 4.1	Forms ELI - 1.1 and 1.2, with attachments	
12	History of Non-• PerformingContracts	Non-performance of a contract did not occur as a result ofcontractor default since **1st January 2015.**	Form CON-2	
13	Suspension Based on Execution of Tender/ProposalSecuring Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT19.9	Form of Tender	
14	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT beresolved against the Tenderer.	FormCON-2	

NB: The tenderers who do not satisfy any of the above requirements shall be considered non-Responsive and their tenders including those of their subcontractors will not be evaluated further.

C. FINANCIAL EVALUATION

Upon completion of the technical evaluation a detailed financial evaluation shall follow. The financial evaluation shall proceed in the manner described in the Public Procurement and Disposal Act (2015) of the laws of Kenya and the Public Procurement and Disposal Regulations, 2020.

The financial evaluation shall be in **three stages;**

a) Checking for arithmetic errors
b) Comparison of Rates; and
c) Consistency of the Rates.

A) Arithmetic errors

Arithmetic Errors will be corrected 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 in the Form of Tender shall prevail. Pursuant to section 82 of the Public Procurement and Assect 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) Tenderers with arithmetic errors shall automatically be disqualified and shall not be evaluated further

B) Comparison of rates-

Items that are underpriced or overpriced may indicate potential for non-delivery and front loading respectively. The committee shall promptly write to the tenderer through the Head of Procurement 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 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 te successful tenderer to a level sufficient to protect the employer against potential 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 and note all inconsistencies of the rates for similar items.

No	FINANCIAL EVALUATION	MUST COMPLY
1.	There is no discrepancy between the Figures and Words in the Form of Tender	Must Comply
2.	The BoQ is accurately filled, signed and stamped on every page including the grand summary page	Must Comply
3.	There is no discrepancy between the total in Figures and Words of the BQ grand summary page	Must Comply
4.	The Total Price in the BoQ must be transferred to the Form of Tender. Any discrepancy between the total amount in the BoQ grand summary page and Form of Tender shall lead to automatic disqualification.	Must Comply
5.	Pricing consistency (same rates for similar items,price distribution amongst sections)	Must Comply
6.	Reasonableness of pricing (comparison with prevailing market rates)	Must Comply
7.	Grand Summary filled in the correct format.	Must Comply

The financial evaluation will be based on the **lowest evaluated price**.

Note: Bidders are hereby notified that due diligence shall be carried out on information provided by the bidder. Any false information provided will lead to automatic disqualification irrespective at any stage of the procurement process or contract execution.

3.0 TENDER EVALUATION (ITT 35)

Price evaluation: in addition to the criteria listed in ITT 35.2 (a) – (d) the following criteria shall apply:

(i) Alternative Completion Times, if permitted under ITT 13.2, will be evaluated as follows: ……

(ii) Alternative Technical Solutions for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows:…….

(iii) Other Criteria; if permitted under ITT 35.2(j):

……

4.0 MULTIPLE CONTRACTS

4.1 Multiple contracts will be permitted in accordance with ITT 35.4. Tenderers are evaluated on basis of Lots and a lowest evaluated tenderer identified for each Lot. The Procuring Entity will select one Option of the two Options listed below for award of Contracts.

OPTION 1

(i) If a tenderer wins only one Lot, the tenderer will be awarded a contract for that Lot, provided the tenderer meets the Eligibility and Qualification Criteria for that Lot.

(ii) If a tenderer wins more than one Lot, the tender will be awarded a contract for all won Lots, provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots. The tenderer will be awarded only the combinations for which the tenderer qualifies and the others will be considered for award to second lowest the tenderers.

OPTION 2

The Procuring Entity will consider all possible combinations of won Lots [contract(s)] and determine the combination with the lowest evaluated price. Tenders will then be awarded to the Tenderer or Tenderers in the combination provided the tenderer meets the aggregate Eligibility and Qualification Criteria for all the won Lots.

5.0 ALTERNATIVE TENDERS (ITT 13.1)

An alternative if permitted under ITT 3.1, will be evaluated as follows:

The Procuring Entity shall consider Tenders offered for alternatives as specified in Part 2 - Works requirements. Only the technical alternatives, if any, of the Tenderer with the Best Evaluated Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.

6.0 MARGIN OF PREFERENCE

6.1 If the TDS so specifies, the Procuring Entity will grant a margin of preference of fifteen percent (15%) to be loaded on evaluated prices of the foreign tenderers, where the percentage of share holding of Kenyan citizensis less than fifty- one percent (51%).

6.2 Contractors 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.

6.3 After Tenders have been received and reviewed by the Procuring Entity, responsive Tenders shall be assessed to ascertain their percentage of shareholding of Kenyan citizens. Responsive tenders shall be classified into the following groups:

i) *Group A:* tenders offered by Kenyan Contractors and other Tenderers where Kenyan citizens hold shares of over fifty one percent (51%).

ii) *Group B:* tenders offered by foreign Contractors and other Tenderers where Kenyan citizens hold shares of less than fifty one percent (51%).

64 All evaluated tenders in each group shall, as a first evaluation step, be compared to determine the lowest tender, and the lowest evaluated tender in each group shall be further compared with each other. If, as a result of this comparison, a tender from Group A is the lowest, it shall be selected for the award of contract. If a tender from Group B is the lowest, an amount equal to the percentage indicated in Item 6.1 of the respective tender price, including unconditional discounts and excluding provisional sums and the cost of day works, if any, shall be added to the evaluated price offered in each tender from Group B. All tenders shall then be compared using new prices with added prices to Group B and the lowest evaluated tender from Group A. If the tender from Group A is still the lowest tender, it shall be selected for award. If not, the lowest evaluated tender from Group B based on the first evaluation price shall be selected.

7. POST QUALIFICATION AND CONTRACT AWARD (ITT 39), MORE SPECIFICALLY,

a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.

b) Incase the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.

i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of Kenya Shillings ***150,000,000.00.***

ii) Minimum average annual construction turnover of Kenya Shillings ***450,000,000.00***, equivalent calculated as total certified payments received for contracts in progress and/or completed within the last ***three (3)*** years.

iii) At least ***Three (3)*** of contract(s) of a similar nature executed within Kenya, or the East African Community or a broad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value Kenya shillings ***150,000,000.00*** equivalent.

iv) Contractor's Representative and Key Personnel, which are specified as in the criteria

The Tenderer shall provide details of the Key Personnel and such other Key Personnel that the Tenderer considers appropriate, together with their academic qualifications and work experience. The Tenderer shall complete the relevant Forms in Section IV, Tendering Forms.

v) Contractors key equipment listed on the table "Contractor's Equipment" below and more specifically listed as *[specify requirements for each lot as applicable]*_____

vi) Other conditions depending on their seriousness.

a) **History of non-performing contracts**:

Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that Non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last ***ten (10) years***. The required information shall be furnished in the appropriate form.

b) Pending Litigation

Financial position and prospective long-term profit ability of the Single Tenderer, and in the case theTenderer is a JV, of each member of the JV, shall remain sound according to criteria established with respect to Financial Capability under Paragraph (i) above if all pending litigation will be resolved against the Tenderer. Tenderer shall provide information on pending litigations in the appropriate form.

c) Litigation History

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last ***10 years***. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or on going unde rits execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

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	Description of 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 ITEM			
1				
2				
3				
4				
5				
6				
	TOTAL COST OF LOCAL CONTENT			

	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 fo ralternative equipment proposed by the Tenderer.

<table>
<tr><td colspan="3">Item of equipment</td></tr>
<tr><td rowspan="2">Equipment information</td><td>Name of manufacturer</td><td>Model and power rating</td></tr>
<tr><td>Capacity</td><td>Year of manufacture</td></tr>
<tr><td rowspan="2">Current</td><td colspan="2">Current location</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td></td><td colspan="2">Indicate source of the equipment
☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured</td></tr>
<tr><td></td><td colspan="2">Omit the following information for equipment owned by the Tenderer.</td></tr>
<tr><td rowspan="4">Owner</td><td colspan="2">Name of owner</td></tr>
<tr><td colspan="2">Address of owner</td></tr>
<tr><td>Telephone</td><td>Contact name and title</td></tr>
<tr><td>Fax</td><td>Telex</td></tr>
<tr><td>Agreements</td><td colspan="2">Details of rental / lease / manufacture agreements specific to the project</td></tr>
<tr><td></td><td colspan="2"></td></tr>
<tr><td></td><td colspan="2"></td></tr>
</table>

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:	
	Jobtitle:	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 qualificationsandmyexperience.

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 theTender;
c) result in my dismissal from the contract.

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

Signature:_____

Date: (day month year): _____

Counter signature of authorized representative of the Tenderer:

Signature:_____

Date: (day month year): _____

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

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

5.1 FORM ELI -1.1

Tenderer Information Form

Date:_____

ITT No. andtitle:_____

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

52 FORM ELI -1.2

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

Date:_____

ITT No. andtitle:_____

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-mailaddress: _____
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, a list of Board of Directors, and the beneficial ownership.

53 FORM CON –2

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer'sName:_____Date:_____

JVMember's Name_____ITT No. andtitle:_____

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

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)**				
	Year1	Year2	Year 3	Year4	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*

542 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		

543 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 incase of JV member, and not an affiliated entity (such as parent company or group member).

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

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

d) Correspond to accounting periods already completed and audited.

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

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

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.*

56 FORMFIN–3.3:

Financial Resources

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

Financial Resources		
No.	**Source of financing**	**Amount (Kenya Shilling equivalent)**
1		
2		
3		
4		

57 FORMFIN–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,**	**Valueof 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					

58 FORM EXP -4.1

General Construction Experience

Tenderer'sName:_____ Date:_____

JVMember'sName_____ ITT No. andtitle:_____

Page_____of_____pages

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

59 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

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

Similar Contract No.	**Information**			
Contract Identification				
Award date				
Completion date				
Role in Contract	Prime Contractor ☐	Member in JV ☐	Management Contractor ☐	Sub-contractor ☐
Total Contract Amount			**Kenya Shilling**	
If member in a JV or sub-contractor, specify participation in total Contract amount				
Procuring Entity's Name:				
Address: Telephone/fax number E-mail:				
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)
Yearl			
Year 2			
Year 3			
Year 4			
Procuring Entity's Name:			
Address: Telephone/fax number E-mail:			
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:			

[2] *If applicable*

OTHER FORMS

6. FORM OF TENDER

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

INSTRUCTIONS TO TENDERERS

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

ii) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.

iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (xxii) below.

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

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

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

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

Dear Sirs,

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

The above amount includes foreign currency[2] amount (s) of [*state figure or a percentage and currency*] [figures]_____[words] _____

_____

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

3. We agree to adhereby 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 issuedinaccordance with ITT 28;

ii) Eligibility: We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;

---

[1] *This sum should be carried forward from the Summary of the Bills of Quantities.*

[2] *The percentage quoted above should not include provisional sums, and not more than two foreign currencies are allowed.*

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

Option2, 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 obtaina Performance Security in accordance with the Tendering document;

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

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

xiv) State-owned enterprise or institution: [*select the appropriate option and delete the other*] [*We are not a state- owned enterprise or institution*]/[*We are a state-owned enterprise or institution but meet the requirements of ITT3.8*];

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

Name of Recipient	Address	Reason	Amount

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

xvi) Binding Contract: We understand that this Tender, together with your written acceptance there of 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 personacting 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-Declarationo f 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*]

Datesigned_____dayof_____,_____

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

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

Instruction to Tenderer

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

(a) Tenderer's details

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

General and Specific Details

(b) Sole Proprietor, provide the following details.

Name in full_____Age_____
Nationality_____Country of Origin_____
Citizenship_____

(c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

(d) Registered Company, provide the following details.

I) Private or public Company _____
ii) State the nominal and issued capital of the Company_____

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

iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

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

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

If yes, provide details as follows.

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

(ii) **Conflict of interest disclosure**

	Type of Conflict	Disclosure YES ORNO	If YES provide details of the relationship with Tenderer
1	Tenderer is directly or indirectly controls, is controlled by or is under common control with another tenderer.		
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract Specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

Certification

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

Full Name_____

Title or Designation_____

_____ _____

(Signature) *(Date)*

b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

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

Icertify, 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. Iamthe 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. TheTenderer 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) theTenderer 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, whichevercomesfirst, unless otherwise required byl aw 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 theafore said Bidder, its servants and/oragents/subcontractorswillnotengageinanycorruptorfraudulent practice and has not been requested to pay any inducement to any member of the Board, Management, Staff and/or employees and/or agents of ……. *(insert name of the Procuring entity)* which is the procuring entity.

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

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

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

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

Bidder's Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

(Appendix 1 shall not be modified)

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 conflictofinteresttotheprocuringentity;

7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

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

a) Defines broadly, for the purposes of the above provisions, the terms setf orth 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 is representation, 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 forfraudulent and collusive practices as follows:

"fraudulent practice" includes a misrepresentation of fact in order to influence a procurement or disposal processorthe 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 includee, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and tendering, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.*

[2] *Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/audits, 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.*

2. FORM OF TENDER SECURITY-DEMAND BANK GUARANTEE

Beneficiary:_____

Request forTenders No:

_____

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

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

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

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

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

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

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

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

_____

[signature(s)]

3. FORM OF TENDER SECURITY (TENDER BOND)

[TheSuretyshallfillin this Tender Bond Form in accordance with the instructions indicated.] BOND NO._____

1. BY THIS BOND *[name of tenderer]* as Principal (hereinafter called "the Principal"), and *[name, legal title,and address of surety],***authorized to transact business in** *[name of country of Purchaser],* as Surety (hereinafter called "the Surety"), are held and firmly bound unto *[name of Purchaser]* as Obligee (hereinafter called "the Purchaser") in the sum of *[amount of Bond][amount in words]*,for the payment of which sum,well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and as signs, jointly and severally, firmly by these presents.

2. WHERE AS the Principal has submitted or will submit a written Tender to the Purchaser dated the_____dayof _____, 20, for the supply of *[name of Contract]* (herein after called the "Tender").

3. NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

   a) Has with drawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender ("the Tender Validity Period"), or any extension there to provided by the Principal; or

   b) Having been notified of the acceptance of its Tender by the Purchaser during the Tender Validity Period or any extension there to provided by the Principal;(i) failed to execute the Contract agreement; or (ii) hasfailedtofurnish the Performance Security, in accordance with the Instructions to tenderers ("ITT") of the Purchaser's Tendering document.

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

4. The Surety here by agrees that its obligation will remain in full force and effect upto and including the date 30 days after the date of expiration of the Tender Validity Period set forth in the Principal's Letter of Tender or any extension thereto provided by the Principal.

5. IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this day of_____20.

Principal:_____ Surety:_____
Corporate Seal *(where appropriate)*

_____ _____
(Signature) *(Signature)*
(Printed name and title) *(Printed name and title)*

4. 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 Iam /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

5. Appendix toTender

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*]

PREAMBLES

BILL NO. 1: PREAMBLES

EXCAVATION AND EARTHWORK

Nature of Excavation

A The Contractor must ascertain for himself the nature of the materials to be excavated and price the work accordingly as no allowance will be made beyond the Contract Sum for any alleged ignorance in this respect.

Site Clearance

B. The Contractor shall clear the construction areas within the site of all bushes, roots, brush, boulders, natural obstructions, rubbish and any other natural or artificial obstructions which would interfere with construction of buildings, roads, paths and drains.

C. Clear away all anti/termite hills and nests over the area of the site, excavate for, locate and destroy queens.

D. Treat the cavity formed by the removal of the nest as described hereinafter under "Soil Sterilization" and backfill with approved material well rammed and consolidated in layers not exceeding 300 mm thick.

E. All areas of the site must be thoroughly proofed against rodents and special care must be taken to ensure that no unconsolidated areas are left near banks and ditches.

Commencing Levels

F. Unless specifically stated otherwise the commencing levels for excavation shall be deemed to be existing ground level or underside of reduced level excavation.

G. All measurements are based upon reduced level excavation being executed first and no adjustment will be made should a differing sequence of operations be adopted, unless specifically ordered by the Architect in writing.

Excavations

H. Excavations shall be to the widths and depths indicated the drawings or to such lesser or greater depths as the Architect may deem necessary and so instruct the Contractor in order to obtain satisfactory foundations.

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

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

Bottoms to Excavation

B. The Contractor shall report to the Architect as and when a secure bottom to the excavations has been obtained and the same is ready to receive concrete. Any excess depth unnecessarily excavated below the formation level shall be backfilled with and compacted as directed by the Architect and no payment shall be made for excess excavation or for the fillings & compaction

C. Any concrete or other work put in before excavations have been inspected and approved shall, if so directed, be removed and new work substituted after excavations have been approved all at the Contractor's expense.

D. If so directed, the Contractor shall water and well ram the bottoms of excavations to the satisfaction of the architect.

Measurement of Excavation Work

E. Excavation work is measured net as before digging and the Contractor must allow for increase in bulk after digging.

Trenches for pipes, cables kerbs, etc., other than drain pipes

F. Prices for excavation of trenches for pipes, cables, kerbs, etc., shall include for grading and ramming bottoms to the levels required, all necessary planking and strutting, carefully returning, filling and ramming selected excavated materials and for carting away any surplus materials.

Rock

G. Any rock or other hard materials encountered in excavating to the required depth which, in the opinion of the Architect, can only be removed by wedges or compressor plant shall be paid for as an extra and the price shall include for trimming and levelling. No blasting will be allowed. Hard compacted murram which can be removed by pick will not be classed as rock notwithstanding that the Contractor may decide to remove it by wedges or compressor plant.

H. The Contractor must give notification to the Architect or his representative when such material is encountered and its extent must be agreed with Architect or Quantity Surveyor or their authorised representative before the work is carried out. No allowance will be made for rock excavation unless the foregoing procedure has been followed.

Rates for Excavation

I The rates for excavation shall include for excavating by hand or machine in all types of materials except rock, as previously specified.

A. Excavations for plain concrete foundations have been measured to the **net sizes** required by concrete dimensions.

B. An allowance for working space and formwork has been measured to reinforced concrete foundation, but if the Architect's approval is given to pouring concrete against the face of the excavations these items will be measured and adjusted in the Final Account.

C. The rates for excavation must include for such excavating in all types of ground encountered including sand, murram, hard murram, tree roots and loose boulders.

Levelling

D. No item is measured for levelling and consolidating ground and rates for excavations must include for levelling and preparing the ground for concrete or other works including ramming or rolling.

Disposal of Water

E The Contractor shall keep the excavations free from standing water and silt (or excavated materials softened by water) and he shall include for the cost of pumping, construction of temporary drains, soakaway pits, etc., as deemed necessary to achieve this. An item has been included for this in the Bills of Quantities in each relevant section. The cost of pumping to dispose of any spring or running water has been covered by Provisional Sum. If spring or running water is encountered, the cost of any pumping ordered by the Architect will be paid for in accordance with the Dayworks Schedule.

Planking and Strutting

F. Sides of all excavations must be supported in order to prevent falls from or collapse of the earth face. The term "planking and strutting" is deemed to include any method or methods which the Contractor elects to adopt, uphold, protect and maintain the sides of excavations. The Contractor will be responsible for any consequences of his failure in this respect including clearing away fallen materials and any extra concrete or other works including formwork ordered by the Architect due to such failure. An item has been included in these Bills of Quantities in each relevant section.

Return, Fill in and Ram

G Material returned around foundations externally shall be selected hard, dry excavated materials arising from the excavations free from vegetable soil, roots and rubbish carefully filled in, spread, watered and compacted in layers not exceeding 200 mm thick. Backfilling internally shall be hardcore, or selected hard dry granular materials as above to approval.

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

Cart Away

A. All surplus excavated material, where so directed, and all rubbish is to be removed from the site and the Contractor is to find his own dump and pay all charges.

Approval Before Filling

B. No fill materials shall be placed before approval has been given by the Architect for filling to begin.

Measurement of Filling Generally

C. Filling is measured net as after consolidation.

Earth Filling

D. Levels specified to be made up with surplus soil, etc., are to be filled in with selected soil free from vegetable growth to the approval of the Architect and is to be laid in layers not exceeding 200 mm thick, each layer to be levelled, well rammed and consolidated and watered if necessary.

Hardcore Filling

E. Hardcore shall consist of clean hard broken stone or rubble graded to pass in all directions a 100 mm ring with sufficient sand added to fill the interstices. The hardcore shall be well packed, rammed and where possible, rolled with a heavy roller. Where rolling is impossible compaction shall be by hand or by mechanical tampers. Before any concrete is laid on hardcore, the hardcore shall be levelled and blinded with sand, rolled and well watered through a sprinkler rose.

Borrow Pits

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

Soil Sterilization

G. Anti-termite treatment is to be carried out using one of the chemicals below and the Contractor will be required, upon completion of the soil sterilization, to furnish a written guarantee certifying the following:-

(a) That the chemicals applied comply with the requirements specified herein for chemical concentration and rates of application.

(b) That the treatment will remain effective against termite infestation for a period of five years.

(c) Application shall not be done whilst its raining or to surface of filling which are wet, and strictly in accordance to manufacturer's instructions

Soil Sterilization

A. The chemicals used shall be one of the following:-

5 Termicide A; 1 part to 45 parts water
7 Pentachlorophenol; 5% in oil solution
8 Trichlorobenzene; 1 part to 3 parts oil

B. Some of the chemicals listed above are toxic to animals and plant life and must, therefore, be applied only with caution by an experienced person. Where individual water supply systems are proposed, precautions must be taken to prevent infiltering and endangering the water supply. Treatment shall not be made when soils or fill is excessively wet or immediately after heavy rains.

C. Precautions must also be taken to prevent disturbance of the treatment by animals or human contact with the treated soil. The treated areas are to be covered as quickly as possible after treatment.

D. The rate of applications is to be 7 litres per square meter and the areas measured include those under floor and around wall and column foundations.

CONCRETE WORK

Code of Practice for Reinforced Concrete Work

A. All workmanship, materials and tests in connection with reinforced concrete work are to be conformity with B.S. Code of Practice B S 8110 : 1985 - The Structural Use of Concrete.

Generally

B. A competent person shall be employed whose first duty it will be to supervise all stages in the preparation and placing of concrete. All cubes shall be made and site tests carried out under his direct supervision.

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

D. No materials shall be stored or stacked on suspended floors without the Engineer's prior approval.

Samples

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

Cement

F. Cement used shall be ordinary Portland cement and shall be obtained only from manufacturers approved by the Engineer, and shall comply in every respect with B.S. 197-1. The Contractor at his own expense may use rapid hardening Portland Cement (to B.S. 197-1) in order to speed up progress of the Works. If rapid hardening Portland Cement is used, the prior approval of the Engineer shall be obtained in writing.

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

Cement Storage

H. The cement must be delivered in the manufacturer's sealed and branded bags and stored separately in dry, water-tight stores with their floors raised above ground level and shall be at all times carefully protected from moisture.

J The cement shall be stored in such a way that each consignment may be identified and used in the order of its delivery. Cement may be delivered in bulk containers provided additional suitable arrangements are made for bulk storage on site to the approval of the Engineer.

Inferior Cement

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

Aggregate

B. Aggregates shall be granite or other equal and approved obtained from an approved source and shall comply with B.S. 1260. They must be chemically inert, strong, hard, durable, free from adhering coating, salts, organic or other impurities and shall be washed or screened as directed.

Fine Aggregate and Sand

C. Fine aggregate and sand shall be clean, sharp, coarse, hard siliceous materials and equal at all times to the samples which shall be deposited with and approved by the Architect or Engineer. It shall comply with the requirements of B.S. 1260, Table 2, Zones 1,2 or 3. The caustic soda tests for organic impurities shall show a colour not deeper than that of the standard solution. The settling test for natural sand shall be made and after being allowed to settle for three hours the layer of silt deposit on the coarse materials shall not exceed 10% for crushed stone and 3% for natural sand or crushed gravel.

D. The Contractor shall supply all necessary equipment for testing of fine aggregate and sand for use of the Clerk of Works.

Coarse Aggregates

E. Coarse aggregates shall be granite from approved quarries, clean, free from earth and extraneous matter, and shall conform to B.S. 1260. The amount of fine particles occurring in a free state or as loose adherent shall not exceed 1% when determined by the laboratory sedimentation test.

F. After twenty-four hours in water, a previously dried sample shall not gain more than 1`0% in weight for crushed stone or 3% for natural sand or crushed gravel

G. The four nominal aggregate sizes shall be 40 mm (1.5"): 20 mm (.75"): 10 mm (3/8"): 6 mm (1/4") : and the grading when analyzed as described in B.S. 812 shall be within the limits given in B.S. 1260.

Aggregate Storage

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

B. The materials shall be stored on a timber or concrete floor and the piles shall be as large as possible, flat topped and drained.

Water

C. All water used on the Works shall be clean, free from earthy vegetable and organic matter and from acidic and alkaline substances in suspension or solution. It shall preferably be obtained from the water mains of the Ministry of Water and Energy Department or Water Authority and shall be stored in proper water storage tanks to the approval of the Architect or Engineer. Any approved water shall be tested in accordance with B.S. EN 1008.

Admixtures

D. Admixtures of any kind for accelerating the setting of cement, plasticiser, hardeners, water proof etc., shall be used only if approved or specified by the Architect or Engineer.

Proportion of Concrete Mix

E. The quantity of cement shall be measured by weight and each batch of concrete is to use one or more whole bags. The quantity of fine aggregate and coarse aggregate shall be measured separately by weight in an approved weight batching plant. Volume mixing will not be permitted. The weight of damp aggregates must be adjusted to take into account the weight of water in the aggregates, and must be adjusted to take into account the weight of water in the aggregates, and this in turn will affect the amount of water to be added into the mix.

F. Throughout the carrying out of the Contract "Work Tests" are to be made from concrete drawn from newly laid concrete or concrete about to be placed in position, such cubes being made when directed by the Clerk of Works and in his presence. Such cubes shall be made in 150 mm or six inch cube steel or cast from mould and shall be marked and cured strictly in accordance with Appendices of the Code of Practice, and shall be forwarded carriage paid in time for testing at the required age to a testing laboratory to be nominated by the Architect or Engineer.

G. Six cubes shall be made on each occasion, and cured in compliance with B.S. 1881 Part 3, 1983 concrete for each cube being from a difference batch. Three cubes shall be forwarded in time for testing at the age of seven days from casting and three cubes in time to testing in twenty-eight days. Each cube shall be marked with the date of casting and a distinctive reference number in accordance with a system agreed by the Engineer. A record shall be kept of the position from which the concrete for each set of cube was drawn, or to which it was about to be placed.

Concrete Work Cont'd

A. At least three sets of six cubes shall be cast during each week concrete is being cast including sets of cubes for each quality of concrete used during the period.

B. Concrete is required to have the properties and give the strength in Newtons per square millimetre as set out in the table below which is to be considered as the minimum standard that will be accepted in the finished Works.

C. The workability of the fresh concrete should be such that concrete is suitable for handling, placing and compaction so that it surrounds the reinforcement, tendons and ducts and completely fills the formwork.

Grade	Quality	Maximum size of coarse agregate	Maximum Water Cement Ratio by weight of Aggregate	Minimum Crushing Strength of Works Test Cubes	
				7 days	28 days
30	1:1:2	20	0.45	30	36
25	1:1.5:3	20	0.55	21	26
25	1:1.5:3	10	0.55	21	26
20	1:2:4	20	0.60	14	21
20	1:2:4	10	0.60	14	21
15	1:3:6	10	0.60	-	12
10	1:3:6	10	0.60	8	10
7	1:4:8	40	0.60	-	7
-	1:10	All in Agregate		-	-

D. If the strengths required in the table are not attained and maintained throughout the carrying out of the Contract, the Contractor will be required to increase the proportion of cement or substitute better aggregate at his own cost so as to give concrete which does comply with the requirements of this Clause. 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 the Works Cube Tests.

Unsatisfactory Concrete Work

E. Should in the opinion of the Engineer any of the results of the specified tests of concrete or materials be unsatisfactory, the Engineer may order the work to be stopped pending his further instructions. Executed work for which test cubes are unsatisfactory shall be liable to rejection and, if so directed by the Engineer, the work represented by the tests shall be cut out and re-executed at the Contractor's expense.

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

B. In the event of the results of the twenty-eight day Works Cube Tests proving unsatisfactory, the work represented shall be immediately liable to rejection. The Contractor may, however, be given the option of cutting three specimens from the completed work subject to the direction of the Engineer, and preparing therefrom test cubes or cores Tests in accordance with the requirements of Part 4 of B.S. 1881 Part 3, 1983.which shall be sent to the Testing Laboratory for testing as for Works Cube

C. Should the average strength of these specimens attain the specified minimum twenty-eight day strength, the work will, subject to the Engineer's discretion be accepted. Alternatively, the Engineer may instruct the Contractor to make a loading test as described hereinafter. The cost of all cutting, preparation of specimens, testing and making good the portions of the structure affected, shall be borne by the Contractor. The cost of all delays on site due to concrete not attaining the desired strength, or caused by investigation of defects, cutting away and making good, shall be entirely the Contractor's responsibility.

Structural Test

D. If, in the Engineer's opinion, there is a doubt as to the strength of a structure, solely or in part, for the reason that the site-made concrete cubes fail to attain the specified fail, the Contractor shall be reimbursed for the cost of the test. If the result of the test is not satisfactory, the Contractor shall bear the cost of the test and the cost of correcting any defects in accordance with the instructions of the Engineer.strength, or because of one or more circumstances attributable to alleged negligence on the part of the Contractor to make a loading test on the Works or any part thereof. The nature of the test and the loading shall be in accordance with Clause 605 of C.P. 114. If the result of the test is satisfactory, except where the test has been made because test cubes

Formwork

E. The formwork shall be so constructed as to remain sufficiently rigid during the placing compaction of the concrete and shall be sufficiently tight to prevent loss of liquid from the concrete. Vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without injury. All rubbish, chippings, shavings and sawdust shall be removed from the interior of the forms before the concrete is placed, and suitable washout holes shall be provided to facilitate this, and the formwork in contact with the concrete shall be clean and thoroughly wetted and treated with the approved mould oil. Care shall be taken that such oil is kept out of contact with the reinforcement and shall be used a sparingly as possible. In no circumstances shall forms be struck until the concrete reaches a cube strength of at least twice the stress to which the concrete may be subjected at the time of striking, and in any case the minimum permissible times shall be as follows:-

Vertical sides of wall and columns	2 days
Sides of beams and lintels	2 days
Soffits of slabs (Subject to retention of props until 21 days	14 days
Soffits of beams and lintels (Subject to retention of props until 21 days)	14 days

A. No formwork is to be removed if, in the opinion of the Engineer, the concrete has not hardened sufficiently. Approval of the Engineer shall not relieve the Contactor of his liability to make good any concrete which may be damaged by premature removal or collapse of forms. Notwithstanding any other clauses in this specification the responsibility for the safe removal of the formwork rests with the Contactor.

B. All formwork shall be removed without such shock or vibration as would damage the reinforced concrete.

C. Forms shall be true to lines and levels and braced and strutted to prevent deformation.

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

E. Concrete shall not be poured in horizontal layers to a depth exceeding 1500 mm in formwork, except where prior approval of the Engineer has been obtained.

F. Formwork is measured to the actual net surface of the concrete to be supported and the Contractor shall allow in his prices for any waste, fixing at the various levels, straight cuttings, splayed edges, notchings, fillets to form chamfered arises, extra materials, joints, overleaves for angles, extra labour for narrow widths and small quantities, props, stays, struts, hangers, brackets, edges, wiring, bolts, and everything necessary to keep all quite firm and rigid, and any other labour and materials necessary to fix, ease, adjust and remove the formwork as described.

Normal Finish to Faces of Structural Concrete

G. After removal of shuttering, unless instructed to the contrary, the face of exposed concrete is to be rubbed down immediately to remove fins or other irregularities. In the event of parts of the concrete being honeycombed, such portions are to be cut to a depth and shape required by the Engineer and made up with fine concrete of equal quality in such a manner as shall be directed. The face of concrete for which shuttering is not provided, other than slab, is to be smoothed with a wooden float to give a finish equal to that of the rubbed-down surface where shuttering is provided. The top face of a slab which is to not intended to cover with other materials is to be levelled and floated before setting to a smooth finish at the level or falls shown on the drawings or elsewhere. The floating must be carried out in such a way as will prevent an excess or mortar being brought to the surface of the concrete. The top face of a slab intended to be surfaced with mortar, granolithic, or similar materials is to be brushed with a stiff broom while still green to remove any laitence © and to provide a roughened surface.

Fairfaced Concrete

A. Where so described or measured, faced of concrete shall be finished fair by means of formwork lined with approved waterproof plywood so as to produce a perfectly true surface and shall have all imperfections in the concrete face cut out, made good in cement mortar and rubbed down with carborundum stone and finally bag rubbed with cement slurry to finish to a high standard without trace of shuttering marks, joints or other disfigurements.

Wrought Boarded Face Formwork to give a Board Mark Finish

B. Where so described or measured, faces of concrete shall be finished fair by means of 100 mm or 150 mm (nominal) width tongued and grooved boarding of 25 mm (minimum) thickness.The edges of all boards shall be nominal 2 mm chamfer to form controlled fins.

C. Such formwork to column faces shall be of continuous length boards between construction joints.

D. End joints will be permitted to beams faces, etc., and shall be tongued, staggered and well distributed.

E. All imperfections shall be cut out and made good in concrete of equal quality.

F. The resulting concrete shall show grain and individual board marks, be free from honeycombing and excessive air holes, of uniform colour and to the entire satisfaction of the Engineer.

Wall Ties

G. Where blockwalls abut columns or solid concrete walls two 6 mm diameter steel reinforcing bar ties are to be cast into the concrete at vertical intervals of 400 mm. Ties to be 300 mm long and project 150 mm into blockwork.

Holes, Pipes Etc.

H. The Contractor shall be responsible for the co-ordination with sub-contactors for incorporating any electrical conduits pipes, fixing blocks, chases, holes, etc., in the concrete members as required. The Contractor shall submit full details of these items to the Engineer for approval before the work is put in hand. Concrete fixing blocks may be embedded in the concrete provided that the strength or effective cover of any part of the structure is not adversely affected nor the finished work damaged by any movement of the blocks. All fixing blocks, chases, holes etc.., to be left in concrete shall be accurately set out and cast with the concrete. No openings, chases, holes or other voids shall be cut or formed in concrete without the approval of the Engineer.

Blinding Concrete

A. No casting of any concrete on the ground shall take place until the ground has been passed as satisfactory by the Engineer. All ground to carry reinforced concrete shall be covered with a 50 mm minimum blinding layer of concrete 1:4:8. The cover for concrete under reinforcement shall be entirely above the blinding layer.

Mixing

B. Concrete is to be mixed in a batch mixer of approved type having a drum rotating about a horizontal or inclined axis. The speed of the drum is to be not more than twenty and not less than fourteen revolutions per minute. Each mixer is to be fitted with a water measuring device capable of accurate measurement to one gallon for one cubic yard mixers and pro rate for smaller sizes and so arranged that the accuracy is not affected by variations in the pressure of the water supply line.

C. The fine and coarse aggregate and the cement are to be mixed for at least four turns of the drum, after which the required amount of water is to be added gradually while the drum is in motion and the concrete then mixed for at least one and a half minutes and until a mix of uniform colour and consistency is attained.

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

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

F. On cessation of work, including all stoppages exceeding twenty minutes, the mixers and all handling plant are to be washed out with clean water.

G. Concrete mixed as above is not to be modified by the addition of water or otherwise in order to facilitate handling, or for any other purpose.

H. At least one slump test shall be made each day concreting is in progress under the supervision of the Clerk of Works. The slump shall not exceed 75 mm but at 25 mm slump may be allowed by the Engineer in certain structural members.

Transporting

J. Concrete is to be handled from the place of mixing to the place of final deposit as rapidly as practicable by the methods which will prevent segregation or loss of ingredients and maintain the required workability. It should be deposited as nearly as practicable in its final position to avoid rehandling.

K. Concrete shall be placed into the forms from as small a height as possible and shall in no case be dropped from a height of more than 1500 mm except with the approval of the Engineer.

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

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

Placing and Consolidation

C. The concrete shall be placed before setting has commenced and in any case within thirty minutes from the time the water is added, and must not be subsequently disturbed. Concrete shall be thoroughly compacted during the operation of placing, and thoroughly worked around the reinforcement, around embedded fixtures, and into corners of the formwork. Mechanical vibration with an approved type insertion vibrator shall be used.

D. The use of mechanical vibration will not relive the Contractor of his responsibility for making good work which may be damaged by excessive or ill-applied vibration.

E. All methods of placing and consolidation of the concrete are to be such as not to cause any disturbance or movement to the formwork or reinforcement. After being placed in position, the concrete is to be left absolutely undisturbed by any movements or thrusts while setting.

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

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

Construction Joint

H. The form and location of all construction joints shall be approved by the Engineer before commencement of work.

A The Centering to form the stop shall be fitted with splay fillets on the concrete face and will be firmly fixed and scribed around the reinforcing steel. If any concrete shall flow past the stop, it shall be hacked off as soon as the concrete has set. Before any new concrete is placed up against the stopped face, the concrete previously placed shall be hacked and scoured with a wire brush to remove the scum. The joint shall then be soaked with water and covered with a sand cement mortar of proportions in the same ration in the concrete used. In all cases of application of mortar the punning must be adequate to incorporate the mortar in the body of the concrete. In no circumstances shall the concrete be allowed to finish at a break running down a rough slope. Such cases, if found, will be treated as contrary to the specification and the Contractor will be required to cut out the member and re-cast. In the case of horizontal joints, any excess water and laitence shall be removed from the surface after the concrete is deposited and before it has set.

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

C Slabs to be cast using alternate bay construction, maximum size of single panel 40 square meters.

Column Plinths

D Column kicker plinths 75 mm high not cast monolithically with the beam or slab will be allowed only at the discretion of the Engineer and special precautions must be taken if permission is granted, especially in regard to the quality of the mix used and the curing of concrete.

Curing

E The curing of the concrete must receive particularly careful attention. The concrete shall be covered with a layer of a sacking, canvas, hessian or suitable absorbent materials, and concrete, formwork and covering kept constantly wet for the first seven days after casting. Foundation concrete must be protected from falling earth and kept free from deleterious substances.

Dimensions of Finished Concrete

F Except where specially noted, dimensions, levels, sizes, positions, and covers are to be exactly as dimensioned or specified with the following tolerances for concrete cast in situ.

(a) For sizes of beams or columns, slab or wall thicknesses, not less than specified, nor more than 5 mm above. Dimensions between column faces not to have a greater tolerance than 10 mm.

(b) For layout positions or dimensions horizontal or vertical 5 mm plus or minus.

(c) Levels of floor, ceilings, beams, lintels, etc., (top and bottom), 5 mm plus or minus and no surface intended to be horizontal must slope more than 2 mm in 1 meter.

(d) Errors in plumbing 5 mm plus or minus, and no line or surface intended to be vertical must slope more than 2 mm in 1 meter.

(e) For cover of concrete around reinforcement 3 mm plus or minus.

Permissible tolerance shall not be cumulative.
Steel Reinforcement

A. Mild steel rod reinforcement shall comply with B.S. 4449.

B. High tensile steel rod reinforcement shall be hot rolled deformed steel complying with B.S. 4661 grade 460.

C. Welded steel fabric reinforcement shall comply with B.S. 4483.

D. The steel shall be stored so that it is kept clean and reasonably free from rust.

E. All metal for reinforcement is to be free from loose mill scale, loose rust, oil and grease, or other harmful matter immediately before placing of the concrete.

F. All reinforcement is to be placed and maintained in the positions shown on the drawings. Some definite method of ensuring the amount of cover required by the designer must be agreed between the Contractor and the Engineer.

G. Reinforcement must be bent or straightened in a manner that will not injure the materials, and in accordance with B.S. 4466.

H. All bars are to be bent cold.

J. Starter bars are to be positioned accurately.

K. All crossings of bars are to be securely wired.

L. Bars at the top of slabs are to have substantial support.

M. The prices of all rod reinforcement are to include for cutting to lengths and for all bending, hooked ends, etc., and for placing in position with distance pieces where necessary to ensure the rigidity of the bars and for tying together with approved wire in order to prevent displacement during concreting.

N. The placing of all reinforcement shall be checked by the Engineer and in no circumstances is concrete to be deposited around any steel that has not been passed. At least forty eight (48) hours notice shall be given to the Engineer that reinforcement will be ready for inspection.

O. Where bending schedules are provided, the measured weight of reinforcement for purposes of payment will be taken from the bending schedules and the Contractor must make due allowance in his rates for rolling margins and all the foregoing items and labour including cutting to waste from random lengths.

Cover to Reinforcement

A. The thickness of the concrete cover to reinforcement shall conform in all respects to the B.S. Code of Practice B. S. 8110 : 1995 unless specifically shown on the drawings. Some approved method of ensuring the correct amount of cover shall be used.

Spacing Blocks and Chairs etc.

B. Properly formed spacing blocks of concrete with wire ties or other approved means shall be securely wired or attached to the reinforcing bars to ensure the maintenance of the proper cover of concrete.

C. These shall be dense concrete left with a wire brushed surface or dipped in grout before fixing. These blocks are particularly important where the surface of the concrete is exposed to the weather or dampness. The Contractor must ensure that the bars are securely fixed so as to maintain their indicated positions during the progress or pouring, tamping or vibration of concrete. Four chairs per drop are to be provided around columns to hold steel in positions and chairs are to be made up of 12 mm diameter mild steel bars. The cost of all such fixing steel must be allowed for the Contractor in his rates for reinforcement generally.

Precast Concrete

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

E. The coarse aggregate for precast concrete shall be 10 mm gauge where 1:1.5:3 mix concrete is specified.

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

G. The precast work shall be cast under sheds and shall remain under same for seven days in the mould and a further seven days after removal from the moulds. During the whole of this period the concrete shall be shield by sacking or other approved materials and kept wet. It shall then be removed from the sheds and stacked in the open for at least seven days to season.

H. All precast work shall be in lengths convenient for handling, unless otherwise described.

J. Prices for precast concrete shall include for all moulds, hoisting and fixing to the levels required, bedding and pointing in cement mortar (1:3) and for finishing exposed faces fair and smooth where so described.

WALLING

Setting out Walling

A. The Contractor shall provide proper setting out rods and set out all work on same for courses, openings, heights, etc., and shall build the walls and piers etc., to the widths, depths and heights indicated on the drawings and as directed and approved by the Architect.

Cement

B. Cement shall be described in Concrete Work.

Fine Aggregate

C. Fine aggregate for concrete blocks shall be as described for fine aggregate in Concrete Work.

Coarse Aggregate

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

Concrete Block

E. Concrete blocks for walling shall be provided by the Contractor complying with B.S. 2028 Type A, and made in approved block making machines or a composition as follows:-

Portland Cement; 1 Cubic Meter
Fine Aggregate (graded up to 5 mm); 3 Cubic Meters
Coarse Aggregate (graded up to 10 mm); 6 Cubic Meters

F. Blocks shall be solid or hollow two-hole type as specified and are to be made under sheds erected by the Contractor to the directions and approval of the Architect. In hollow blocks of the volume of the cavities shall be not less than 45% and not more than 50% of the gross

G. The compressive strength Type A blocks shall be not less than:-

Average of 13 hollow blocks; 5.75 N/mm2 gross area
Lowest individual hollow block; 4.0 N/mm2 gross area

A. The concrete is to be put into the machine's moulds in thin layers and all properly tamped therein. On removal from the machines the blocks are to be carefully deposited on wet the whole time, after which they shall be put out in the open on racks and protected with the approved matting, sacking or straw and kept wet for a further five days, then kept in the same position and under the same mat cover, but without wetting, for a further two days and then left in the open without matting or wetting for a further seven wet the whole time, after which they shall be put out in the open on racks and protected with the approved matting, sacking or straw and kept wet for a further five days, then kept in the same position and under the same mat cover, but without wetting, for a further two days and then left in the open without matting or wetting for a further seven days to season. All blocks must be left with good sharp edges. The blocks for use in the Works shall be 190 mm high and may vary in length from 300 mm to 400 mm and no variation above or below these lengths will be allowed except where required to form proper bonding at corners, round openings, sills, lintels, beams, etc., and the like positions and the Contractor must make or cut blocks to all the varying sizes required for these purposes and include this in his price. days to season. All blocks must be left with good sharp edges. The blocks for use in the Works shall be 190 mm high and may vary in length from 300 mm to 400 mm and no variation above or below these lengths will be allowed except where required to form proper bonding at corners, round openings, sills, lintels, beams, etc., and the like positions and the Contractor must make or cut blocks to all the varying sizes required for these purposes and include this in his price.racks under sheds erected by the Contractor to the direction and approval of the Architect and there left for three days and kept thoroughly

Bonding Walling

B. The blocks shall be properly bonded together in such manner that no vertical joint in any one course shall be within 100 mm of a similar joint in the courses immediately above or below. Sufficient through bonders shall be provided as directed by the Architect. Alternate courses of walling at all angles and intersections shall be carried through the full thickness of the adjoining walls. All walling shall be built up entirely solid in blocks without void, allowance being made for joints 10 mm thick only. All perpends, reveals and other angles of the walling shall be built strictly true and square

Wall Reinforcement

C. Where so specified hollow block walls shall be reinforced vertically with 10 mm diameter mild steel bars built into the cavities of the blocks at 400 mm centres, unless otherwise specified, all bars in walls to have a minimum lap of 350 mm.

D. Prices for walling described as reinforced must include for all extra costs involved in slotting blocks over the vertical reinforcement.

Filling of Hollow Blockwork

E. All cavities where specified and shown above ground and all cavities below ground level shall be filled in solid with concrete of the mix described and placed and consolidated in sections not exceeding 1190 mm in height.

F. In reinforced walls the filling shall be carefully compacted around the reinforcement.

Blocks to be Wetted

A All concrete blocks and stone walling shall be well wetted before being laid and the top of walling where left off shall be wetted before re-commencing building. Walls to be kept wet three days after building.

Mortar

B Mortar to be used for all walling work shall be composed of 1 part of Portland Cement to 1 part lime to 6 parts of fine aggregate measured by volume in specially prepared dry on clean and watertight mixing platforms, with water added afterwards from a can with a fine rose until all parts are completely incorporated and brought to a proper consistency and then used within thirty minutes of mixing.gauge boxes and thoroughly mixed

C No partially or wholly set mortar will be allowed to be used or re-mixed.

Fair Face Walling

D Where walling is to be finished with a fair face, the concrete blocks are to be selected for freedom from defects and the joints raked out as the Works proceed and flush pointed with a neat joint in cement mortar.

Joints for Walling

E The blocks shall be bedded and jointed in cement mortar as described with beds and joints 10 mm thick, full flushed up and grouted solid as the work proceeds. Joints shall be raked out where the surfaces or walling are to be plastered.

F All walling shall be properly protected while mortar is setting as the Architect shall direct.

Building Walling

G All walls throughout the Works shall be carried up evenly in 12 mm course, no part being allowed to be carried up more than 800 mm higher at one time than any other part and in such cases the jointing shall

Putlog Holes

H Putlog holes shall be carefully, properly and completely filled up on completion of walling work.

Rough Cutting etc.

H. The Contractor shall allow in his prices for the walling which is measured net herein, for all ordinary rough cutting, bonding, plumbing angles, forming reveals and fitting up to under side of concrete beams, slabs and lintels etc.

Stone Pitching

A The ground to receive pitching shall be well compacted and the stones, which shall be flat bedded and not less than 230 mm either way along the bearing surface, shall be punned to the required falls and inclinations so that neither wedges nor spalls are required to keep the pitching rigidly in place. The joints shall be no more than 13 mm thick and shall be solidly filled with 1:3 cement mortar.

B Stone for pitching shall be coral obtained from approved quarries. It shall be hard, sound, durable and clean.

Stone for Walling

C Stone for walling shall be from an approved quarry, roughly square and built random and uncoursed in mortar as described. The stone shall be well bonded with a minimum of one good bond or through stone evenly spaced to each square meter. All cavities and joints in stonework are to be filled in and flushed up solid with mortar.

D Jointing and pointing is as detailed or instructed.

Precast Screen and Louvre Block Walling

E Precast concrete screen blocks shall be manufactured in concrete of 30.0 N/mm2 strength using 10 mm aggregate, the blocks shall be 390 mm and 190 mm long x 190 mm high and 150 mm on bed in accordance with detailed drawings and finished fair on all surfaces and bedded, jointed and pointed in cement mortar with a neat flush joint.

F Precast concrete louvre blocks shall be of similar concrete, similarly jointed and pointed and constructed to detail drawing.

Damp Proof Course

G Damp proof courses shall be hessian based bituminous felt to B.S. 743 Type 5A laid on and including a levelling screed of cement and sand and lapped 230 mm at joints.

ROOFING - ASPHALT WORKS

APPROVED SUPPLIER

A. All materials shall be supplied by a firm approved in writing by the Architect and the works executed by workmen approved by the supplier.

Guarantee

B. The Contractor shall deposit with the Architect, a written guarantee and undertaking to the effect that during a period of not less than twelve calendar months from and after the certified date of completion of the whole of the works the contractor shall at his own expense make good to the satisfaction of the Architect all and any defects in the asphalt work which shall be attributed to improper materials or faulty workmanship and shall bear the cost of any consequential damage as shall be provided for in such guarantee.

Samples

C. The Contractor shall when required by the Architect submit samples of any material for testing.

MATERIALS

Asphalt for roofing

D. Asphalt for roofing shall comply with B.S. 1162 tropicalised mastic asphalt for roofing purposes.

Felt underlay

E. The underlay shall be saturated "Cabro" sheathing felt complying with B.S. 1162 (or equivalent).

Insulating screeds

F. Insulating screeds shall consist of lightweight concrete composed of one part Portland Cement and eight parts vermiculite aggregate and shall be covered with 10 mm cement and sand (1:4) screed wood floated to receive asphalt coverings.

WORKMANSHIP

Preparation of surfaces

A. All surfaces to receive asphalt and other roof coverings are to be dry, wood floated and finished to suppliers specifications.

Laying

B. Asphalt and other roof coverings shall be laid in bays generally not exceeding 2 m wide and succeeding coats shall be laid at breaking joint. Junctions between bays and fillets shall be properly married the whole being worked so that the joints are neatly made.

C. Horizontal asphalt for roof coverings shall be 20 mm thick built up into two layers each 10 mm thick. The first layer shall be applied to sheathing felt and the final coat shall be left ready to receive roofing tiles.

Air pockets and stains

D. Air pockets and stains on the asphalt and other roof coverings will not be permitted and the finished work shall not ring hollow over any parts of its surface.

Joints and fillets

E. Joints in all asphalt work and other roof coverings shall be carefully made and complete fusion obtained to make them watertight. Fillets shall be run at all internal angles and in at least two operations. Perfectly watertight joints shall be made around pipes passing through walls and floors etc.

Felt underlay

F. The felt underlay shall be fixed and laid loose or partially bonded in hot bitumen with but joints.

Testing for falls

G. To ensure that asphalt and other roof coverings have been truly laid to falls, the contractor is to arrange for the roof areas and gutters to be flushed with water in the presence of the Architect. Any defects or depressions in the asphalt or other roof coverings are to be rectified and retested for approval.

CARPENTRY

Terminology

A. All technical terms shall be as defined in the "Timber Act (amended 2012)".

Timber Generally

B. The timber for carpentry and joinery shall be specified and obtained from an approved sawmill.

C. The timber for carpentry shall be Second or Select Grade for strength.

D. The timber shall be reasonably straight grained.

E. All timber for the Works is to be purchased immediately the Contract is signed and is to be open-stacked for as long as possible before use or kiln drying.

F. All timber as it arrives on the site shall be inspected by the Architect, and any timber brought on to the site and not approved must be removed forthwith.

G. All timber and assembled woodwork shall be protected from the weather and stored in such a way as to prevent attack by termites, insects or fungi.

Species of Timber for Structural Work

H. The following softwoods shall be used for structural work;

Standard Common Name	Botanical Name
Podo	Podocarpus
Cypress	Cuppressues Lusitanica

J. Both to be second strength Grade P5 or equivalent. Whilst either timber is suitable, intermixing of species will not be accepted.

K. The Contractor is permitted to propose substitute species but these shall not be used without the written approval of the Architect and no adjustment shall be made to the basic rates for softwood trusses in the event of a substitute species being accepted.

Insect Damage

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

Seasoning of Timber

A. All timber shall be seasoned to a moisture content of not more than 18% for carpentry and 15% for joinery. The Contractor's price must include for any kiln drying that may be necessary to achieve these figures.

Pressure Impregnation

B. The softwood described as pressure impregnated shall be treated with the "Celcure A" "Tanalith C" full cell process. Timber must be seasoned to a moisture content not exceeding 25% before being treated. The treatment shall be to the minimum standard of:-
Solution concentration; 2%
Absorption of preservative; 520 Litres per cubic meter
Net dry salt retention; 10.4 Kg per cubic meter

C. After treatment, the timber shall be seasoned to the specified moisture content.

D. Cut ends and faces of timber sawn, drilled and cut after treatment are to be swabbed liberally with approved preservatives until saturated, allowed to dry and then treated with a second coat and rates for timber must include for this. Approved preservatives are: Atlas A; Brunophan Nr 2; Cuprinol Clear or Water Repellant Clear; Ensele Woodtreat 55.

Inspection and Testing

E. The Architect shall be given facilities for inspection of all works in progress whether in workshops or on site. All timber as it arrives on the site must be inspected by the Architect and any timber brought onto the site and not approved by him must be removed forthwith, failing which he may arrange for the removal of the rejects and dispose of them as he may consider advisable at the Contractor's expense.

F. Notwithstanding approval having been given above, any timber incorporated in the Works found to be in any way defective before the expiry of the maintenance period shall be removed and renewed at the Contractor's expense. 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 required for the purpose of testing, i.e. for moisture content, or identification of species, strength, etc.

G. Where timbers need to be extended into a wall, they shall be thoroughly "brush treated" with Ensele in addition to preservative treatment as already described above, and as much clear air space maintained around the timber where it adjoins the wall as possible.

Clearing Up

H. The Contractor is to clear out and destroy or remove all cut ends, shavings and other woodwaste from all parts of the building and the site generally, as the work progresses and at the conclusion of the Work.

Workmanship

A. All carpentry shall be executed with workmanship of the best quality. Scantlings and boardings shall be accurately sawn and shall be of uniform width and thickness throughout.All carpenter's work shall be left with sawn surfaces except where particularly specified to be wrought.

B. All carpentry shall be accurately set out in strict accordance with the drawings.

C. All structural timbers shall be frame or jointed together as is most appropriate in the circumstances in accordance with the rules of good practice. Joints must be executed in strict conformity with the drawings.

D. All joints shall be secured with a sufficient number of nails disposed as shown on the drawings and rates must include for the jointing of timbers. Surfaces must be in good contact over the whole area of the joint before securing. Holes for nails must be pre-drilled undersize; holes for bolts must be bored slightly over size from both sides of the timber and washers must be used under the nut which must be tightened sufficiently to permanently secure the joint but not to crush the timber.

E. Actual dimensions of scantlings for carpentry shall not vary from the specified dimensions by more than 3 mm in deficiency or excess but must be uniform throughout. Boards 25 mm thick or less shall hold up to the specified size. All timbers shall be as long as possible and practicable, in order to eliminate joints.

Joints

F. All nails, screws, bolts, connectors, etc., are to be as specified under "Metalwork" and as shown on the drawings.

A. **General**
The provisions contained in the "Carpentry" section shall apply also to the Joinery Section where applicable.

B. **Species of Timber**
The following timber of First or Prime Grade for appearance shall be used for Joinery Work in conjunction with the term "softwood" or "approved softwood":-

Standard Name; Botanical Name

Podo (for grounds, etc., only); Podocarpus spp.

African Mahogany; Khaya Nyasica

Mninga, Pterocarpus Angolensis

Iroko (Mvula); Chlorophora excelsa

C. The following may also be used as "local hardwood" (referred to hereafter) with the Architect's approval:-

Adina; East African Afrormosia; East African Afzelia

D. **Generally**
All joinery 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 work connected therewith full delineated. Such setting out must be submitted to the Architect and approved before such respective works are commenced.

E. **All joinery work shall be cut and framed together as soon after the commencement of the building as is practicable,** but not to be 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.

F. All work shall be properly morticed, tenoned, housed, shouldered, dovetailed, notched, wedged, pinned, bradded, etc., as directed and to the satisfaction of the Architect and all properly glued up with the best quality approved glue.

A. Joints in joinery must be as specified or detailed, and so designed and secured so 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; with glued joints where shrinkage need not be considered and where sealed joints are required. Glue for load-bearing joints or where conditions may be damp must be of the resin type. For non-load-bearing joints or where dry conditions may be guaranteed casein or organic glues may be used. All exposed surface of joinery work shall be wrought and all arises "eased-off" by planning and sand-papering to an approved finish suitable to the specified treatment.

Dimensions

B 3 mm reduction off specified sizes will be allowed for each wrought face except where described as (f) i.e. **finished** size in which case joinery shall hold up to the full dimensions. Dimensions of 25 mm or less shall hold up to the specified sizes.

Fixing Joinery

C 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 brass screws, the heads let in and pellated to march the grain where natural finish timber is specified.

Mastic

D Mastic where specified for bedding, joinery, sills, water bars, etc., is to be approved non-hardening plastic, phlysulphide synthetic rubber or butyl composition filler or sealer.

Fiberboard

E Fiberboard shall be "Celotex" or equal and approved.

Plywood

F Plywood shall be from an approved source and comply with B.S. 1455, first or second grade, as required and unless otherwise stated shall be "interior" quality. Where veneered plywood is specified, samples must be submitted for prior approval. Where stated to be "exterior" quality, this shall be waterproof (Bonding W.B.P.).

G Routine tests will be required from time to time to check the quality of manufacture. Plywood used in structural members shall be bonded with a suitable adhesive.

Chipboard

H Chipboard shall be approved medium density resin bonded wood chipboard equivalent to B.S. 2604 with sanded finish or thickness stated. Where faced with plastic sheeting the chipboard shall be counterbalanced.

Blockboard

J Blockboard shall be laminated board to B.S. 3444. Where faced with plastic sheeting the blockboard shall be counterbalanced.

Flush Doors

A. Flush doors shall be from an approved source and manufacture, be hollow / semi-solid core constructed generally in accordance with B.S. 459-2 finished with 6 mm veneer plywood (to Architect's approval) and lipped all round with softwood 12 mm thick.

B. The thickness stated is the overall finished thickness.

Plastic Sheeting

C. Plastic sheeting shall be Formica or equal and approved laminated sheeting 1.5mm thick fixed with an approved adhesive. All colours are to be selected by the Architect.

Plugging Walls

D. All work described as plugged shall be fixed with brass screws to plugs formed by drilling concrete, walls, etc., with a proper tool of suitable size at 500 mm spacings and filling the holes completely with an approved proprietary plugging compound used in accordance with the manufacturer's instructions.

Protect Joinery

E. All 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.

Bottom Edges

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

Mosquito Screening

G. Mosquito screening shall be "Alcad" or equal and approved aluminium fine wire mesh screening.

Bird Screening

H. Bird screening shall be approved galvanized coffee tray wire.

Ironmongery

J. All ironmongery shall be fixed with screws 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. Prices for fixing locks must include for organizing masterkeying systems if required and all keys shall be labelled with door references marked on approved labels before handing to the Architect on completion.

STRUCTURAL STEELWORK

Standard of Construction

A. The whole of the structural steelwork and testing shall comply with the relevant clauses of B.S. 449, B.S 4360; 1980 and B.S. 5940 grade 43.

Fabrication by Specialist Firm.

B. The steelwork shall be fabricated by a specialist firm or under proper factory conditions to be approved by the Architect.

Contractor to Submit Drawings

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

Accuracy of Drawings.

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

Erection Scheme

E. The Contractor shall submit to the Architect for approval, drawings showing the proposed erection scheme, together with all calculations for erection stresses, etc. The approval by the Architect will not absolve the Contractor in any way from his responsibility.

Dimensions to be Verified

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

Copies of Orders

G. A copy of all orders for materials shall be supplied by the Contractor to the Architect at the time of ordering, for identification purposes.

Damage

H. Any damage to materials on the site due to inadequate precautions being taken during the erection of the steelwork shall be made good to the satisfaction of the Architect at the Contractor's expense.

Materials

Quality of Steel

A. (i) All structural and rivet mild steel shall comply with B.S 4360 Part 2

(ii) Nil

(iii) Nil

(iv) All structural steel tubes shall comply with B.S. 1775 and B.S. 449

(v) Mild steel and medium tensile steel electrodes for metal-arc welding shall comply with the requirements of B.S 2549.

(vi) High tensile steel electrodes for metal-arc welding shall comply with the requirements of B.S. 2549.

(vii) All mild steel bolts and nuts shall have a tensile strength of not less than 432 N per Square Millimetre (28 tons per square inch) and a minimum elongation of 17 percent as defined in Clause 2 of B.S. 916 or in B.S. 2708.

(viii) All high tensile steel bolts, nuts and washers shall have a minimum tensile strength of 570 N per square millimetre (37 tones per square inch).

(ix) High strength friction grip bolts and washers shall comply with B.S. 3139, Part 1.

(x) All plan washers shall be of steel. Tapered or other specially shaped washers shall be made of steel or malleable case iron complying with B.S. 3410.shall be made of steel or malleable case iron complying with B.S. 3410.

Marking of Steel

B. Each piece of steel shall be legibly marked with the maker's name or trade mark and with cast numbers or identification marks by which the steel can be traced to the cast from which it was made.

C. For rivet bars and small pieces securely bundled, a metal tag marked with the cast number will be sufficient.

Standard Dimensions

D. The dimensions and allied requirements of all structural rolled sections shall comply with B.S. 4. The dimensions, weight, tolerances etc., of all rivets, bolts, nuts, studs, etc., shall conform to the following standards. Rivets shall comply with the requirements of B.S. 275 for dimensions

E. Black bolts, nuts, studs, lock nuts and washers shall comply with the requirements of B.S. 916 for dimensions and with B.S. 1580 for unified black bolts etc.

A. Turned bolts shall have the shank turned to the specified diameter allowing only a minus tolerance up to 0.13mm (0.005 inch).

Weight of Steel

B. For the purpose of measurement, the weight of mild steel shall be as given in B.S. 648 which will be the basis for measurement of variations. The weights per meter given on the drawings do not include the shelf angles riveted to webs, nor the plates riveted to the flanges of R.S. Js or other sections.

Conditions of Surfaces

C. All surfaces of steel work shall be clean, free from loose millscale and loose rust.

Tests and Inspection

D. Manufacturer's Mill Test Certificates for all structural steel shall be supplied to the Architect as and when required. Where and when directed by the Architect, the Contractor shall take and deliver samples of structural steel for testing to the Employer's Highways and Transportation Testing Station. Should the results of either test be unsatisfactory the whole consignment of steel which the sample represents shall be rejected and shall be replaced by other material of proper quality at the expense of the Contractor.

E. The Architect or his representative shall at all reasonable times, be given free access to the Works.

Metallic Coatings

F. Galvanized steelwork shall comply with B.S. 729 Part 1 entirely coated with zincafter fabrication by complete immersion in a zinc bath in one operation and excess carefully removed. The finished surfaces shall be clean and uniform.

ii) Zinc sprayed steelwork shall comply with B.S. 2569 Part 1. The nominal thicknessof zinc coating shall be not less than 0.102 mm (0.004 inches) and at no point less than0.076mm (0.003 inches).

Generally

G. The whole of the fabrication and erection of the steelwork shall be carried out in accordance with B.S. 449

Materials (Cont'd)

A. The welding of steel to B.S. 1962 must conform to:B.S. 1856 - "General requirements for the metal-arc welding of mild steel"or B.S. 2642 - Are applicable."General requirements for the arc welding of steel to B.S. 968 and similar steel”

B. For welding any particular type of joint the Contractor shall provide evidence acceptable to the Architect that the welder has satisfactorily completed the appropriate tests as described in B.S. 5950 - 7

C. Any welder's tests shall be made at the Contractor's expense and shall include the cost of any fees incurred by the Employer for witnessing of, or making such tests.

D. The right is reserved to make non-destructive tests on the welding to determine if the welding conforms to the standards laid down in either B.S. 1856 or B.S. 2642 as applicable. This will normally consist of radiography on butt welds, ultrasonic examination of fillet welds or other tests as appropriate to the actual configuration of the weld in question.

Rejection

E. Any portion of the work which, in the opinion of the Architect, is not in accordance with the drawings, or specification shall be rejected whether before or after delivery and must be removed from the site if delivered within 24 hours from receipt of such notice or rejection at the Contractor's expense. Any delay caused by such rejection will not in any way relieve the Contractor from his responsibility with regard to the provisions of the Contract. If any welding is found to be defective the cost of all remedial measures shall be borne by the Contractor, including the cost of re-testing the subsequent inspection of welds as referred to in the P.C. Sum hereafter.

F. The Contractor is responsible for the good quality of all welding work and no exceptions will be made on the grounds that the Architect or his representative have inspected any part or parts of the work at some stage during production.

Fabrication

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

Cast of Temporary Erection, etc.

A. Trial erection of principal or other units may be called for at the discretion of the Architect or his representative.

B. The cost of any necessary temporary erection, testing, packing, marking, carriage and delivery is deemed to be included by the Contractor in the Tender price.

Joints and Connections

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

Painting at Works

D. Where described as primed at works, steelwork shall be freed of rust, millscale, welding slag and flux residue and shall be dry immediately prior to painting with primer as Clause Q 14 a.

E. For joints with high strength friction grip bolts the contact surfaces shall be left unpainted but special care shall be taken after assembly to paint all edges and corners near the joints together with bolt head, nuts and washers to prevent the ingress of moisture.

F. For joints made with other bolts and rivets the contact surfaces shall each be given a coat of priming paint and for shop connections the contact surfaces shall be brought together while the paint is still wet.

G. For welded connections where the contact surfaces are not completed sealed the contact surfaces shall be painted to within 50mm of the edges that are to be welded.

H. The primer shall be touched up with similar primer if damaged by subsequent handling.

METALWORK

Mild Steel

A. Mild steel shall comply with B.S. 4360 Grade 1 and the sizes of all small sections shall be in accordance with B.S. 4 and 4A.

Galvanized Work

B. Iron and steel, where galvanized, shall comply with B.S.1461 Part 1 entirely coated with zinc after fabrication by complete immersion in a zinc bath in one operation and all excess carefully removed. The finished surface shall be clean and uniform.

Aluminium

C. Aluminium shall be of the alloys described in and shall comply with B.S. 485. Aluminium sheet for flashings shall be soft-temper, super purity (S1 or S1A) and not less than 20 s.w.g. (0.9mm) in thickness.

Smithying, Shearing and Cutting

D. All smithying, welding, cutting and bending shall be soundly and neatly executed, care being taken not to overheat. All flame cut edges and welds shall be neatly ground off on completion.

Bolts

E. Mild steel bolts, nuts and washers shall comply with B.S. 916 for black bolts with hexagonal heads and nuts. High tensile steel bolts and nuts shall be in accordance with B.S. 3139 Part 1.

Anchor Bolts

F. Anchor bolts in concrete for steel works etc., are to be self drilling anchor bolts of one of the following types:-

Phillips redhead concrete anchors
Rawlplug super drilanchor
Spit self-drilling anchors

G. Rates are to include for fixing complete with washer. Mortices in concrete have not been measured for this item.

Shop Inspection

A. The Architect shall be granted full facilities and any necessary assistance for inspection or materials and assembled parts in the Contractor's (or his Sub-Contractor's) workshops. At least two weeks notice shall be given to the Architect in writing prior to the despatch of finished components to the site to enable the Architect to inspect and approve the materials and workmanship at the workshops. Approval of work at the workshop does not relieve the Contractor of this obligations to carry out the work complete at the site to the Architect's satisfaction in accordance with the Contract.

Marking

B. All components delivered to the site are to be marked in paint with the Mark number in accordance with any shop and erection drawings.

Storage

C. All components are to be stored at the site in proper racks provided for the purpose which provide full support to each member to obviate any deflection and distortion. Steelwork is to be stored at least 25cm clear of the ground and temporary protection is to be provided for protection against water and damage from any other source.

Erection

D. Rates for all metalwork are to include for the complete for the complete erection including any temporary supports required and any necessary templates and wedges.

Painting

E. All steel is to be thoroughly de-rusted and degreased prior to despatch to the site and is to be given one coat zinc chromate primer at the works. Further painting treatment will be carried out at the site. Painting is measured separately and the cost thereof is not to be included in the rates for metalwork.

PLUMBING AND ENGINEERING INSTALLATION

Execution of the Works

A. The work shall be carried out strictly in accordance with:-

(a) "British Standard Code of Practice" C.P. 310: 1965: Water Supply
(b) "British Standard Code of Practice" C.P. 404: 1968: Sanitary Pipework above ground

(c) All other relevant British Standard Specifications and Codes of Practice
(d) Bye-laws of the Local Authority
(e) The working drawings

Extent of Work

B. The Contractor will be responsible for all below ground plumbing and drainage work and the installation of the Sanitary Fittings only, the remainder of the Plumbing and Engineering Installation will be executed by a Nominated Sub-Contractor.

Quality of Materials and Workmanship

C. 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 British Standard Specification.

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

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

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

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

H. 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.

J. 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.

Galvanized Steel Tubes and Fittings

A. Galvanized steel tubing shall comply with B.S. 1387 with plain galvanized malleable fittings complying with B.S. 143/1256.

B. Tubes and fittings shall be jointed by means of screwed threads to B.S. 21, by means of P.T.F.E., tape or hemp and "Bosswhite". All joints shall be perfectly smooth inside without excrescences.

C. Where sleeves are required for pipework passing through concrete, blockwork or below concrete slabs, they shall be galvanized steel tube or drain pipes of sufficient diameter to give at least 25mm clearance all round the water main.

D. Galvanized water mains below ground level or below slabs shall be double wrapped in "Denso" tape.

Brasswork

E. Stop valves shall comply with B.S. 1010 and shall be with crutch handles or loose keys where so described on the drawings. Draincocks shall comply with B.S. 2879.

Testing

F. Upon completion the whole of the water main shall be tested to a pressure not less than twice times the working pressure for a period of thirty minutes.

G. Notwithstanding the foregoing clauses, all water mains and fittings and installation thereof shall comply fully with the requirements of the Water Supply Authority.

Sanitary and Other Appliances

H. The appliances shall be fixed in the positions shown on the drawings or as described by the Architect.

J. The Contractor shall include in his rates for providing all necessary screws, bolts, etc., together with all jointing materials required and also for temporarily erecting and securing fittings in the required position or service and discharge pipes, taking down, storing and fixing after completion of wall finishings permanently fixing and connecting to service and discharge.

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

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

Fire Fighting Equipment

A. The specified fire fighting equipment shall be supplied and installed by the Contractor in the positions shown on the drawings

B. Portable fire extinguishers shall comply with the following British Standards:-

(a) Water type (soda acid); B.S. 138: 1948

(b) Foam type (chemicals); B.S. 740: Part 1: 1948

(c) Foam type (gas pressure); B.S. 740: Part 2: 1952

(d) Water type (gas pressure); B.S. 1382: 1948

(e) Carbon tetrachloride and chlorobromethane; B.S. 1721: 1960

(f) Carbon dioxide type; B.S. 3326: 1960

(g) Dry powder type; B.S. 3465: 1962

(h) Water type (store pressure); B.S. 3709: 1964

C. Fire hose couplings and ancillary equipment shall comply with B.S. 336: 1965; rubber reel hose shall comply with B.S. 3169: 1959.

D. Underground fire hydrants and surface box openings for same shall comply with B.S. 750: 1964.

E. The installation of hydrants and fire extinguishers shall be in accordance with C.P. 402:101: 1952 and C.P. 402 part 3: 1964 respectively.

F. If nothing else is specified, fire extinguishers and hose reels shall be supplied in the colour "fire red" and be similar to manufacture "ANGUS".

FLOOR WALL AND CEILING FINISHINGS

Sand

A. Sand for backing, floor and wall finishes is to comply with B.S. 13139, Table 1.

Cement

B. Cement is to be as described for "Concrete Work:.

Lime

C. Lime is to be no-hydraulic hydrated lime to B.S. 459 Class "A" obtained from an approved source and run into putty at least 24 hours before use.

Workmanship

D. All concrete beds or slabs shall be thoroughly brushed clean, hacked if necessary and well wetted and flushed over with a cement sand (1:1) grout immediately before screeds or pavings are laid.

E. Screeds and cement pavings shall be laid in accordance with the relevant B.S. Code of Practice. Working joints between bays of the floor finish should be placed in accordance with the Architect's instructions and will be plain butt joints placed over joints in the concrete bed under. Pavings shall be damp cured with sand or sawdust and kept damp for at least 7 days after laying.

F. All surfaces to be plastered or rendered must be brushed clean and well wetted before plaster is applied. Joints of walling shall be raked out and concrete hacked to form a key. Care shall be taken to see that paving and plastering do not dry out prematurely.

G. Adequate time intervals must be left between successive coats in two-coat work in order that the drying shrinkage of the undercoat may be substantially complete. All internal and external angles shall be pencil rounded.

In-Situ Pavings Generally

H. Before laying in-situ floor finishes, the concrete beds are to be thoroughly hacked for key, cleaned off, thoroughly wetted with clean water and coated with a stiff cement slurry and rates for screed, granolithic and terrazzo paving are to include for this. They are also to include for all necessary curing and protecting until the building is handed over.

Cement and Sand Paving

J. The cement and sand paving shall be in proportions of 1:4 by volume and incorporating or treated with an approved hardener.

Polished Granolithic Paving

A. The aggregate for granolithic paving shall be in accordance with B.S. 1201 and shall be mixed in the proportions of 1:1:1.50 cement, fine and coarse aggregate respectively. The mix shall incorporate an approved hardener suitable for incorporation and not for surface treatment. The water cement ratio shall be kept as low as possible and shall not in any case exceed 0.45.The paving is to be laid to the full thickness described and to be finished with a wood float and with no extra cement trowelled into the surface which is to be laid true and level. The paving is to be thoroughly cured after laying by covering with polythene sheeting and periodically watered to keep it moist for at least one week after laying. The surface is to be polished with approved rotary carborundum discs mechanically operated coarse and fine grain and with cement and sand slurry to produce a blemish-free surface.

B. The granolithic shall be laid in bays not exceeding 3.50 square meters with ebonite dividing strips for the full depth of the paving and shall be executed by Specialist who have a thorough knowledge of the work.

Polished Terrazzo Paving

C. The ins-Situ terrazzo shall consist of white or coloured cement and marble aggregate; the colours of the cement and aggregate shall be selected by the Architect. The mix shall comprise three parts of 6mm nominal aggregate to one part coloured cement by volume. The aggregate shall be clean and granular and shall not contain flaky particles or dust. The underbed shall be cement and sand 1:4 by volume.

D. The terrazzo shall be laid in bays not exceeding 3.5 square meters with ebonite dividing strips for the full depth of the terrazzo and underbed, and shall be executed by Specialist who have a thorough knowledge of the work.

E. The terrazzo topping shall be laid to a minimum of 12mm thickness in a plastic condition while the underbed is still green and this should be watered to minimise absorption from the topping. The terrazzo must be well tamped into position and rolled with a suitable hand roller. The topping should be allowedto take an initial set and then any surface voids must be grouted up with neat cement of the same colour used in the mix.The surface should be cured by keeping moist by covering with damp sacking for at least 72 hours.When dry and hard the surface shall be machine polished by grinding with carborundum or other stone discs of suitable grade and with rotary polishing pads.

F. Rates must include for all necessary protection until the building is handed over to the Architect. The depths stated are for the full depth including topping and underbed.

P.V.C. Flooring and Skirting

G. P.V.C. floor tiles shall comply with B.S. 10595. The tiles and accessories shall be supplied in the sizes and thickness specified in colours selected by the Architect and are to be fixed to the screed base with a suitable adhesive supplied (or recommended) by the Manufacturer and used in accordance with his instructions. Rates for floor tiles shall include for thoroughly washing and cleaning on completion and for the application of one coat of water based wax polish.

Brushed Terrazzo Rendering

A. Brushed terrazzo rendering is to comprise two coats as described. The undercoat shall consist of cement and sand mixed in the proportion of (1:4) by volume and applied to a minimum thickness of 10mm finished with a wood float and scratched to provide key for top coat. The finishing coat shall consist of one part white cement to two parts marble chippings or approved size applied to a minimum thickness of 10mm and the final surface wet brushed to expose the aggregate.

B. The Contractor will be required to produce a sample panel of rendering on site for the approval of the Architect.

Internal Plaster

C. Internal plaster shall be applied in two coats and adequate time intervals must be allowed between successive coats in order that the drying shrinkage of the undercoat my be substantially complete. The first coat must be well scratched, keyed and wetted to receive the finishing coat. The finishing coat shall be finished smooth with a steel float but care must be taken not to overwork the surface in order to minimize the incidence of shrinkage cracks. All internal and external angles shall be pencil rounded.

D. Internal plaster, unless otherwise described, shall be lime plaster of 12mm minimum overall finished thickness applied in two coats, the first coat consisting of cement, lime putty and sand mixed in the proportion of 1:2:9. The finishing coat shall be a skim coat comprising cement and lime putty in the proportion of 1:10.

E. Cement plaster is to be employed where specified on the drawings and is to be applied in two coats of approximately equal thickness to a total of 12mm minimum overall finished thickness. The composition of both boats shall be the same and shall comprise cement and sand (1:3) but a small percentage addition (not more than 10%) lime putty y may be permitted if the Architect considers that this will reduce the incidence of shrinkage cracks.

F. The Contractor shall cut out and make good all cracks, blisters and other defects and leave the whole of the plastering and rendering perfect at completion. When making good defects the plaster shall be cut out to a rectangular shape with edges undercut to form dovetailed key, and all finished flush with the face of surrounding plaster.

Marmoran Finishings

G. Prepare and prime surface, apply one coat 3 mm thick PVC Resin Bonded plaster with trowel, apply 3.2 mm thick stone chips with low pressure spray gun or by hand, roll flat by roller immediately after application. Colours and texture of the plaster and stone chips are subject to specifier's approval. Specifications must be strictly in accordance with manufacturer's instructions.

Wall Tiles

A. Glazed wall tiles shall be from an approved manufacturer and shall conform with the requirements of B.S. 1281. Tiles shall be white with slightly rounded or "cushion" edges and unless otherwise specifically described shall be size 150 x 150 x 6mm thick. Tiles shall be laid with continuous straight joint and internal angles shall be butt jointed. Rounded on edge tiles shall be used at all external angles and at edges of panels. Tiles shall be bedded in approved tiles adhesive and pointed in white cement.

B. Backing to tiles is to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 12mm trowelled smooth. Backings have been measured separately.

Carpet Tiles

C. Carpet floor tiles shall be from an approved manufacturer and shall conform to specification as per M/s Protex of South Africa. Graveltex Protex Carpet tiles shall be of heavy duty grade, 100% stain proof miracle fibre with density of 920, g/sq.m (fibre) and 4500 g/sq.m (total) with fire resistance (S.A.B.S) of 3, lavender colour. The size shall be 500 x 500 x 9.50mm thick. Tiles shall be laid with continuous straight joint. Tiles shall be bedded in approved tiles adhesive.

D. Beds to tiles are to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 30mm trowelled smooth. Backings have been measured separately.

Floor tiles

Porcelain tiles

E. Porcelain floor tiles shall be from an approved manufacturer and shall be of black polished, cocowhite-polished or gardenia green matt. The size shall be size 400 x 400 x 10 x thick. Tiles shall be laid with continuous straight joint. Tiles shall be bedded in approved tiles adhesive.

F. Beds and backings to tiles is to be cement and sand in the proportion of 1:4 rendering in one coat to a minimum thickness of 30mm trowelled smooth. Beds and backings have been measured separately.

Laying of Marble, Granite, Porcelain or Ceramic Floor Tiles

G. Before laying the tiles, level the flooring area, ensure the surface is rough and clean.

Laying Floor tiles with Traditional Mortar

H. The cement thickness needed to lay tiles should be around 40 mm. The mixture for indoor is 1 volume of Portland cement and 3 volumes of sand. The mixture must be made with appropriate quantity of water in order to dampen the materials. Clean and wet the flooring area, making sure to leave completely clean. Spread the mixture and level with a ruler, in order to reach the 40 mm of thickness. Spread dry cement over the mixture, until the water that remains over the surface has been completely absorbed. Lay the tiles, already mixed from different boxes, with a wide joint and in the desired way. Wet tiles, then cover to achieve a perfect level.

Laying Floor tiles with Adhesive

A. The bed needed for this kind of laying, should be around 30 mm. The flooring area should be steel or wood trowelled and levelled. Spread the adhesive with a spatula with ridges. It is very important to lay a good quantity of adhesive so that there is no free space between the tiles.

Mixing the Colour Shades of Floor tiles

B. Before laying the tiles at least 5 to 6 boxes must be laid over a dry surface in order to ensure that the different shades have a uniform look. The best result is obtained this way.

The Joints of Floor tiles

C. The tiles have to be laid with a minimum of at least a joint separation between tiles of 3 to 10 mm.

Setting the Joints of Floor tiles

D. The cord or wire system can be used in the 4 or 5 joints, ensuring they are all parallel with the reference joint. Plastic crosses used for this purpose, in different sizes, can be obtained in specialized shops, giving a much better finishing and final result.

Filling the Joints of Floor tiles

E. Apply a mixture composed of 2 volumes of Portland cement and 1 of fine washed sand, with enough water in order to amplify the handing. There are suitable preparations for different uses and in different colours now available, so as to achieve the desired effects. Spread the substance by use of a rubber or plastic spatula. Clean the tiles before the mixture dries. After the joints are completely dry, wash with plenty of water several times.

Concrete Tiles

F. Concrete tile for finishing the roofs shall be 25mm thick of natural colour with bevelled top arises on all sides and shall comply with B.S. 1197. The tiles shall be laid to regular pattern with open joints. Care should be taken to ensure that the surface level is even and follows accurately the levels of the roof finish. All cement stains shall be carefully removed.

Precast Concrete Paving Slabs and Kerbs

A. Precast concrete paving slabs shall comply with B.S. 368. precast concrete kerbs shall comply with B.S. 340 figure 5 and shall be finished true and smooth on all exposed faces.

B. Precast paving shall be bedded on a compacted sand bed with 6mm wide joints filled and pointed with cement mortar coloured to match the colour of the slabs. The pavings shall be finished true and even and to the falls shown with no surface irregularities.

GLAZING

Method of Glazing

C. Notwithstanding reference in the descriptions of glazing method to glazing beads, or the like with associated fixings, and insulating strips, such components will be measured separately in accordance with the appropriate rules of the S.M.M.

D. The provision of glazing compounds and putties and springs, clips and other sundry fixings shall be deemed to be included with all items of glazing.

E. Distance pieces and setting blocks, in appropriate materials, shall be provided in accordance with good glazing practice and they shall be deemed to be included with all items of glazing.

MATERIALS

Glass generally

F. All glass shall comply in all respects with the appropriate section of B.S. 952. Plain sheet clear glass shall be O.Q.; plate glass shall be GG. All glass shall comply in all respects with the latest British Standards including the British Codes of Safety.

Putting for glazing to wood

G. Putty for glazing to wood shall comply with B.S. 544.

Samples

H. Samples not less than 150 mm square, are to be submitted to the Architect for approval before any glass is cut.

WORKMANSHIP

Glass to be kept free from moisture

J. All glass surfaces shall be kept dry during transit and storage. Glass becoming moist from condensation or other causes, shall be thoroughly dried and aired.

Rebates and beads

A. All glazing beads in wood shall be primed, (as measured in Painting and Decorating), before glazing is commenced.

Edges of glass

B. All glass shall have clean cut edges. The edges of louvres shall be rounded and polished.

Bead glazing

C. Glazing fixed by beads shall have both glass and beads bedded and back puttied, and the putty trimmed off flush. Where sealing strip is used, it shall pass round both faces of the glass and be trimmed off flush on both sides. Metal surfaces to receive sealing strip shall be treated with mineral oil before glazing.

Method of measurement

D. Beads and sealing strips have been measured separately. Prices for glazing with beads are to include for taking out and re-fixing beads as required, which shall be deemed to be bradded unless otherwise described.

PAINTING

Execution by a Specialist Firm

E. All work under this section must be executed by a Specialist Firm, approved by the Architect.

Approved Paints

G All paints shall be obtained from the same manufacturer and shall be approved by the Architect.

H The Contractor must allow for providing the Architect with colour charts from the approved firm and for executing sample panels as required.

Generally

I All materials shall be delivered on site intact in the original drums or tins and shall be mixed and applied strictly in accordance with the manufacturer's instruction and to the approval of the Architect.

J The only addition which will be allowed to be made locally will be liquid thinners and driers supplied or recommended by the manufacturers and none shall be thinned more than approved by the Architect.

Preparation

K All surfaces to receive treatment are to be clean and dry before paint application and surface irregularities are to be removed by filling or the use of suitable abrasives.

External Rendered Surfaces

A External cement slurry finished wall which are to be painted must be clean and must be thoroughly brushed and washed to remove any dust, loose flakes or other foreign matter and must be well wetted prior to the application of finish.

Plastered Surfaces

B Internal plastered surfaces which are to be painted are to be allowed to dry out thoroughly prior to paint application. All cracks and surface imperfections are to be cut back and filled with a patent filler in accordance with the manufacturer's instructions and rubbed down to a true and even surface.

Woodwork Preparations

C Large knots in woodwork are to be cut and replace with sound wood or scorched back and after priming the surface made good with stopping. All knots are to be treated with two thin coats of patent knotting free from resin. After priming, all nails holes and other imperfections shall be filled with stopping and the whole surface rubbed down to a smooth even finish. The stopping must be "Sadofill" or other approved make.

Woodwork - Fittings

D Unless otherwise specified, fittings are to be treated with two cots of linseed oil.

Metalwork

E All rust and loose scale on steel and iron work must be removed by wire brushing and rubbing with emery paper. Where patches of ingrained rust cannot be removed they are to be thoroughly rubbed down and treated with one coat of "Galvafroid" or other zinc rich paint in accordance with the manufacturer's instructions. One coat of zinc chromate primer will then be applied followed by two undercoat and one finishing coat of gloss paint as described for Woodwork above. The Contractor is tonote that where mild steel burglar bars are housed into wood frames, the full length or the bar is to be treated before fixing.

F Galvanized metalwork is to receive one coat of white spirit or mordant degreasing solution washed off prior to the application of calcium plumbate primer followed by two undercoats and one finishing coat of gloss as previously described.

G Galvanized metal work is to be painted only where instructions are given by the Architect as in some cases galvanized metalwork is to be left untreated.

DRAINAGE

Generally
Preambles to Other Sections

A The preambles contained in other sections of this document shall apply equally hereto where applicable, so far as is consistent with the clauses following.

Notices

B The Contractor shall give all requisite noticed. Uncoloured plans will be supplied by the Architect at the Contractor's request.

Drainage Bye-Laws

C All of the works shall comply with the requirements of the drainage bye-laws made by the Local Authority and shall be executed to the satisfaction of the Architect and Local Authority.

Inspections

D The Contractor shall give written notice to the Architect for the purpose of inspections and measurements, whenever section of:-

(a) excavations are completed

(b) concrete beds are laid

(c) drains are completed

and no further work shall be executed until each stage of the work has been inspected.

Levels of Existing Drains

E The Contractor shall check the invert levels of existing drains, sewer and manholes before laying new drains, and shall notify the Architect immediately if the declared invert levels are found to be inaccurate

Pitch Impregnated Fibre Drain Pipes, Couplings and Fittings

F Pitch impregnated fibre drain couplings and fittings shall comply with B.S. 2760.

UPVC Pipes and Fittings

G UPVC pipe and fittings shall comply with B.S. 3506 Class O to be obtained from a manufacturing source approved by the Architect in writing.

Spun Cast Iron Drain Pipes and Cast Iron Fittings, Gullies etc.

H Spun cast iron drain pipes shall be coated centrifugally cast (spun) iron pipes complying with B.S.1211 Class B.

A Fittings, gullies, etc., shall be of coated cast iron and shall comply with B.S. 1130.

Concrete Pipes and Fittings

B Concrete pipes and fittings shall comply with B.S. 556. They shall be reinforced, and of sulphate resisting cement if specified.

Manhole Covers and Road Gratings

C Manhole covers and road gratings and frames shall comply with B.S. 497.

Step Irons

D Step irons shall be galvanized malleable cast iron complying with B.S. 1247.

Mesh Reinforcement

E Mesh reinforcement shall be steel fabric complying with B.S. 1221 Part A or B.S. 4483.

Setting Out

F The Contractor shall set out all drains in accordance with the drawings, and provide all profiles, etc., necessary for the execution of the work.

Excavation

G The bottoms of all excavations shall be trimmed and consolidated to the correct levels. Unauthorized excavations below the required levels shall be filled with concrete of the same composition as for drain beds, at the Contractor's expense.

H Where the bottom is insufficiently firm, the Contractor shall excavate until, in the Architect's opinion, a firm bottom is obtained and the level shall be made up with concrete of the same composition as for drain beds. Particulars of such additional work shall be agreed with the Architect's representative before the work is covered up, otherwise no claim in this respect will be entertained.

Planking and Strutting

I Care shall be taken not to undermine the foundations of the buildings and, if so directed by the Architect, planking and strutting shall be left in, or other means adopted to protect the foundations. Details of such additional items shall be agreed with the Architect's representative before the work is covered up, otherwise no claim in this respect will be entertained.

Backfilling

J Trenches for pitch impregnated fibre of UPVC pipes shall first be filled with selected screened excavated materials carefully hand-tamped between the pipe and sides of the trench, followed by 150mm - 200mm of similar materials before the general filling is carried out.

A Trenches for concrete or cast iron drains shall first be filled to a depth of 300mm with selected fine materials carefully hand-packed around the pipe. On no account shall materials be tipped into the trench until first 300mm has been completed.

B Filling shall be continued in layers not exceeding 300mm thick, well rammed and, if necessary, watered.

Laying Drains

C Drains shall be laid truly straight on line and gradient with sockets upstream and the full bore shall be unobstructed.

Pitch Impregnated Fibre Drains

D All hard obstructions shall be removed from trench bottoms before laying pitch impregnated fibre pipes. The pipes shall be bedded in sand and laid and jointed in accordance with Appendix "C" to B.S. 2760.

UPVC Drains

E UPVC drain pipes shall be laid and jointed with solvent welded joints entirely in accordance with the manufacturer's instructions.

F Pipes shall be bedded in sand after all hard obstructions have been removed from trench bottoms.

Cast Iron Drains

G Cast iron drains shall be laid on concrete beds where specified or shown on the drawings and shall be jointed with gasket of hemp, well caulked, to a depth of 30mm for 100mm pipes and 40mm for large pipes, and remainder of the socket shall be filled with molten lead or lead fibre solidly caulked.

H Connection of iron to concrete drains shall be jointed as described for concrete drains.

I Cast iron drains fixed to walls or beams shall be supported on brackets at 1,350mm centres.

J Gullies, outlets, etc., on drains under concrete floors shall be set in position at correct levels before the floors are laid.

Concrete Drains

K Concrete drains shall be jointed with one turn of tarred gaskin, well caulked and the remainder of the socket filled with cement and sand (1:3), finished with an angle fillet around the pipe. All surplus mortar shall be removed from the inside of the pipe with a badger. Where pipes are sulphate resisting, the jointing mortar shall contain sulphate resisting cement.

Concrete Beds, Haunches and Coverings

A Where specified or shown on drawings, drains shall be laid on concrete, (105kg/sq.cm - 40mm aggregate), beds 100mm thick, 400mm wide for 100mm diameter drains and 450mm wide diameter drains. The concrete shall be haunched up both sides of the barrel to give lateral support.

B Where drains, other than cast iron drains, are laid under buildings or pavings carrying vehicular traffic, they shall be completely surrounded in concrete, (105kg/sq.cm - 40mm aggregate), 150mm thick, (i.e. 400mm x 400mm overall for 100mm pipes and 450 x 450mm overall for 150mm pipes). Where directed, drain beds shall be reinforced.

C Gullies shall be bedded and surrounded in concrete 105kg/sq.cm - 40mm aggregate minimum 150mm thick all round.

Sleeves

D All drains passing through walls or foundations shall have sleeves of cast iron pipe of sufficient size to allow a clearance round the drain.

Benching

E Benching in bottom of manholes shall be concrete (105kg/sq.cm - 40mm aggregate) to falls of not less than 10 degrees to channels finished with cement and sand (1:2), 25mm thick, trowelled hard and smooth with all angles rounded.

Bedding and Sealing Covers and Frames

F Frames to manhole covers shall be bedded in cement mortar (1:3), and the covers in grease and sand.

Testing

G All drains and manholes shall be tested for water tightness and straightness to the satisfaction, and in the present of, the Architects and the Local Authority. Drains shall be filled with water to a head of 1.50 meters and are to be tested in sections agreed with the Architect:-

(i) after jointing
(ii) after haunching and backfilling
(iii) after completion of the works

H The Contractor shall provide all necessary testing apparatus and shall carry out such other tests as are required by the Architect and the Local Authority.

Clean and Flush all Drains

I All drains, gullies, manholes, etc., shall be cored, cleaned and flushed on completion.

Method of Measurement

A Where not otherwise stated, the starting level for trench manhole excavation shall be:-

(i) the formation level in areas where the site is excavated to reduce levels.

(ii) existing ground level in areas where no excavation is required, or where filling is required.

B The depths of all the trenches in the following description lie within the same 1.5m stages as the average depths stated.

C Prices for excavating pipes trenches shall be deemed to include keeping them free from general water (i.e. all water except spring or running water).

D Notwithstanding the provisions of SMM Clause V.7 (a) to (c) the descriptions of excavating manholes, yard gullies, septic tanks and soakpits shall be deemed to include grading bottoms, planking and strutting, return filling and compacting, disposal of surplus soil and keeping excavation free from water.

E Prices for building pipes into manholes shall include for building in on rake where necessary.

F Prices for concrete beds, benchings and covering for pipes laid in trenches, shall be deemed to include for any necessary formwork. Formwork required for beds, etc., for pipes above ground, and for casing to vertical pipes, is referred to in the descriptions of such items.

G Prices for all gullies shall be deemed to include for all necessary excavation, return filling, disposal of surplus excavated materials, planking and strutting, and trimming and ramming bottoms.

EXTERNAL PAVINGS

Generally

A. The Preambles contained in other sections of the document shall apply equally to this sections so far as is consistent with the following clauses.

Materials

Soil for Planted Areas

B. Soil for planted areas shall be vegetable soil free from roots and rubbish and treated with weed killer to prevent the growth of weeds.

Sand for Filling under Footpaths

C. Sand for filing under footpaths shall be clean, dry, pit or river sand, free from vegetable soil, roots and rubbish.

Crusher Dust for Sub-Base Course of Macadam Paving

D. Crusher dust shall be from an approved source and shall be free from clay or other deleterious matter.

Stone for Base Course to Macadam Paving.

E. Stone for base course to macadam paving shall be 40mm gauge, clean and hard and free from clay or other deleterious matter.

Blinding For Stone Base Course

F. Blinding for stone base course shall be 4mm gauge hard stone chippings, free from clay, dust or other deleterious matter.

Precast Paving Slabs

G. Precast paving slabs shall comply with B.S. 368 except for sizes.

Kerbs

H. Precast concrete kerbs shall comply with B.S. 340, and shall be finished true and smooth on all exposed faces.

Prime Coat for Macadam Paving

J. The prime coat for macadam paving shall be bitumen grade M.C.I.

Bitumen for surfacing

A. The bitumen for surfacing shall be made 500/700 grade bitumen.

Workmanship

Generally

B. The sub-grade, sub-base and base courses for roads and parking area shall be prepared and laid at a convenient time before completion of the contract, as shall be agreed between the Architect and the Contractor, together with their kerbs and foundations.

C. The wiring course shall be applied at a later date, and prior to laying, the base course shall be made good in accordance with the requirements specified herein. The Contractor shall make good at his own expense any damage to kerbs.

Surveying

D. The Contractor shall verify all dimensions and levels prior to the commencement of work.

E. All surveying necessary for the accomplishment of the works shall be done by the Contractor at his own expense and he shall give notice of his intention to carry out such work in order that the arrangements can be made for supervision and checking. The Contractor shall also provide, without extra charge, all necessary instruments, appliances, labour and any other materials required for checking the survey work.

F. The Contractor shall make all necessary surveys using given bench marks as reference points. These bench marks he shall carefully preserve.

G. The Contractor shall draft, in accordance with these surveys, all plans and drawings which are necessary for the completion of the work, and shall submit these plans and drawings to the Architect for approval in writing.

Levels, Falls, Crossfalls and Cambers

H. The works shall be executed to the levels, falls, crossfalls and cambers shown on the drawings

Accuracy

J. The Contractor shall be responsible for ensuring that the works are carried out to the line, levels and dimensions shown on the drawings, and shall provide camber gauges and straight edges for checking to ensure that the surfaces are within the following tolerances:-

(a) **Sub-Grade** -

The camber or crossfall shall not vary more than 20mm from that shown on the drawings. In the longitudinal direction the variations from a 3 meter straight edge placed parallel to the centre line of the road shall not exceed 12mm.

(b) **Base**

The camber or crossfall shall not vary more than 12mm from that shown on the drawings. The variation on the longitudinal section shall be as above for sub-grade

Sub-Grade

A. The sub-grade shall be shaped to the required falls and cambers and any depressions filled with approved materials having a minimum C.B.R. of 8 percent. This value shall be obtained at optimum moisture content and compacted to 100 percent of the maximum dry density as determined by B.S x1377. The Contractor shall carry out standard compacting tests on the sub-grade in accordance with Test Nr 10 of B.S. 1377. Such tests shall be taken at 30metre intervals. The standard of compaction required shall be 98 percent of the maximum dry density as determined by Test No. 9 of B.S. 1377.

B. The sub-grade shall be approved by the Architect before any materials to be used in construction of the carriageway are deposited or laid.

Sub-Base Course

C. The sub-base shall consist of a layer of crusher dust finishing to the thickness specified after compaction. The bed shall be watered as necessary and rolled to produce a smooth and uniform surface with no irregularities.

Base Course

D. The base course shall consist of a layer of stone in which the interstices shall be filled by application of crusher fines after the stone is in place, to finish to the thickness specified after compaction. The base course shall not be blinded with crusher fines, but with 4mm gauge stone chippings to provide a clean hard surface. If any irregularities develop, they should be corrected by loosening the material at these places and adding or removing material and recompaction until the surface is smooth and uniform with no irregularities.

Application of Bitumen

E. The plant used by the Contractor for transporting, heating and spraying bitumen shall be in suitable rubber-tyred units and shall ensure adequate and uniform heating without the introduction of steam or moisture, and giving rise to the cooking or burning of the bitumen, and shall be fitted with a thermometer and heating control. Distributors shall be equipped to provide a constant rate of application per square meter of surface and there shall be visible speedometer indicating the speed of the vehicle in meters per minute.

A. Spray bars shall be capable of spreading the bitumen evenly to the full width of the work. The bitumen shall be heated to the temperature specified below and sprayed on the clean surface of the base at the rates specified.

B. Application temperatures shall be in accordance with those recommended by the manufacturer, or where this information is not available, they shall be as follows:-

Bitumen Grade	Sprayed Temperature (Degree Celcius)
N.C.I	54-80
500/700	124-149

Prime Coat

C. Prior to the application of the prime coat, the surface of the base shall be swept clean of dust and foreign materials to the satisfaction of the Architect. Approximately 30 minutes before applying the bitumen the surface of the base shall be lightly sprayed with water.

D. The prime coat shall be applied at the rate of 0.70 litres per square meter.

Wearing Course

E. After the application of the priming coat, and where directed and approved by the Architect, the Contractor shall lay bitumen type 500/700 spread at the rate of 3 square meters per 5 litres immediately followed by spreading dry, clean approved 12mm chippings at the rate of 130 square meters per cubic meter, rolled six to eight passes of a six to eight tonne roller. A second and similar surfacing layer shall be laid at the end of the defects liability period.

F. Alternatively, where specified, the wearing course shall consist of a premix macadam carpet of 500/700 grade bitumen and approved quality aggregate graded and mixed together prior to laying in the proportions and by the methods given in B.S. 1621 table 4, laid to finish to the thicknesses shown after compaction. The compaction shall be achieved with six to eight passes of a six to eight tonne roller.

Wet Weather

G. No bitumen spraying shall be carried out when either the carriageway surface of the aggregate are wet, without the prior approval, in writing, of the Architect who may allow such work to proceed by the use of an approved adhesive agent at the Contractor's expense

Murram Roads

H. Murram roads shall be laid in layers not exceeding 150mm compacted thickness, to finish compacted to the thicknesses shown on the drawings.

J. Each layer shall be watered, rolled and compacted as previously described herein to produce a smooth dense surface free of all irregularities.

Laying Precast Paving Slabs

K. Precast paving slabs shall be bedded on a sandbed compacted to the thickness specified with 6mm wide joints, filled and pointed with cement mortar coloured to match the colour of the slabs and recessed 5mm deep. The paving shall be finished true and even to the falls shown on the drawings with no surface irregularities.

Grassing

L. Grassing shall be carried out by a Specialist using approved local grass. Prices for grass shall include for tending, watering, cutting and keeping weed free for a period of twelve months, to produce a dense and healthy weed free grass carpet.

Note:
The Contractor shall include here for any cost they may consider necessary and over and above costs which they believe they cannot recover in any other section of these Bills of Quantities.

PRELIMINARIES

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PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

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. Items described in this section cover the minimum requirements and conditions necessary for the full and proper execution of the contract. The tenderer is required to read and fully understand his obligations under each item and thus assess his costs for complying with the same for the duration of the contract. **Should no price be inserted against any item**, it shall be assumed that the tenderer has covered any costs associated with that item elsewhere in the Bills of quantities and shall nevertheless be required to comply with such and all items of preliminaries.	
B	**SCOPE OF CONTRACT AND DESCRIPTION OF WORKS**	
	The Works to be carried out comprises **PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY.**	
C	**MEASUREMENTS**	
	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 Clause 13 of the Conditions of Contract. The discrepancies shall then be treated as a variation and be dealt with in accordance with Clause 13 of the said Conditions.	
D	**LOCATION OF SITE** The site for the proposed works is at **ITEN, ELGEYO MARAKWET COUNTY** The Contractor shall be deemed to have visited the site and satisfied himself as to: a) The nature and position of the site b) The amount of the demolitions (if any), rubbish or debris to be cleared away before commencement c)The nature, current usage, proximity and size of adjoining property and building 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 all matters relating to site access and erection of temporary structures and must ensure adherence to the requirements of these authorities. e) The risk of injury to the property adjacent to the site, or to the occupiers of such property. f) The nature of the materials to be excavated and the conditions under which the works will have to be carried out, the supply of and conditions affecting labour and the facilities for obtaining the articles or materials referred to in these Bills of Quantities. Any damage caused to existing accesses and roads must be made good as directed by and to the approval of the Architect. The Contractor must obtain the approval of the Architect in respect of the usage of any materials found on site. No claim will be allowed on the ground of any misunderstanding or misapprehension in respect of any such matter or for travelling or other expenses which may be incurred by the Contractor in visiting the site or preparing the tender for the works.	
	Carried to collection	**-**

A	**DRAWINGS** The Contractor will be deemed to have examined the drawings before tendering and to have satisfied himself regarding their details and regarding the nature and extent of the works and the method of construction involved. No claims arising out of misapprehension in these respects will be allowed. Drawings may be seen by appointment at the offices of the Architect during normal working hours. The works are to be executed in accordance with the drawings referred to in the schedule of drawings used in the preparation of Bills of Quantities together with Contract drawings and any drawings which may be supplied in amplification or amendment thereof.	
B	**SITE DIARY AND INSTRUCTIONS BOOK** A site instructions book shall be provided by the Contractor in the form of a double foolscap size stiff covered ruled book which should be kept available at all times at the site. Entries made in the site instructions book by the Architect or his duly appointed representative shall be deemed to be the Architects instructions given in writing and the Contractor shall confirm the same to the Architect within Seven (7) clear working days All persons entering the site or other working area on whatever business shall be instructed by the Contractor to record their visit in the site diary giving their name, address and reason for visiting the site.	
C	**SIGNING OF TENDER DOCUMENTS** The biddet shall append his/her signature and/or company's rubberstamp on each and every page of the tender document	
D	**CLEARING AWAY** The Contractor shall remove all temporary works, rubbish, debris and surplus materials from the site as they accumulate and upon completion of the works, remove and clear away all plant, equipment, rubbish, unused materials and stains and leave in a clean and tidy state to the reasonable satisfaction of the Project Manager. The whole of the works shall be delivered up clean, complete and in perfect condition in every respect to the satisfaction of the Project Manager.	
E	**DEMOLITIONS AND ALTERATIONS** The Contractor is to allow for all temporary protection required during the works including ordinary and special dust screens, hoardings, barriers, warning signs, etc as directed by the Project Manager and as necessary for the adequate propping and protection of existing property, finishes, workmen employed on the site, employer's agents and the public. Any damage or loss incurred due to the insufficiency of such protection must be made good by the Contractor. All protective devices are to be removed on completion of the works and any necessary making good consequent upon this is to be excecuted to the satisfaction of the Project Manager The works shall be propped, strutted and supported as necessary before any alteration or demolition work commences. Prices shall include for all cleaning and preparatory work to structure and finishes and for making good to all finishes on completion whether or not specifically described. Unless described as set aside for re-use all arising debris and surplus materials shall be carefully removed from building and carterd away from site. The Contractor shall be entirely responsible for any breakage or damage which may occur to materials required for re-use during their removal unless it is certified by the Project Manager that such damage or breakage was inevitable as a result of the condition of the item concerned	
	Carried to collection	**-**

A	**CLAIMS** It shall be a condition of this contract that upon it becoming reasonably apparent to the Contractor that he has incurred losses and / or expenses due to any of the contract conditions, or by any other reason whatsoever, he shall present such a claim or intent to claim notice to the PROJECT MANAGER within the contract period. No claim shall be entertained upon the expiry of the said contact period.	
B	**PAYMENTS** The tenderer's attention is drawn to the fact that the CLIENT DOES NOT MAKE ADVANCE PAYMENTS but pays for work done and materials delivered to site: all in accordance with Clause 14 of the Conditions of Contract Agreement. In order to facilitate this, a list of the general component elements for the works is given at the summary page of these specifications and the tenderer is requested to break down his tender sum commensurate to the said elements	
C	**PREVENTION OF ACCIDENT, DAMAGE OR LOSS** The Contractor is notified that these works are to be carried out on a restricted site where the client is going on with other nomal activities. The Contractor is thus instructed to take reasonable care in the execution of the works as to prevent accidents, damage or loss and disruption of activities beeing carried out by the Client. The Contractor shall allow in his rates any expense he deemed necessary by taking such care within the site.	
D	**WORKING CONDITIONS** The Contractor shall allow in his rates for any interferance that he may encounter in the course of the works for the Client may in some cases ask the Contractor not to proceed with the works until some activities within the site are completed, as the facility will be operating as usual during the course of the contract.	
E	**SIGNBOARD** The Contractor shall provide and erect where directed and maintain during the whole period of the building operation and remove at completion one approved temporary notice board to the PROJECT MANAGER'S standard design giving a brief description of the works and showing the names of the employer, Contractor and the consultants, with sufficient space to append the names of the sub-contractors and suppliers when known. No other signboards or advertising will be permitted without the written authority of the Employer and PROJECT MANAGER. The Contractor will be required to strictly adhere to this rule throughout the course of the Contract.	
F	**LABOUR CAMPS** The Contractor shall not be allowed to house labour on site. Allow for transporting workers to and from the site during the tenure of the contract.	
	Carried to collection	**-**

A **MATERIALS FROM DEMOLITIONS**

All materials arising from demolitions and down takings are deemed to be the property of the employer. No claim will be entertained on account of employer excising this right to retain the materials

The Contractor must obtain the approval of the Architect in respect to the usage of any materials found on site.

All down takings shall be carefully removed, taken down, dismantled and stored on site until instructed by the Architect to remove from the site. Such materials shall only be incorporated in the new works if required by the Architect in which case appropriate adjustments will be made in the final account for the cost of labour, screws etc. for fixing such down takings in the new works.

B **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.

C **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/ she deems that he/she may incur by having to complete these works within the stipulated contract period.

D **PAYMENT FOR MATERIALS ON SITE**

All materials for incorporation in the works must be stored on or adjacent to the site of the works before payment is effected by the Architect This is to include the materials of the Main Contractor, Sub - contractors and Nominated Suppliers.

Materials off site for them to qualify in the interim payment certificates must be stored in an approved bonded warehouse adequately insured against theft and damage for the period of storage all to the approval of the Architect.

E **EXISTING SERVICES**

Prior to the commencement of any work, the Contractor is to ascertain from the relevant authority the exact position, depth and level of all existing services in the area and he/she shall make whatever provisions may be required by the authorities concerned for the support, maintenance and protection of such services.

F **CONTRACT COMPLETION PERIOD**

The contract completion period in accordance with condition 8 of the Conditions of contract must be adhered to.

The 'PROJECT MANAGER' shall strictly monitor the Contractors progress in relation to the progress chart and should it be found necessary the 'PROJECT MANAGER' shall inform the Contractor in writing that his actual performance on site is not satisfactory .In all such cases the Contractor shall accelerate his rate of performance production and progress by all means such as additional labour,plant, e.t.c and working overtime all at his cost.

Carried to collection **-**

A	**CONTRACTOR'S SUPERINTENDENCE/ SITE AGENT** The Contractor shall constantly keep on the works a literate English fluent speaking Agent or Representative, competent and experienced in the kind of work involved, who shall give his whole time to the superintendence of the works. Such Agent or Representative shall receive on behalf of the Contractor, directions and instructions from the Architect and such directions and instructions shall be deemed to be given to the Contractor in accordance with conditions of Contract. The Agent shall not be replaced without the specific approval of the Architect.	
B	**PROPRIETARY MATERIALS** Where proprietary materials are specified in the Specifications, the Contractor may propose the use of equivalent materials from other manufacturers but of equal quality for approval by the Architect. All materials and goods, where specified to be obtained from a particular manufacturer or supplier are to be used or fixed strictly in accordance with their instructions.	
C	**BID SECURITY** The tenderer shall provide a Bid Security not exceeding 2% in accordance with clause 19 of the Instructions to Tenderers.	
D	**TENDER DOCUMENTS** Tender documents are as listed in Clause 6 of the Instruction to Tenderer's	
E	**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 letter accompanying these Tender Documents or as indicated in the advertisement. Tenders delivered/received later than the above time will not be opened.	
F	**VALUE ADDED TAX** The Contractor's attention is drawn to the Legal Notice in the Finance Act part 3 Section 21(b) operative from 1st September, 1993 which requires payment of VAT on all contracts. The Contractor should therefore include allowance in his rates and prices for prices for VAT and any other Government taxes currently in force. The tenderer is advised that in accordance with Government public notice No. 35 & 36 Dated 11th September 2003 operational from 1st October 2003, VAT will be deducted against the contract sum at the prevailing rate by the Employer and remitted directly to the Commissioner of VAT through all interim certificates. It should however be noted that this is not additional tax but a new mode of payment for VAT, any excess payment will be refundable once the Contractor has submitted monthly returns to the Commissioner of VAT who will do the refunds when satisfied that the VAT regulations have been complied with. **NB**: The Contractor should therefore include the tax within the rates.	
	Carried to collection	**-**

A **FORM OF CONTRACT**

The form of contract will be the one included in the Republic of Kenya Standard Tender Documents for Procurements of Works (2022 Edition) hereby attached and the Conditions of Contract are those attached thereto.

If the contractor considers that compliance with any of the Conditions of Contract involves any expenses he will price them accordingly.

No claim shall be allowed arising from the Contractors Compliance with any of the conditions of Contract. These are numbered from 1 to 20 of these tender Documents. Particulars of the insertions to be made in the Appendix of the Contract Agreement will be found in the Particular Preliminaries of these Bills of Quantities. .

The Employer can cancel, amend or insert any other clause before the contract agreement is signed

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 Contract Agreement: -

Period of Final Measurement	**3** Months From Practical completion
Defects Liability Period	12 Months from Practical completion
Date for Possession	To be agreed with the Project Manager
Date for Completion	..... Weeks from date of Possession
Performance Security	10% of the tender sum
Liquidated and Ascertained	At the rate of Kshs.. 0.005%... per day or part thereof:

Prime cost sums for which .....
The Contractor desires to tender .....

Period of Interim Certificates	Monthly
Minimum amount of Interim Certificates	5% of the accepted contract amount
Period of Honouring Certificates	30 days
Percentage of Certified Value Retained	10%
Limit of retention fund	10% **of the Contract sum**

Carried to collection -

	COLLECTION	
	Brought forward from page PP/1	-
	Brought forward from page PP/2	-
	Brought forward from page PP/3	-
	Brought forward from page PP/4	-
	Brought forward from page PP/5	-
	Brought forward from page PP/6	-
	Total for Particular Preliminaries Carried to Preliminaries Summary	**-**

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

A.	**EXCEPTION TO THE STANDARD METHOD OF MEASUREMENT** ***Attendance ;*** Clause B19(a) of the Standard Method of Measurement is deleted and the following clause is substituted:- Attendance on nominated Sub-Contractors shall be given as an item in each case shall be deemed to include: allowing use of standing scaffolding, mess rooms, sanitary accommodation and welfare facilities; provision of special scaffolding where necessary; providing space for office accommodation and for storage of plant and materials; providing light and water for their work: clearing away rubbish; unloading checking and hoisting: providing electric power and removing and replacing duct covers, pipe casings and the like necessary for the execution and testing of Sub- Contractors' work and being responsible for the accuracy of the same. ***Fix Only:-*** "Fix Only" shall mean take delivery at nearest railway station (Unless otherwise stated), pay all demurrage charges, load and transport to site where necessary, unload, store, unpack, assemble as necessary, distribute to position, hoist and fix only.	
B	**EMPLOYER** EMPLOYER The Employer is the **COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY** . The term "Employer","Procuring Entity","Government" and " **COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY** wherever used in the contract document shall be synonymous.	
C	**PROJECT MANAGER** The term "P.M." wherever used in these Bills of Quantities shall be deemed to imply the Project Manager as defined in Condition 1 of the Conditions of Contract. In this contract the projetc manager is the **COUNTY PUBLIC WORKS OFFICER, STATE DEPARTMENT FOR PUBLIC WORKS, ELGEYO MARAKWET COUNTY; PO BOX 312 30700 ITEN**	
D	**ARCHITECT** The term "Architect" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Public Works officer, P.O. Box 312-30700 ITEN	
E	**QUANTITY SURVEYOR** The term "Quantity Surveyor" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Public Works officer, P.O. Box 312-30700 ITEN	
F	**ELECTRICAL ENGINEER** The term "Electrical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Public Works officer, P.O. Box 312-30700 ITEN	
	Carried to collection	

A	**MECHANICAL ENGINEER** The term "Mechanical Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Public Works officer, P.O. Box 312-30700 ITEN	
B	**STRUCTURAL ENGINEER** The term "Structural Engineer" shall be deemed to mean "The P.M." as defined above whose address unless otherwise notified is County Public Works officer, P.O. Box 312-30700 ITEN	
C	**SUFFICIENCY OF TENDER** The contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices stated in the priced Bills of Quantities. Rates and prices quoted shall cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.	
D	**SITE LEVELS** Before commencing work the Contractor must arrange for and agree with the Architect, Engineer and Quantity Surveyor the existing site levels and similarly establish and agree on a bench mark.	
E	**TOPOGRAPHY SURVEY** Before commencing work the Contractor must arrange and provide the Topographical survey at their cost to the approval of the Architect, Engineer and Quantity Surveyor	
F	**SETTING OUT** The contractor shall set out works in accordance with the dimensions and levels shown on the drawings and shall be responsible of the correctness of all dimensions and levels set out by him and he will be required to amend all errors arising from inaccurate setting out at his own cost and expenses. In the event of any error or discrepancy in the dimensions or levels marked on the drawings being discovered, such errors or discrepancies must be reported by the contractor to the architect for his immediate attention. No work shall be commenced by the contractor until he has received written instructions from the Architect to adjust such discrepancies which may be proved, upon receipt of such instructions and no claim for extra expenses or relief from the provisions of the Conditions of the Contract , any discrepancy or error in the dimensions or levels shown on the drawings may be made thereafter. Before any work is commenced by Sub-Contractors or specialist firms, dimensions must be checked on the site and/or building and agreed with the Contractor irrespective of the comparable dimensions shown on the drawings. The Contractor shall be responsible for the accuracy of such dimensions.	
G	**PERFORMANCE BOND** The Contractor shall find and submit on the Form of Tender an approved bank who will be willing to be bound to the Government in an amount equal to five per cent (5) of the Contract amount for the due performances of the Contract up to the date of completion as certified by the PROJECT MANAGER and who will, when and if called upon, sign a Bond to that effect on the relevant standard form included herein. (without the addition of any limitations) on the same day as the Contract Agreement is signed, by the Government, the Contractor shall furnish within seven days another Surety to the approval of the Government.	
	Carried to collection	

A	**PLANT, TOOLS AND VEHICLES** Allow for providing all scaffolding, plant, tools and vehicles required for the works except in so far as may be stated otherwise herein and except for such items specifically and only required for the use of nominated Sub-Contractors as described herein. No timber used for scaffolding, formwork or temporary works of any kind shall be used afterwards in the permanent work.	
B	**TRANSPORT.** Allow for transport of workmen, materials, etc., to and from the site at such hours and by such routes as may be permitted by the competent authorities.	
C	**MATERIALS AND WORKMANSHIP.** All materials and workmanship used in the execution of the work shall be of the best quality and description unless otherwise stated. The Contractor shall order all materials to be obtained from overseas immediately after the Contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that they are onsite when required for use in the works. The Bills of Quantities shall not be used for the purpose of ordering materials.	
D	**SIGN FOR MATERIALS SUPPLIED.** The Contractor will be required to sign a receipt for all articles and materials supplied by the PROJECT MANAGER at the time of taking deliver thereof, as having received them in good order and condition, and will thereafter be responsible for any loss or damage and for replacements of any such loss or damage with articles and/or materials which will be supplied by the PROJECT MANAGER at the current market prices including Customs Duty and V.A.T., all at the Contractor's own cost and expense, to the satisfaction of the PROJECT MANAGER	
E	**STORAGE OF MATERIALS** The Contractor shall provide at his own risk and cost where directed on the site weather proof lock-up sheds and make good damaged or disturbed surfaces upon completion to the satisfaction of the PROJECT MANAGER Nominated Sub-Contractors are to be made liable for the cost of any storage accommodation provided especially for their use.	
F	**SAMPLES** The Contractor shall furnish at his own cost any samples of materials or workmanship including concrete test cubes required for the works that may be called for by the PROJECT MANAGER for his approval until such samples are approved by the PROJECT MANAGER and the PROJECT MANAGER, may reject any materials or workmanship not in his opinion to be up to approved samples. The PROJECT MANAGER shall arrange for the testing of such materials as he may at his discretion deem desirable, but the testing shall be made at the expense of the Contractor and not at the expense of the PROJECT MANAGER. The Contractor shall pay for the testing in accordance with the current scale of testing charges laid down by the Ministry of Public Works. The procedure for submitting samples of materials for testing and the method of marking for identification shall be as laid down by the PROJECT MANAGER The Contractor shall allow in his tender for such samples and tests except those in connection with nominated sub-contractors' work.	
	Carried to collection	

A **MATERIAL TESTS**

Allow for testing all installations required to be tested and provide everything necessary for this purpose and leave in perfect working order to the satisfaction of the PROJECT MANAGER and Local Authority.

Allow for all expenses in connection with testing of materials as specified hereunder including the supply and preparation of materials and their packing and conveyance to an approved Materials Testing Laboratory, Laboratory charges, etc. The following tests will be measured according to the number of tests actually called for by the PROJECT MANAGER and carried out but unsuccessful tests will not be included in the measurement.

TYPE OF TEST
Water Test (1 Litre) .....40No @.....
Sand Test (0.1 Cubic Metre) .....40No @.....
Aggregate Test (0.1 Cubic Metre).... 40No @.....
Reinforcement Test (1 Linear Metre bar of various diameter from 6mm to 32mm) .....80No @.....
Concrete Test (Each test comprising nine standard cubes)..... 200No @.....

B **GOVERNMENT ACTS REGARDING WORK, PEOPLE ETC.**

Allow for complying with all Government Acts, Orders and Regulations in connection with the employment of Labour and other matters related to the execution of the works. In particular the Contractor's attention is drawn to the provisions of the Factory Act 1950 and his tender must include for all costs arising or resulting from compliance with any Act, Order or Regulation relating to Insurances, pensions and holidays for workpeople or so the safety, health and welfare of the workpeople.

The Contractor must make himself fully acquainted with current Acts and Regulations, including Police Regulations regarding the movement, housing, security and control of labour, labour camps , passes for transport, etc. It is most important that the Contractor, before tendering, shall obtain from the relevant Authority the fullest information regarding all such regulations and/or restrictions which may affect the organisation of the works, supply and control of labour, etc., and allow accordingly in his tender. No claim in respect of want of knowledge in this connection will be entertained

C **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

D **EXISTING PROPERTY.**

The Contractor shall take every precaution to avoid damage to all existing property including roads, cables, drains and other services and he will be held responsible for and shall make good all such damage arising from the execution of this contract at his own expense to the satisfaction of the PROJECT MANAGER

Carried to collection

A	**SECURITY OF WORKS ETC.** The contractor shall be entirely responsible and shall pay security of all works, stores, materials, plant, personnel etc. both his own and sub-contractors and shall also provide all necessary watching, lighting, and other precautions as necessary to ensure the security, the safety and protection of the public. IN PARTICULAR, THE CONTRACTOR'S ATTENTION IS DRAWN TO THE FACT THAT OPERATIONS IN THE EXISTING BUILDING/PREMISE SHALL NOT BE INTERFERED WITH, FURTHERMORE CONSTRUCTION PROCESS SHALL NOT EXPOSE THE PREMISE TO ANY THREAT OF ILLEGAL ENTRY OR EXIT, AND THE CONTRACTOR MUST FAMILIARISE HIMSELF OR HERSELF WITH THE SECURITY REQUIREMENTS. WHERE NECESSARY HE SHALL WORK IN STAGES UPON APPROVAL BY THE PROJECT MANAGER. The contractor must allow the cost and time implication associated with the consequences of adherence to the above and no claim can be made thereafter The Contractor must include in his tender for all necessary expenditure incurred in complying with the security regulations of the Pension Fund especially in relation to entry and exit from the site of the works and movement within the site. The Contractor shall be responsible for ensuring that all matters including drawings, letters and documentation relating to the project are dealt with confidentially.	
B	**SAFETY, HEALTH AND WELFARE OF WORKERS** The Contractor shall allow for providing for the safety, health and welfare of work people and for complying with any relevant Ordinances, Regulations or Union Agreement In addition to complying with the requirements of the Occupational Safety & Health Act 2007 and the Factories Act, the Contractor and Sub-Contractors shall be required to comply in all respects with the Factories (Building Operations and Work of Engineering Construction) rules together with the Construction Safety Plan in compliance with International Labour Organizations (ILO) Regulations. The Contractor will further be required to identify a Site Safety Officer in accordance with the above Rules who will be responsible for the health and safety of workers on the site. The Contractor will also be required to provide approved good quality hard hats, gumboots and other necessary protective gear for all workers on site including Sub-Contractors workers and also for the exclusive use by the Clerk of Works and representatives of the Employer and Consultants. The Tenderers attention is drawn to the fact that the Employer reserves the right to hold back the amount priced against this Clause either in full or in part due to any non-performance on the Contractors part of his obligations under this Clause. The tenderers attention is further drawn to the fact that he is required to submit with his tender a detailed write-up on how he intends to implement the above Construction Safety Plan. It should be noted that this write-up will form a heavily weighted criteria in the evaluation of the tenders. Adequate temporary Notices and Signs shall be posted to indicate e.g. that building operations are in progress and entry is at one's own risk or trespassers are liable to be prosecuted or such other Notices and Signs as the PROJECT MANAGER may consider necessary from time to time. The design and location of such signs will be to the approval of the PROJECT MANAGER **Carried to collection**	

A **ACCESS TO SITE AND TEMPORARY ROADS.**

Means of access to the Site shall be agreed with the PROJECT MANAGER prior to commencement of the work and Contractor must allow for building any necessary temporary access roads (approximately 70 metres long) for the transport of the materials, plant and workmen as may be required for the complete execution of the works including the provision of temporary culverts, crossings, bridges, or any other means of gaining access to the Site. Upon completion of the works, the Contractor shall remove such temporary access roads; temporary culverts, bridges, etc., and make good and reinstate all works and surfaces disturbed to the satisfaction of the PROJECT MANAGER

B **AREA TO BE OCCUPIED BY THE CONTRACTOR**

The area of the site which may be occupied by the Contractor for use of storage and for the purpose of erecting workshops, etc., shall be defined on site by the PROJECT MANAGER

C **OFFICE ETC. FOR THE PROJECT MANAGER**

The Contractor shall provide a space and maintain where directed on site a properly ventilated office space for the consultants, having a minimum floor area of 40 Square Metres complete with furniture (Tables, chairs , printer e.t.c). Provision shall be made for artificial lighting and cleaning facilities for the duration of the works.

D **WATER FOR THE WORKS**

The Contractor shall provide at his own risk and cost all necessary water required for use in the works. The Contractor must make his own arrangements for connection to the nearest suitable water main and for metering the water used. He must also provide temporary tanks and meters as required at his own cost and clear away when no longer required and make good on completion to the entire satisfaction of the PROJECT MANAGER . The Contractor shall pay all charges in connection herewith. No guarantee is given or implied that sufficient water will be available from mains and the Contractor must make his own arrangements for augmenting this supply at his own cost. 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.

All water shall be fresh, clean and pure, free from earthly vegetable or organic matter, acid or alkaline substance in solution or suspension and shall be tested whenever required by the Architect.

No claims for lack of water or water pressure will however be entertained.

E **LIGHTING AND POWER**

The contractor shall provide at his own risk and cost all temporary artificial lighting and power for use on the works including all sub-contractors and specialists' requirements and including all temporary connections, wiring, fittings etc. and clearing away on completion.

The Contractor shall pay all fees, bills and obtain all permits in connection therewith without charge to subcontractors.

No claims due to lack of electricity or due to power fluctuations will be accepted

F **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.

Carried to collection

A **SANITATION OF THE WORKS**

The sanitation of the works shall be provided, maintained and removed on completion by the Contractor to the satisfaction of the PROJECT MANAGER, health department and local Authorities.

The sanitation shall be for the use by Contractors and sub- Contractors workmen etc. without charge.

The Latrine/toilet shall be enclosed plastered and painted masonry wall, corrugated sheets roofs, with concrete tiled floors to facilitate washing. Their location shall be agreed with the Architects and the works shall not be commenced before the sanitary accommodation has been approved by the above mentioned authorities.

The Contractor will be required to pay all conservancy charges and shall ensure clean daily maintenance and disinfecting of the latrines/toilet, and not less than once per week, the whole area shall be sprayed with disinfectant and insecticides and any temporary drains shall be removed and all works and surfaces disturbed made good and then the whole area disinfected and left clean and free from pollution to the satisfaction of the Architect and local authorities.

B **CLEANING, REMOVAL OF PLANT AND RUBBISH ETC**

The Contractor shall upon completion of the works remove and clear away all temporary buildings, scaffolding, plant, rubbish and unused materials, surplus excavated materials and shall leave the whole of the site of the works in a clean and tidy state to the satisfaction of the Architect, including clearing away and making good all traces of dirt.

Particular care shall be taken in leaving windows, floors and fittings clean and the removal of all paint and cement stains therefrom.

He shall also remove all rubbish and dirt from the site as it accumulates or as directed by the Architect. The Contractor is to find his own dump and shall pay all charges in connection therewith.

C **PROVISIONAL SUMS.**

The term "Provisional Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7(i) of the Standard Method of Measurement mentioned. Such sums are net and no addition shall be made to them for profit.

D **PRIME COST (OR P.C.) SUMS.**

The term "Prime Cost Sum" or "P.C. Sum" wherever used in these Bills of Quantities shall have the meaning stated in Section A item A7 (ii) of the Standard Method of Measurement . Persons or firms nominated by the PROJECT MANAGER to execute work or to provide and fix materials or goods as stated in Condition No. 5 of the Conditions of Contract are described herein as Nominated Sub-Contractors.

Persons or firms so nominated to supply goods or materials are described herein as Nominated Suppliers.

Carried to collection

A **PROGRESS CHART/SCHEDULE**

The Contractor shall furnish to the PROJECT MANAGER within 14 days of the possession of site a Time progress Chart for approval and display in the site offices showing the time and order in which he proposes to carry out the works within the total construction time stated in the contract. The chart will show in detail the construction time and order in which each section of the work is to be carried out and be sub-divided into trades and tasks. If the contractor proposes sectional completion of the project he must plan this in detail including access roads, and services and this shall be reflected on the chart

At the end of each week the contractor is to mark on the chart in a different colour the actual time taken to complete the respective stages and sections of the work. The contractor shall obtain the PROJECT MANAGER'S approval on the chart and then shall supply copies to the PROJECT MANAGER.

If at any time it should appear to the PROJECT MANAGER that the actual progress of the works does not conform to the approved programme progress schedule the contractor shall produce at the request of the PROJECT MANAGER a revised programme showing the modifications and accelerations to the approved programme necessary to ensure completion of the works within the agreed contract period including a cash flow projection for the revised program.

The submission of and approval by the PROJECT MANAGER of such revisions and accelerations shall not entitle the Contractor to any extra payment or extension of time and shall not relieve the contractor of any duties or obligations or responsibilities under the contract

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" (as previously described) following P.C. Sums shall be adjusted pro-rata to the physical extent of the work executed (not pro-rata to the amount paid) and this shall apply even though the Contractor's priced Bill shows a percentage in the rate column in respect of them.

Should the Contractor be permitted to tender and his tender be accepted of any work for which a P.C. Sum is included in these Bill of Quantities profit and attendance will be allowed at the same rate as it would be if the work were executed by a Nominated Sub-Contractor.

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 tothe Contract Sum. Such work shall be valued as described for Variations in Conditions No. 13 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.

Carried to collection

A **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 such Sub-Contractors any or all of the facilities described in these Preliminaries. The Contractor should price for these with the nominated Sub-contract Contractor's work concerned in the P.C. Sums under the description "add for Attendance".

B **DIRECT CONTRACTS**

Notwithstanding the foregoing conditions, the Government reserves the right to place a "Direct Contract" for any goods or services required in the works which are covered by a P.C. Sum in the Bills of Quantities and to pay for the same direct. In any such instances, profit relative to the P.C. Sum the priced Bills of Quantities will be adjusted as described for P.C. Sums and allowed.

C **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.

D **INSURANCE**

The Contractor shall insure as required in Conditions No 18 of the Conditions of Contract. No payment on account of the work executed will be made to the

Contractor until he has satisfied the PROJECT MANAGER either by production of an Insurance Policy or 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.

Carried to collection

A	**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 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.	
B	**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.	
C	**BLASTING OPERATIONS** Blasting will only be allowed with the express permission of the PROJECT MANAGER in writing. All blasting operations shall be carried out at the Contractor's sole risk and cost in accordance with any Government regulations in force for the time being, and any special regulations laid down by the PROJECT MANAGER governing the use and storage of explosives.	
D	**MATERIALS ARISING FROM EXCAVATIONS** Materials of any kind obtained from the excavations shall be the property of the Government. Unless the PROJECT MANAGER directs otherwise such materials shall be dealt with as provided in the Contract. Such materials shall only be used in the works, in substitution of materials which the Contractor would otherwise have had to supply with the written permission of the PROJECT MANAGER Should such permission be given, the Contractor shall make due allowance for the value of the materials so used at a price to be agreed.	
E	**PROTECTION OF THE WORKS.** The Contractor shall cover up and protect from damage, including damage from inclement rainy weather, all finished work contained in these Bills of Quantities, and unfixed materials including that of Sub-Contractors liable to damage including provision of casing up, temporary roof, gutters, drains etc. until the completion of the works and removal of the same when no longer required and make good any damage which may nevertheless have been done at completion free of charge to the Employer. In the event of any damages occurring to the works, materials, sewers, drains, gullies, paths or other works on site in temporary possession of the contractor for the purpose of this contract either from weather, want of proper protection, defects, or insufficiency of the works or any other causes or whatsoever during the progress of the works, the contractor shall be responsible and without extra charge, make good all damage and pay all costs which may be levied.	
	Carried to collection	

A **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

B **GENERAL SPECIFICATION.**

For the full description of materials and workmanship, method of execution of the work and notes for pricing, the Contractor is referred to the Ministry of Roads and Public Works and Housing General Specification dated 1976 or any subsequent revision thereof which is issued as a separate document, and which shall be allowed in all respects unless it conflicts with the General Preliminaries, Trade Preambles or other items in these Bills of Quantities.

C **TRAINING LEVY**

The Contractor's attention is drawn to the legal notice 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. 1,000,000.00 in value. to kenya school of governemnt Baringo

D **MATERIALS ON SITE**

All materials for incorporation in the works must be stored on or adjacent to the site before payment is effected unless specifically exempted by the PROJECT MANAGER. This includes the materials of the Main Contractor, Nominated Sub-Contractors and Nominated Suppliers.

E **HOARDING**

Temporary hoarding shall be provided all around the site. The tenderers amount for hoarding shall be deemed to be inclusive of all legally demandable fees for the temporary hoarding by the Local and Central Authorities. The layout and details of the hoarding has been attached and shall include the following:

1. The hoarding shall be overall 3000mm high constructed in new gauge 30 corrugated Iron sheets or equal and approved mounted on timber framework and adequately supported by props, bearers and brackets at appropriate centres all to the entire satisfaction and approval of the Architect and Structural Engineers.(approximately 300L.M @.....)
2. Vehicular and pedestrian gates shall be provided.
3. The external surfaces of the hoarding will be primed and painted with undercoat and one finishing coat gloss oil plant.
4. Advertisements on the hoarding will only be allowed with the express approval of the Architect.
5. To protect against dust and projectiles arising from construction work, the entire building on heights above ground floor will be enveloped with shed net supported with props bearers and brackets at appropriate centres to approval of the project structural engineer

The Contractor shall allow for thoroughly maintaining the hoarding, shed nets and gates throughout the contract and clearing away and making good disturbed ground on completion. All materials arising will remain the property of the Contractor and he

Carried to collection

	COLLECTION	
	Brought Forward From Page GP/1	
	Brought Forward From Page GP/2	
	Brought Forward From Page GP/3	
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	Brought Forward From Page GP/11	
	Brought Forward From Page GP/12	
	Total for General Preliminaries Carried to Preliminaries Summary	

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	AMOUNT
	SPECIAL PRELIMINARIES	
	PROJECT EXPENSES	
	Disclaimer: The following items are provisional sums provided by the Engineer. They are to be expended at the written instruction of the Project Manager	
	Note: Tenderers should not attach, revise or add any conditions or specifications to the project supervisor's expenses	
A	Allow a provisional sum of Kenya Shillings Two Hundred Thousand (200,000.00) for fuels, maintenance, lubricants and servicing of the State Department for Public Works Officers Project Vehicle for the duration of the Project	200,000.00
B	Allow a provisional sum of Kenya Shillings Three Million, Five Hundred Thousand (3,500,000.00) for Project Management expenses for Ministry of Lands, Public Works, Housing and Urban Development (State Department For Public Works - Officers.	3,500,000.00
C	Provide a Prime-cost sum of Kshs Three Hundred and Fifty Thousand, (350,000.00) only for carrying out Environmental Impact Assessment (EIA) and Occupational Health and Safety (OHS)before the commencemennt of works and and undertaking environmental mitigation measures as the work progresses.	350,000.00
D	Allow a provisional sum of Kshs Five Hundred Thousand (500,000.00) for stationery, documentation, model making, review and preparation of as built drawings for Ministry of Lands, Public Works, Housing and Urban Development (State Department For Public Works Officers.	500,000.00
E	Allow for Contractor's profit and overheads for Item A-E above (--------%)	
	Total for Special Preliminaries Carried to Preliminaries Summary	

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	Page No			AMOUNT
	PRELIMINARIES SUMMARY				
	Particular Preliminaries	PP/7			
	General Preliminaries	GP/13			
	Special Preliminaries	SP/1			
	Total for Preliminaries Carried to Grand Summary				

BUILDERS WORKS

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	GROUND FLOOR				
	ELEMENT NO. 1				
	SUBSTRUCTURE (All Provisional)				
	Excavation and Earthworks				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	1993	SM		
	Demolitions				
B	Carefully demolish and remove exiting single storey buildings; average 200SM, including walls, roof, floor slab, doors, windows, foundations and all associated fixtures, cart away arising debris to an approved disposal site and level; ready for excavations		ITEM		
	Relocation of power lines				
C	Allow for relocation of the existing power line average 300 metres including liaison with KPLC, preparation of required designs, dismantling, relocation of poles and conductors, reconnection, testing and commissioning, all complete		ITEM		
	Cutting down trees				
D	Carefully cut down existing trees on site; girth 1800-2100mm; grubbing up roots, filling in voids and burning the arising debris. (The contractor should include rate for disposing off site as directed by the Project Manager)	20	NO		
	Top soil stripping				
E	Excavating vegetable soil for preservation, average 150 mm thick	1543	SM		
	Excavations				
	Excavating Surface to reduce level.				
F	Average depth not exceeding 1.5m deep	926	CM		
G	Extra over for excavation and filling to make up the required formation levels; including additional handling, carting, spreading and compaction, complete	3086	CM		
	Excavating Trenches; to receive foundations starting from reduced levels				
H	Not exceeding 1.50m deep	700	CM		
	Excavating Pit; to receive foundations starting from reduced levels				
J	Not exceeding 1.50m deep	1089	CM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Breaking out existing material; extra over all kinds of excavations irrespective of depth				
A	Extra over all types of excavations for excavating in rock of all types	358	CM		
	Disposal				
B	Backfill with selected excavated material around foundations; compacting in layers maximum 150mm thick; including double or multi handling of excavated whedre necessary	966	CM		
C	Surplus excavated material; removing from site mechanically	823	CM		
	Disposal of water				
D	Labour and materials, allow for keeping excavations free from general water by pumping, bailing or any other approved methods		ITEM		
	Planking and strutting				
E	Labour and materials, to uphold sides of excavation generally		ITEM		
	FILLING				
	Hardcore				
F	300mm thick hardcore to make up levels, depositing and compacting in layers maximum 150mm thick levelling and grading to appoval	926	CM		
	Murram				
G	Quarry dust murram blinding 50 mm thick rolled smooth to receive polythene sheeting	1543	SM		
	Anti-termite treatment				
	Applying "Termidor 25 EC" solution or other equal and approved sprayed evenly by an approved specialist strictly in accordance with the manufacturer's instructions				
H	To surface of fill and tops of foundation walls	1543	SM		
	CONCRETE WORK				
	Insitu concrete				
	Plain mix 1:3:6 50mm thick blinding to;				
J	Under strip footing	467	SM		
K	Under column bases	726	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Vibrated reinforced concrete Class 25/20mm (1:1.5:3) in:-				
A	Foundation strip	93	CM		
B	Column bases	327	CM		
C	Foundation Columns	32	CM		
D	Ground beam	18	CM		
E	Entrance Ramps and Steps	11	CM		
F	Floor Beds; 150 mm thick	1543	SM		
	REINFORCEMENT				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
G	Assorted diameter bars	62530	KG		
	Fabric; B.S 4483				
H	Reference A142; mesh 200 x 200 mm weight 2.22 kgs per square meter (Measured net - no allowance made for laps); including bends, tying wire and distance blocks in any location	1543	SM		
	Formwork				
	Sawn softwood formwork to insitu concrete				
J	Vertical and battering sides of columns	494	SM		
K	Sides of column bases	660	SM		
L	Sides of ground beam	177	SM		
M	Sides of entrance ramp and steps	7	SM		
N	Edges of floor bed 75 to 150 mm high	273	LM		
P	Ditto to edges of strip footing; girth 150-225mm high	1557	LM		
	Foundation walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
Q	200mm thick foundation walling	1557	SM		
	Expansion joint				
R	25mm Thick; styrofoam or any equal or approved flexel material	56	SM		
S	25 x 50mm Mastic joint sealant	37	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Damp proof membrane				
	1000 gauge Polythenelaid with 150mm laps,(No allowance made for laps)				
A	Horizontal, 1 No. of layer(s) over 300 mm wide	1543	SM		
	Plinth finishes				
	Render, cement and sand (1:3) wood floated				
B	12mm thick 2 No. coat work, to concrete or blockwork base (m/s) generally external	137	SM		
	Painting; 3 coats black bituminous paint to				
C	Rendered surfaces external	137	SM		
	Paving plinth				
	Precast concrete slabs				
D	600 x 600 x50 mm thick slabs laid on and including 50 mm (consolidated) bed of sand; jointed and pointed in cement sand 1:3 mortar V-joints	328	SM		
	Total Carried to collection				
	COLLECTION				
	B/F from page G/1				
	B/F from page G/2				
	B/F from page G/3				
	B/F from above				
	Total for Substructures carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	REINFORCED CONCRETE FRAME				
	Insitu concrete				
	Vibrated reinforced concrete Class 25/20mm in:-				
A	Beams	70	CM		
B	Columns	43	CM		
C	Staircase steps and waist	7	CM		
D	150mm thick horizontal staircase landing	19	SM		
E	150mm thick suspended slab	1491	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
F	Assorted diameter bars	44970	KG		
	Expansion joint				
G	25mm Thick; styrofoam or any equal or approved flexel material	111	SM		
H	25 x 50mm Mastic joint sealant	37	LM		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
J	Vertical and battering sides of columns.	432	SM		
K	Sides and sofits of beams.	856	SM		
L	Horizontal soffits of suspended slab	1491	SM		
M	Soffits of staircase landing	19	SM		
N	Sloping soffits of staircase	27	SM		
P	Edges of suspended slab, 75-150mm girth	324	LM		
Q	Edges of risers, 75-150mm girth	81	LM		
R	Edges of sloping staircase waist over 225mm but not exceeding 300mm girth	36	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	WALLING				
	Waterproofing				
	Horizontal damp proof course ; one layer of 3 - ply bituminous felt or other equal and approved (measured nett - allow for laps)				
A	200mm wide, levelled and bedded in cement mortar (1:3)	666	LM		
B	Ditto but 150mm wide	35	LM		
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
C	200mm thick walling	405	SM		
	Internal Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
D	200mm thick walling	836	SM		
E	150mm thick walling	84	SM		
	Total Walling Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	293	LM		
B	Ditto transom	48	LM		
C	50x20mm Architraves	293	LM		
D	15 x 15mm quadrant	293	LM		
E	Glazing beads	127	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany: stained with fanlight 300mm high				
F	Door overall size 900 x 2100mm high	20	NO		
G	Door overall size 1200 x 2100mm high; double leaf, double swing door	2	NO		
	Pannelled doors				
	Provide and fix approved 50mm thick single leaf mahogany door comprising 4 fielded and raised pamels, with top, mid bottom and side stiles of 150 x 50mm, with fanlight 300mm high				
H	Door overall size 900 x 2100mm high	24	NO		
J	Door overall size 1200 x 2100mm high, in double leaf	4	NO		
K	Ditto but double swing double leaf door;	2	NO		
	Steel doors				
	Purposed made mild steel doors complete with pin type hinges; welded smooth; all necessary ironmongery to approval; one coat red oxide painted;comprising 50 x 50 x 3mm thick RHS external frame fishtail grouted into concrete/block/masonry walling; 50 x 50 x 3mm R.H.S horizontal intermediate frames welded onto and inlcuding 50 x 50 x 3 mm RHS surround frame at 300mm centres; 25 x 3 mm thick flat door stopper with and including for 25x25x 2mm SHS beading; door leaf infilled with 2mm thick pressed metal panels profiled to form panels welded; all welding, grounding to a smooth finish including for priming door with one coat red oxide primer; pointed internally and externally with approved mastic sealant				
J	Door overall size 1800 x 2400mm welded complete with 5 - lever mortice lock and 3 No. tower bolts in double leaf	3	NO		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Glazing				
A	4mm thick clear sheet glass and glazing with putty to casement door in panes 0.10m - 0.05m squared	2	SM		
B	Ditto to timber door fanlight	15	SM		
	Ironmongery				
	Supply and fix the following : -				
C	100mm heavy duty brass butt hinges	90	PRS		
D	150mm heavy duty double action spring hinges	12	PRS		
E	Heavy duty rack and pinion door closer with link arm, size 2/3/4 to an approved sample	44	NO		
F	Ditto but double action door closer	16	NO		
G	900x200mm high stainless steel kick plate onto both sides to approval	20	NO		
H	Ditto but size 1200x200mm high	2	NO		
J	500x150mm signange plate	8	NO		
K	Coat and hat hook	22	NO		
L	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	312	NO		
M	Rubber door stops fixed to wall or floor with screws	66	NO		
N	Three lever mortice lock cataloque No. 2237 complete with set lever handle furniture	30	NO		
P	Ditto but 2-lever with indicator bolts	22	NO		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to:				
Q	General surfaces of steel doors (both sides measured overall)	22	SM		
	One coat aluminium hardwood primer to crown paints or equal and approved				
R	Wood surfaces before fixing not exceeding 100 mm girth internal	341	LM		
S	Ditto 100 - 200 mm girth	586	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
T	General wood surfaces externally and internally	236	SM		
U	Wood surfaces 200 - 300mm girth externally	341	LM		
V	Ditto 0 - 100mm girth	586	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION				
	Brought forward from Page G/7				
	Brought forward from Page G/8				
	Total Doors carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	WINDOWS				
	Precast concrete, Normal, Class 20/ 20mm vibrated including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
A	Sills 250 x 75mm thick, once sunk weathered, once throated, reinforced as necessary for handling	191	LM		
	Vertical blinds				
B	Supply and fix verical blinds comprising 89mm wide PVC/ fabric slats, colour as approved by the Architect; complete with powder coated aluminium headrail, carriers, weights, chain operated tilt and side drawing mechanism, brackets and all necessary fixings, complete	232	SM		
	Metal work				
	Purpose made units				
	Supply, assemble and fix the following purpose made powder coated Aluminium windows and 75 x 75 x 2mm and 50 x 50 x 2mm thick sections by Booth Manufacturing or equal and approved incorporating complete with fixing lugs on, plastic mosquito proofed - permanent including all necessary cutting, 8mm thick laminated sheet glass and ironmongery (Refer to attached window schedules)				
C	Overall size 6000×1600 mm high	2	NO		
D	Overall size 5800×1600 mm high	1	NO		
E	Overall size 5600×1600 mm high	2	NO		
F	Overall size 3700×600 mm high	4	NO		
G	Overall size 3300×1600 mm high	24	NO		
H	Overall size 3200×1600 mm high	1	NO		
J	Overall size 2400×2400 mm high	4	NO		
K	Overall size 2400×2000 mm high	1	NO		
L	Overall size 1700×1600 mm high	4	NO		
M	Overall size 1500×600 mm high	2	NO		
N	Overall size 1400×1600 mm high	7	NO		
P	Overall size 900×1600 mm high	15	NO		
	Total Windows carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry surfaces to receive wall cladding (measured separately)	815	SM		
	Stone cladding				
	Approved coral stone cladding; regular cut, bedded in cement sand mortar (1:3); zero jointed and neatly finished to Architect's approval				
B	Rendered concrete surfaces externally	815	SM		
	Internal finishes				
	Ceiling finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth				
C	12mm thick to concrete soffits of suspended slab/beams	1491	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats first quality matt emulsion paint from an approved supplier (approval by the project Architect); application strictly to supplier's written instructions; to:-				
D	Plastered ceiling surfaces	1491	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Wall finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat fo cement and lime putty (1:10); steel trowelled smooth				
A	12mm thick to concrete or masonry walls	1992	SM		
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
B	Plastered walls (m.s)	1992	SM		
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
C	12mm backing finished to receive ceramic wall tiles (m.s) full height	391	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Walls generally; 250x250mm thick	391	SM		
	Floor finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
E	32mm thick to receive non slip ceramic tiles (measured separately)	1543	SM		
	Ceramic floor tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; non-slip friction resistant coloured ceramic tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
F	Floors generally; 300x300mmx8mm thick	1543	SM		
G	20x100mm high ceramic tile skirting with rounded junction with wall finish and coved junction with floor internal	738	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Staircase finishes				
	Cement : sand (1:3) wood floated screeds, backings, beds etc				
A	20mm thick to landing to receive terrazzo finish	19	SM		
B	Ditto treads 300mm wide	24	SM		
C	Ditto on risers 150mm high	12	SM		
	20mm thick well polished terrazzo with and including plastic dividing strips; pattern to architects approval to;				
D	Staircase; generally	55	SM		
	Gauged plaster as described to: -				
E	12mm thick on horizontal soffits of landing	19	SM		
F	Ditto on sloping soffits of stairs	27	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
G	Horizontal soffits of landing	19	SM		
H	Sloping soffits of stairs	27	SM		
	Railing and balustrading				
	All unstructural steel framework to BS 449, including all necessary welds, bolts, site welds plates and sundry fixings, primer, painting of exposed steel with two coats glossy oil paint, delivered to site and fixing in position				
	Staircase railing				
J	1200mm high railing, including 50mm diameter x 2mm thick CHS newel posts; newel posts plugged on to concrete/masonry at 1000mm centres complete with round bar supports; 20mm diameter x 2mm thick round bar ropes fixed to and bar supports at 125mm centres; railing system to include all wall and wall mounting brackets and supports	18	LM		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to;				
K	General metal surfaces	22	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION				
	Brought forward from page G/11				
	Brought forward from page G/12				
	Brought forward from page G/13				
	Total Finishes carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Substructures				
	Reinforced Concrete				
	Walling				
	Doors				
	Windows				
	Finishes				
	Total for Ground Floor Carried to Builders works Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FIRST FLOOR				
	ELEMENT NO. 1				
	REINFORCED CONCRETE FRAME				
	Insitu concrete				
	Vibrated reinforced concrete Class 25/20mm (1:1.5:3) in:-				
A	Beams	70	CM		
B	Columns	43	CM		
C	Staircase steps and waist	7	CM		
D	150mm thick horizontal staircase landing	19	SM		
E	150mm thick suspended slab	1491	SM		
F	200mm thick armoury walls	32	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
F	Assorted diameter bars	44970	KG		
	Expansion joint				
G	25mm Thick; styrofoam or any equal or approved flexel material	111	SM		
H	25 x 50mm Mastic joint sealant	37	LM		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
J	Vertical and battering sides of columns.	432	SM		
K	Sides and sofits of beams.	856	SM		
L	Horizontal soffits of suspended slab	1491	SM		
M	Soffits of staircase landing	19	SM		
N	Sloping soffits of staircase	27	SM		
P	Edges of suspended slab, 75-150mm girth	324	LM		
Q	Edges of risers, 75-150mm girth	81	LM		
R	Edges of sloping staircase waist over 225mm but not exceeding 300mm girth	36	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2				
	WALLING				
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
A	200mm thick walling	405	SM		
	Internal Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
B	200mm thick walling	993	SM		
C	150mm thick walling	84	SM		
	Partition walling				
	75mm thick composite dry partitioning comprising 3000mm high panels, 75mmx50mmx3mm galvanised mild steel vertical and horizontal channels at 600mm centers horizontally mitered at corners including reinforcing cleats and all necessary ironmongery, 75x50mmm wrot celcured mahogany hardwood uprights at 600mm centers, 18mm thick laminated double sided MDF board all assembled and fixed together as a free standing partition				
D	Partition wall; as per details	18	SM		
	Total Walling Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	350	LM		
B	Ditto transom	57	LM		
C	50x20mm Architraves	350	LM		
D	15 x 15mm quadrant	350	LM		
E	Glazing beads	151	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany; stained with fanlight 300mm high				
F	Door overall size 900 x 2100mm high	20	NO		
G	Door overall size 1200 x 2100mm high in double leaf; double swing do	2	NO		
	Pannelled doors				
	Provide and fix approved 50mm thick single leaf mahogany door comprising 4 fielded and raised pamels, with top, mid bottom and side stiles of 150 x 50mm, with fanlight 300mm high				
H	Door overall size 900 x 2100mm high	24	NO		
J	Door overall size 1200 x 2100mm high, in double leaf	4	NO		
K	Ditto but double swing double leaf door;	2	NO		
	Glazing				
L	4mm thick clear sheet glass and glazing to timber door fanlight in panes 0.10m - 0.05m squared	15	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following : -				
A	100mm heavy duty brass butt hinges	90	PRS		
B	150mm heavy duty double action spring hinges	12	PRS		
C	Heavy dutyrack and pinion door closer with link arm, size 2/3/4 to an approved sample	44	NO		
D	Ditto but double action door closer	16	NO		
E	900x200mm high stainless steel kick plate onto both sides to approval	20	NO		
F	Ditto but size 1200x200mm high	2	NO		
G	500x150mm signange plate	8	NO		
H	Coat and hat hook	22	NO		
J	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	312	NO		
K	Rubber door stops fixed to wall or floor with screws	60	NO		
L	Three lever mortice lock cataloque No. 2237 complete with set lever handle furniture	30	NO		
M	Ditto but 2-lever with indicator bolts	22	NO		
	Painting and decorating				
	One coat aluminium hardwood primer to crown paints or equal and approved				
N	Wood surfaces before fixing not exceeding 100 mm girth internal	407	LM		
P	Ditto 100 - 200 mm girth	700	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
Q	General wood surfaces externally and internally	236	SM		
R	Wood surfaces 200 - 300mm girth externally	407	LM		
S	Ditto 0 - 100mm girth	700	LM		
	Total Carried to collection				
	COLLECTION Brought forward from Page F/3 Brought forward from above				
	Total Doors carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	WINDOWS				
	Precast concrete, Normal, Class 20/ 20mm vibrated including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
A	Sills 250 x 75mm thick, once sunk weathered, once throated, reinforced as necessary for handling	195	LM		
	Vertical blinds				
B	Supply and fix verical blinds comprising 89mm wide PVC/ fabric slats, colour as approved by the Architect; complete with powder coated aluminium headrail, carriers, weights, chain operated tilt and side drawing mechanism, brackets and all necessary fixings, complete	236	SM		
	Metal work				
	Purpose made units				
	Supply, assemble and fix the following purpose made powder coated Aluminium windows and 75 x 75 x 2mm and 50 x 50 x 2mm thick sections by Booth Manufacturing or equal and approved incorporating complete with fixing lugs on, plastic mosquito proofed - permanent including all necessary cutting, 8mm thick laminated sheet glass and ironmongery (Refer to attached window schedules)				
C	Overall size 6000×1600 mm high	2	NO		
D	Overall size 5800×1600 mm high	1	NO		
E	Overall size 5600×1600 mm high	2	NO		
F	Overall size 3700×600 mm high	4	NO		
G	Overall size 3300×1600 mm high	24	NO		
H	Overall size 3200×1600 mm high	1	NO		
J	Overall size 2400×2400 mm high	4	NO		
K	Overall size 2400×2000 mm high	1	NO		
L	Overall size 1700×1600 mm high	4	NO		
M	Overall size 1500×600 mm high	2	NO		
N	Overall size 1400×1600 mm high	9	NO		
P	Overall size 900×1600 mm high	15	NO		
	Total Windows carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry surfaces to receive exterior paint work (measured separately)	815	SM		
	Painting and decorating				
	Prepare and apply two basecoats of soft white/cream permaplast weatherproof paint and two finishing coat modified acrylic emulsion as RUFF n TUFF from crown paits or equal and approved on stone or concrete work externally as before described to				
B	Rendered concrete surfaces externally	815	SM		
	Internal finishes				
	Ceiling finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth				
C	12mm thick to concrete soffits of suspended slab/beams	1491	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats first quality matt emulsion paint from an approved supplier (approval by the project Architect); application strictly to supplier's written instructions; to:-				
D	Plastered ceiling surfaces	1491	SM		
	Wall finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat fo cement and lime putty (1:10); steel trowelled smooth				
E	12mm thick to concrete or masonry walls	2182	SM		
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
F	Plastered walls (m.s)	2182	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
A	12mm backing finished to receive ceramic wall tiles (m.s) full height	391	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
B	Walls generally; 250x250mm thick	391	SM		
	Floor finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
C	32mm thick to receive non slip ceramic tiles (measured separately)	1491	SM		
	Ceramic floor tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; non-slip friction resistant coloured ceramic tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Floors generally; 300x300mmx8mm thick	1491	SM		
E	20x100mm high ceramic tile skirting with rounded junction with wall finish and coved junction with floor internal	801	LM		
	Staircase finishes				
	Cement : sand (1:3) wood floated screeds, backings, beds etc				
F	20mm thick to landing to receive terrazzo finish	19	SM		
G	Ditto treads 300mm wide	24	SM		
H	Ditto on risers 150mm high	12	SM		
	20mm thick well polished terrazzo with and including plastic dividing strips; pattern to architects approval to;				
J	Staircase; generally	55	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Gauged plaster as described to: -				
A	12mm thick on horizontal soffits of landing	19	SM		
B	Ditto on sloping soffits of stairs	27	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
C	Horizontal soffits of landing	19	SM		
D	Sloping soffits of stairs	27	SM		
	Railing and balustrading				
	All unstructural steel framework to BS 449, including all necessary welds, bolts, site welds plates and sundry fixings, primer, painting of exposed steel with two coats glossy oil paint, delivered to site and fixing in position				
	Staircase railing				
E	1200mm high railing, including 50mm diameter x 2mm thick CHS newel posts; newel posts plugged on to concrete/masonry at 1000mm centres complete with round bar supports; 20mm diameter x 2mm thick round bar ropes fixed to and bar supports at 125mm centres; railing system to include all wall and wall mounting brackets and supports	18	LM		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to:				
F	General metal surfaces	22	SM		
	Total Carried to collection				
	COLLECTION				
	Brought forward from page F/6				
	Brought forward from page F/7				
	Brought forward from above				
	Total Finishes carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Reinforced Concrete				
	Walling				
	Doors				
	Windows				
	Finishes				
	Total for First Floor Carried to Builders Works Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SECOND FLOOR				
	ELEMENT NO. 1				
	REINFORCED CONCRETE FRAME				
	Insitu concrete				
	Vibrated reinforced concrete Class 25/20mm (1:1.5:3) in:-				
A	Beams	70	CM		
B	Columns	43	CM		
C	Staircase steps and waist	7	CM		
D	150mm thick horizontal staircase landing	19	SM		
E	150mm thick suspended slab	1491	SM		
F	200mm thick armoury walls	32	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
F	Assorted diameter bars	44970	KG		
	Expansion joint				
G	25mm Thick; styrofoam or any equal or approved flexel material	111	SM		
H	25 x 50mm Mastic joint sealant	37	LM		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
J	Vertical and battering sides of columns.	432	SM		
K	Sides and sofits of beams.	856	SM		
L	Horizontal soffits of suspended slab	1491	SM		
M	Soffits of staircase landing	19	SM		
N	Sloping soffits of staircase	27	SM		
P	Edges of suspended slab, 75-150mm girth	324	LM		
Q	Edges of risers, 75-150mm girth	81	LM		
R	Edges of sloping staircase waist over 225mm but not exceeding 300mm girth	36	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2				
	WALLING				
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
A	200mm thick walling	405	SM		
	Internal Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
B	200mm thick walling	993	SM		
C	150mm thick walling	84	SM		
	Partition walling				
	75mm thick composite dry partitioning comprising 3000mm high panels, 75mmx50mmx3mm galvanised mild steel vertical and horizontal channels at 600mm centers horizontally mitered at corners including reinforcing cleats and all necessary ironmongery, 75x50mmm wrot celcured mahogany hardwood uprights at 600mm centers, 18mm thick laminated double sided MDF board all assembled and fixed together as a free standing partition				
D	Partition wall; as per details	18	SM		
	Total Walling Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	350	LM		
B	Ditto transom	57	LM		
C	50x20mm Architraves	350	LM		
D	15 x 15mm quadrant	350	LM		
E	Glazing beads	151	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany; stained with fanlight 300mm high				
F	Door overall size 900 x 2100mm high	20	NO		
G	Door overall size 1200 x 2100mm high in double leaf; double swing doo	2	NO		
	Pannelled doors				
	Provide and fix approved 50mm thick single leaf mahogany door comprising 4 fielded and raised pamels, with top, mid bottom and side stiles of 150 x 50mm, with fanlight 300mm high				
H	Door overall size 900 x 2100mm high	24	NO		
J	Door overall size 1200 x 2100mm high, in double leaf	4	NO		
K	Ditto but double swing double leaf door;	2	NO		
	Glazing				
L	4mm thick clear sheet glass and glazing to timber door fanlight in panes 0.10m - 0.05m squared	15	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following : -				
A	100mm heavy duty brass butt hinges	90	PRS		
B	150mm heavy duty double action spring hinges	12	PRS		
C	Heavy dutyrack and pinion door closer with link arm, size 2/3/4 to an approved sample	44	NO		
D	Ditto but double action door closer	16	NO		
E	900x200mm high stainless steel kick plate onto both sides to approval	20	NO		
F	Ditto but size 1200x200mm high	2	NO		
G	500x150mm signange plate	8	NO		
H	Coat and hat hook	22	NO		
J	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	312	NO		
K	Rubber door stops fixed to wall or floor with screws	60	NO		
L	Three lever mortice lock cataloque No. 2237 complete with set lever handle furniture	30	NO		
M	Ditto but 2-lever with indicator bolts	22	NO		
	Painting and decorating				
	One coat aluminium hardwood primer to crown paints or equal and approved				
N	Wood surfaces before fixing not exceeding 100 mm girth internal	407	LM		
P	Ditto 100 - 200 mm girth	700	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
Q	General wood surfaces externally and internally	236	SM		
R	Wood surfaces 200 - 300mm girth externally	407	LM		
S	Ditto 0 - 100mm girth	700	LM		
	Total Carried to collection				
	COLLECTION Brought forward from Page S/3 Brought forward from above				
	Total Doors carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	WINDOWS				
	Precast concrete, Normal, Class 20/ 20mm vibrated including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
A	Sills 250 x 75mm thick, once sunk weathered, once throated, reinforced as necessary for handling	195	LM		
	Vertical blinds				
B	Supply and fix verical blinds comprising 89mm wide PVC/ fabric slats, colour as approved by the Architect; complete with powder coated aluminium headrail, carriers, weights, chain operated tilt and side drawing mechanism, brackets and all necessary fixings, complete	236	SM		
	Metal work				
	Purpose made units				
	Supply, assemble and fix the following purpose made powder coated Aluminium windows and 75 x 75 x 2mm and 50 x 50 x 2mm thick sections by Booth Manufacturing or equal and approved incorporating complete with fixing lugs on, plastic mosquito proofed - permanent including all necessary cutting, 8mm thick laminated sheet glass and ironmongery (Refer to attached window schedules)				
C	Overall size 6000×1600 mm high	2	NO		
D	Overall size 5800×1600 mm high	1	NO		
E	Overall size 5600×1600 mm high	2	NO		
F	Overall size 3700×600 mm high	4	NO		
G	Overall size 3300×1600 mm high	24	NO		
H	Overall size 3200×1600 mm high	1	NO		
J	Overall size 2400×2400 mm high	4	NO		
K	Overall size 2400×2000 mm high	1	NO		
L	Overall size 1700×1600 mm high	4	NO		
M	Overall size 1500×600 mm high	2	NO		
N	Overall size 1400×1600 mm high	9	NO		
P	Overall size 900×1600 mm high	15	NO		
	Total Windows carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry surfaces to receive exterior paint work (measured separately)	815	SM		
	Painting and decorating				
	Prepare and apply two basecoats of soft white/cream permaplast weatherproof paint and two finishing coat modified acrylic emulsion as RUFF n TUFF from crown paits or equal and approved on stone or concrete work externally as before described to				
B	Rendered concrete surfaces externally	815	SM		
	Internal finishes				
	Ceiling finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth				
C	12mm thick to concrete soffits of suspended slab/beams	1491	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats first quality matt emulsion paint from an approved supplier (approval by the project Architect); application strictly to supplier's written instructions; to:-				
D	Plastered ceiling surfaces	1491	SM		
	Wall finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat fo cement and lime putty (1:10); steel trowelled smooth				
E	12mm thick to concrete or masonry walls	2182	SM		
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
F	Plastered walls (m.s)	2182	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
A	12mm backing finished to receive ceramic wall tiles (m.s) full height	391	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
B	Walls generally; 250x250mm thick	391	SM		
	Floor finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
C	32mm thick to receive non slip ceramic tiles (measured separately)	1491	SM		
	Ceramic floor tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; non-slip friction resistant coloured ceramic tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Floors generally; 300x300mmx8mm thick	1491	SM		
E	20x100mm high ceramic tile skirting with rounded junction with wall finish and coved junction with floor internal	801	LM		
	Staircase finishes				
	Cement : sand (1:3) wood floated screeds, backings, beds etc				
F	20mm thick to landing to receive terrazzo finish	19	SM		
G	Ditto treads 300mm wide	24	SM		
H	Ditto on risers 150mm high	12	SM		
	20mm thick well polished terrazzo with and including plastic dividing strips; pattern to architects approval to;				
J	Staircase; generally	55	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Gauged plaster as described to: -				
A	12mm thick on horizontal soffits of landing	19	SM		
B	Ditto on sloping soffits of stairs	27	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
C	Horizontal soffits of landing	19	SM		
D	Sloping soffits of stairs	27	SM		
	Railing and balustrading				
	All unstructural steel framework to BS 449, including all necessary welds, bolts, site welds plates and sundry fixings, primer, painting of exposed steel with two coats glossy oil paint, delivered to site and fixing in position				
	Staircase railing				
E	1200mm high railing, including 50mm diameter x 2mm thick CHS newel posts; newel posts plugged on to concrete/masonry at 1000mm centres complete with round bar supports; 20mm diameter x 2mm thick round bar ropes fixed to and bar supports at 125mm centres; railing system to include all wall and wall mounting brackets and supports	18	LM		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to;				
F	General metal surfaces	22	SM		
	Total Carried to collection				
	COLLECTION				
	Brought forward from page S/6				0.00
	Brought forward from page S/7				
	Brought forward from above				
	Total Finishes carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Reinforced Concrete				
	Walling				
	Doors				
	Windows				
	Finishes				
	Total for Second Floor Carried to Builders Works Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	THIRD FLOOR				
	ELEMENT NO. 1				
	REINFORCED CONCRETE FRAME				
	Insitu concrete				
	Vibrated reinforced concrete Class 25/20mm (1:1.5:3) in:-				
A	Beams	47	CM		
B	Columns	43	CM		
C	150mm thick suspended slab	365	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
D	Assorted diameter bars	20070	KG		
	Expansion joint				
E	25mm Thick; styrofoam or any equal or approved flexel material	111	SM		
F	25 x 50mm Mastic joint sealant	37	LM		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
G	Vertical and battering sides of columns.	432	SM		
H	Sides and sofits of beams.	702	SM		
J	Horizontal soffits of suspended slab	365	SM		
K	Edges of suspended slab, 75-150mm girth	162	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.2				
	WALLING				
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
A	200mm thick walling	532	SM		
	Internal Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
B	200mm thick walling	993	SM		
C	150mm thick walling	84	SM		
	Partition walling				
	75mm thick composite dry partitioning comprising 3000mm high panels, 75mmx50mmx3mm galvanised mild steel vertical and horizontal channels at 600mm centers horizontally mitered at corners including reinforcing cleats and all necessary ironmongery, 75x50mmm wrot celcured mahogany hardwood uprights at 600mm centers, 18mm thick laminated double sided MDF board all assembled and fixed together as a free standing partition				
D	Partition wall; as per details	95	SM		
	Total Walling Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3				
	ROOF AND RAIN WATER GOODS				
	The following in sawn softwood timber including fabricating, hoisting and fixing in position approximately 12,000mm above ground floor level as per Structural Engineer's drawing				
	Roof covering				
	411x250x20mm thick portuguese roofing tiles of approved colour or eqivalent; laid with 75mm laps on and including 50x30mm pressure impregnated sawn cypress battens at 350mm (maximum) centres, all in strict accordance with manufacturer's fixing				
A	Roof covering not exceeding 30 degrees from the horizontal	1373	SM		
B	Gauge 32 plain galvanised iron sheet underlay nailed to purlins (m/s)	1373	SM		
C	Ridge cap in matching materials	81	LM		
D	150x50mm ridge board	81	LM		
	CARPENTRY				
	Structural timbers				
	All timber to be sawn cypress of G.S grade seasoned to an equilibrium moisture content between 9% and 15% and to a requirement of K.S 02771 of 1991 treated with approved wood preservative.				
E	150 x 50mm King post	213	LM		
F	Ditto tie beam	740	LM		
G	100x50mm trussed rafters	919	LM		
H	Ditto common rafters	902	LM		
J	Ditto Tie or strut	1379	LM		
K	75 x 50mm purlin/battens	1306	LM		
L	100 x 50mm Wall plate bedded in cement : sand (1:3) mortar secured to reinforced concrete ring beam (m/s) by mild steel16mm diameter anchor bolts at 1000mm centres	159	LM		
	Boarding				
	Wrought cypress, prime grade, pressure impregnated				
M	225 x 25mm thick Fascia or barge boards	161	LM		
	Painting and decorating				
	One undercoat and two coats oil paint full gloss finish to crown paints or equal and approved				
N	Timber surfaces 200 to 300mm girth external	161	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	FLAT ROOF FINISHES				
	Lightweight water proofed screeds				
A	50 mm screed to receive APP water proofing laid to falls and cross falls on concrete slab	365	SM		
B	20mm thick render in parapet walls/ upstand beams to receive APP waterproofing	162	LM		
	Cement and sand (1:3) mix as described in:-				
C	40mm thick on top of APP waterproofing with red oxide finish trowelled hard and smooth	365	SM		
D	50 x 50mm angle fillet	162	LM		
	6mm Thick modified APP membrane in two layers with mineral finish and polyester internal carrier; bonded to first in accordance with manufacturer's printed instructions; by an approved specialist on screed (measured separately); to provide 10 year guarantee (provisional)				
E	6mm Cabroshield APP membrane applied to roof slabs including 300mm high skirting all round	365	SM		
F	Ditto but to vertical surfaces of parapet walls	324	SM		
	Interlocking concrete tiles				
G	200x200x25mm thick high quality interlocking concrete tiles or equal and approved on roof slab bedded and jointed in cement sand mortar 1:3 and pointed with red cement slurry	365	SM		
H	Ditto to sides of walls, 200mm high	32	SM		
	Parapet Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
J	200mm thick walling	324	SM		
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
K	Masonry surfaces of parapet walls	648	SM		
	Painting and decorating				
	Prepare and apply two basecoats of soft white/cream permaplast weatherproof paint and two finishing coat modified acrylic emulsion as RUFF n TUFF from crown paits or equal and approved on stone or concrete work externally as before described to				
L	Rendered concrete surfaces externally	648	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Precast concrete coping				
A	Precast concrete coping size 250x50mm weathered and throated, bedded and jointed in cement sand 1:3 mortar	162	LM		
	Rain water disposal				
	Gutterwork , PVC gutter and fittings				
B	150 mm PVC Gutters half round in running lengths, fixing with brackets at 1000mm centres and with appropriate jointing	161	LM		
C	Extra over gutters for 100mm diameter pipe outlet	16	NO		
D	Ditto but 150x150mm diameter aproved UPVC fulbora outets in concrete gutter including building waterproofing around fulboras	20	NO		
	Rainwater pipework				
E	100mm diameter grey pipes complete with connections in the running lengths, fixing with PVC holdersbats at 1000mm centers to backgrounds requiring plugging on walls	432	LM		
F	Extra over pipework for shoes	16	NO		
G	Ditto swanneck	16	NO		
	Total Carried to collection				
	COLLECTION				
	Brought forward from page T/3				
	Brought forward from page T/4				
	Brought down from above				
	Total Roofing Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.4				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	350	LM		
B	Ditto transom	57	LM		
C	50x20mm Architraves	350	LM		
D	15 x 15mm quadrant	350	LM		
E	Glazing beads	151	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany: stained with fanlight 300mm high				
F	Door overall size 900 x 2100mm high	20	NO		
G	Door overall size 1200 x 2100mm high in double leaf; double swing door	2	NO		
	Pannelled doors				
	Provide and fix approved 50mm thick single leaf mahogany door comprising 4 fielded and raised pamels, with top, mid bottom and side stiles of 150 x 50mm, with fanlight 300mm high				
H	Door overall size 900 x 2100mm high	24	NO		
J	Door overall size 1200 x 2100mm high, in double leaf	4	NO		
K	Ditto but double swing double leaf door;	2	NO		
	Glazing				
L	4mm thick clear sheet glass and glazing to timber door fanlight in panes 0.10m - 0.05m squared	15	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following : -				
A	100mm heavy duty brass butt hinges	90	PRS		
B	150mm heavy duty double action spring hinges	12	PRS		
C	Heavy dutyrack and pinion door closer with link arm, size 2/3/4 to an approved sample	44	NO		
D	Ditto but double action door closer	16	NO		
E	900x200mm high stainless steel kick plate onto both sides to approval	20	NO		
F	Ditto but size 1200x200mm high	2	NO		
G	500x150mm signage plate	8	NO		
H	Coat and hat hook	22	NO		
J	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	312	NO		
K	Rubber door stops fixed to wall or floor with screws	60	NO		
L	Three lever mortice lock cataloque No. 2237 complete with set lever handle furniture	30	NO		
M	Ditto but 2-lever with indicator bolts	22	NO		
	Painting and decorating				
	One coat aluminium hardwood primer to crown paints or equal and approved				
N	Wood surfaces before fixing not exceeding 100 mm girth internal	407	LM		
P	Ditto 100 - 200 mm girth	700	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
Q	General wood surfaces externally and internally	236	SM		
R	Wood surfaces 200 - 300mm girth externally	407	LM		
S	Ditto 0 - 100mm girth	700	LM		
	Total Carried to collection				
	COLLECTION Brought forward from Page T/6 Brought forward from above				
	Total Doors carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	WINDOWS				
	Precast concrete, Normal, Class 20/ 20mm vibrated including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
A	Sills 250 x 75mm thick, once sunk weathered, once throated, reinforced as necessary for handling	195	LM		
	Vertical blinds				
B	Supply and fix verical blinds comprising 89mm wide PVC/ fabric slats, colour as approved by the Architect; complete with powder coated aluminium headrail, carriers, weights, chain operated tilt and side drawing mechanism, brackets and all necessary fixings, complete	236	SM		
	Metal work				
	Purpose made units				
	Supply, assemble and fix the following purpose made powder coated Aluminium windows and 75 x 75 x 2mm and 50 x 50 x 2mm thick sections by Booth Manufacturing or equal and approved incorporating complete with fixing lugs on, plastic mosquito proofed - permanent including all necessary cutting, 8mm thick laminated sheet glass and ironmongery (Refer to attached window schedules)				
C	Overall size 6000×1600 mm high	2	NO		
D	Overall size 5800×1600 mm high	1	NO		
E	Overall size 5600×1600 mm high	2	NO		
F	Overall size 3700×600 mm high	4	NO		
G	Overall size 3300×1600 mm high	24	NO		
H	Overall size 3200×1600 mm high	1	NO		
J	Overall size 2400×2400 mm high	4	NO		
K	Overall size 2400×2000 mm high	1	NO		
L	Overall size 1700×1600 mm high	4	NO		
M	Overall size 1500×600 mm high	2	NO		
N	Overall size 1400×1600 mm high	9	NO		
P	Overall size 900×1600 mm high	15	NO		
	Total Windows carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry surfaces to receive exterior paint work (measured separately)	815	SM		
	Painting and decorating				
	Prepare and apply two basecoats of soft white/cream permaplast weatherproof paint and two finishing coat modified acrylic emulsion as RUFF n TUFF from crown paits or equal and approved on stone or concrete work externally as before described to				
B	Rendered concrete surfaces externally	815	SM		
	Internal finishes				
	Ceiling finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat of cement and lime putty (1:10); steel trowelled smooth				
C	12mm thick to concrete soffits of suspended slab/beams	365	SM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats first quality matt emulsion paint from an approved supplier (approval by the project Architect); application strictly to supplier's written instructions; to:-				
D	Celotex ceiling surfaces	365	SM		
	Acoustic Ceilings				
	Armstrong 'Minaboard' accessible tile system suspended ceilings; 600x600x15mm fissured mineral fibre tiles; complete with epoxy acrylic protected tee clips, pipped tabs, epoxy protected acrylic tee runners, hot dipped galvanized splice plates with edge trims; fixing with screws to backgrounds requiring plugging				
E	Linings to form soffits generally to ceilings	1126	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Wall finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat fo cement and lime putty (1:10); steel trowelled smooth				
A	12mm thick to concrete or masonry walls	2182	SM		
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
B	Plastered walls (m.s)	2182	SM		
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
C	12mm backing finished to receive ceramic wall tiles (m.s) full height	391	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Walls generally; 250x250mm thick	391	SM		
	Floor finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
E	32mm thick to receive non slip ceramic tiles (measured separately)	1126	SM		
	Ceramic floor tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; non-slip friction resistant coloured ceramic tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
F	Floors generally; 300x300mmx8mm thick	1126	SM		
G	20x100mm high ceramic tile skirting with rounded junction with wall finish and coved junction with floor internal	639	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	COLLECTION				
	Brought forward from page T/9				
	Brought forward from page T/10				
	Total Finishes carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Reinforced Concrete				
	Walling				
	Roofing				
	Doors				
	Windows				
	Finishes				
	Total for Third Floor Carried to Builders Works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	RAMP				
	ELEMENT NO. 1				
	SUBSTRUCTURE (All Provisional)				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	85	SM		
	Top soil stripping				
B	Excavating vegetable soil for preservation, average 150 mm thick	85	SM		
	Excavation and Earthworks				
	Excavating pit; to receive column bases starting from stripped levels				
C	Not exceeding 1.50m deep	95	CM		
	Excavating trench; to receive ground beam starting from stripped levels				
D	Not exceeding 1.50m deep	8	CM		
	Disposal				
E	Backfill with selected excavated material around foundations; compacting in layers maximum 150mm thick; including double or multi handling of excavated where necessary	27	CM		
F	Surplus excavated material; removing from site mechanically	18	CM		
	Disposal of water				
G	Labour and materials, allow for keeping excavations free from general water by pumping, bailing or any other approved methods		ITEM		
	Planking and strutting				
H	Labour and materials, to uphold sides of excavation generally		ITEM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	CONCRETE WORK				
	Insitu concrete				
	Plain mix Class 15; 50mm thick blinding to;				
A	Under column bases	63	SM		
B	Under ground beam	22	SM		
	Vibrated reinforced concrete Class 20/20mm in:-				
C	Column bases	22	CM		
D	Columns generally	3	CM		
E	Ground beam	8	CM		
	REINFORCEMENT				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Column bases				
F	12mm bars; main bars	762	KG		
	Sub columns				
G	8mm diameter bars; links	101	KG		
H	16mm bars; main bars	690	KG		
	Ground beam				
J	8mm diameter bars; links	176	KG		
K	12mm bars; main bars	158	KG		
L	16mm bars; main bars	281	KG		
	Formwork				
	Sawn softwood formwork to insitu concrete				
M	Vertical and battering sides of columns	38	SM		
N	Ditto but to ground beam	49	SM		
	Total Carried to collection				
	Collection From Page R/ 1 From above				
	Total Substructures Carried to summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	REINFORCED CONCRETE FRAME				
	Concrete work				
	Insitu concrete				
	Vibrated reinforced concrete Class 20/20mm (1:2:4) in:-				
A	Ramp beams	25	CM		
B	Ramp columns	27	CM		
C	150mm thick ramp slab	220	SM		
D	150mm thick horizontal suspended landing	27	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Ramp slab & landing				
E	8mm diameter bars	1778	KG		
F	10mm diameter bars	2668	KG		
	Beams				
G	8mm diameter bars; links	828	KG		
H	12mm diameter; main bars	1488	KG		
	Columns				
J	8mm diameter bars	748	KG		
K	16mm diameter	2548	KG		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
L	Vertical and battering sides of columns.	371	SM		
M	Sides and sofits of beams.	84	SM		
N	Soffits of landing	27	SM		
P	Sloping soffits of ramp slab	220	SM		
Q	Edges of ramp slab girth 75-150mm	183	LM		
R	Edges of landing girth 75-150mm	26	LM		
	Total Reinforced Concrete Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3				
	ROOF AND RAIN WATER GOODS				
	Roof covering				
	Gauge 28 prepainted resin coat IT5 roofing sheets; colour as selected by Architect; fixed with self-drilling fasteners to timber purlins; allow foam fillers to open eaves and ridge				
A	Roof covering not exceeding 30 degrees from the horizontal	134	SM		
B	Ridge cap in matching materials	33	LM		
C	150x50mm ridge board	33	LM		
D	600mm wide ditto valley flashing four times bent	7	LM		
E	150x50mm timber to support valley flashing	7	LM		
	CARPENTRY				
	Structural timbers				
	All timber to be sawn cypress of G.S grade seasoned to an equilibrium moisture content between 9% and 15% and to a requirement of K.S 02771 of 1991 treated with approved wood preservative.				
F	150 x 50mm King post	19	LM		
G	Ditto tie beam	65	LM		
H	100x50mm trussed rafters	91	LM		
J	Ditto Tie or strut	137	LM		
K	75 x 50mm purlin/battens	150	LM		
L	100 x 50mm Wall plate bedded in cement : sand (1:3) mortar secured to reinforced concrete ring beam (m/s) by mild steel16mm diameter anchor bolts at 1000mm centres	46	LM		
	Boarding				
	Wrought cypress, prime grade, pressure impregnated				
M	225 x 25mm thick Fascia or barge boards	51	LM		
	Painting and decorating				
	One undercoat and two coats oil paint full gloss finish to crown paints or equal and approved				
N	Timber surfaces 200 to 300mm girth external	51	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Rain water disposal				
	Gutterwork , PVC gutter and fittings				
A	150 mm PVC Gutters half round in running lengths, fixing with brackets at 1000mm centres and with appropriate jointing	51	LM		
B	Extra over gutters for 100mm diameter pipe outlet	8	NO		
	Rainwater pipework				
C	100mm diameter pipes complete with connections in the running lengths, fixing with PVC holdersbats at 1000mm centers to backgrounds requiring plugging on walls	96	LM		
D	Extra over pipework for shoes	8	NO		
E	Ditto swanneck	8	NO		
	Total Carried to collection				
	COLLECTION Brought forward from page R/4 Brought down from above				
	Total Roofing Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry surfaces to receive exterior paint work (measured separately)	657	SM		
	Painting and decorating				
	Prepare and apply two basecoats of soft white/cream permaplast weatherproof paint and two finishing coat modified acrylic emulsion as RUFF n TUFF from crown paits or equal and approved on stone or concrete work externally as before described to				
B	Rendered surfaces externally	657	SM		
	Ramp Finishes				
	Cement : sand (1:3) wood floated screeds, backings to;				
C	20mm thick to ramp slab	220	SM		
D	Ditto to ramp landing	27	SM		
	Terrazzo paving with approved coloured aggregates, 25mm thick (15mm c/s backing & 10mm grano layer) colour to approval with and including plastic dividing strips; pattern to approval by architect				
E	20mm thick to ramp slab	220	SM		
F	Ditto to ramp landing	27	SM		
G	100 x 20mm thick skirting	68	LM		
	Gauged plaster as described to: -				
H	12mm thick on horizontal soffites of landing	27	SM		
J	Ditto on sloping soffits of ramp slab	220	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Railing and balustrading				
	All unstructural steel framework to BS 449, including all necessary welds, bolts, site welds plates and sundry fixings, primer, painting of exposed steel with two coats glossy oil paint, delivered to site and fixing in position				
	Ramp railing				
A	1200mm high staircase railing, including 35mm diameter CHS handrail and newel posts; newel posts plugged on to concrete/masonry at 800mm centres complete with round bar supports; 12mm diameter round bar ropes fixed to and bar supports at 150mm centres; railing system to include all wall and wall mounting brackets and supports	68	LM		
	Painting and decorating				
	Prepare and apply one undercoat; one skimming coat; two finishing coats of first quality matt emulsion paint from an approved supplier approval by the architect on:				
B	Plastered surfaces internally	247	SM		
	One undercoat, two coats oil paint full gloss finish to crown paints or equal and approved to;				
C	Metal surfaces measured overall	82	SM		
	Total Carried to collection				
	COLLECTION From Page R/6 From above				
	Total Finishes Carried to Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Substructures				
	Reinforced Concrete				
	Roofing				
	Finishes				
	Total Ramp Carried to Builders Works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	BUILDERS WORKS SUMMARY				
	Ground Floor				
	First Floor				
	Second Floor				
	Third Floor				
	Ramp				
	Total for Builders Works Carried to Grand Summary				

EXTERNAL WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	LANDSCAPING WORKS				
	ELEMENT NO. 1				
	CABRO WORKS				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	1915	SM		
	Earthworks:				
	Excavations including maintaining and supporting sides and keeping free from water, mud and fallen material				
B	Excavate oversite to remove vegetable soil, average 150mm deep and cart away as directed	1915	SM		
C	Excavate surface to formation levels, starting from stripped levels; average depth 300mm	1915	SM		
	Disposal				
D	Load surplus excavated material and cart away from site as directed	575	CM		
E	Scarify, water, spread and compact ground and grade to falls as described to receive stone base (measured separately)	1915	SM		
	Handpacking; Hardcore or other approved filling, as described				
F	Provide, lay and compact 200mm thick approved granular material for sub base to 98% M.D.D. specifications	1915	SM		
G	Treat the surface of granular material with approved herbicide to manufacturer's specifications	1915	SM		
H	Provide, Roll and compact 300mm handpacked hardcore subgrade in two layers of 150mm to 98% modified proctors MDD including grading to falls and cross falls to receive paving blocks (m.s)	1915	SM		
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Concrete block paving (as manufactured by Bamburi special products or equal and approved				
A	Provide, lay and install medium duty 60mm thick approved precast concrete paving blocks (minimum strength 45N/mm²) on approved 50mm thick river sand bed and bedded,jointed and pointed in cement works (1:3). Shape, colour and laying pattern of the blocks to be as approved by the Engineer.	1915	SM		
	Kerbs and Channels				
	Precast concrete class 20 including all necessary formwork; finished fair on exposed surface including bedding, jointing and painting in cement and sand (1:3) mortar				
B	Provide, lay and joint precast concrete kerbs size 250 x 125mm half battered kerb and 100x125mm pre cast concrete channel in cement mortar mix; on and including 350 x 325mm bed (concrete 1:3:6) bed and haunch splayed on edge and laid to required falls and levels on concrete foundations including all necessary earth works and formwork as described and laying to circles where required	251	LM		
	Storm water shallow drain				
C	Provide and joint 600mm x 450mm x 225mm inverted block drains (IBD) precast concrete channel including bedding, backfilling with selected material and jointing with mortar as directed by the Engineer.	231	LM		
	Road marking				
D	Provide and apply Three (3 No.) coats of approved first grade long-lasting reflective road marking paint, black and white as directed by the Project Engineer	203	SM		
	Total Carried to Collection				
	COLLECTION:				
	From Page L/1				
	From above				
	Total For Cabro Works Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	SOFT LANDSCAPING WORKS				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	381	SM		
	Top soil stripping				
B	Excavating vegetable soil for preservation, average 150 mm thick; and store in soil heaps for re-use	381	SM		
	Red soil				
C	Supply approved Red Soil and farm yard manure, mix thoroughly (ratio 4:1) and spread the mixture over all areas to be landscapped, average depth, 150mm	381	SM		
	Drainage				
D	Supply and install french drains as per the working drawings. (Stretch of 60m)		Item		
	Planting				
	Purchase plants at registered nurseries, transport to the site and hold in site nursery until instructed to plant by the Landscape Architect:				
	The landscape architect retains the right to effect any adjustments of specific species if plants are not available or are in the opinion of the landscape architect of poor quality;				
	Supply, plant, water, weed and tend well undermentioned grass till full establishment. The grass should also be rolled with a light weight roller to even bumpy areas. This is to be carried out two weeks after planting.				
E	Pennisentum clandestinum (kikuyu) grass or equal or approved grass seedling planted at 100x100mm centres; rate toninclude post completion maintenance including monitoring and watering for 3 months	381	SM		
	Trees and shrubs				
F	Allow a provisional sum of Kenya Shiilings Four Hundred Thousand (400,000.00) for the supply and planting of trees and shrubs of species, size and locations to ve selected and approved by the landscape architect; including manure, planting, watering and all necessary incidental works		Item		400,000.00
	Total Carried to Collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Furniture				
	Benches.				
A	Supply and installation of steel out door benches with arm rests 2000mm length 500mm wide to L. Architects detail.	10	NO.		
	Waste Bins.				
B	Supply and installation of mild steel waste receptacles averare 800mm high x 500mm diameter to .L.Arch detail.	10	NO.		
	Total Carried to Collection				
	COLLECTION:				
	From Page L/3				
	From above				
	Total for Soft landscaping Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Cabro Paving works				
	Soft landscaping works				
	Total for Landscaping works Carried to External Works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	GATE				
	ELEMENT NO. 1				
	SUBSTRUCTURE (All Provisional)				
	Excavations				
	Excavating Trenches; to receive foundations starting from ground level				
A	Not exceeding 1.50m deep	23	CM		
	Excavating pit; to receive column bases starting from ground level				
B	Not exceeding 1.50m deep	34	CM		
C	Exceeding 1.5m but not exceeding 3.0m deep	23	CM		
	Disposal				
D	Backfill with selected excavated material around foundations; compacting in layers maximum 150mm thick; including double or multi handling of excavated whedre necessary	52	CM		
E	Surplus excavated material; removing from site mechanically	28	CM		
	CONCRETE WORK				
	Insitu concrete				
	Plain mix 1:3:6 50mm thick blinding to;				
F	Under strip footing	15	SM		
G	Ditto column bases	23	SM		
	Vibrated reinforced concrete Class 20/20mm (1:2:4) in:-				
H	Foundation strip	3	CM		
J	Column bases	9	CM		
K	Columns generally	3	CM		
L	Ground beam	2	CM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	REINFORCEMENT				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Foundation strip				
A	8 mm diameter; main bars	30	KG		
B	10mm diameter; distribution bars	62	KG		
	Column bases				
C	12mm diameter; main bars	272	KG		
	Starter columns				
D	8 mm diameter; links	30	KG		
E	12mm diameter; main bars	128	KG		
	Ground beam				
F	8 mm diameter; links	50	KG		
G	12mm diameter; main bars	133	KG		
	Formwork				
	Sawn softwood formwork to insitu concrete				
H	Vertical and battering sides of columns	29	SM		
J	Sides and soffits of ground beam	15	SM		
	Foundation walling				
	200mm Thick rough chisel dressed natural stone walling bedded and jointed in cement and sand (1:3) mortar and reinforced with and including 20swg x 25mm wide hoop iron in every alternate course				
G	225mm thick foundation walling	56	SM		
	Total Carried to collection				
	COLLECTION				
	B/F from page G/1				
	B/F from above				
	Total for Substructures carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	REINFORCED CONCRETE FRAME				
	Insitu concrete				
	Vibrated class 20/20mm (1:2:4) in:-				
A	Columns	5	CM		
B	Beams	2	CM		
C	100mm thick suspended slab	13	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Columns				
D	8mm diameter; links	104	KG		
E	16mm diameter; main bars	531	KG		
	Beams				
F	8mm diameter; links	50	KG		
G	12mm diameter; main bars	89	KG		
	Suspended slab				
H	10mm diameter; both ways	156	KG		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
J	Vertical and battering sides of columns.	59	SM		
K	Sides and sofits of beams.	20	SM		
L	Soffits of suspended slab	13	SM		
M	Edges of suspended floor bed; girth not exceeding 150mm high	24	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 3				
	GATE				
	Purpose made steel gate				
A	Galvanised mild steel gate overall size 6000x2400mm high in two equal leaves made of 75x50x3.0mm thick Square Hollow Section frame all round and 50x50x3.0mm mild steel Square Hollow Section vertical frames alterntely at 150mm centres spiked at the top; with and including 400mmx4.5mm thick 14 gauge MS plate overall; welded to 4mm thick mild steel flat intermediate rail and overall surround supported on and including 100x100x3mm frame RHS stanchion embedded in concrete pillar (m/s) complete with 4NO. 300mm long tower bolts, all primed	1	NO		
B	Ditto pedestrian gate size 2000x2400mm	2	NO		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to metal work				
C	General surfaces of metal (both sides measured overall)	38	SM		
	Total Gate carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	FINISHES				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete surfaces of columns to receive exterior paint work (measured separately)	24	SM		
	Painting and decorating				
	Prepare and apply -2no. coats Anti-Algea priming coat on exposed wall surfaces as per the manufacturers specifications and - 3no. coats Wheather Guard paint as manufactured by Caparol or equivalent quality to;				
B	Rendered concrete surfaces externally	24	SM		
	Stone cladding				
C	50mm thick fine dressed coral stone cladding zero jointed in cement and sand (1:3) mortar	67	SM		
	Precast concrete class 20 (12mm,aggregate), including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
D	350 x 350 x 50mm column caps; throated	10	NO		
	FLAT ROOF FINISHES				
	Lightweight water proofed screeds				
C	50 mm screed to receive APP water proofing laid to falls and cross falls on concrete slab	13	SM		
	Cement and sand (1:3) mix as described in:-				
D	40mm thick on top of APP waterproofing with screed finish trowelled hard and smooth	13	SM		
	6mm Thick modified APP membrane in two layers with mineral finish and polyester internal carrier; bonded to first in accordance with manufacturer's printed instructions; by an approved specialist on screed (measured separately); to provide 10 year guarantee (provisional)				
E	6mm Cabroshield APP membrane applied to roof slabs including 300mm high skirting all round	13	SM		
	Total Finishes carried to Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Substructures				
	Reinforced Concrete				
	Gate				
	Finishes				
	Total for Gate Carried to External Works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SENTRY HOUSE				
	ELEMENT NO. 1				
	SUBSTRUCTURE (All Provisional)				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	27	SM		
	Top soil stripping				
B	Excavating vegetable soil for preservation, average 150 mm thick	27	SM		
	Excavations				
	To include; trimming sides and bottoms to approval;				
	Excavating Surface to reduce level.				
C	Average 250mm deep	27	SM		
	Excavating Trenches; to receive foundations starting from reduced levels				
D	Not exceeding 1.50m deep	32	CM		
	Breaking out existing material; extra over all kinds of excavations irrespective of depth				
F	Extra over all types of excavations for excavating in rock of all types	3	CM		
	Disposal				
G	Backfill with selected excavated material around foundations; compacting in layers maximum 150mm thick; including double or multi handling of excavated whedre necessary	18	CM		
H	Surplus excavated material; removing from site mechanically	14	CM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Disposal of water				
A	Labour and materials, allow for keeping excavations free from general water by pumping, bailing or any other approved methods		ITEM		
	Planking and strutting				
B	Labour and materials, to uphold sides of excavation generally		ITEM		
	FILLING				
	Hardcore				
C	300mm thick hardcore to make up levels, depositing and compacting in layers maximum 150mm thick levelling and grading to appoval	27	SM		
	Murram				
D	Quarry dust murram blinding 50 mm thick rolled smooth to receive polythene sheeting	27	SM		
	Anti-termite treatment				
	Applying "Termidor 25 EC" solution or other equal and approved sprayed evenly by an approved specialist strictly in accordance with the manufacturer's instructions				
E	To surface of fill and tops of foundation walls	27	SM		
	CONCRETE WORK				
	Insitu concrete				
	Plain mix 1:3:6 50mm thick blinding to;				
F	Under strip footing	22	SM		
	Vibrated reinforced concrete Class 20/20mm (1:2:4) in:-				
G	Foundation strip	4	CM		
H	Floor Beds; 100 mm thick	27	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	REINFORCEMENT				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Foundation strip				
A	8 mm diameter; main bars	43	KG		
B	10mm diameter; distribution bars	89	KG		
	Fabric; B.S 4483				
C	Reference A142; mesh 200 x 200 mm weight 2.22 kgs per square meter (Measured net - no allowance made for laps); including bends, tying wire and distance blocks in any location	27	SM		
	Formwork				
	Sawn softwood formwork to insitu concrete				
D	Edges of floor bed 75 to 150 mm high	36	LM		
	Foundation walling				
	200mm Thick rough chisel dressed natural stone walling bedded and jointed in cement and sand (1:3) mortar and reinforced with and including 20swg x 25mm wide hoop iron in every alternate course				
E	225mm thick foundation walling	45	SM		
	Damp proof membrane				
	1000 gauge Polythenelaid with 150mm laps,(No allowance made for laps)				
F	Horizontal, 1 No. of layer(s) over 300 mm wide	27	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Plinth finishes				
	Render, cement and sand (1:3) wood floated				
A	12mm thick 2 No. coat work, to concrete or blockwork base (m/s) generally external	16	SM		
	Painting; 3 coats black bituminous paint to				
B	Rendered surfaces external	16	SM		
	Total Carried to collection				
	COLLECTION				
	B/F from page S/				
	B/F from page S/2				
	B/F from page S/3				
	B/F from above				
	Total for Substructures carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	REINFORCED CONCRETE FRAME				
	Concrete work				
	Insitu concrete				
	Vibrated class 20/20mm (1:2:4) in:-				
A	Beams	2	CM		
B	100mm thick suspended slab	27	SM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Beams				
C	8mm diameter; links	71	KG		
D	12mm diameter; main bars	128	KG		
	Suspended slab				
E	10mm diameter; both ways	324	KG		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
F	Sides and sofits of beams.	29	SM		
G	Soffits of suspended slab	27	SM		
H	Edges of suspended floor bed; girth not exceeding 150mm high	36	LM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	WALLING				
	Waterproofing				
	Horizontal damp proof course ; one layer of 3 - ply bituminous felt or other equal and approved (measured nett - allow for laps)				
A	200mm wide, levelled and bedded in cement mortar (1:3)	36	LM		
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
B	200mm thick walling	86	SM		
	Total Walling Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOF AND RAIN WATER GOODS				
	FLAT ROOF FINISHES				
	Lightweight water proofed screeds				
A	50 mm screed to receive APP water proofing laid to falls and cross falls on concrete slab	27	SM		
B	20mm thick render in parapet walls/ upstand beams to receive APP waterproofing	11	SM		
	Cement and sand (1:3) mix as described in:-				
C	40mm thick on top of APP waterproofing with red oxide finish trowelled hard and smooth	27	SM		
D	50 x 50mm angle fillet	9	LM		
	6mm Thick modified APP membrane in two layers with mineral finish and polyester internal carrier; bonded to first in accordance with manufacturer's printed instructions; by an approved specialist on screed (measured separately); to provide 10 year guarantee (provisional)				
E	6mm Cabroshield APP membrane applied to roof slabs including 300mm high skirting all round	27	SM		
F	Ditto but to vertical surfaces of upstand beams	11	SM		
	Gutter outlets				
G	150 mm Diameter galvanized mild steel fulbora rainwater outlet complete with dome type grating, flange, raising ring, PVC adaptor and other accessories including connecting to downpipe.	1	NO		
H	100mm Diameter grey downpipes held onto walls with approved mild steel holder bats.	3	LM		
J	Extra over for swan neck bends, 800mm long	1	NO		
K	Ditto for shoes, 300mm long	1	NO		
	Total Roofing Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	11	LM		
B	Ditto transom	2	LM		
C	50x20mm Architraves	11	LM		
D	15 x 15mm quadrant	11	LM		
E	Glazing beads	4	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany: stained with fanlight 300mm high				
F	Door overall size 800 x 2100mm high	2	NO		
	Steel doors				
	Purposed made mild steel doors complete with pin type hinges; welded smooth; all necessary ironmongery to approval; one coat red oxide painted;comprising 50 x 50 x 3mm thick RHS external frame fishtail grouted into concrete/block/masonry walling; 50 x 50 x 3mm R.H.S horizontal intermediate frames welded onto and inlcuding 50 x 50 x 3 mm RHS surround frame at 300mm centres; 25 x 3 mm thick flat door stopper with and including for 25x25x 2mm SHS beading; door leaf infilled with 2mm thick pressed metal panels profiled to form panels welded; all welding, grounding to a smooth finish including for priming door with one coat red oxide primer; pointed internally and externally with approved mastic sealant				
G	Door overall size 900 x 2400mm high, welded complete with 5 - lever mortice lock and 3 No. tower bolts in double leaf	2	NO		
	Glazing				
H	4mm thick clear sheet glass and glazing with putty to casement door in panes 0.10m - 0.05m squared	1	SM		
J	Ditto to timber door fanlight	1	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Ironmongery				
	Supply and fix the following : -				
A	100mm heavy duty brass butt hinges	3	PRS		
B	800x200mm high stainless steel kick plate onto both sides to approval	2	NO		
C	Coat and hat hook	2	NO		
D	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	12	NO		
E	Rubber door stops fixed to wall or floor with screws	4	NO		
F	Two lever mortice lock cataloque No. 2237 complete with set lever handle furniture with indicator bolts	2	NO		
	Painting and decorating				
	Prepare and apply one coat etching primer two undercoats and one coat oil paint full gloss furnish to;				
G	General surfaces of steel doors (both sides measured overall)	9	SM		
	One coat aluminium hardwood primer to crown paints or equal and approved				
H	Wood surfaces before fixing 100-200 mm girth internal	13	LM		
J	Ditto not exceeding 100mm girth	22	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
K	General wood surfaces externally and internally	8	SM		
L	Wood surfaces 200 - 300mm girth externally	13	LM		
M	Ditto 0 - 100mm girth	22	LM		
	Total Carried to collection				
	COLLECTION Brought forward from Page S/8 Brought forward from above				
	Total Doors Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	WINDOWS				
	Metal work				
	Purpose made units				
	Casement mid hang window with horizontal pivots; standard metal casement sections, permanent ventilators comprising T-bar gauze wire and metal hood to fill width of window, but 100mm deep one coat primer by manufacturer; complete with all necessary ironmongery, steel for glazing with putty, cutting and pinning lugs to concrete or blockwork, fixing to head and sill with screws and plugging.				
A	Overall size 2400×1200 mm high	2	NO		
	Glazing				
B	4mm thick clear sheet glass and glazing to metal with putty and including setting of edges of glass in wash leather in panes n.e 0.1m²	6	SM		
	Painting and decorating				
	One undercoat, two coats oil paint gloss finish as crown paints or other equal and approved catalogue				
C	Metal window surfaces generally internally and externally measured overall	12	SM		
	Total Windows carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry to receive exterior paint work (measured separately)	97	SM		
	Painting and decorating				
	Prepare and apply -2no. coats Anti-Algea priming coat on exposed wall surfaces as per the manufacturers specifications and -3no. coats Wheather Guard paint as manufactured by Caparol or equivalent quality to;				
B	Rendered concrete surfaces externally	97	SM		
	Internal finishes				
	Wall finishes				
	Plaster; 9mm thick first coat of cement and sand (1:6); 3mm second coat to cement and lime putty (1:10); steel trowelled smooth				
C	12mm thick to concrete or masonry walls	90	SM		
	Prepare and apply 1no. Priming undercoat to manufacturers specifications and -3no. finishing coats - vinyl Silk as manufactured by Caparol Paints or equivalent on clean wall surface free of dust, algea, and undulations to;				
D	Plastered walls (m.s)	90	SM		
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
C	12mm backing finished to receive ceramic wall tiles (m.s) full height	35	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Walls generally; 250x250mm thick	35	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Floor Finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
A	25mm thick to receive terrazzo floor finish (m/s)	27	SM		
	Terrazzo floor finish				
	Terrazzo paving with approved coloured aggregates, colour to approval with and including plastic dividing strips; pattern to approval by architect to;				
B	To floors, generally; 15mm thick	27	SM		
C	20x100mm terrazzo skirting with rounded junction with wall finish and coved junction with floor internal	42	LM		
	Total Carried to collection				
	COLLECTION				
	Brought forward from Page S/11				
	Brought forward from above				
	Total Finishes carried to summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Substructures				
	Reinforced Concrete				
	Walling				
	Roof and rain water goods				
	Doors				
	Windows				
	Finishes				
	Total for Sentry House Carried to External works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ABLUTION BLOCK				
	ELEMENT NO. 1				
	SUBSTRUCTURE (All Provisional)				
	Site preparation				
	Clearing site vegetation; grubbing up roots and filling up voids left with selected excavated material				
A	Bushes, shrubs, undergrowth and small trees girth not exceeding 600mm or the like and cart away from site as directed;	138	SM		
	Top soil stripping				
B	Excavating vegetable soil for preservation, average 150 mm thick	138	SM		
	Excavations				
	To include; trimming sides and bottoms to approval;				
	Excavating Surface to reduce level.				
C	Average 250mm deep	138	SM		
	Excavating Trenches; to receive foundations starting from reduced levels				
D	Not exceeding 1.50m deep	60	CM		
	Excavating Pit; to receive foundations starting from reduced levels				
E	Not exceeding 1.50m deep	41	CM		
	Breaking out existing material; extra over all kinds of excavations irrespective of depth				
F	Extra over all types of excavations for excavating in rock of all types	6	CM		
	Disposal				
G	Backfill with selected excavated material around foundations; compacting in layers maximum 150mm thick; including double or multi handling of excavated whedre necessary	74	CM		
H	Surplus excavated material; removing from site mechanically	27	CM		
	Total Carried to collection				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Disposal of water				
A	Labour and materials, allow for keeping excavations free from general water by pumping, bailing or any other approved methods		ITEM		
	Planking and strutting				
B	Labour and materials, to uphold sides of excavation generally		ITEM		
	FILLING				
	Hardcore				
C	300mm thick hardcore to make up levels, depositing and compacting in layers maximum 150mm thick levelling and grading to appoval	138	SM		
	Murram				
D	Quarry dust murram blinding 50 mm thick rolled smooth to receive polythene sheeting	138	SM		
	Anti-termite treatment				
	Applying "Termidor 25 EC" solution or other equal and approved sprayed evenly by an approved specialist strictly in accordance with the manufacturer's instructions				
E	To surface of fill and tops of foundation walls	138	SM		
	CONCRETE WORK				
	Insitu concrete				
	Plain mix 1:3:6 50mm thick blinding to;				
F	Under strip footing	40	SM		
G	Under column bases	27	SM		
	Vibrated reinforced concrete Class 20/20mm (1:2:4) in:-				
H	Foundation strip	8	CM		
J	Column bases	8	CM		
K	Foundation columns	1	CM		
L	Entrance Ramps and Steps	2	CM		
M	Floor Beds; 150 mm thick	138	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	REINFORCEMENT				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Foundation strip				
A	8 mm diameter; main bars	79	KG		
B	10mm diameter; distribution bars	164	KG		
	Column bases				
C	12mm diameter; main bars	326	KG		
	Starter columns				
D	8 mm diameter; links	30	KG		
E	12mm diameter; main bars	154	KG		
	Fabric; B.S 4483				
F	Reference A142; mesh 200 x 200 mm weight 2.22 kgs per square meter (Measured net - no allowance made for laps); including bends, tying wire and distance blocks in any location	138	SM		
	Formwork				
	Sawn softwood formwork to insitu concrete				
G	Vertical and battering sides of columns	14	SM		
H	Edges of floor bed 75 to 150 mm high	45	LM		
	Foundation walling				
	200mm Thick rough chisel dressed natural stone walling bedded and jointed in cement and sand (1:3) mortar and reinforced with and including 20swg x 25mm wide hoop iron in every alternate course				
J	225mm thick foundation walling	83	SM		
	Damp proof membrane				
	1000 gauge Polythenelaid with 150mm laps,(No allowance made for laps)				
K	Horizontal, 1 No. of layer(s) over 300 mm wide	138	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Plinth finishes				
	Render, cement and sand (1:3) wood floated				
A	12mm thick 2 No. coat work, to concrete or blockwork base (m/s) generally external	20	SM		
	Painting; 3 coats black bituminous paint to				
B	Rendered surfaces external	20	SM		
	Paving plinth				
	Precast concrete slabs				
C	600 x 600 x50 mm thick slabs laid on and including 50 mm (consolidated) bed of sand; jointed and pointed in cement sand 1:3 mortar V-joints	27	SM		
	Total Carried to collection				
	COLLECTION				
	B/F from page A/1				
	B/F from page A/2				
	B/F from page A/3				
	B/F from above				
	Total for Substructures carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 2				
	REINFORCED CONCRETE FRAME				
	Concrete work				
	Insitu concrete				
	Vibrated class 20/20mm (1:2:4) in:-				
A	Beams	4	CM		
B	Columns	1	CM		
	Reinforcement				
	Bars : high tensile steel; cold worked; B. S. 4461 including bends, hooks, tying wire, distance blocks and spacers				
	Beams				
C	8mm diameter; links	131	KG		
D	12mm diameter; main bars	236	KG		
	Columns				
E	8mm diameter; links	62	KG		
F	12mm diameter; main bars	128	KG		
	Formwork to insitu concrete				
	Sawn formwork as described to:-				
G	Sides and sofits of beams.	29	SM		
H	Vertical and battering sided of columns	81	SM		
	Total Reinforced Concrete carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO.3				
	WALLING				
	Waterproofing				
	Horizontal damp proof course ; one layer of 3 - ply bituminous felt or other equal and approved (measured nett - allow for laps)				
A	200mm wide, levelled and bedded in cement mortar (1:3)	66	LM		
B	150mm wide ditto	20	LM		
C	100mm wide ditto	33	LM		
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
D	200mm thick walling	106	SM		
	External Walling				
	Natural hard machine cut stone; selected and approved; in walling with a crushing strength of 7.5 N/mm²; walling bedded and jointed in cement and sand (1:3) mortar in 200mm, course height; reinforcement with and including 25mm wide x 20 gauge hoop iron and column wall ties at every alternate course as described in;				
E	200mm thick walling	53	SM		
F	150mm thick walling	48	SM		
G	100mm thick walling	79	SM		
	Total Walling Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 4				
	ROOF AND RAIN WATER GOODS				
	Roof covering				
	Gauge 28 prepainted resin coat IT5 roofing sheets; colour as selected by Architect; fixed with self-drilling fasteners to timber purlins; allow foam fillers to open eaves and ridge				
A	Roof covering not exceeding 30 degrees from the horizontal	166	SM		
B	Ridge cap/hip cap in matching materials	54	LM		
C	150x50mm ridge board	54	LM		
	CARPENTRY				
	Structural timbers				
	All timber to be sawn cypress of G.S grade seasoned to an equilibrium moisture content between 9% and 15% and to a requirement of K.S 02771 of 1991 treated with approved wood preservative.				
D	150 x 50mm King post	20	LM		
E	Ditto tie beam	95	LM		
F	100x50mm trussed rafters	113	LM		
G	Ditto Tie or strut	170	LM		
H	75 x 50mm purlin/battens	162	LM		
J	100 x 50mm Wall plate bedded in cement : sand (1:3) mortar secured to reinforced concrete ring beam (m/s) by mild steel16mm diameter anchor bolts at 1000mm centres	45	LM		
	Boarding				
	Wrought cypress, prime grade, pressure impregnated				
K	225 x 25mm thick Fascia or barge boards	52	LM		
	Painting and decorating				
	One undercoat and two coats oil paint full gloss finish to crown paints or equal and approved				
L	Timber surfaces 200 to 300mm girth external	52	LM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Rain water disposal				
	Gutterwork , PVC gutter and fittings				
A	150 mm PVC Gutters half round in running lengths, fixing with brackets at 1000mm centres and with appropriate jointing	52	LM		
B	Extra over gutters for 100mm diameter pipe outlet	8	NO		
	Rainwater pipework				
C	100mm diameter grey pipes complete with connections in the running lengths, fixing with PVC holdersbats at 1000mm centers to backgrounds requiring plugging on walls	24	LM		
D	Extra over pipework for shoes	8	NO		
E	Ditto swanneck	8	NO		
	Total Carried to collection				
	COLLECTION Brought forward from page T/3 Brought down from above				
	Total Roofing Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 5				
	DOORS				
	Joinery				
	Frames; Wrot Mahogany; prime grade				
A	150 x 50mm rebated frame with three labours	136	LM		
B	Ditto transom	21	LM		
C	50x20mm Architraves	136	LM		
D	15 x 15mm quadrant	136	LM		
E	Glazing beads	56	LM		
	Flush doors				
	50mm thick solid core flush door to B.S 459: Part 2; faced both sides with 3mm thick mahogany veneer on and including blockboard infill; lipped on all edges with 10mm thick wrot mahogany: stained with fanlight 300mm high				
F	Door overall size 800 x 2100mm high	20	NO		
G	Door overall size 1200 x 2100mm high; double leaf double swing door	4	NO		
	Glazing				
H	4mm thick clear sheet glass and glazing to timber door fanlight in panes 0.10m - 0.05m squared	7	SM		
	Supply and fix the following : -				
J	100mm heavy duty brass butt hinges	30	PRS		
K	150mm heavy duty double action spring hinges	12	PRS		
L	800x200mm high stainless steel kick plate onto both sides to approval	24	NO		
M	500x150mm signange plate	5	NO		
N	Coat and hat hook	24	NO		
P	225 x 25 x 3mm thick door fixing cramps one end bent and twice screwed to frame and the other end fanged and built into blockwork	144	NO		
Q	Rubber door stops fixed to wall or floor with screws	28	NO		
R	Two lever mortice lock cataloque No. 2237 complete with set lever handle furniture with indicator bolts	24	NO		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Painting and decorating				
	One coat aluminium hardwood primer to crown paints or equal and approved				
A	Wood surfaces before fixing 100-200 mm girth internal	157	LM		
B	Ditto not exceeding 100mm girth	272	LM		
	One undercoat, two coats polyuretrhane clear varnish to crown paints or equal and approved				
C	General wood surfaces externally and internally	77	SM		
D	Wood surfaces 200 - 300mm girth externally	157	LM		
E	Ditto 0 - 100mm girth	272	LM		
	Total Carried to collection				
	COLLECTION Brought forward from Page A/9 Brought forward from above				
	Total Doors Carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 6				
	WINDOWS				
	Metal work				
	Purpose made units				
	Casement mid hang window with horizontal pivots; standard metal casement sections, permanent ventilators comprising T-bar gauze wire and metal hood to fill width of window, but 100mm deep one coat primer by manufacturer; complete with all necessary ironmongery, steel for glazing with putty, cutting and pinning lugs to concrete or blockwork, fixing to head and sill with screws and plugging.				
A	Overall size 600×600 mm high	16	NO		
B	Overall size 1200×600 mm high	4	NO		
C	Overall size 1600×600 mm high	2	NO		
D	Ditto, but glass block windows; overall size 1000×1200 mm high; comprising of 190x190x80mm thick transluscent patterned glass blocks, laid with uniform joints, including galvanized ties, perimeter framing and all necessary cutting, jointing, pointing and making good and sundry fixing, complete in all respects	2	NO		
	Glazing				
E	4mm thick obscure sheet glass and glazing to metal with putty and including setting of edges of glass in wash leather in panes n.e 0.1m²	11	SM		
	Painting and decorating				
	One undercoat, two coats oil paint gloss finish as crown paints or other equal and approved catalogue				
F	Metal window surfaces generally internally and externally measured overall	22	SM		
	Total Windows carried to Summary				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ELEMENT NO. 7				
	FINISHES				
	External finishes				
	Render				
	15mm thick cement:sand (1:3) render finished with woodfloat to;				
A	Concrete/masonry to receive exterior paint work (measured separately)	122	SM		
	Painting and decorating				
	Prepare and apply -2no. coats Anti-Algea priming coat on exposed wall surfaces as per the manufacturers specifications and -3no. coats Wheather Guard paint as manufactured by Caparol or equivalent quality to;				
B	Rendered concrete surfaces externally	122	SM		
	Internal finishes				
	Wall finishes				
	Mortar; Cement and sand (1:4) backings; (Wet areas)				
C	12mm backing finished to receive ceramic wall tiles (m.s) full height	547	SM		
	Ceramic wall tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; white glazed wall tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
D	Walls generally; 250x250mm thick	547	SM		
	Total Carried to collection				

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	Floor Finishes				
	Screed				
	Cement : sand (1:3) wood floated screeds, backings, beds;				
A	32mm thick to receive non slip ceramic tiles (measured separately)	138	SM		
	Ceramic floor tiles				
	Saj ceramic tiles or other equal and approved ceramic tiles to B.S. 1281; local; non-slip friction resistant coloured ceramic tiles to regular or approved B.S.1281 other pattern; jointed and pointed in coloured proprietary grouting to match; only ceramic tiles to walls on prepared bed (m.s) with propriety adhesive; jointed including pvc spacers, joint trims and expansion joint as necessary: all to Architect's approval: to;				
B	Floors generally; 300x300mmx8mm thick	138	SM		
C	20x100mm high ceramic tile skirting with rounded junction with wall finish and coved junction with floor internal	110	LM		
	Precast concrete class 20 (12mm,aggregate), including formwork, finishing fair face on all exposed surfaces, hoisting and placing in position, bedding and jointing in cement and sand (1:3) mortar				
D	350 x 50mm wall coping; throated	45	LM		
	Total Carried to collection				
	COLLECTION				
	Brought forward from Page A/12				
	Brought forward from above				
	Total Finishes carried to summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUMMARY				
	Substructures				
	Reinforced Concrete				
	Walling				
	Roof and rain water goods				
	Doors				
	Windows				
	Finishes				
	Total for Ablution Block Carried to External works Summary				

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	EXTERNAL WORKS SUMMARY				
	Landscaping works				
	Gate				
	Sentry House				
	Ablution block				
	Total for External Works Carried to Grand Summary				

ELECTRICAL WORKS

ELECTRICAL INSTALLATION WORKS

PROPOSED CONSTRUCTION AND COMPLETION OF COUNTY COMMISSIONER OFFICE AT ITEN.

SPECIFICATIONS & BILLS OF QUANTITIES FOR SUPPLY, INSTALLATION, TESTING AND

COMMISSIONING OF ELECTRICAL INSTALLATION WORKS

OCTOBER, 2026

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SECTION A

INSTRUCTIONS TO TENDERERS

INSTRUCTIONS TO TENDERERS

CONTENTS

CLAUSE NUMBERS	DESCRIPTION	PAGE
AWARD OF CONTRACT		
1.	Tender Evaluation Criteria	A-1---A-3

Note: The tenderer, who shall be domestic subcontractor to the Main Contractor upon award of the tender, must comply with the following conditions and instructions failure to which the tender shall be rejected.

TENDER EVALUATION CRITERIA

After tender opening, the tenders will be evaluated in **2 stages**, namely:

1. Preliminary Evaluation;
2. Technical Evaluation;

STAGE 1: PRELIMINARY EVALUATION

This stage of evaluation shall involve examination of the mandatory requirements as set out in the Tender Advertisement Notice or Letter of Invitation to Tender and any other conditions stated in the bid document.

These conditions shall include the following:

i) Company Certificate of incorporation/registration;
ii) Current National Construction Authority Registration certificate (NCA 5 and above in Electrical Installation Works);
iii) Provide current annual contractors practicing license for NCA;
iv) Current Certificate for Energy & Petroleum Regulatory Authority (EPRA C2),
v) Valid Tax Compliance Certificate;
vi) Compliance with Technical Specifications;

The tenderers who do not satisfy any of the above mandatory requirements shall be considered Non-Responsive and their tenders will not be evaluated further.

STAGE 2: TECHNICAL EVALUATION

The tenderer shall be required to fill Standard Forms Provided in the bid document for the purpose of providing information to assess their experience and personnel capacity in carrying out the works defined in the bid document. The tenderers may also attach the required information if they so desire;

The award of points considered in this section shall be as shown below:

PARAMETER	MAXIMUM POINTS
(i) Compliance with Technical Specifications …….……40	
TOTAL	40

The pass-mark under the Technical Evaluation is 40 Points.

The detailed scoring plan shall be as shown in table 1.

TABLE 1: Assessment for Eligibility

Item	Description	Points Scored	Max. Point	
1	**Compliance with Technical Specifications** • Compliant ----------……40 • Non-compliant---------- 0 ***(Note: Tender Evaluation Committee to carryout analysis showing how decision on this requirement has been arrived at. Attach analysis on this as an Appendix)***		**40**	**1**

Any bidder who scores 40 points and above shall be considered for further evaluation.

SECTION B

GENERAL SPECIFICATIONS

OF

MATERIALS AND WORKS

GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

2.1 General

2.2 Standard of Materials

2.3 Workmanship

2.4 Procurement of Materials

2.5 Shop Drawings

2.6 Record Drawings

2.7 Regulations and Standards

2.8 Setting out Works

2.9 Position of Electrical Plant and Apparatus

2.10 M.C.B Distribution Panels and Consumer Units

2.11 Fused Switchgear and Isolators

2.12 Conduits and Conduit Runs

2.13 Conduit Boxes and Accessories

2.14 Labels

2.15 Earthing

2.16 Cables and Flexible Cords

2.17 Armoured PVC Insulated and Sheathed Cables

2.18 Cable Supports; Markers and Tiles

2.19 PVC Insulated Cables

2.20 Heat Resisting Cables

2.21 Flexible Cords

2.22 Cable Ends and phase Colours

2.23 Cable Insulation Colours

2.24 Sub-circuit Wiring

2.25 Space Factor

2.26 Insulation

2.27 Lighting Switches

2.28 Sockets and Switched sockets

2.29 Fused Spur Boxes

2.30 Cooker Outlets

2.31 Connectors

2.32 Lamp holders

2.33 Lamps

2.34 lighting Fittings Street Lighting Lanterns

2.35 Position of Points and Switches

2.36 Street/Security Lighting Columns

2.37 Timing Control Switch

2.38 Wiring System for Street Lighting

2.39 Metal control Pillar

2.40 Current Operated Earth leakage circuit breaker

2.41 MV Switchboard

2.42 Steel Conduits and Steel Trunking

2.43 Testing on Site

2.1 GENERAL

This specification is to be read in conjunction with the drawings which are issued with it. Bills of quantities shall be the basis of all additions and omissions during the progress of the works.

2.2 STANDARD OF MATERIALS

Where the material and equipment are specifically described and named in the Specification followed by approved equal, they are so named or described for the purpose of establishing a standard to which the sub-contractor shall adhere.

Should the Sub-contractor install any material not specified herein before receiving approval from the proper authorities, the Engineer shall direct the Sub-contractor to remove the material in question immediately. The fact that this material has been installed shall have no bearing or influence on the decision by the Engineer.

All materials condemned by the Engineer as not approved for use, are to be removed from the premises and suitable materials delivered and installed in their place at the expense of the Sub-contractor. All materials required for the works shall be new and the best of the respective kind and shall be of a uniform pattern.

2.3 WORKMANSHIP

The workmanship and method of installation shall conform to the best standard practice. All work shall be performed by a skilled tradesman and to the satisfaction of the Engineer. Helpers shall have qualified supervision.

Any work that does not in the opinion of the Engineer conform to the best standard practice will be removed and reinstated at the Sub-contractor's expense.

Permits, Certificates or Licenses must be held by all tradesmen for the type of work; in which they are involved where such permits, certificates or licenses exist under Government legislation.

2.4 PROCUREMENT OF MATERIALS

The sub-contractor is advised that no assistance can be given in the procurement or allotment of any materials or products to be used in and necessary for the construction and completion of the work.

Sub-contractors are warned that they must make their own arrangements for the supply of materials and/or products specified or required.

2.5 SHOP DRAWINGS

Before manufacture or Fabrication is commenced the sub-contractor shall submit Two copies of detailed drawings of all control pillars, meter cubicles, medium voltage switchboards including their components showing all pertinent information including sizes, capacities, construction details, etc., as may be required to determine the suitability of the equipment for the approval of the Engineer. Approval of the detailed drawings shall not relieve the sub-contractor of the full responsibility of errors or the necessity of checking the drawings himself or of furnishing the materials and equipment and performing the work required by the plans and specifications.

2.6 RECORD DRAWINGS

These diagrams and drawings shall show the completed installation including sizes, runs and arrangements of the installation. The drawings shall be to scale not less than 1:50 and shall include plan views and section.

The drawings shall include all the details which may be useful in the operation, maintenance or subsequent modifications or extensions to the installation.

Three sets of diagrams and drawings shall be provided, all to the approval of the Engineer.

One coloured set of line diagrams relating to operating and maintenance instructions shall be framed and, mounted in a suitable location.

2.7 REGULATIONS AND STANDARDS

All work executed by the Sub-contractor shall comply with the current edition of the "Regulations" for the Electrical Equipment of Buildings, issued by the Institution of Electrical Engineers, and with the Regulations of the Local Electricity Authority.

Where the two sets of regulations appear to conflict, they shall be clarified with the Engineers. All materials used shall comply with relevant Kenya Bureau of Standards Specification.

2.8 SETTING OUT WORK

The sub-contractor at his own expenses; is to set out works and take all measurements and dimensions required for the erection of his materials on site; making any modifications in details as may be found necessary during the progress of the works, submitting any such modifications or alterations in detail to the Engineer before proceeding and must allow in his Tender for all such modifications and for the provision of any such sketches or drawings related thereto.

2.9 POSITIONS OF ELECTRICAL PLANT AND APPARATUS

The routes of cables and approximate positions of switchboards etc, as shown on the drawings shall be assumed to be correct for purpose of Tendering, but exact positions of all electrical Equipment and routes of cables must be agreed on site with the Engineer before any work is carried out.

2.10 MCB DISTRIBUTION PANELS AND CONSUMER UNITS

All cases of MCB Panels and consumer units shall be constructed in heavy gauge sheet with hinged covers.

Removable undrilled gland plates shall be provided on the top and bottom of the cases. Miniature circuit breakers shall be enclosed in moulded plastic with the tripping mechanism and arc chambers separated and sealed from the cable terminals.

The operating dolly shall be tripfree with a positive movement in both make and break position. Clear indication of the position of the handle shall be incorporated.

The tripping mechanism shall be on inverse characteristic to prevent tripping in temporary overloads and shall not be affected by normal variation in ambient temperature.

A locking plate shall be provided for each size of breaker; A complete list of circuit details on typed cartridge paper glued to stiff cardboards and covered with a sheet of Perspex, and held in position with four suitable fixings, shall be fitted to the inner face of the lids of each distribution panel. The appropriate MCB ratings shall be stated on the circuit chart against each circuit in use: Ivorine labels shall be secured to the insulation barriers in such a manner as to indicate the number of the circuits shown on the circuit chart.
Insulated barriers shall be fitted between phases, and neutrals in all boards, and to shroud live parts.

Neutral cables shall be connected to the neutral bar in the same sequence as the phase cables are connected to the MCB's. This shall also apply to earth bars when installed.

2.11 FUSED SWITCHGEAR AND ISOLATORS

All fused switchgear and isolators whether mounted on machinery, walls or industrial panels shall conform to the requirements of KS 04 – 226 PART: 1: 1985.

All contacts are to be fully shrouded and are to have a breaking capacity on manual operations as required by KS 04 – 182: 1980.

Fuse links for fused switches are to be of high rupturing capacity cartridge type, conforming to KS 04 – 183: 1978.

Isolators shall be load breaking/fault making isolators.

Fused switches and isolators are to have separate metal enclosures. Mechanical interlocks are to be provided between the door and main switch operating mechanism so arranged that the door may not be opened with the switch in the 'ON' position. Similarly; it shall not be possible to close the switch with the door open except that provision to defeat the mechanical interlock and close the switch with the door in the open position for test purposes. The 'ON' and 'OFF' positions of all switches and isolators shall be clearly indicated by a mechanical flag indicator or similar device. In T.P & N fused switch units, bolted neutral links are to be fitted.

2.12 CONDUITS AND CONDUIT RUNS

Conduit systems are to be installed so as to allow the loop-in system of wiring:

All conduits shall be black rigid super high impact heavy gauge class 'A' PVC in accordance with KS 04 – 179: 1988 and IEE Regulations. No conduit less than 20mm in diameter shall be used anywhere in this installation.

Conduit shall be installed buried in plaster work and floor screed except when run on wooden or metal surface when they will be installed surface supported with saddles every 600mm. Conduit run in chases shall be firmly held in position by means of substantial pipe hooks driven into wooden plugs.

The Sub-contractor's attention is drawn to the necessity of keeping all conduits entirely separate from other piping services such as water and no circuit connections will be permitted between conduits and such pipes.
All conduits systems shall be arranged wherever possible to be self-draining to switch boxes and conduit outlet points for fittings:

The systems, when installed and before wiring shall be kept plugged with well fitting plugs and when short conduit pieces are used as plugs, they shall be doubled over and tied firmly together with steel wire; before wiring all conduit systems shall be carried out until the particular section of the conduit installation is complete in every respect.

The sets and bends in conduit runs are to be formed on site using appropriate size bending springs and all radii of bends must not be less than 2.5 times the outside diameter of the conduit. No solid or inspection bends, tees or elbows will be used.

Conduit connections shall either be by a demountable (screwed up) assembly or adhesive fixed and water tight by solution. The tube and fittings must be clean and free of all grease before applying the adhesive. When connections are made between the conduit and switch boxes, circular or non-screwed boxes, care shall be taken that no rough edges of conduit stick out into the boxes.

Runs between draw in boxes are not to have more than two right angle bends or their equivalent. The sub-contractor may be required to demonstrate to the Engineers that wiring in any particular run is easily withdrawable and the sub-contractor may, at no extra cost to the contract; be required to install additional draw-in boxes required. If conduit is installed in straight runs in excess of 6000mm, expansion couplings as manufactured by Egatube shall be used at intervals of 6000mm.

Where conduit runs are to be concealed in pillars and beams, the approval of the Structural Engineer, shall be obtained. The sub-contractor shall be responsible for marking the accurate position of all holes chases etc, on site, or if the Engineer so directs, shall provide the Main Contractor with dimensional drawings to enable him to mark out and form all holes and chases. Should the sub-contractor fail to inform the main contractor of any inaccuracies in this respect they shall be rectified at the sub-contractor's expense.

It will be the Sub-contractor's responsibility to ascertain from site, the details of reinforced concrete or structural steelwork and check from the builder's drawings the positions of walls, structural concrete and finishes. No reinforced concrete or steelwork may be drilled without first obtaining the written permission of the Structural Engineer.

The drawings provided with these specifications indicate the appropriate positions only of points and switches, and it shall be the Sub-Contractors responsibility to mark out and centre on site the accurate positions where necessary in consultation with the Architect and the Engineer. The sub-contractor alone shall be responsible for the accuracy of the final position.

2.13 CONDUIT BOXES AND ACCESSORIES

All conduit outlets and junction boxes are to be either malleable iron and of standard circular pattern of the appropriate type to suit saddles being used or super high impact PVC manufactured to KS 04 – 179 : 1983.

Small circular pattern boxes are to be used with conduits up to and including 25mm outside diameter. Rectangular pattern adaptable boxes are to be used for conduits of 32mm outside diameter and larger. For drawing in of cables in exposed runs of conduit, standard pattern through boxes are to be used:

Boxes are to be not less than 50mm deep and of such dimensions as will enable the largest appropriate number of cables for the conduit sizes to be drawn in without excessive bending.

Outlet boxes for lighting fittings are to be of the loop-in type where conduit installation is concealed and the sub-contractor shall allow one such box per fitting, except where fluorescent fittings are specified when two such boxes per fitting shall be fitted flush with ceiling and if necessary fitted with break joint rings. Pattresses shall be fitted where required to outlets on surface conduit runs.

Adaptable boxes are two of PVC or mild steel (of not less than 12swg) and black enamelled or galvanised finish according to location. They shall be of square or oblong shape location. They shall be of square or oblong shape complete with lids secured by four 2 BA brass roundhead screws; No adaptable box shall be less than 75mm x 75mm x 50mm or larger than 300mm x 300mm x 75mm and shall be adequate in depth in relation to the size of conduit entering it. Conduits shall only enter boxes by means of conduit bushes.

2.14 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.

2.15 EARTHING

The earthing of the installation shall comply with the following requirements; -

(i) It shall be carried out in accordance with the appropriate sections of the current edition of the Regulations, for the Electrical Equipment of Buildings issued by Institute of Electrical Engineers of Great Britain.

(ii) At all main distribution panels and main service positions a 25mm x 3mm minimum cross sectional area Copper tape shall be provided and all equipment including the lead sheath and armouring of cables, distribution boards and metal frames shall be bonded thereto.

(iii) The earth tape in Sub-clause (ii) shall be connected by means of a copper tape or cable of suitable cross sectional area to an earth electrode which shall be a copper earth rod (see later sub-clause).

(iv) All tapes to be soft high conductivity copper, untinned except where otherwise specified and where run underground on or through walls, floors, etc., it shall be served with corrosion resisting tape or coated with corrosion compound and braided

(v) Where the earth electrode is located outside the building a removable test link shall be provided inside the building as near as possible to the point of entry to the tape, for isolating the earth electrode for testing purposes.

(vi) Earthing of sub-main equipment shall be deemed to be satisfactory where the sub-main cables are M.I.C.S. or conduit with separate earth wire, and installation is carried out in accordance with the figures stated in the current edition of the I.E.E Regulations.

(vii) Where an earth rod is specified (see Sub-clause (iii) it shall be proprietary manufacture, solid hand drawn copper of 15mm diameter driven into the ground to a minimum depth of 3.6M. It shall be made up to 1.2m sections with internal screw and socket joints and fitted with hardened steel tip and driving cap.

(viii) Earth plates will not be permitted

(ix) Where an earth rod is used the earth resistance shall be tested in the manner described in the current edition of the IEE Regulations, by the Sub-Contractor in the presence of the Engineer and the Sub-Contractor shall be responsible for the supply of all test equipment.

(x) Where copper tape is fixed to the building structure it shall be by means of purpose made non-ferrous saddles which space the conductor away from the structure a minimum distance of 20mm. Fixings, shall be made using purpose made plugs; No fixings requiring holes to be drilled through the tape will be accepted.

(xi) Joints in copper tape shall be tinned before assembly riveted with a minimum of two copper rivets and seated solid.

(xii) Where holes are drilled in the earth tape for connection to items of equipment the effective cross sectional area must not be less than required to comply with the IEE regulations.

(xiii) Bolts, nuts and washers for any fixing to the earth tape must be of non-ferrous material.

(xiv) Attention is drawn to the need for the earthing metal parts of lighting fittings and for bonding ball joint suspension in lighting fittings.

2.16 CABLES AND FLEXIBLE CORDS

All cables used in this Sub-Contract shall be manufactured in accordance with the current appropriate Kenya standard Specification which are as follows:-

P.V.C. Insulated Cables and Flexible Cords	---	Ks 04-192:1988
P.V.C Insulated Armoured Cables	---	Ks 04-194:1990
Armouring of Electric cables	---	Ks 04-290:1987

The successful Sub-Contractor will, at the Engineers discretion be required to submit samples of cables for the Engineers approval; the Engineer reserves the right to call for the cables of an alternative manufacture without any extra cost being incurred.

P.V.C. insulated cables shall be 500/1000 volt grade. No cables smaller than 1.5mm² shall be used unless otherwise specified. The installation and the finish of cables shall be as detailed in later clauses. The colour of cables shall conform to the details stated in the "Cable Braid and insulation Colours" Clause.

2.17 ARMOURED P.V.C. INSULATED AND SHEATHED CABLES:

Shall be 600/1000 volt grade manufactured to Ks 04-194:1988 and Ks 04-187/188 with copper stranded conductors.

The wire armour of the cable shall be used wholly as an earth continuity conductor and the resistance of the wire armour shall have a resistance not more than twice of the largest current carrying conductor of the cable.

P.V.C./S.W.A./P.V.C. cables shall be terminated using "Telecom" "B" type or approved equal or approved equal glands and a P.V.C. tapered sleeve shall be provided to shroud each gland.

2.18 CABLE SUPPORTS, MARKERS AND TILES

All PVC/SWA/PVC cables run inside the building shall be fixed in rising ducts or on ceilings by means of die cast cable hooks or clamps, of appropriate size to suit cables, fixed by studs and back nuts to their channel sections.

Alternatively, fixing shall be by BICC claw type cleating system with die-cast cleats and galvanised mild steel back straps or similar approved equal method. For one or two cables run together the cleats shall be fixed a special channel section supports or backstraps described above which shall in turn be secured to walls or ceilings of ducts by rawbolts.

In excessively damp or corrosive atmospheric conditions special finishes may be required and the Sub-contractor shall apply to the Engineer for further instructions before ordering cleats and channels for such areas.

The above type of hooks and clamps and channels or cleats and blackstraps shall also be used for securing cables in vertical ducts.

Cables supports shall be fixed at 600mm maximum intervals, the supports being supplied and erected under this Sub-contract. Saddles shall not be used for supporting cables nor any other type of fixing other than one of the two methods described above or other system which has received prior approval of the Engineer;

Cables are to be kept clear of all pipe work and the Sub-contractor shall work in close liaison with other services Sub-contractors.

The Sub-Contractor shall include for the provision of fixing of approved type coloured slip on cables end markers to indicate permanently the correct phase and neutral colours on all ends.

Provision shall be made for supplying and fixing approved non-corrosive metal cable markers to be attached to the outside of all PVC/SWA/PVC cables at 15mm intervals indicating cable size and distinction.

Where PVC/SWA/PVC cables are outside the building they shall be laid underground 750mm deep with protecting concrete interlocking cover tiles laid over which shall be provided and laid under this Sub-contract.

All necessary excavations and reinstatement of ground including sanding or trenches will be carried out by the Sub-Contractor, unless otherwise stated.

2.19 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.

2.20 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.

2.21 FLEXIBLE CORDS

Shall be in accordance with the "Cable and Flexible Cords" clause. No cord shall be less than 24/0.2mm in size unless otherwise specified.

Circular white twin TRS flex shall be used for plain pendant fittings up to 100 watts. For all other types of lighting fittings, the flexible cable shall be silicone rubber insulated.

No polythene insulated flexible cable shall be used in any lighting fitting or other appliance (see "Heat Resisting Cables" Clause 30).

2.22 CABLE ENDS AND PHASE COLOURS

All cable ends connected up in switchgear, MCB panels etc, shall have the insulation carefully cut back and the ends sealed with Hellerman rubber slip on cable end markers.

The markers shall be of appropriate phase colour for switch and all other live feeds to the details of the "Cable Insulation Colours" clause. Black cable with black end markers shall only be used for neutral cables.

2.23 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 MARKER
1) **Main and Sub-Main**		
a) Phase	Red	Red
b) Neutral	Black	Black
2) **Sub-Circuits Single Phase**		
a) Phase	Red	Red
b) Neutral	Black	Black

2.24 SUB-CIRCUIT WIRING

For all lighting and sockets wiring shall be carried out in the "looping in" system and there shall be no joints whatsoever. No lighting circuits shall comprise more than 20 points when protected by 10A MCB. Cables with different cross-section area of copper shall not be used in combination.

Lighting circuits P.V.C. cable.

(i) 1.5mm² for all lighting circuits indicated on the drawing.

Power circuits P.V.C cable (minimum sizes).

(ii) 2.5mm² for one, two or three 5Amp sockets wired in parallel.

(iii) 2.5mm² for one 15Amp socket.

(iv) 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.

2.25 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.

2.26 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.

2.27 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

2.28 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

2.29 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

2.30 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 lampholders are supported by flexible cable, the holders shall have "cord grip" arrangements and in the case of metal shades earthing screws shall be provided on each of the holders.

The Sub-Contractor must order the appropriate type of holder when ordering lighting fittings, to ensure that the correct types of holders are provided irrespective of the type normally supplied by the manufacturers.

2.33 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.

Tungsten filament lamps shall be manufactured in accordance with KS 04 – 112:1978 for general service lamps and KS 04 – 307:1985 for lamps other than general services. Tubular fluorescent lamps shall comply with KS 04 – 464:1982

Pearl lamps shall be used in all fittings unless otherwise specified.

2.34 LIGHTING FITTINGS AND STREET LIGHTING LANTERNS

This Sub-Contract shall include for the provision, handling charges, taking the delivery, safe storage, wiring (including internal wiring) assembling and erecting of all lighting fittings shown on the drawings.

All fittings and pendants shall be fixed to the conduit boxes with brass R/H screws. These to be in line with metal finish of fittings. The lighting fittings are detailed for the purpose of establishing a high standard of finish and under no circumstances will substitute fittings be permitted.

In case of rectangular shaped ceiling fittings, the extreme ends of the fittings shall be secured to suitable support in addition to the central conduit box fittings. Supports shall be provided and fixed by the Sub-Contractor.

The whole of the metal work of each lighting fittings shall be effectively bonded to earth. In the case of ball and/or knuckle joints short lengths of flexible cable shall be provided, bonded to the metal work on either side of the joints. If the above provisions are not made by the manufacturers -, the Sub-contractor shall include cost of additional work necessary in his tender. See "Flexible Cords" clause for details of internal wiring of lighting fittings.

Minimum size of internal wiring shall be 20/0.20mm (23/0067). Each lighting fitting shall be provided with number type and size of lamps as detailed on the drawings. It is to be noted that some fittings are suspended as shown on the drawings.

Where two or more points are shown adjacent to each other on the drawings, e.g. socket outlet and telephone outlet, they shall be lined up vertically or horizontally on the centre lines of the units concerned.

Normally, the units shall be lined up on vertical centre lines, but where it is necessary to mount units at low level they shall be lined up horizontally.

2.35 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.

2.37 TIMING CONTROL SWITCH

These shall be installed where shown on the drawings. Photocell timing control circuits which will operate 'on' with a specified level of darkness and 'off' with a given level of light. The initial adjustment will be done with approval of the Electrical Engineer.

2.38 WIRING SYSTEM FOR STREET LIGHTING

Cables shall be as indicated on the drawings, and shall be laid in a cable trench 450mm deep along the road sides and 600mm deep across the roads and 900mm away from the road kerb or 1500mm away from the edges of the road. 'Loop-in' and 'Loop-out' arrangement shall be used at every pole. Wiring to the lanterns on each pole shall be with 1.5mm² PVC twin insulated and sheathed cable with earth wire shall be laid at least 600mm below the finished road level on a compact bed of murram at least 50mm thick and covered with a concrete surrounded 150mm thick.

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.

The Switchboard shall be of the flush fronted, enclosed, metal clad type with full front or rear access as called for in the particular specifications, suitable for indoor use, sectionalized as necessary to facilitate transport and erection. The maximum height of the switchboard is to be approximately 2.0 metres. A suitable connection chamber containing all field terminals shall be provided at the top or bottom of the switchboard as appropriate.

Before manufacture, the Sub-Contractor shall submit to the consulting Engineer for approval of detailed drawings showing the layout, construction and connection of the switchboard.

All bus-bars and bus-bar connections shall consist of high conductivity copper and be provided in accordance with KS 04-226: 1985. The bus-bars shall be clearly marked with the appropriate phase and neutral colours which should be red, yellow, blue for the phases and black for neutral. The bus-bars shall be so arranged in the switchboard that the extensions to the left and right may be made in the future with ease should the need arise.

Small wiring, which will be neatly arranged and cleated, shall be executed in accordance with B.S. 158 and the insulation of the wiring shall be coloured according to the phase or neutral connection.

Switches and fuse switches, shall be in strict accordance with KS04-183:1978 Class 2 switches. Means of locking the switch in the "OFF" position shall be provided.

All fuse switches shall comply with KS04-183:1978, PARTS 2 and 3 a fault rating at least equal to the fault rating of the switchboard in which they are installed. Cartridge fuse links to KS 04-183:1978 category A.C. 46, class Q1 and fusing factor not exceeding 1.5 shall be supplied with each fused switch.

Mounting arrangements shall be such that individual complete fuse switches may be disconnected and withdrawn when necessary without extensive dismantling work.

When switches are arranged in their formation all necessary horizontal and vertical barriers shall be provided to ensure segregation from adjacent units. Means of locking the switch in the "OFF" position shall be provided.

2.42 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 enamelled finish except where specified otherwise. Where installed externally or in damp conditions they shall be galvanised. Conduit fittings, accessories or equipment used in conjunction with galvanised conduits shall also be galvanised or otherwise as approved by the service engineer.

Metal trunking shall be fabricated from mild steel of not less than 18 swg. All sections of trunking shall be rigidly fixed together and attached to the framework or fabric or the building at intervals of not less than 1.2m. Joint trunking shall not overhang fixing points by more than 0.5m.

All trunking shall be made electrically continuous by means of 25 x 3mm copper links across each joint and where the trunking is galvanised, the links shall be made by galvanised flat iron strips.

All trunking fittings (i.e. Bends, tees, etc) shall leave the main through completely clear of obstructions and continuously open except through walls and floors at which points suitable fire resisting barriers shall be provided as may be necessary. The inner edge of bends and tees shall be chamfered where cables larger than 35mm² are employed.

Where trunking passes through ceilings and walls the cover shall be solidly fixed to 150mm either side of ceilings and floors and 50mm either side of walls.

Screws and bolts securing covers to trunking or sections of covers together shall be arranged so that damage to cables cannot occur either when fixing covers or when installing cables in the trough.

Where trunking is used to connect switchgear of fuseboards, such connections shall be made by trunking fittings manufactured for this purpose and not by multiple conduit couplings.

Where vertical sections of trunking are used which exceed 4.5m in length, staggered tie off points shall be provided at 4.5m intervals to support the weight of cables.

Unless otherwise stated, all trunking systems shall be painted as for conduit.

Where a wiring system incorporates galvanised conduit and trunking, the trunking shall be deemed to be galvanised unless specified otherwise.

The number of cables to be installed in trunking shall be such as to permit easy drawing in without damage to the cables, and shall in no circumstances be such that a space factor of 45% is exceeded.

Conduit and trunking shall be mechanically and electrically continuous. Conduit shall be tightly screwed between the various lengths so that they butt at the socketed joints. The internal edges of conduit and all fittings shall be smooth, free from burrs and other defects.

Oil and any other insulating substance shall be removed from the screw threads; where conduits terminate in fuse-gear, distribution boards, adaptable boxes, non-spouted switchboxes, etc., they shall, unless otherwise stated, be connected thereto by means of smooth bore male brass bushes, compression washers and sockets. All exposed threads and abrasions shall be painted using an oil paint for black enameled tubing and galvanizing paint for galvanised tubing immediately after the conduits are erected. All bends and sets shall be made cold without altering the section of the conduit.

The inner radius of the 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 enamelled 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 bitumastic composition before covering up.

Where run on the surface, unpainted fittings and joints shall be painted with two coats of oil bound enamel applied to rust and grease free metalwork.

2.43 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.

(c) 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.

(d) 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.

(e) 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.

(f) 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.

(g) The Sub-contractor shall generally attend on other contractors employed on the project and carry out such electrical tests as may be necessary.

(h) 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.

(i) Where such equipment, etc., forms part of or is connected to a system whether primarily or of an electrical nature or otherwise (e.g. air conditioning system) the Sub-contractor shall attend on and assist in balancing, regulating testing and commissioning, or if primarily an electrical or other system forming part of works, shall balance, regulate, test and commission the system to the service engineer's approval.

APPENDIX TO GENERAL SPECIFICATIONS OF MATERIALS AND WORKS

The electrical sub-contractor shall comply with the following: -

1. Government Electrical Specifications No. 1 and No. 2.

2. All requirements of Kenya Power and Lighting Company Limited, and Communications Authority of Kenya (CAK).

SECTION C

SCHEDULE OF CONTRACT DRAWINGS

SCHEDULE OF CONTRACT DRAWINGS

DRAWING NO.	DRAWING TITLE
As shall be issued by the Regional Works Officer – Central Rift Region	As shall be issued by the Regional Works Officer – Central Rift Region

SECTION D

PARTICULAR SPECIFICATIONS

OF

MATERIALS AND WORKS

PARTICULAR SPECIFICATIONS

1.00 SITE LOCATION

The site of the proposed works is at **COUNTY COMMISSIONER OFFICE ITEN.**

2.00 SCOPE OF WORKS

The works to be carried out under this sub-contract comprise supply, installation, testing and commissioning of the following: -

a) **Electrical Works**
This shall include conduiting, cabling, fittings and accessories.

b) **Telephone and data installation**
This shall include conduiting, Trunking and telephone outlet plates.

3.00 MATERIALS FOR THE WORKS

Materials shall be as specified in Section D and in the Bills of Quantities of this document which shall be read in conjunction with contract drawings. Alternative materials shall be accepted only after approval by the Project Manager.

4.00 BROCHURES FOR FIRE ALARM PANEL & ANY ELECTRICAL EQUIPMENT AND FITTINGS

For consideration and qualification tenderers shall, at their own cost, provide coloured manufacturer's brochures detailing technical literature and specifications where applicable.

5.00 MINIMUM SPECIFICATIONS FOR LED LIGHTING FITTINGS

i. Power Factor: ≥ 0.9
ii. Operating Frequency Range:45 – 55Hz
iii. Operating Voltage Range: 130 – 300Vac
iv. Operating Hours: ≥ 50,000Hrs
v. Correlated Colour Temperature (CCT): ≥ 6000K
vi. Total Harmonic Distortion: < 15%
vii. Efficiency ≥ 90Lumens/watt

Bidders must provide Technical Brochures to assess their technical compliance with these specifications

SECTION E

SCHEDULE OF UNIT RATES

SCHEDULE OF UNIT RATES

1. The tenderer shall insert unit rates against the items in the following schedules and may add such other items as he considers appropriate.

2. The unit rates shall include for supply, transport, insurance, delivery to site, storage as necessary, assembling, cleaning, installing, connecting, profit and maintenance in defects liability and any other obligation under this contract.

3. The unit rates will be used to assess the value of additions or omissions arising from authorised variations to the contract works.

4. Where trade names or manufacturer's catalogue numbers are mentioned in the specification, the reference is intended as a guide to the type of article or quality of material required. Alternative brands of **equal** and **approved** quality will be accepted.

5. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including **16% V.A.T, 3 % Withholding tax and all other taxes applicable at the time of tender**).

SCHEDULE OF UNIT RATES

(To be completed by the Tenderer)

Item	Description	Qty	Unit	Rate (Kshs)
	Supply, install, test and commission the following items:			
1	**SC/PVC copper cable drawn in concealed HG/PVC conduits**			
	a) 3 x 10.0 mm^2 in 25mm diameter conduit	1	Lm	
	b) 3 x 16.0 mm^2 in 25mm diameter conduit	1	Lm	
2.0	**PVC/SWA/PVC copper cable c/w appropriate cable lugs and glands**			
	a) 4.0 mm^2 2 - Core	1	Lm	
	b) 10.0 mm^2 2 - Core	1	Lm	
	c) 16.0 mm^2 2 - Core	1	Lm	
3.0	**PVC/SWA/PVC copper cable c/w appropriate cable lugs and glands**			
	a) 4.0 mm^2 4 - Core	1	Lm	
	b) 6.0 mm^2 4 - Core	1	Lm	
	c) 16.0 mm^2 4 - Core	1	Lm	

SECTION F

BILLS OF QUANTITIES

BILLS OF QUANTITIES

A) PRICING OF PRELIMINARIES ITEMS

Prices will be inserted against item of preliminaries in the Contractor's Bills of Quantities and specification. These Bills are designated as Bill No.1 in this Section. Where the Contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract.

The Bills of Quantities are divided generally into three sections:

(a) Preliminaries – Bill No.1

Contractor's preliminaries are as per those described in section C – Contract Preliminaries and General Conditions of Contract. The Contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer has been limited to tangible items such as site office, temporary works and others. However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

(b) Installation Items – Other Bills

(i) The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

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

(c) Summary

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The Contract shall insert his totals and enter his grand total tender sum in the space provided below the summary.

This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document.

SPECIAL NOTES TO THE BILLS OF QUANTITIES

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings and general specifications of materials and works.

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (including **16% V.A.T, 3 % Withholding tax and all other taxes applicable at the time of tender**).

   In accordance with Government policy, the 16% V.A.T and 3% withholding Tax **shall be deducted** from all payments made to the tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA).**

3. All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part.

4. The brief descriptions 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 **approva**l from the Project Manager, the sub-contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **MAIN Summary Page**.

6. Tenderers must enclose, together with their submitted tenders, detailed coloured manufacturer's Brochures detailing Technical Literature and specifications on all the equipment they intend to offer.

SCHEDULE OF RATES AND SPECIFICATIONS OF ELECTRICAL INSTALLATIONS FOR PROPOSED CONSTRUCTION AND COMPLETION OF COUNTY COMMISSIONER OFFICE AT ITEN .

Bill No. 2, Schedule 1: Electrical Installation Works to Administration Block - Ground Floor

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, install, test and commission the following items:				
1.00	**LIGHTING POINTS**				
1.10	Lighting points wired in 3 x 1.5mm2 PVC/SC CU cables drawn in 20mm-Ø concealed HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	a) One way switching	94	No		-
	b) Two way switching.	26	No		-
	c) Two way intermediate switching.	0	No		-
	d) Switched by photocell.	14	No		-
					-
2.00	**LIGHTING SWITCHES**				-
2.10	10A, moulded ivory white switch plates as MK Range or approved equivalent as follows:-				-
	a) 1 gang - 2 way	44	No		-
	b) 2 gang - 2 way.	3	No		-
	c) 3 gang - 2 way.	1	No	-	-
	d) One gang Intermediate	0	No	-	-
					-
2.20	**Automatic Switching**				-
	a) 240V, 100A 4-Pole contactor complete with mounting plastic box , mounting rail and all other accessories as Telemecanique or approved equivalent.	1	No		-
	b) 5A photocell as Thorn QPK or approved equivalent.	1	No		-
					-
3.00	**LIGHTING FITTINGS**				-
	Lighting fittings complete with lamps of appropriate wattage and colour rendering and fixing materials as follows:-				-
	a) Type - E1	68	No		-
	b) Type - E2	0	No	-	-
	c) Type - E2r	0	No	-	-
	d) Type - E1s	0	No	-	-
	e) Type - FL	14	No		-
	f) Type - G	0	No		-
	g) Type - H	0	No	-	-
	h) Type - EMG	25	No		-
	i) Type - EXIT	3	No		-
	j) Type - D1	22	No		-
	k) Type - S2	5	No		-
	Sub-total carried forward to the next page				-

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
4.00	**ELECTRICAL SERVICES DUCTS**				-
4.10	Lay HG/PVC conduiting of size 1x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings, across door openings and intercomnnecting trunking sections for electrical services	40	M		-
					-
4.20	Lay HG/PVC conduiting of size 1x50mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for internal power reticulation	40	M		-
4.30	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
5.00	**POWER POINTS**				-
5.10	Raw power socket outlet power points comprising wiring in 3 x 2.5 mm^2 PVC/SC CU cables drawn in 25mmØ concealed HG PVC conduits/trunking including all conduit accessories but excluding plates:-				-
	a) single outlet	1	No		-
	b) twin outlet	75	No		-
5.20	13A, moulded ivory white switched socket outlet plates as Crabtree or approved equivalent as follows:				-
	a) Single switched	1	No		-
	b) Twin switched	75	No		-
					-
					-
					-
5.30	**Fire Alarm Panel Power Point -** Power points comprising wiring in 3 x 2.5mm^2 PVC/SC/CU cables drawn in 25mm-Ø concealed HG PVC conduits	20	M		-
	a) 20A DP control switch with neon light and cord outlet for above item as Crabtree or approved equivalent	1	No		-
	Sub-total carried forward to the next page				-

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
5.40	**Hand drier -** Power points comprising wiring in 3 x 4mm^2 PVC/SC/CU cables drawn in 25mm-Ø concealed HG PVC conduits	60	M		-
	a) 20A DP control switch with neon light and cord outlet for above item as Crabtree or approved equivalent	2	No		-
					-
					-
6.00	**INTERNAL POWER DISTRIBUTION**				-
6.10	Supply, install, test and commission consumer units/power distribution boards as that manufactured by SCHINDLER or equal and approved equivalent as described below:-				-
	a) 150A, 18Way TPN+E - DB: GF	1	No		-
	b) 100A, 12Way SPN+E - CU (Consumer Unit)	2	No		-
					-
6.20	SP/TP MCBs for DB above as follows:				-
	a) 10A SP MCB	10	No		-
	b) 16A SP MCB	8	No		-
	c) 20A SP MCB	4	No		-
	d) 32A SP MCB	4	No		-
	e) 63A SP MCB	0	No		-
	f) SP blanking plates	0	No		-
					-
7.00	**DATA OUTLET POINTS**				-
					-
7.10	Data outlet point done in 20mm diameter HG PVC conduits concealed in building fabric complete with all necessary accessories	75	No		-
	a) Plastic moulded case dual data/telephone outlet plate as Crabtree or approved equivalent.	75	No		-
					-
7.20	CCTV/Access Control System points done in 20mm diameter HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories	31	No		-
					-
7.30	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
	Sub-total carried forward to the next page				-

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
7.40	Supply and install rectangular skirting trunking Type B of dimensions 150x50mm 2 compartment along all walls as indicated in drawing drg. Trunking to be powder coated and white in colour.	150	M		-
					-
7.50	Supply and install factory manufactured corner rectangular skirting trunking Type B of dimensions 150x50mm 3 compartment along all walls. Trunking to be powder coated and white in colour				-
	a) Inside corner Bends	8	No		-
	b) Outside corner Bends	2	No		-
	c) End Cover	8	No		-
	d) Cover plate with knockouts as follows:				-
	i) Face plate for 1No. Single for data outlet point	75	No		-
	ii) Face plate for 1No. Twin for raw power point	75	No		-
					-
8.00	**Fire Alarm System**				-
					-
8.01	Fire alarm manual call point wiring done using 2x1.5mm2 PVC fire resistant copper cables drawn in 25 mm dia PVC heavy gauge conduits but without the manual call point.	2	No		-
					-
8.02	As ditto but for fire alarm bell point	2	No		-
					-
8.03	As ditto but for beacon light outlet	2	No		-
					-
8.04	As ditto but for smoke detector	29	No		-
					-
8.05	As ditto but for heat detector	1	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
8.06	Manual call point to be installed recessed in building fabric as Menvier or approved equivalent.	2	No		-
8.07	24V dc polarised 6" fire bell for wall mounting and as Menvier or approved equivalent.	2	No		-
8.08	Fire beacon light for wall mounting as Menvier or approved equivalent.	2	No		-
8.09	Photoelectric smoke detector complete with the commonbase as Menvier or approved equivalent.	29	No		-
8.10	Rate of rise heat detector complete with the common base as MENVIER or approved equivalent.	1	No		-
8.11	8-Zone fire alarm panel as MENVIER or approved equivalent.	1	No		-
9.00	**SUB-MAIN CABLES**				-
9.10	**Sub-Main Cables: Lay** 3 x 10 mm^2 PVC/SC copper cable drawn in 32mm diameter HG/PVC ducts from CLB to CU	60	Lm		-
10.00	**EXTERNAL POWER RETICULATION CABLE**				
10.10	**Main cable:** lay 3x16mm2 PVC/SC copper cable drawn in 32mm diameter HG/PVC duct from LV board to CLB	50	NO		-
10.20	**Trenching.:** Trenching at an average depth of 750mm, duct and cable laying,and back fillingfor the above cable to engineers approval. (Length to be confirm on site)	45	NO		-
10.30	**Cable loop-in boxes (CLB) :** Standard cable loop-in box complete with the following to engineers approval	2	No		
	a) 1x80A cut-out complete with neutral block and 63A HRC fuse to engineers approval.	2	No		
11.00	**COOKER UNIT**				-
11.10	Cooker unit wired using 3x6.0mm2 PVC SC CU cable drawn in using 20mm-dia. HG/PVC conduits but excluding the cooker fittings itself.	30	LM		-
	a) 3000W cooker unit with LED indicator complete with cooker connector.	1	NO		-
	Sub-total carried forward to the next page				-

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
12.0	**MAIN LV BOARD**				
12.1	415V 12-Way Modular type, free wall mount, power distribution L.V Switch Board for floor mounting with both front access panels, cable manager compartments. To be fabricated using 14SWG steel sheets, manufuctured to BS EN60 439-1, form 2b seperation and fully wired for incoming MCCB's and 12No. TPN minimum outgoing feeders as described here below with the following and all the other necessary accessories: **<u>Install the following in the L.V Switch Board</u>** **a) Incomer Adjustable TPN MCCB** i) 1x250Amps Adjustable MCCB - main Incomer , adjustable and with trip coil as Siemens or Equal and approved for above board. **b) 300Amps - TPN+E copper bus bar** **c) Metering Instruments:** i) Indicator bulbs (for three phase) ii) 1No 1-300A digital ammeter c/w selector switch, 5A fuse iii) 1No 0-500V digital voltmeter c/w selector switch, 5A fuse **d) Outgoing adjustable TPN MCCB** i) 2No. 100A TPN MCCBs - (Adj. 80 -100%) ii) 3No. 63A TP, iii) 8N0. 63A DP, iv) 2No. 30A TP, **e)** 2No. Spare ways for future outgoing MCCB to a maximum of 100A 3-phase each. f) Outgoing adjustable SPN MCB i) 2X 63 SPN MCB - (Adj. 80-100%) ii) 1x spare spaces	1	Item		-
13.00	**EARTHING**				
	a) 300 x 300 x 300mm concrete earthing chamber complete with concrete cover	1	No		-
	b) Earth rod (16mm dia 1500mm long) with Earth-rod- cable clamp and Driving Head for Earth rod	1	No		-
	c) 10mm² SC/PVC copper cable earth lead in concealed 20mm dia. HG/PVC conduit from the meter boards to the earth pit	12	M		-
	Sub-total carried forward to the next page				-

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
14	**FOOTHPATH AND STREET LIGHTING**				
14.1	Full IP66 aluminium streetlighting lantern for 36 to 80W TC-L lamps. From 34mm side entry to 76mm post-top mounting aided by integral rotating spigot. Tool-free maintenance of gear and lamp.With options for photocells and outdoor lighting controls.As Thorn Celest	20	No		-
14.2	Supply and install opal sphere gate pillar complete with lamp	2	No		-
14.3	$6mm^2$ PVC/SWA/PVC 2core cable complete with cable glands	100	M		-
	60A SPN contactor photocell and contactor	1	No		-
14.4	100W metal halide low glare flood light as Thorn 0DW1000	4	No		-
14.5	Trenching cable laying tiling and backfilling	100	M		-
14.6	4Way SPN consumers unit as Hager/Schindler or approved equivalent	1	No		-
	a) 30A SP MCB	1	No		-
	b) 16A SP MCB	1	No		-
	c) Blank covers	2	No		-
	PROVISIONAL SUMS				
	KENYA POWER CONNECTION CHARGES				
	Allow a Provisional Sum of **Kshs. 300,000/-** for **Kenya Power connection charges** to be used at the discreation of the Project Manager				**300,000**
	Allow for profit and attendance to electrical power utility company - KPLC …….%				**15,000**
	Sub-total for Bill No. 2, Schedule 1 (Electrical Installation Works - Ground Floor) c/f to Bill No. 3 Collection Page				

Bill No. 2, Schedule 2: Electrical Installation Works - First Floor

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, install, test and commission the following items:				
1.00	**LIGHTING POINTS**				
1.10	Lighting points wired in 3 x 1.5mm2 PVC/SC CU cables drawn in 20mm-Ø concealed HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	a) One way switching	94	No		-
	b) Two way switching.	18	No		-
	c) Two way intermediate switching.	0	No		-
	d) Switched by photocell.	0	No		-
					-
2.00	**LIGHTING SWITCHES**				-
2.10	10A, moulded ivory white switch plates as MK Range or approved equivalent as follows:-				-
	a) 1 gang - 2 way	42	NO		-
	b) 2 gang - 2 way.	3	No		-
	c) 3 gang - 2 way.	1	No		-
	d) One gang Intermediate	0	No	-	-
					-
					-
3.00	**LIGHTING FITTINGS**				-
	Lighting fittings complete with lamps of appropriate wattage and colour rendering and fixing materials as follows:-				-
	a) Type - E1	61	No		-
	b) Type - E2	0	No	-	-
	c) Type - E2r	0	No	-	-
	d) Type - E1s	0	No	-	-
	e) Type - FL	0	No		-
	f) Type - G	0	No		-
	g) Type - H	0	No	-	-
	h) Type - EMG	24	No		-
	i) Type - EXIT	2	No		-
	j) Type - D1	22	No		-
	k) Type - S2	5	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
4.00	**ELECTRICAL SERVICES DUCTS**				
4.10	Lay HG/PVC conduiting of size 3x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings, across door openings and intercomnnecting trunking sections for electrical services	60	M		-
	Lay HG/PVC conduiting of size 1x50mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for internal power reticulation.	60	M		-
4.20	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
					-
5.00	**POWER POINTS**				-
5.01	Raw power socket outlet power points comprising wiring in 3 x 2.5 mm^2 PVC/SC CU cables drawn in 25mmØ concealed HG PVC conduits/trunking including all conduit accessories but excluding plates:-				-
	a) single outlet	1	No		-
	b) twin outlet	56	No		-
5.02	13A, moulded ivory white switched socket outlet plates as Crabtree or approved equivalent as follows:				-
	a) Single switched	1	No		-
	b) Twin switched	56	No		-
					-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
5.04	**Hand drier -** Power points comprising wiring in 3 x 4mm^2 PVC/SC/CU cables drawn in 25mm-Ø concealed HG PVC conduits	60	M		-
	a) 20A DP control switch with neon light and cord outlet for above item as Crabtree or approved equivalent	3	No		-
					-
					-
6.00	**INTERNAL POWER DISTRIBUTION**				-
6.10	Supply, install, test and commission consumer units/power distribution boards as that manufactured by SCHINDLER or equal and approved equivalent as described below:-				-
	a) 100A, 12Way SPN+E - CU (Consumer Unit)	2	No		-
	a) 150A, 8Way TPN+E - DB: GF	1	No		-
					-
6.20	SP/TP MCBs for DB above as follows:				-
	a) 10A SP MCB	10	No		-
	b) 16A SP MCB	8	No		-
	c) 20A SP MCB	4	No		-
	d) 32A SP MCB	4	No		-
	e) 63A SP MCB	0	No		-
	d) SP blanking plates	0	No		-
					-
7.00	**DATA OUTLET POINTS**				-
					-
7.10	Data/Telephone outlet point done in 20mm diameter HG PVC conduits concealed in building fabric complete with all necessary accessories.	56	No		-
	a) Plastic moulded case dual data/telephone outlet plate as Crabtree or approved equivalent.	56	No		-
					-
7.20	CCTV/Access Control System points done in 20mm diameter HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories.	14	No		-
					-
7.30	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
7.40	Supply and install rectangular skirting trunking Type B of dimensions 150x50mm 2 compartment along all walls as indicated in drawing drg. Trunking to be powder coated and white in colour.	120	M		-
					-
7.50	Supply and install factory manufactured corner rectangular skirting trunking Type B of dimensions 150x50mm 3 compartment along all walls. Trunking to be powder coated and white in colour				-
	a) Inside corner Bends	8	No		-
	b) Outside corner Bends	4	No		-
	c) End Cover	28	No		-
	d) Cover plate with knockouts as follows:				-
	i) Face plate for 1No. Single for data outlet point	56	No		-
	ii) Face plate for 1No. Twin for raw power point	56	No		-
					-
8.00	**Fire Alarm System**				-
					-
8.01	Fire alarm manual call point wiring done using 2x1.5mm2 PVC fire resistant copper cables drawn in 25 mm dia PVC heavy gauge conduits but without the manual call point.	2	No		-
					-
8.02	As ditto but for fire alarm bell point	2	No		-
					-
8.03	As ditto but for beacon light outlet	2	No		-
					-
8.04	As ditto but for smoke detector	30	No		-
					-
8.05	As ditto but for heat detector	1	No		-
	Sub-total carried forward to the next page				-

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
8.06	Manual call point to be installed recessed in building fabric as Menvier or approved equivalent.	2	No		-
8.07	24V dc polarised 6" fire bell for wall mounting and as Menvier or approved equivalent.	2	No		-
8.08	Fire beacon light for wall mounting as Menvier or approved equivalent.	2	No		-
8.09	Photoelectric smoke detector complete with the commonbase as Menvier or approved equivalent.	30	No		-
8.10	Rate of rise heat detector complete with the common base as MENVIER or approved equivalent.	1	No		-
9.00	**SUB-MAIN CABLES**				-
9.01	**Sub-Main Cables: Lay** 3 x 10 mm^2 PVC/SC underground copper cable drawn in 32mm diameter HG/PVC ducts from CLB to CU	60	Lm		-
	Sub-total for Bill No. 2, Schedule 2 (Electrical Installation Works - First Floor) c/f to Bill No. 3 Collection Page				-

Bill No. 2, Schedule 3: Electrical Installation Works - Second Floor

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, install, test and commission the following items:				
1.0	**LIGHTING POINTS**				
1.1	Lighting points wired in 3 x 1.5mm2 PVC/SC CU cables drawn in 20mm-Ø concealed HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	a) One way switching	98	No		-
	b) Two way switching.	19	No		-
	c) Two way intermediate switching.	0	No		-
	d) Switched by photocell.	0	No		-
2.0	**LIGHTING SWITCHES**				-
2.1	10A, moulded ivory white switch plates as MK Range or approved equivalent as follows:-				-
	a) 1 gang - 2 way	41	NO		-
	b) 2 gang - 2 way.	3	No		-
	c) 3 gang - 2 way.	1	No	-	-
	d) One gang Intermediate	0	No	-	-
					-
3.0	**LIGHTING FITTINGS**				-
3.1	Lighting fittings complete with lamps of appropriate wattage and colour rendering and fixing materials as follows:-				-
	a) Type - E1	67	No		-
	b) Type - E2	0	No	-	-
	c) Type - E2r	0	No	-	-
	d) Type - E1s	0	No	-	-
	e) Type - FL	0	No		-
	f) Type - G	0	No		-
	g) Type - H	0	No	-	-
	h) Type - EMG	23	No		-
	i) Type - EXIT	2	No		-
	j) Type - D1	22	No		-
	k) Type - S2	5	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
4.0	**ELECTRICAL SERVICES DUCTS**				
4.1	Lay HG/PVC conduiting of size 3x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings, across door openings and intercomnnecting trunking sections for electrical services	60	M		-
	Lay HG/PVC conduiting of size 1x50mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for internal power reticulation.	60	M		-
4.2	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
5.0	**POWER POINTS**				-
5.1	Raw power socket output power points comprising wiring in 3 x 2.5 mm^2 PVC/SC CU cables drawn in 25mmØ concealed HG PVC conduits/trunking including all conduit accessories but excluding plates:-				-
	a) single outlet	1	No		-
	b) twin outlet	54	No		-
5.2	13A, moulded ivory white switched socket outlet plates as Crabtree or approved equivalent as follows:				-
	a) Single switched	1	No		-
	b) Twin switched	54	No		-
					-
5.3	**Hand drier -** Power points comprising wiring in 3 x 4mm^2 PVC/SC/CU cables drawn in 25mm-Ø concealed HG PVC conduits	60	M		-
	a) 20A DP control switch with neon light and cord outlet for above item as Crabtree or approved equivalent	2	No		-
	Sub-total carried forward to the next page				-

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
6	**INTERNAL POWER DISTRIBUTION**				
6.1	Supply, install, test and commission consumer units/power distribution boards as that manufactured by SCHINDLER or equal and approved equivalent as described below:-				
	a) 100A, 12Way TPN+E - DB: GF	1	No		-
	b) 100A, 12Way SPN+E - CU (Consumer Unit)	2	No		-
6.2	SP/TP MCBs for DB above as follows:				-
	a) 10A SP MCB	10	No		-
	b) 16A SP MCB	8	No		-
	c) 20A SP MCB	4	No		-
	c) 32A SP MCB	4	No		-
	d) SP blanking plates	0	No		-
					-
					-
7.0	**DATA OUTLET POINTS**				-
					-
7.1	Data/Telephone outlet point done in 20mm diameter HG PVC conduits concealed in building fabric complete with all necessary accessories	54	No		-
	a) Plastic moulded case dual data/telephone outlet plate as Crabtree or approved equivalent.	54	No		-
					-
7.2	CCTV/Access Control System points done in 20mm diameter HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories	4	No		-
					-
7.3	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
7.4	Supply and install rectangular skirting trunking Type B of dimensions 150x50mm 2 compartment along all walls as indicated in drawing drg. Trunking to be powder coated and white in colour.	120	M		-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
7.5	Supply and install factory manufactured corner rectangular skirting trunking Type B of dimensions 150x50mm 3 compartment along all walls. Trunking to be powder coated and white in colour				
	a) Inside corner Bends	8	No		-
	b) Outside corner Bends	4	No		-
	c) End Cover	8	No		-
	d) Cover plate with knockouts as follows:				-
	i) Face plate for 1No. Single for data outlet point	54	No		-
	ii) Face plate for 1No. Twin for raw power point	54	No		-
					-
8.00	**Fire Alarm System**				-
					-
8.01	Fire alarm manual call point wiring done using 2x1.5mm2 PVC fire resistant copper cables drawn in 25 mm dia PVC heavy gauge conduits but without the manual call point.	2	No		-
					-
8.02	As ditto but for fire alarm bell point	2	No		-
					-
8.03	As ditto but for beacon light outlet	2	No		-
					-
8.04	As ditto but for smoke detector	30	No		-
					-
8.05	As ditto but for heat detector	2	No		-
					-
8.06	Manual call point to be installed recessed in building fabric as Menvier or approved equivalent.	2	No		-
					-
8.07	24V dc polarised 6" fire bell for wall mounting and as Menvier or approved equivalent.	2	No		-
					-
8.08	Fire beacon light for wall mounting as Menvier or approved equivalent.	2	No		-
					-
8.09	Photoelectric smoke detector complete with the commonbase as Menvier or approved equivalent.	30	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	BoQ Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
8.10	Rate of rise heat detector complete with the common base as MENVIER or approved equivalent.	1	No		-
					-
9.00	**SUB-MAIN CABLES**				-
					-
8.10	**Sub-Main Cables: Lay** 3 x 10 mm^2 PVC/SC underground copper cable drawn in 32mm diameter HG/PVC ducts from CLB to CU	60	Lm		-
	Sub-total for Bill No. 2, Schedule 3 (Electrical Installation Works - Second Floor) c/f to Bill No. 3 Collection Page				-

Bill No. 2, Schedule 4: Electrical Installation Works - Third Floor

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, install, test and commission the following items:				
1.0	**LIGHTING POINTS**				
1.1	Lighting points wired in 3 x 1.5mm2 PVC/SC CU cables drawn in 20mm-Ø concealed HG PVC conduits complete with all necessary accessories but excluding switches for:-				
	a) One way switching	94	No		-
	b) Two way switching.	28	No		-
	c) Two way intermediate switching.	0	No		-
	d) Switched by photocell.	0	No		-
2.0	**LIGHTING SWITCHES**				-
2.1	10A, moulded ivory white switch plates as MK Range or approved equivalent as follows:-				-
	a) 1 gang - 2 way	42	NO		-
	b) 2 gang - 2 way.	3	No		-
	c) 3 gang - 2 way.	1	No		-
	d) One gang Intermediate	0	No	-	-
					-
3.0	**LIGHTING FITTINGS**				-
3.1	Lighting fittings complete with lamps of appropriate wattage and colour rendering and fixing materials as follows:-				-
	a) Type - E1	72	No		-
	b) Type - E2	0	No	-	-
	c) Type - E2r	0	No	-	-
	d) Type - E1s	0	No	-	-
	e) Type - FL	0	No		-
	f) Type - G	0	No		-
	g) Type - H	0	No	-	-
	h) Type - EMG	23	No		-
	i) Type - EXIT	2	No		-
	j) Type - D1	22	No		-
	k) Type - S2	5	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
4.0	**ELECTRICAL SERVICES DUCTS**				
4.1	Lay HG/PVC conduiting of size 3x32mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings, across door openings and intercomnnecting trunking sections for electrical services	60	M		-
	Lay HG/PVC conduiting of size 1x50mm diameter HG/PVC ducts from the electrical service duct to the metal trunkings for internal power reticulation.	30	M		-
4.2	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
5.0	**POWER POINTS**				-
5.1	Raw power socket outlet power points comprising wiring in 3 x 2.5 mm^2 PVC/SC CU cables drawn in 25mmØ concealed HG PVC conduits/trunking including all conduit accessories but excluding plates:-				-
	a) single outlet	1	No		-
	b) twin outlet	52	No		-
5.2	13A, moulded ivory white switched socket outlet plates as Crabtree or approved equivalent as follows:				-
	a) Single switched	1	No		-
	b) Twin switched	52	No		-
					-
5.3	**Hand drier -** Power points comprising wiring in 3 x 4mm^2 PVC/SC/CU cables drawn in 25mm-Ø concealed HG PVC conduits	60	M		-
	a) 20A DP control switch with neon light and cord outlet for above item as Crabtree or approved equivalent	2	No		-
					-
	Sub-total carried forward to the next page				**-**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
6	**INTERNAL POWER DISTRIBUTION**				
6.1	Supply, install, test and commission consumer units/power distribution boards as that manufactured by SCHINDLER or equal and approved equivalent as described below:-				
	a) 100A, 12Way TPN+E - DB: GF	1	No		-
	b) 100A, 12Way SPN+E - CU (Consumer Unit)	2	No		-
6.2	SP/TP MCBs for DB above as follows:				-
	a) 10A SP MCB	10	No		-
	b) 16A SP MCB	8	No		-
	c) 20A SP MCB	4	No		-
	c) 32A SP MCB	4	No		-
	d) SP blanking plates	0	No		-
					-
					-
7.0	**DATA OUTLET POINTS**				-
					-
7.1	Data/Telephone outlet point done in 20mm diameter HG PVC conduits concealed in building fabric complete with all necessary accessories	52	No		-
	a) Plastic moulded case dual data/telephone outlet plate as Crabtree or approved equivalent.	52	No		-
					-
7.2	CCTV/Access Control System points done in 20mm diameter HG PVC conduits concealed in building fabric/trunking complete with all necessary accessories	14	No		-
					-
7.3	Supply and install an 18AWG steel sheets spay painted to approval adaptable box 300x250x150mm to engineers approval.	2	No		-
					-
7.4	Supply and install rectangular skirting trunking Type B of dimensions 150x50mm 2 compartment along all walls as indicated in drawing drg. Trunking to be powder coated and white in colour.	120	M		-
	Sub-total carried forward to the next page				**-**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
7.5	Supply and install factory manufactured corner rectangular skirting trunking Type B of dimensions 150x50mm 3 compartment along all walls. Trunking to be powder coated and white in colour				
	a) Inside corner Bends	8	No		-
	b) Outside corner Bends	4	No		-
	c) End Cover	8	No		-
	d) Cover plate with knockouts as follows:				-
	i) Face plate for 1No. Single for data outlet point	52	No		-
	ii) Face plate for 1No. Twin for raw power point	52	No		-
					-
8.00	**Fire Alarm System**				-
					-
8.01	Fire alarm manual call point wiring done using 2x1.5mm2 PVC fire resistant copper cables drawn in 25 mm dia PVC heavy gauge conduits but without the manual call point.	2	No		-
					-
8.02	As ditto but for fire alarm bell point	2	No		-
					-
8.03	As ditto but for beacon light outlet	2	No		-
					-
8.04	As ditto but for smoke detector	26	No		-
					-
8.05	As ditto but for heat detector	2	No		-
					-
8.06	Manual call point to be installed recessed in building fabric as Menvier or approved equivalent.	2	No		-
					-
8.07	24V dc polarised 6" fire bell for wall mounting and as Menvier or approved equivalent.	2	No		-
					-
8.08	Fire beacon light for wall mounting as Menvier or approved equivalent.	2	No		-
					-
8.09	Photoelectric smoke detector complete with the commonbase as Menvier or approved equivalent.	30	No		-
	Sub-total carried forward to the next page				**-**

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Sub-total carried forward from the previous page				-
8.10	Rate of rise heat detector complete with the common base as MENVIER or approved equivalent.	1	No		-
					-
9.00	**SUB-MAIN CABLES**				-
					-
8.10	**Sub-Main Cables: Lay** 3 x 10 mm^2 PVC/SC copper cable drawn in 32mm diameter HG/PVC ducts from CU to CU	36	Lm		-
	Sub-total for Bill No. 2, Schedule 4 (Electrical Installation Works - Third Floor) c/f to Bill No. 3 Collection Page				-

Bill No. 2, Schedule No. 5: Lightning Protection System

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Supply, install, test and commission the following items:				
1.00	**LIGHTNING PROTECTION SYSTEM**				
1.10	**AIR TERMINATION CONDUCTOR**				
1.11	Supply and lay along the ridge cap 25mm x 3mm thick bare copper tape as Furse P. No. TC030	48	M		-
1.12	Slate Holdfast as Furse Cat. No. HF015 to fix the above tape to the roof ridge.	40	No		-
1.13	Air termination spike comprising the following.				-
	2000mm by 15mm diameter copper rod as Furse P.No. RA240 Complete with: Copper multiple point as Furse P. No. RA 600 and Copper ridge saddle as Furse P No. SD115.	2	Item		-
					-
2.00	**DOWNWARD CONDUCTOR**				-
2.10	Downward conductor comprising 25mm x 3mm thick bare copper tape as item 9.00	45	M		-
2.20	Copper square tape clamp for making crossing tape joints as Furse CT 105 – FU.	4	No		-
2.30	DC tape clips for fixing the down conductors to the wall as Furse CT 105 – FU	30	No		-
2.40	Copper Oblong test clamp as Furse P NO CN 105	2	No		-
2.50	Steel conduits 32 mm diameter conduit.	26	M		-
2.60	Saddles for the above item 9.07	16	No		-
					-
3.00	**EARTHING**				-
3.10	Earth inspection concrete chamber 300mm x 300mm x 300mm with an air tight inspection cover to approval.	2	No		-
3.20	16 mm nominal diameter by 1500mm threaded copper bond earth rod as Furse P NO 310 driven to ground.	2	No		-
3.30	Driving stud for the above item as Furse ST 300	2	No		-
3.40	Earth electrode rod - to - downward conductor copper tape clamps as Furse CR 105	2	No		-
	Sub-total for Bill No. 2: Schedule No. 5 (Lightning Protection System) c/f to Bill No. 3 Collection Page				-

Bill No. 3, Schedule No. 1: CCTV INSTALLATION WORKS

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT (Kshs)
	Supply ,install,test and commission the following;				
	CCTV OUTDOOR INSTALLATION				
1.1	2.1MP, 1920x1080 progressive scan PTZ camera, min illumination of 0lux IR LED on, Weatherproof, vandal proof, 360^{o} Endless pan rotation[Speed 240^{o}/sec] and 15^{o} ~90^{o} (Tilt Range)	12	No		-
	CCTV INDOOR INSTALLATION				
1.2	2MP D&N IP IR Fixed indoor Dome camera . Features: 30fps at 1920x1080, ePTZ control, Built in 802.3af compliant PoE, Triple-window Video motion detection & tamper detection	73	No		-
1.3	Cat 6-E, 4 pair STP terminated in RJ 45 as appropriate and drawn in new trunking or surface conduits.	1200	M		-
	CONTROL ROOM				
1.4	LCD TFT panel display 48", HDMI input, Component video input, composite video input, S-video input, VGA input, VGA output and composite video output as Samsung or approved equivalent	1	No		-
1.5	1kVA smart UPS as APC	1	No		-
1.6	32mm heavy gauge conduits for cctv cables in ceilling space	200	Lm		-
1.7	32mm heavy gauge conduits for cctv cables underground cables	600	Lm		-
	Sub-total carried to the next page			**Kshs**	**-**

Item	Description	Qty	Unit	Rate	Amount(Kshs)
	Sub-total carried forward from the previous page				-
1.8	9 U data cabinet with glass door	1	No		-
1.9	Unswitched spur units	1	No		-
1.10	24 Channel network video recorder	1	No		-
1.11	Installation, programming, testing and commissioning 24 channel network video recorder	1	No		-
1.12	24- Port patch - panel cords and all the necessary accessories	1	No		-
	Total for Bill No. 3 Schedule 1: CCTV Installation Works Carried to Mains Summary Page				-

BILL No. 2 COLLECTION PAGE

Item	Description		Amount (Kshs)
A	Total for bill No. 1(**Sub-contract Preliminaries**) supervision by Engineer and site meetings	1 SUM	**500,000**
B	Sub-total for **Bill No. 2, Schedule 1 (Electrical Installation Works - Ground Floor)** B/F From Page F/9		**0**
C	Sub-total for **Bill No. 2, Schedule 2 (Electrical Installation Works - First Floor)** B/F From Page F/14		**-**
D	Sub-total for **Bill No. 2, Schedule 3 (Electrical Installation Works - Second Floor)** B/F From Page F/19		**-**
E	Sub-total for **Bill No. 2, Schedule 4 (Electrical Installation Works - Third Floor)** B/F From Page F/24		**-**
F	Sub-total for **Bill No. 2: Schedule No. 5 (Lightning Protection System)** B/F From Page F/25		**-**
G	Sub-total for **Bill No. 3 Schedule 1 : (CCTV Installation System)** B/F From Page F/27		**-**
H	Allow a provisional sum of Kenya shillings Twenty thousand only for contigencies to be Used at the discreation of project Engineer		**500,000**
	Total for Bill No. 3 (Electrical Installation Works) C/F to Main Summary Page …..		

SECTION G

TECHNICAL SCHEDULE

OF

ITEMS TO BE SUPPLIED

TECHNICAL SCHEDULE

1. The technical schedule shall be submitted by tenderers to facilitate and enable the Project Manager to evaluate the tenders, especially where the tenderer intends to supply or has based his tender sum on equipment which differs in manufacture, type or performance from the specifications indicated by the Project Manager.

2. The filling of this schedule forms part of Technical Evaluation of the tenders, and bidders shall therefore be required to indicate the type/make and country of origin of all the materials and equipment they intend to offer to the employer in this schedule.

3. This schedule shall form part of the technical evaluation criterion, and tenderers are therefore advised to complete the schedule as they shall be considered responsive.

TECHNICAL SCHEDULE OF ITEMS TO BE SUPPLIED
(To be completed by the Tenderer)

ITEM	DESCRIPTION	TYPE/MAKE	MODEL	COUNTRY OF ORIGIN
1	LIGHTING FITTINGS			
2	Lighting Switches			
3	D.P Switches			
4	Socket outlet plates			
5	TV outlet plates			
6	Manual fire break glass unit			
7	Copper tape			
8	Consumer unit/Distribution board			
9	MCB			
10	MCCB			
11	Cables			
12	PVC conduits			
13	Fire Alarm Control Panel			
14	Smoke/Heat detectors			
15	Fire Alarm Bells			
16	Time Switches			
17	TPN & SPN Isolating Switches			
18	DP Contactor			

MECHANICAL WORKS

SPECIFICATIONS AND BILLS OF QUANTITIES

FOR

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING

OF

PLUMBING AND DRAINAGE INSTALLATION WORKS

OCTOBER, 2026

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF PLUMBING AND DRAINAGE INSTALLATION WORKS

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NOTES TO ALL TENDERERS;

1. The tenderer is required to check the number of pages in this document and should any be found to be missing or the figures indistinct, he must inform the Engineer at once and have the same rectified. Should the tenderer be in doubt the precise meaning of any item, word or figure. Or for any reason whatsoever observe any apparent omission of words or figures, he must inform the Engineer in order that the correct meaning may be decided upon before the date for the submission of the tenders.

2. No liability whatsoever will be admitted nor claim allowed in respect of errors in the completed tender due to mistakes in this document which should have been rectified in the manner described above.

3. The tenderer shall not otherwise qualify the text of this specification. Any alteration or qualification made without authority will be ignored and the text of the specification as printed will be adhered to.

4. The tenderer shall be deemed to have made allowances in his unit prices generally to cover items of preliminaries or additions to prime cost Sums or other items. If those have not been priced against the respective items.

5. The tenderer's price shall include all government taxes including duties, VAT, etc which must be included in the rates. No claims whatsoever will be allowed in respect of duties, VAT etc if the tenderer does not price them as aforementioned.

6. In no case will expense incurred by the tenderer in preparation of this tenderer be reimbursed.

7. The copyright of this specification is vested in the Engineer and no part thereof may be reproduced without their express permission, given in writing.

8. The Sub-Contractor shall be solely responsible for the accurate ordering of materials in accordance with the drawings and these specifications.

9. The specifications must be priced in Kenya Shillings

10. This is a fixed price Contract and no claims shall be entertained on whatever ground. The sub-contractor is advised to include all such costs as he projects may arise in his unit rates. Any variations in the exchange rate will also be no excuse for any variations in the contract sum.

Signed (As in form of Tender) .....

Date/Stamp .....

SECTION NAME:

GENERAL MECHANICAL SPECIFICATIONS

GENERAL MECHANICAL SPECIFICATION

CLAUSE	DESCRIPTION
1.01	GENERAL
1.02	QUALITY OF MATERIALS
1.03	REGULATIONS AND STANDARDS
1.04	ELECTRICAL REQUIREMENTS
1.05	TRANSPORT AND STORAGE
1.06	SITE SUPERVISION
1.07	INSTALLATION
1.08	TESTING
1.09	COLOUR CODING
1.10	WELDING

GENERAL MECHANICAL SPECIFICATION

1.01 General

This section specifies the general requirement for plant, equipment and materials forming part of the Sub-contract Works and shall apply except where specifically stated elsewhere in the Specification or on the Contract Drawings.

1.02 Quality of Materials

All plant, equipment and materials supplied as part of the Sub-contract Works shall be new and of first class commercial quality, shall be free from defects and imperfections and where indicated shall be of grades and classifications designated herein.

All products or materials not manufactured by the Sub-contractor shall be products of reputable manufacturers and so far as the provisions of the Specification is concerned shall be as if they had been manufactured by the Sub-contractor.

Materials and apparatus required for the complete installation as called for by the Specification and Contract Drawings shall be supplied by the Sub-contractor unless mention is made otherwise.

Materials and apparatus supplied by others for installation and connection by the Sub-contractor shall be carefully examined on receipt. Should any defects be noted, the Sub-contractor shall immediately notify the Engineer.

Defective equipment or that damaged in the course of installation or tests shall be replaced as required to the approval of the Engineer.

1.03 **Regulations and Standards**

The Sub-contract Works shall comply with the current editions of the following:

- The Kenya Government Regulations.
- The United Kingdom Institution of Electrical Engineers (IEE) Regulations for the Electrical Equipment of Buildings.
- The United Kingdom Chartered Institute of Building Services Engineers (CIBSE) Guides.
- British Standard and Codes of Practice as published by the British Standards Institution (BSI)
- The Local Council By-laws.
- The Electricity Supply Authority By-laws.
- Local Authority By-laws.
- The Kenya Building Code Regulations.
- The Kenya Bureau of Standards

1.04 **Electrical Requirements**

Plant and equipment supplied under this Sub-contract shall be complete with all necessary motor starters, control boards, and other control apparatus. Where control panels incorporating several starters are supplied they shall be complete with a main isolator.

The supply power up to and including local isolators shall be provided and installed by the Electrical Sub-contractor. All other wiring and connections to equipment shall form part of this Sub-contract and be the responsibility of the Sub-contractor. The Sub-contractor shall supply three copies of all schematic, cabling and wiring diagrams for the Engineer's approval.The starting current of all electric motors and equipment shall not exceed the maximum permissible starting currents described in the Kenya Power Company (KP) By-laws.

All electrical plant and equipment supplied by the Sub-contractor shall be rated for the supply voltage and frequency obtained in Kenya, that is 415 Volts, 50Hz, 3-Phase or 240Volts, 50Hz, 1-phase.Any equipment that is not rated for the above voltages and frequencies shall be rejected by the Engineer.

1.05 **Transport and Storage**

All plant and equipment shall, during transportation be suitably packed, crated and protected to minimise the possibility of damage and to prevent corrosion or other deterioration.

On arrival at site all plant and equipment shall be examined and any damage to parts and protective priming coats made good before storage or installation.

Adequate measures shall be taken by the Sub-contractor to ensure that plant and equipment do not suffer any deterioration during storage.

Prior to installation all piping and equipment shall be thoroughly cleaned.

If, in the opinion of the Engineer any equipment has deteriorated or been damaged to such an extent that it is not suitable for installation, the Sub-contractor shall replace this equipment at his own cost.

1.06 **Site Supervision**

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

1.07 **Installation**

Installation of all special plant and equipment shall be carried out by the Sub-contractor under adequate supervision from skilled staff provided by the plant and equipment manufacturer or his appointed agent in accordance with the best standards of modern practice and to the relevant regulations and standards described under Clause 1.03 of this Section.

1.08 **Testing**

1.08.1 General

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

1.08.2 Material Tests

All material for plant and equipment to be installed under this Sub-contract shall be tested, unless otherwise directed, in accordance with the relevant B.S Specification concerned.

For materials where no B.S. Specification exists, tests are to be made in accordance with the best modern commercial methods to the approval of the Engineer, having regard to the particular type of the materials concerned.

The Sub-contractor shall prepare specimens and performance tests and analyses to demonstrate conformance of the various materials with the applicable standards.

If stock material, which has not been specially manufactured for the plant and equipment specified is used, then the Sub-contractor shall submit satisfactory evidence to the Engineer that such materials conform to the requirements stated herein in which case tests of material may be partially or completely waived.

Certified mill test reports of plates, piping and other materials shall be deemed acceptable.

1.08.3 Manufactured Plant and Equipment – Work Tests

The rights of the Engineer relating to the inspection, examination and testing of plant and equipment during manufacture shall be applicable to the Insurance Companies or Inspection Authorities so nominated by the Engineer.The Sub-contractor shall give two weeks' notice to the Engineer of the manufacturer's intention to carry out such tests and inspections.

The Engineer or his representative shall be entitled to witness such tests and inspections. The cost of such tests and inspections shall be borne by the Sub-contractor.

Six copies of all test and inspection certificates and performance graphs shall be submitted to the Engineer for his approval as soon as possible after the completion of such tests and inspections.

Plant and equipment which is shipped before the relevant test certificate has been approved by the Engineer shall be shipped at the Sub-contractor's own risk and should the test and inspection certificates not be approved, new tests may be ordered by the Engineer at the Sub-contractor's expense.

1.08.4 Pressure Testing

All pipework installations shall be pressure tested in accordance with the requirements of the various sections of this Specification. The installations may be tested in sections to suit the progress of the works but all tests must be carried out before the work is buried or concealed behind building finishes. All tests must be witnessed by the Engineer or his representative and the Sub-contractor shall give 48 hours notice to the Engineer of his intention to carry out such tests.

Any pipework that is buried or concealed before witnessed pressure tests have been carried out shall be exposed at the expense of the Sub-contractor and the specified tests shall then be applied.

The Sub-contractor shall prepare test certificates for signature by the Engineer and shall keep a progressive and up-to-date record of the section of the work that has been tested.

1.09 **Colour Coding**

Unless stated otherwise in the Particular Specification all pipework shall be colour coded in accordance with the latest edition of B.S 1710 and to the approval of the Engineer or Architect.

1.10 **Welding**

1.10.1 Preparation

Joints to be made by welding shall be accurately cut to size with edges sheared, flame cut or machined to suit the required type of joint. The prepared surface shall be free from all visible defects such as lamination, surface imperfection due to shearing or flame cutting operation, etc., and shall be free from rust scale, grease and other foreign matter.

1.10.2 Method

All welding shall be carried out by the electric arc processing using covered electrodes in accordance with B.S. 639.

Gas welding may be employed in certain circumstances provided that prior approval is obtained from the Engineer.

1.10.3 Welding Code and Construction

All welded joints shall be carried out in accordance with the following Specifications:

a) Pipe Welding

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

b) General Welding

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

1.10.4 Welders Qualifications

Any welder employed on this Sub-contractor shall have passed the trade tests as laid down by the Government of Kenya.

The Engineer may require to see the appropriate to see the appropriate certificate obtained by any welder and should it be proved that the welder does not have the necessary qualifications the Engineer may instruct the Sub-contractor to replace him by a qualified welder.

PART A:

PRELIMINARIES AND GENERAL CONDITIONS

PART A - PRELIMINARIES AND GENERAL CONDITIONS

NAMES OF PARTIES
The following will be inserted in the Articles of Agreement:-

Architects:	**AS PER MAIN WORKS**
Engineer:	**AS PER MAIN WORKS**
Employer:	**AS PER MAIN WORKS**

2. DEFINITIONS OF TERMS

The terms, phrases and abbreviations shall be deemed to have the following meanings wherever used hereinafter and in all contract documents.

"Engineer" shall in the case of mechanical works mean **'project mechanical engineer"** and, or in the event of any of their deaths, or ceasing to be the Engineers for the purposes of this Sub-contract, such other person as the client shall nominate for that purpose. For the purpose of **Mechanical** engineering works the Engineer shall be deemed vested with the duties of, and be the representative of the Architect, except on respect of variations which involve the sub-contract sum.

"Main Contractor" shall mean the person or persons, partnership, firm or company, whose tender for the main contract has been accepted, and who has or have, signed the main contract and shall include his or their heirs, executors, administrators, assigned successors and duly appointed representatives. For the purposes of this work, the terms "Main Contractor" and "Contractor" shall have the same meaning.

"Sub-Contractor" shall mean the person or persons, partnership, firm or company, whose tender for the sub-contract for the electrical and mechanical works has been accepted, and who has or have, signed the sub-contract and shall include his or their heirs, executors, administrators, assigned successors and duly appointed representatives.

"Works" shall mean all or part of the works, material and articles, wherever the same are being manufactured or prepared, which are to be used in the execution of this sub-contract and whether the same may be on the site or not.

"Approved" shall mean approved by the Engineer/Architect at his absolute discretion.
"Directed" shall mean directed by the Engineer/Architect at; his absolute discretion.

"Selected" shall mean selected by the Engineer/Architect at his absolute discretion.

"M^3" shall mean cubic metre

"M^2" shall mean square metre

"M" shall mean linear millimetre

"Kg" shall mean Kilogram

"No." shall mean Number
"Prs" shall mean Pairs

"B.S." shall mean the current British Standard Specification published by the British Standards institution, 2 Park Street, London, W.I. England

"As before" shall mean in all respects as earlier described in the same or previous bill

"Ditto" shall mean the whole of the preceding description except as qualified in the description. Where it occurs in descriptions of succeeding terms it shall mean the whole of the preceding description which is contained within the appropriate brackets.

"Fix Only" shall mean take delivery on site (unless otherwise stated), unload where necessary, transport within site compound, store, unpack, check contents against orders and packing lists, assemble as necessary, distribute to position, hoist and fix only.

3. TENDER CONDITIONS

Any act of collusion that may distort normal competitive conditions may cause the rejection of the tenders concerned. By participating in the tendering, tenderers certify not to be involved in such acts of collusion.

Tenders containing abnormally high or low unit prices and /or lump sums may be rejected. Before such rejection, however the sub-contractor may be given the opportunity of giving a detailed explanation.

Tenders must be returned complete and tenderers, or their assigned representatives are at liberty to witness the tender opening at the time and venue stated in the letter of invitation to tender. Tenders received after the stated time will be returned unopened and incomplete tenders will be rejected.

Tenders are invited in strict accordance with the documents issued, counter offers submitted with tenders will not be considered, letters of qualifications with tenders may be ignored if they have the effect of modifying either the terms of a tender or the compatibility of a tender with the other tenders. However should a tenderer. In good faith wish to propose modifications to the tender terms, conditions and contents for the purposes of reducing the tender amount then he shall contact the Engineer in writing well before the date of tender opening. Should the Engineer approve the proposed modification, all tenderers will be advised in due time for the modification of their tenders. No proposed modification will be considered unless this procedure has been followed.

The client is not bound to accept the lowest or any tender, nor is the client bound to divulge reasons for the acceptance or non-acceptance of any tender. Any tender may be accepted by the client within the stated period unless previously withdrawn by the tenderer.

All deletions, additions and corrections to figures inserted in the tender document are to be counter signed by the tenderer.

In the event of two or more tenders being in the same sum, tenderers may be given 7 days within which to revise their tender prices. Should there again be two or more tenders in the same sum, and in the absence of any qualities to give one tenderer preference over the other(s), then the sub-contract may be awarded by drawing lots in the presence of the tenderers concerned.

4. DESCRIPTION OF SITE

The site of the works is within **Ruai, Nairobi**. Due care will be required during construction so that the occupants and facilities in the adjacent premises and the premises themselves are not interfered with in any way.

The sub-contractor is recommended to visit the site and will be deemed to have satisfied himself with regard to the relevant details of preliminary. If the sub-contractor, for whatever reason, feels specialised attendance will be required, with significant financial implications or requires specialised mobilisation to start the works, he should spread the cost of such works in his unit rates.

No claims whatsoever by the sub-contractor for additional payment will be allowed on the grounds of any misunderstanding or misapprehension in respect of any such matters or otherwise, should the sub-contractor be required to offer specialised attendance prior to, or during, the performance of the contract.

5. TENDER EVALUATION PROCEDURES

Following the return of the tenders for the works measured in these bills of quantities, arithmetical and other analysis will be carried out in order to select the lowest acceptable tender in terms of responsive and realistic pricing, etc. This section will be at the sole discretion of the Employer.

The unit rates offered by the selected tenderer will then be applied to new quantities measured by the Engineer for the revised scope of works.

The resultant total, together with the priced preliminaries and any modified prime cost and provisional sums will be consolidated into a sum for which the sub-contract will be signed. This procedure will be applied only to the selected tender. Neither the Client nor the Consultants will enter into discussion or any correspondence with the other tenderers after the selection process has been carried out and no reasons will be given for selection or non-selection.

Any tenderer unable to comply with these procedures will be disqualified from the selection process

6. ACCESS TO SITE AND SECURITY

Means of access to the site will be as directed by the Architect; no other access will be permitted in any circumstances.

7. AREA TO BE OCCUPIED BY THE SUB-CONTRACTOR

Areas to be occupied by the sub-contractor for use as storage shall be as directed by the Project Architect.

8. DRAWINGS

8.1 The sub-contractor will be deemed to have examined the drawings before tendering and to have satisfied himself regarding their details and regarding the nature and extent of the works and the method of installation involved. No claims arising out of misapprehension in these respects will be allowed.

8.2 The sub-contractor shall at his own risk and costs execute and perform the works described in the conditions of contract and bills of quantities and detailed in the drawings provided and supplied to the sub-contractor for the purpose of works and completely finish the said works in a good workmanship and with the utmost expedition.

8.3 The sub-contractor shall satisfy himself as to the correctness of all drawings and measurements. If the sub-contractor finds any discrepancy in the drawing or between the drawing and the specifications he shall immediately refer the same to the Engineer who will decide which shall be followed.

Figured dimensions shall be taken in preference to the scale mentioned on or attached to any drawing. Details shown on drawings shall be taken in preference to items and quantities in the specification.

8.4 Two copies of all drawings and of the specifications will be furnished free of cost to the sub-contractor (whose tender has been accepted) for his own use. Any extra copies will be paid for.

9. VALUATIONS OF LUMP SUMS AND PRELIMINARY COSTS

Lump sums entered in these bills of quantities against any item of general condition or preliminaries will be included in appropriate valuations according to reasonable assessment of actual costs involved in the item.

10. PAYMENT FOR MATERIALS ON SITE

All materials for incorporation in the works must be properly installed before payment is effected unless specifically exempted by the Engineer/Architect. This is to include the materials of the sub-contractor, and his nominated suppliers.

11. CONTRACT AGREEMENT AND CONDITIONS

11.1 General

The articles of Agreement and conditions shall be the agreement and schedule of conditions of building contract forms published by the Kenya Association of Building and Civil Engineering Contractors' (KABCEC).

11.2 Water and Electricity Supply

The main contractor will make water and electrical power available to the **mechanical** sub-contractor. The main contractor and the sub-contractor will mutually agree whether or not the latter should pay for the water /electricity used for the works. That notwithstanding, no excuse will be entertained for power failure or lack of water as the sub-contractor is required to make his own arrangements in such circumstances.

11.3 Sub-contractor's Materials

Purchase of materials by the sub-contractor and their storage on site for inclusion in payment certificates far in advance of reasonable requirements may be allowed at the sole discretion of the Engineer. This however is also subject to availability of such storage space. Storage space may be provided on site.

12. WARRANTY AND PERFORMANCE STANDARDS

The sub-contractor must furnish the client through the Engineer with a general written warranty covering quality of workmanship, material and equipment and be compelled thereby for a one year period after practical completion of the sub-contract.

The sub-contractor must make good, at his own expense, such repairs and replacements as may be required as a consequence of negligent workmanship or defective materials. The sub-contractor must also procure such warranties and guarantees as aforesaid from all manufacturers and/or suppliers of materials or equipment incorporated in the project under this contract.

The sub-contractor must comply in all respects with given standards of workmanship as defined and described in the specifications and Bills of Quantities and relevant codes of Practice. The sub-contractor must also comply with all tests of materials as required and/or directed by the Engineer.

13. TOOLS, PLANTS, ETC

The sub-contractor shall allow for providing of all ladders, tools, plant and transport required for the works, except in so far as may be specifically stated otherwise.

14. SAFETY, HEALTH AND WELFARE OF WORKPEOPLE

The sub-contractor shall allow for providing for the safety, health and welfare of workpeople and for complying with any relevant ordinances, Regulations or Union agreement.

15. NATIONAL INSURANCE AND PENSIONS

The Sub-contractor shall allow for making any National Social Security Fund payments due in respect of workpeople.

16. HOLIDAY AND TRANSPORT OF WORKPEOPLE

The sub-contractor shall allow for providing holidays and transport for workpeople and for complying with any relevant ordinances or union agreement.

17. TRAINING LEVY

The sub-contractor's attention is drawn to legal notice no. 237 of October, 1971,which requires payments by the sub-contractor of a training levy on all contracts of more than Shs. 50,000/= in value and his tender must include for all costs arising or resulting there from. Proof of payment of those training levies will be required.

18. EXISTING PROPERTY

The sub-contractor shall take every precaution to avoid damage to all existing property including flower beds, fences, roads, cables, office equipment, drains, adjacent buildings and other services and he will be held responsible for all damages arising from the execution of this sub-contract to the afore-mentioned property and he shall make good all such damage where directed at his own expenses to the satisfaction of the Engineer.

19. TESTING

The sub-contractor shall allow for all testing of material and installations required by these specifications and he shall be responsible for all expenses incurred in completing such tests, including costs of materials and labour, equipment, transport and all other costs.

20. SUPERVISION AND WORKING HOURS

The works shall be executed under the direction, and to the entire satisfaction in all respects, of the Engineer who shall at all times during normal working hours have access to the works and to the yards and workshops of the sub-contractor or other places where work is being prepared for the sub-contractor.

The working hours shall be those generally worked by good employers in the building and civil engineering trades taking note of gazetted holidays unless the Engineer shall so direct.

No work shall be covered up in the absence of the clerk of works without the prior approval of the Engineer in writing.

21. SAMPLES

The Sub-contractor shall furnish at his own cost any samples of materials or workmanship that may be called for by the Engineer for his approval or rejection and any further samples in the case of rejection until such are approved by the Engineer, and the Engineer may reject any materials or workmanship not in his opinion up to the approved samples.

The Engineer shall instruct for the testing of such materials as he may at his discretion deem desirable and the testing shall be made at the sub-contractor's cost. The sub-contractor shall allow in his tender for such samples and tests.

22. MATERIALS, TOOLS, PLANT ETC.

All materials and workmanship used in the execution of works shall be of the best quality and description unless otherwise described. Any materials for the works condemned by the Engineer shall immediately be removed from the site at the sub-contractor's expense.

The sub-contractor shall provide at his own risk and cost all materials, scaffolding, tools, plant, transport and workmen required for the works except, insofar as may be stated otherwise herein.

The sub-contractor shall order all materials to be obtained from overseas immediately after the sub-contract is signed and shall also order materials to be obtained from local sources as early as necessary to ensure that such materials are on site when required for use in the works.

Any defects which may appear, either of materials or of workmanship, during the defects liability period provided by the sub-contract, shall be made good by the sub-contractor at his own expense, as and when directed.

If the sub-contractor shall fail to carry out such orders, as by the preceding paragraph provided within such reasonable time as may be specified in the order, the materials or works affected may be made good by others in such manner as the Engineer may direct, in which case the cost thereby incurred shall, upon the written certificate of the Engineer, be recovered from the sub-contractor as liquidated damages.

23. FOREMAN

The sub-contractor shall keep constantly on works a competent English-speaking foreman and any directions or explanations given by the Engineer to such a foreman shall be deemed to have been given to the sub-contractor.

24. INSURANCE

The sub-contractor shall during the execution of the works, insure himself and keep himself insured against all liability under the workmen's compensation act or any amendment thereto for accidents to workmen employed by him on the said works and shall hold the employer and all parties to the contract harmless in respect of any such liability.

The sub-contractor shall further insure himself and keep himself insured against all liabilities arising from all Third party claims arising from accidents and he shall hold the Employer, the Consultants and all parties to the contract harmless in respect of any such liabilities.

No payments on account of the work executed will be made to the sub-contractor until he has satisfied the Engineer either by the production of an Insurance Certificate that the foregoing provisions have been complied with in all respects. Thereafter the Engineer may from time to time check that premiums are duly paid up by the sub-contractor who shall, if called upon to do so, produce receipts of premium renewals for the Engineer's inspection.

25. BOND

The sub-contractor shall find and submit for the approval by the Engineer one surety who shall be an established bank, Insurance company or fidelity guarantee corporation and who will be willing to be bound to the Employer in an amount equal to five percent (5%) of the sub-contract amount for the due performance of the sub-contractor up to the date of completion as certified by the architect and who will then and if called upon, sign a bond to that effect, on the same day as the sub-contract agreement is signed. In the event of the surety named not being approved by the Engineer, the sub-contractor shall furnish within seven days another surety to the approval of the Engineer. This shall be complied with unless the **MAIN WORKS** deems the subcontract as **DOMESTIC** contract.

26. TIME FOR COMPLETION AND LIQUIDATED DAMAGES

The sub-contractor shall proceed with the works in such manner and in such order, as the Engineer shall direct so as to complete the works on the shortest possible time.

It is the responsibility of the sub-contractor to ensure that all material, fittings, equipment and items to be supplied are ordered and delivered to the site ready for installation at such times as to cause no hold up to the programme of work.

NOTE: 1.The sub-contract completion period is the same as that of main contract.

2. Liquidated damages and Ascertained damages will be calculated pro-rata on the rate provided in the main contract.

27. PAYMENT AND CERTIFICATES

Payments shall be made through certificates direct to the sub-contractor. All payments shall be less retention as specified in the sub-contract agreement. The sub-contractor shall be paid only for work done and /or materials on site.

The percentage of certified value retained should be 10%. Limit of Retention shall be a sum equivalent to 5% of the sub-contract sum.

Prices quoted shall include 16% VAT and 3% withholding tax and all taxes applicable at the time of tender.

No certificate so issued by the Engineer/Architect shall in itself be considered conclusive evidence as to the sufficiency of any work or materials to which the terms and conditions of this agreement or from his liability to make good all defects as provided thereby.

28. CONDITIONS OF SUB-CONTRACT, ETC

The sub-contract agreement shall be based on KABCEC conditions. FIDIC conditions for electrical and mechanical works shall form complementary reference where clear interpretation cannot be made.

29. BLASTING

Blasting will not be allowed unless with express authority of the Engineer.

30. HOISTING

The sub-contractor is referred to the Drawings and to the general description of the building. Throughout these specifications generally no mention is made of heights for hoisting.

All prices must include for hoisting and fixing at any level within the limits shown on the drawings or included in the general description of works. Where a particular level is specified the sub-contractor shall price accordingly.

31. CASING UP AND PROTECTING

The sub-contractor shall be responsible for casing up or otherwise protecting to the satisfaction of the Engineer all parts of the sub-contract works liable to cause injury and for removing such protection and making good on completion.

32. WORKS TO BE DELIVERED UP CLEAN

On completion of the works, the site and the works shall be cleared of all plant, scaffolding, rubbish and unused materials and shall be delivered up in a clean and perfect condition in every respect to the satisfaction of the Engineer.

33. DEFECTS LIABILITY PERIOD

The defects liability period shall be as provided in the main contract.

34. CLAIMS FOR EXTRAS

This is a fixed price contract and no claims whatsoever on extras will be entertained.

35. TRADE NAMES

Where trade names of manufacturer's catalogue numbers are mentioned in these specifications the reference is intended, as a guide to the type of the article or material required. The sub-contractor may use any article or material equal in type or quality to those therein described subject to the prior approval of the Engineer, and at his (Engineer's) absolute discretion. The onus of proof as to equivalent quality will rest with the sub-contractor, whose tender will be deemed to include for the makes described hereafter.

36. FLUCTUATIONS

This is a fixed price sub-contract and claims shall not be allowed on fluctuations.

SECTION NAME:

PARTICULAR SPECIFICATIONS

PARTICULAR SPECIFICATIONS FOR SANITARY FITTINGS

PARTICULAR SPECIFICATIONS FOR SANITARY FITTINGS

WATER CLOSET

- Rimless Wall Hung WC with UF soft close slim seat cover and Hinges,
- Accessories set complete with Concealed cistern with Frame & Finish Plate
- Finish with an antibacterial ceramic glaze
- Noise reduction gasket
- Ceramic
- Meets EU declaration of conformity certificate

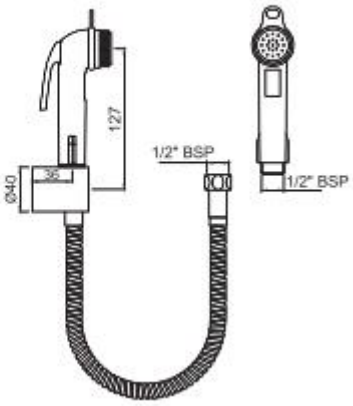




AS JAQUAR MMODELS FLS-WHT- 5953UFSM, JCP- CHR-392415 & JCS- WHT-2400FS OR EQUIVALENT

HEALTH FAUCET KIT

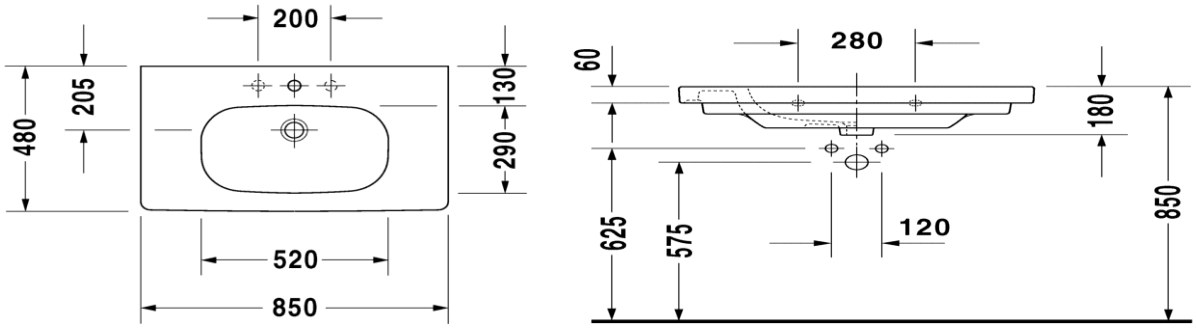
- Flexible Chrome Hose, Handset, ABS Body & Bracket
- For water pressure between 1.0 Bar - 3.0 Bar
- Finish Plating: Nickel-10.0 micron Chromium-0.3 micron, Salt Spray (500 hrs +Validated) and Adhesion (Pass)
- with preferred dimensions as indicated

AS JAQUAR HEALTH KIT ALE-ESS-593 OR EQUIVALENT

WASH HAND BASIN

- Without overflow
- with tap platform
- square tube 14 mm
- Ceramic
- Meets EU declaration of conformity certificate

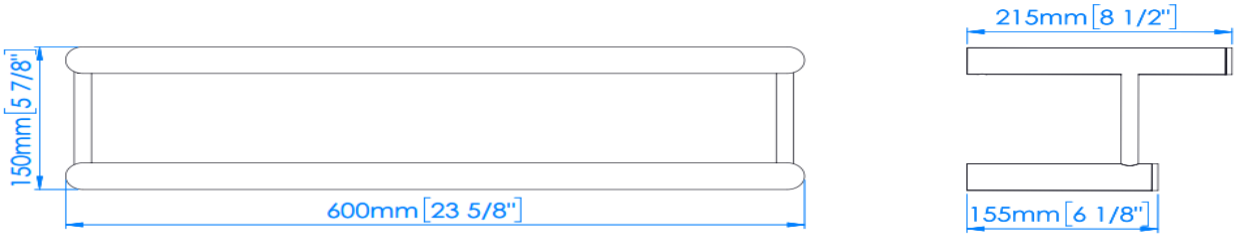


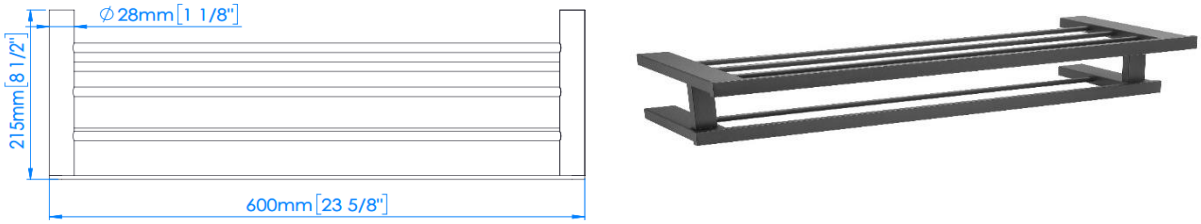


AS D-CODE COUNTER MOUNTED DURAVIT MODEL 03528500002 OR EQUIVALENT

TOWEL RACK

- Towel rack made of AISI 304 stainless steel with a hidden wall mounting system with stainless steel hardware to install on brick walls
- TOWEL SHELF: composed of a straight front bar and 3 Ø 12mm cylindrical bars, all made of AISI 304 stainless steel
- TOWEL RAIL: made of cylindrical AISI 304 stainless steel tube of Ø 12mm and attached with two screws to the two upper wall supports.
- WALL BRACKETS: 4 units, made with 1.8mm thick AISI 304 stainless steel square tube.
- WALL ANCHORS: 4 units, made of aluminum. Attached to the wall bracket by means of two screws.
- Dimensions 600 x 150 x 215 mm Shelf bar tube diameter 12 mm Towel rail tube diameter 12 mm Wall bracket diameter 1.8 mm

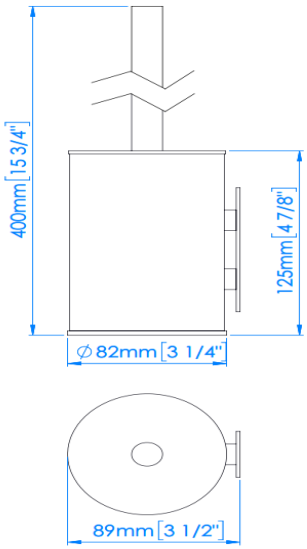




AS MEDICLINIC MODEL AI1423B OR EQUIVALENT

TOILET BRUSH SET

- Toilet brush set for fixing to the bathroom wall, made of AISI 304 stainless steel 1 mm thick
- Resistant to humidity and corrosion
- Circular lid with an airtight seal that prevents the spread of bad odors and protects hands from getting dirty or splashed while cleaning the toilet.
- Comes with stainless steel hardware for fixing it to a brick wall
- WALL BRACKET: made of AISI 304 stainless steel, 2 mm tick. Allows quick removal of the brush holder for cleaning, without tools.
- INNER RECIPIENT: to collect water and prevent body rust. Made of black thermoplastic to prevent oxidation of the body.
- HANDLE: made with AISI 304 stainless steel rod and is 27.5 cm in length, which for ease of reach and clean the toilet bowl.
- LID: made of black circular rubber seal, 2.0 mm thick. •
- BRUSHES: long, dense and soft

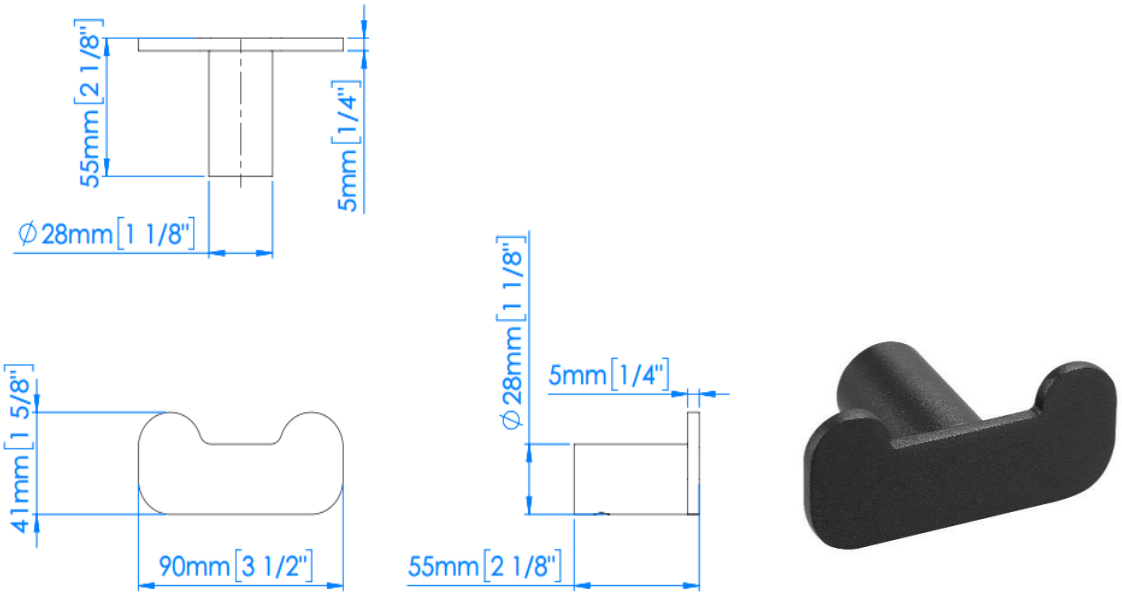




AS MEDICLINIC MODEL ES1002B OR EQUIVALENT

ROBE HOOK

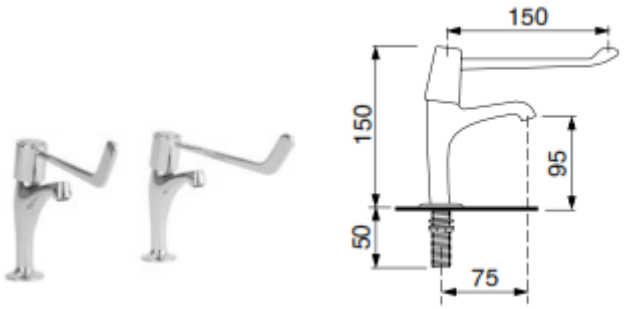
- Double-ended bathroom robe hook, made of AISI 304 stainless steel black finish
- Made with anti-corrosive and highly resistant stainless steel.
- With hidden wall mounting system
- With stainless steel hardware kit for installing on brick walls.
- DOUBLE HOOK: made of 5 mm thick AISI 304 stainless steel plate.
- WALL BRACKETS: two units, made with AISI 304 stainless steel cylindrical tube of Ø 28mm and 1.2mm thick. Attached to the bar by means of a threaded stud and nut.
- WALL ANCHORS: two units made of AISI 304 stainless steel tube of Ø 22mm and 1.0mm thick.



AS MEDICLINIC MODEL AI2318B OR EQUIVALENT

ELBOW ACTION PILLAR TAP

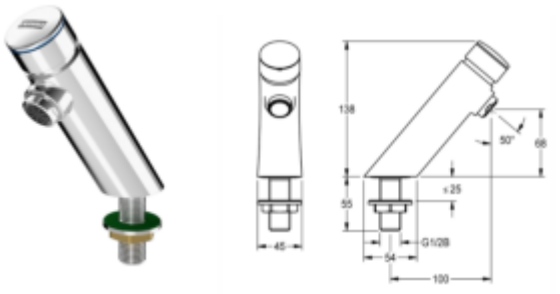
- For connecting to hot and cold water.
- with 150mm long levers which
- Can be operated by either the elbows or wrists using a quarter turn action.
- Manufactured from chromium plated brass.
- Mounting: Deck mounted
- Spout projection: 75mm
- To conform to WRAS standards



AS FRANKE TAP MODEL F1074 208.0000.019 OR EQUIVALENT

SELF CLOSING WASH HAND BASIN PILLAR TAP

- F3S Self-closing pillar tap DN 15
- Self-closing cartridge, hydraulically controlled, piston-free design, self-closing, stepless adjustment of flow duration.
- With Aerator with an integrated flow regulator 3.0 l/min
- With adjustable flow time
- Maximum flow time 20.00 seconds
- Minimum flow time 5.00 seconds
- Chromised Surface finish fitting
- Volume flow rate at 3 bar 0.05 litre per second
- with preferred dimensions as indicated

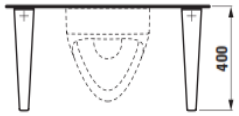


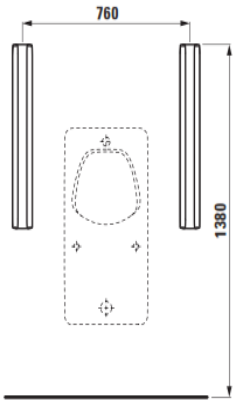
AS FRANKE MODEL NO 3 F3SV1001 OR EQUIVALENT

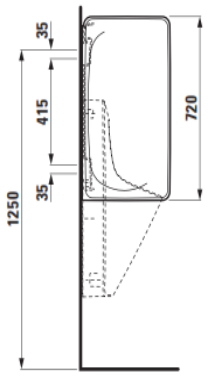
URINAL DIVIDER

- Urinal division
- dimensions 400mm x 720mm
- Inclusive of fixing devices









AS LAUFEN CINTO 0829300007 OR EQUIVALENT

URINAL BOWL

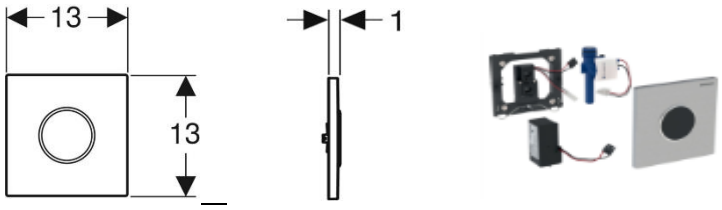
- concealed inlet
- includes jet nozzle, inlet-set, waste, bottle trap Ø 32 mm and fixings with inlet adapter for 1/2" inlet connection
- Meets EU declaration of conformity certificate



AS JAGUAR MODEL URS-WHT-13253N OR EQUIVALENT

MAINS OPERATION URINAL FLUSH VALVE

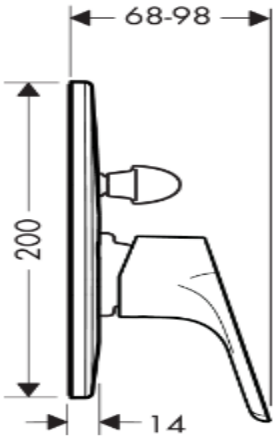
- Urinal flush control with electronic flush actuation, mains operation
- Cover plate with securing bar
- Water-saving hybrid mode can be set with Adjustable interval flush
- Mains operation and Power failure control unit
- Valve-closing function when power fails
- Flush volume can be reduced to 0.5 l per flush with regulating screw of installation set
- Includes all accessories including Cover plate type 10 with IR window Infrared control, premounted on mounting frame, Solenoid valve ,Power supply unit and Fastening material, Plate in Die-cast zinc material with Protection degree IP45
- Flow pressure 1-8 bar, With flow regulator and Detection time, adjustment range 3-15 s
- Allow for pre wall carriers



AS TAPIS INFRA RED URINAL FLUSH VALVES MODEL MC-8512 OR EQUIVALENT

SINGLE LEVER SHOWER MIXER

- Single lever shower mixer
- for concealed installation
- four way
- Can operate upto operating pressure: 10 bar
- ceramic cartridge ·
- temperature limitation adjustable
- diverter with automatic resetting






AS JAGUAR MODEL ARI-CHR-39065 OR EQUIVALENT

SHOWER SPOUT

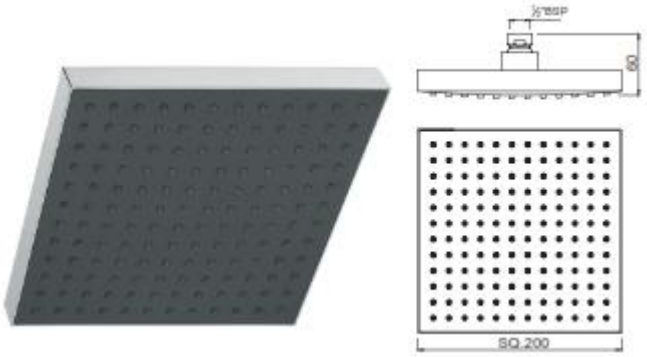
Shower spout 8" (203 mm) diverter bath spout with 1/2" NPT connection.
Finish Material resist corrosion and tarnishing.



AS JAGUAR MODEL ALD-065N OR EQUIVALENT

SQUARE SHOWER HEAD

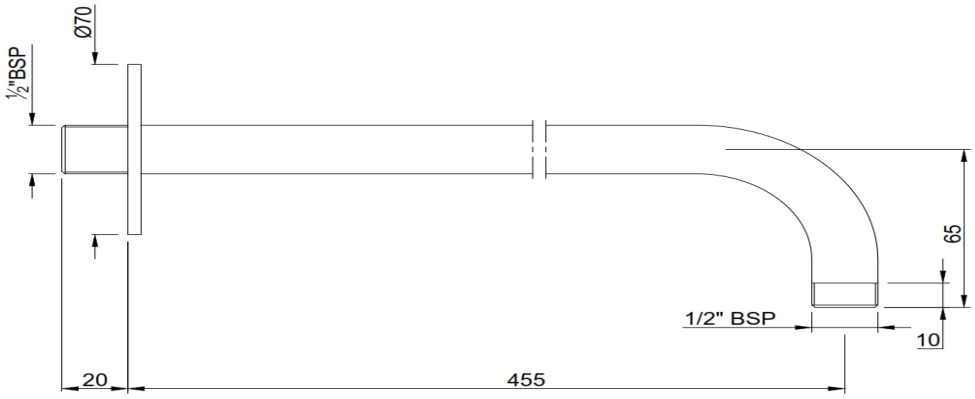
- Single Function 200X200mm Square Shape Overhead Shower
- 24.15 LPM @ 3 bar
- Mount Type Wall Mounting
- Chrome finish
- with preferred dimensions as indicated below



AS JAQUAR MODEL NO. OHS-CHR-35497 OR EQUIVALENT

LONG NECK SHOWER ARM

- length: & 450mm Long Round Shape with 90º Bend
- For wall-mounted ·showers with flange
- installation type: exposed installation ·
- connection thread ø20mm
- to complement the shower head
- With filter packing
- finish in chrome

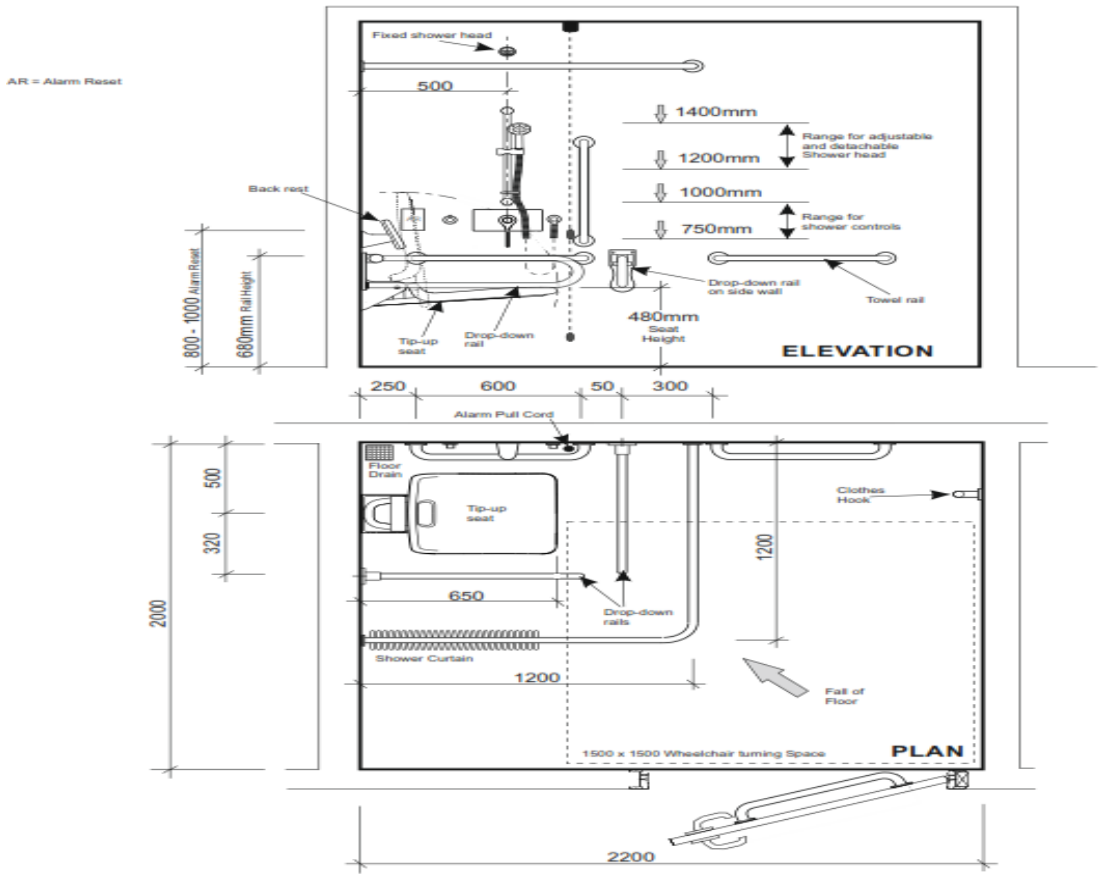


AS JAQUAR MODEL NO. SHA-WHM-479L450 OR EQUIVALENT

PHSICALLY CHALLENGED SHOWER

Physically challenged shower with all accessories including

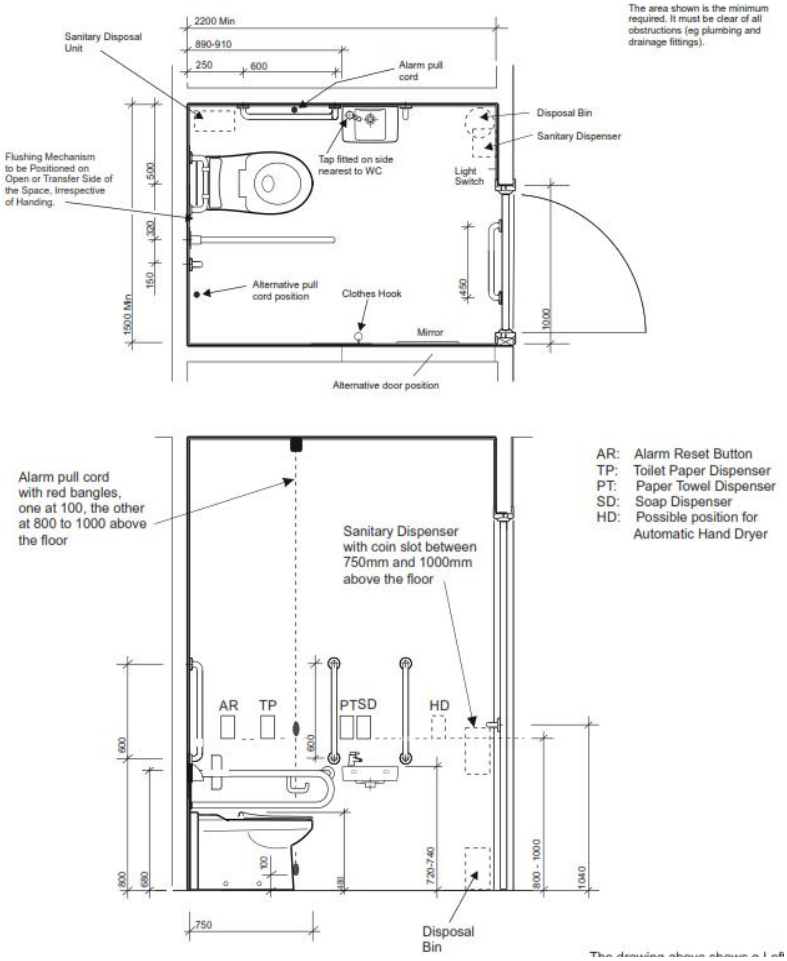
- Shower rail 1200 x 1200mm
- Shower curtain 1800 x 2000mm x 2
- Concealed shower valve to be **thermostatic concealed shower valves**
- Shower rail, hose and vandal resistant fixed head
- Shower diverter
- 3 x 600mm support rail concealed fixings and 2 x hinged support rail concealed fixings
- seat and back rest
- Grab rails in powder coated aluminium.
- WRAS and TMV3 Approved



AS TWYFORD DOC M SHOWER PACK MODEL PK7010BE OR EQUIVALENT

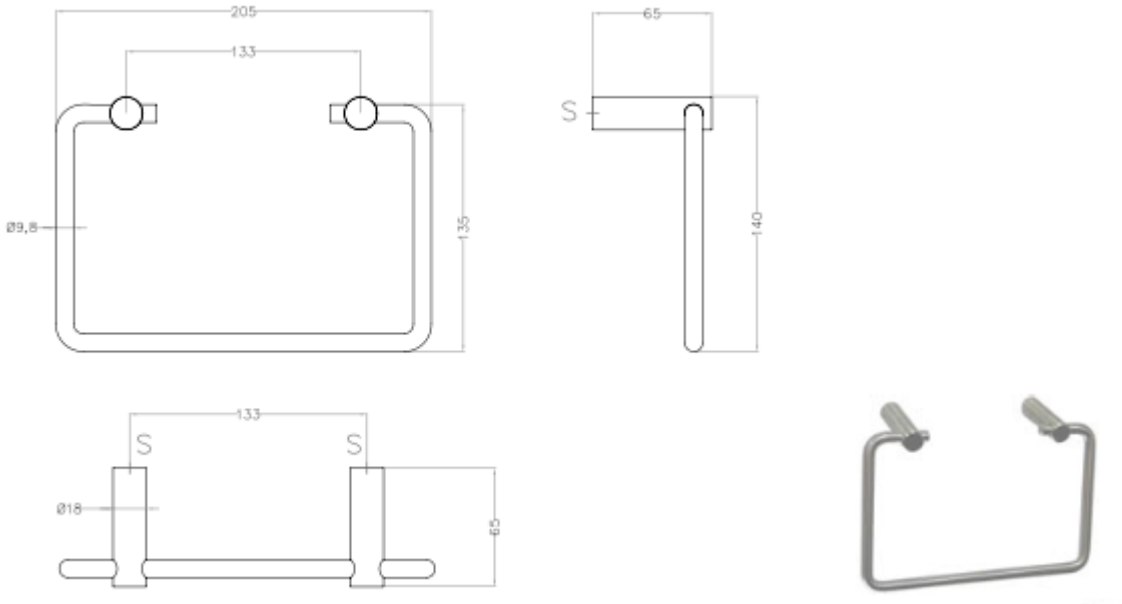
PHSICALLY CHALLENGED WATER CLOSET

- 700mm projection Rim free pan
- Concealed cistern, single flush lever, 4 litre flush
- Seat ring, stainless steel bar hinge, top fix and stability buffers
- back support with cushion
- hand rinse basin 400, no overflow 1 tap
- thermostatic basin mixer with fixed spout and copper tails
- 4 x 600mm grab rails concealed fixings,1 x 450mm grab rail concealed fixings,1x Hinged support rail and toilet roll holder concealed fixings
- Material to be Vitreous china.
- Grab rails in powder coated aluminium.
- WRAS Approved and TMV3 Approved



AS TWYFORD DOC M PACK MODEL PK8357BE OR EQUIVALENT
TOWEL RING

- Stainless steel AISI 304 ring, square form, 0.8 mm, satin finish.
- Stainless steel AISI 304 arm, 0.8 mm thick, satin finish.
- Completely welded construction.
- Mounting on the wall by means of two screws.
- Size 135mmx205mmx65 mm
- To meet ISO 9001:2008.



AS MEDICLINIC TOWEL RING MODEL AI0090CS OR EQUIVALENT

LED LIT MIRROR

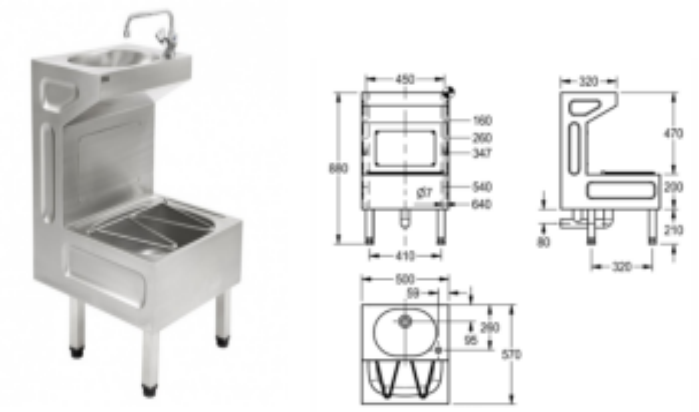
- Size 800mm x 600mm



AS ALI GLAZERS CODE LD108 OR EQUIVALENT

JANITORIAL SINK

- Floor standing janitorial unit manufactured from grade 1.4301 (304) stainless steel
- 1.2mm material thickness throughout except for lower bowl which is 0.9mm.
- With monoblock mixer, 32mm flush grated waste (for top wash bowl) and 38mm domed waste outlet (for lower bowl).
- The janitorial unit to be fixed with 4 legs for floor standing
- WRAS Approved
- Bowl height 180mm,width 360mm and Bowl depth 420 mm
- Overall depth 570.00 mm, Overall height 880.00 mm and Overall width 500.00 mm
- Surface finish Satin finish With Tap ledge

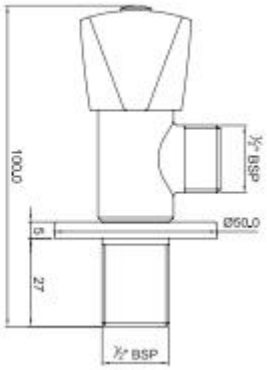


AS FRANKE JANITORIAL UNIT MODEL G20050N 207.0000.058 OR EQUIVALENT

ANGLE VALVE

- Angle Valve with Triangular Handle & Wall Flange
- Recommended Water Pressure 0.5 – 5 bar
- Flow Rate 21.00 LPM @ 3 bar
- Components have WRAS Approved for food grade conformity with Brass Housing and Spindle
- Finish Plating: Nickel-10.0 micron Chromium-0.3 micron



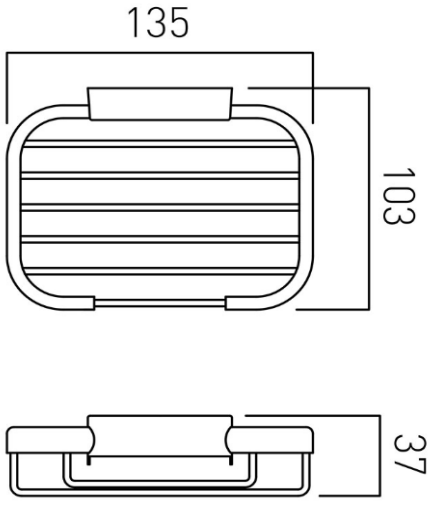


AS JAGUAR MODEL AQT-CHR-3057P OR EQUIVALENT

BATHROOM SHELF

- small rectangular basket
- wall mounted
- In chrome finish
- With preferred dimensions as below

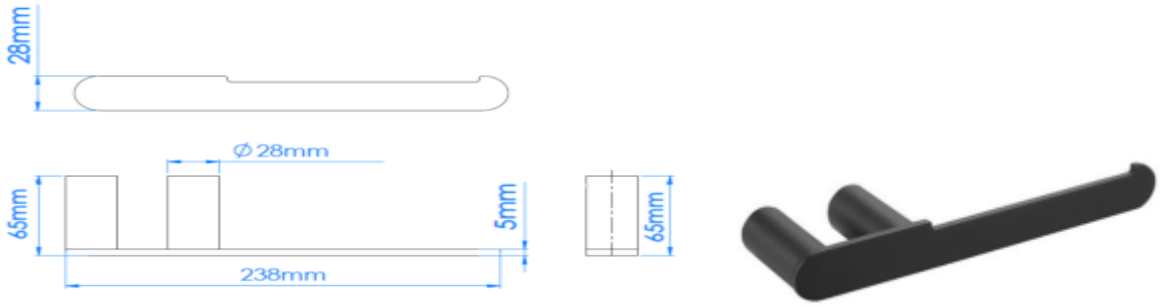




AS VADO BASKET MODEL BAS-2001-C/P OR EQUIVALENT

TOILET ROLL HOLDER

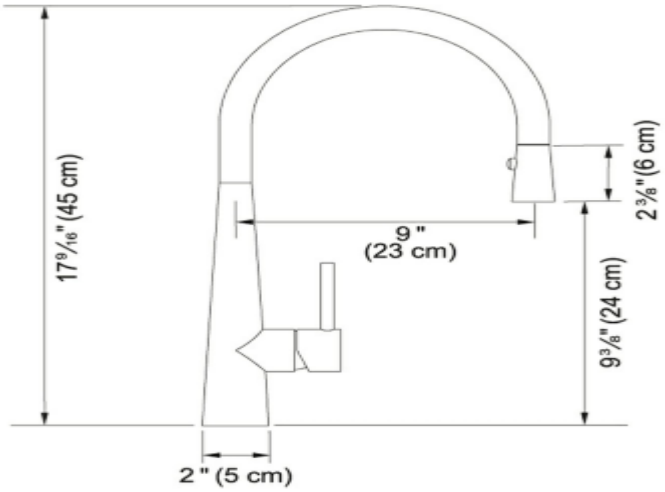
- Toilet roll holder made of AISI 304 stainless steel black finish.
- Roll axis made of 5 mm thick AISI 304 stainless steel sheet.
- Wall brackets of two units, made with AISI 304 stainless steel cylindrical tube of Ø 28mm and 1.2mm thick and attached to the bar by means of a threaded stud and nut.
- Wall anchors made of two units, made of AISI 304 stainless steel tube of Ø 22mm and 1.0mm thick. Attached to the wall bracket by means of a screw. It has two oval holes (one vertical and one horizontal) to facilitate wall mounting.



AS MEDICLINIC TOILET ROLL HOLDER MODEL AI1321B OR EQUIVALENT

KITCHEN SINK TAP

- Solid 304 stainless steel construction
- Side lever Pull down 360 degrees swivel spout
- Dual functioning head spray to provide spray and stream type
- Flowrate of 1.75gpm



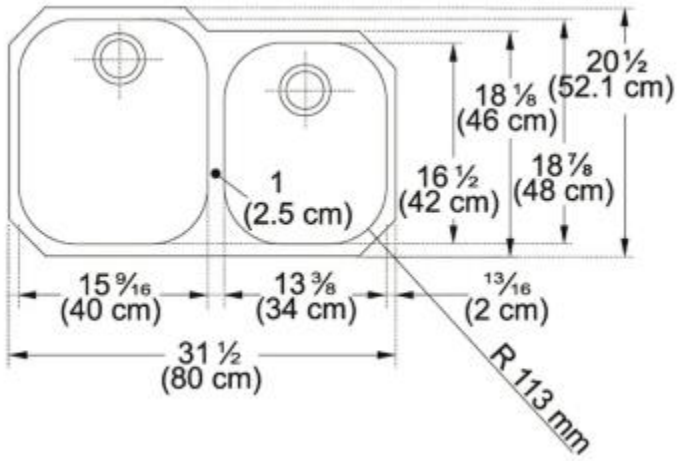


AS FRANKE FF3450 OR EQUIVALENT

KITCHEN SINK

- Solid 304 stainless steel construction
- One ad a half bowl
- With preferred dimensions as shown

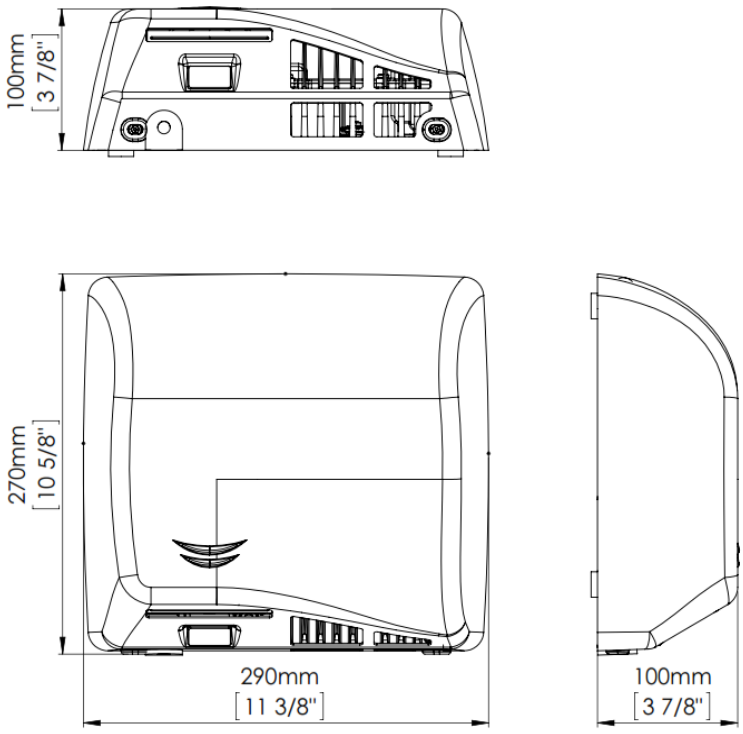




AS FRANKE REGATTA RGX 160 OR EQUIVALENT

HAND DRIER

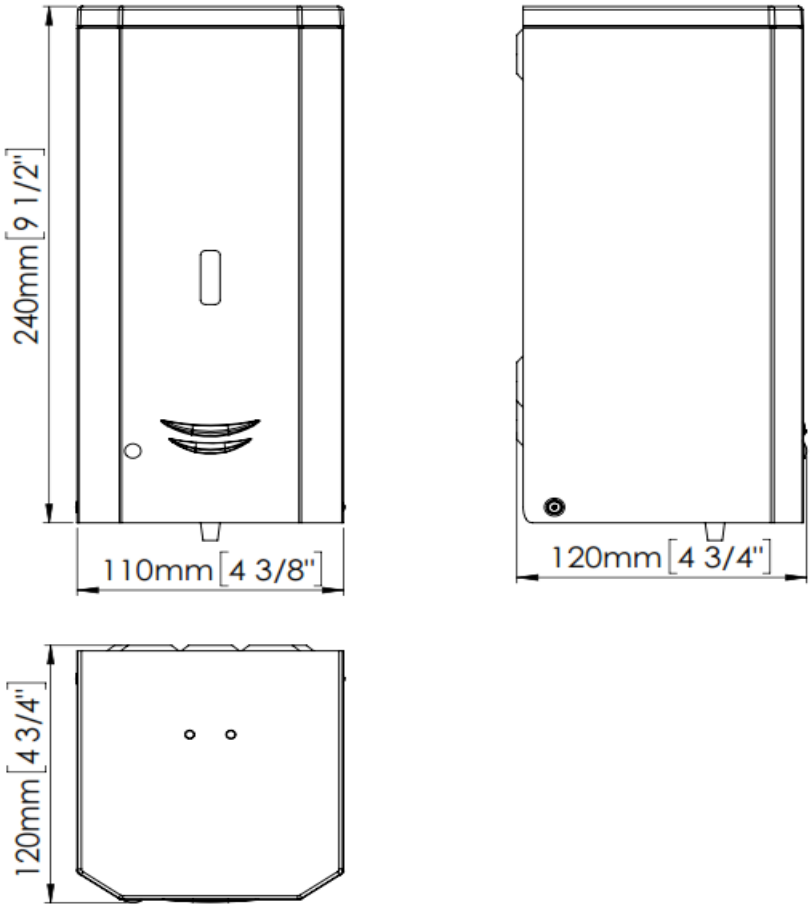
- Consumes less than 2.8 watts per drying cycle and less than 0.4 watts in stand-by mode
- Maximum air speed 400 km / h)
- Noise level less than 65 dBA
- Adjustable power motor
- Micro-switch "ON/OFF" located on the electronic board
- Detection of fixed targets.
- With an ionizer that purifies the air through negatively charged particles
- With an HEPA filter media
- With 30 second maximum continuous running time.
- Complies with the requirements of ADAAG for accessibility of public washrooms
- Compliance with RoHs, ISO and C.E standards
- With preferred dimensions as shown



AS MEDICLINIC MODEL M17AB-I OR EQUIVALENT

AUTOMATIC SOAP DISPENSER

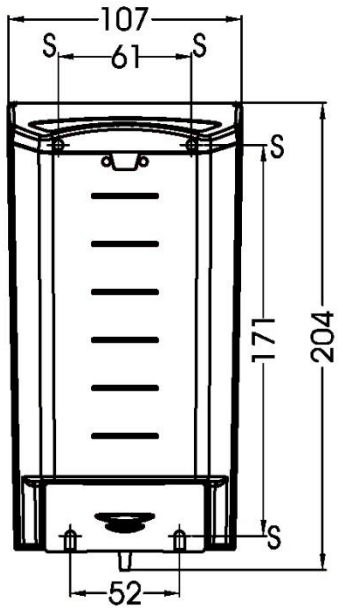
- Automatic wall-mounted liquid soap dispenser of 1 L capacity,
- Manufactured in stainless steel AISI 304, 0.8 mm thick.
- Level display located in the front part of the soap dispenser.
- Operates with an AC adapter.
- Compliance with RoHs,ISO and C.E standards
- With preferred dimensions as shown

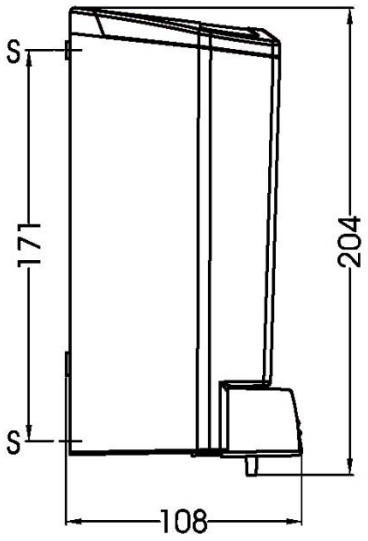


AS MEDICLINIC MODEL DJ0037AB OR EQUIVALENT

PUSH BUTTON SOAP DISPENSER

- Wall mounted liquid soap dispenser
- capacity of 1.1 litres
- manufactured in 3 mm thick thermoplastic ABS
- hand operated by means of a push-button
- Quantity dispensed per pump 1.2 ml
- Compliance with ISO and C.E standards
- With preferred dimensions as shown



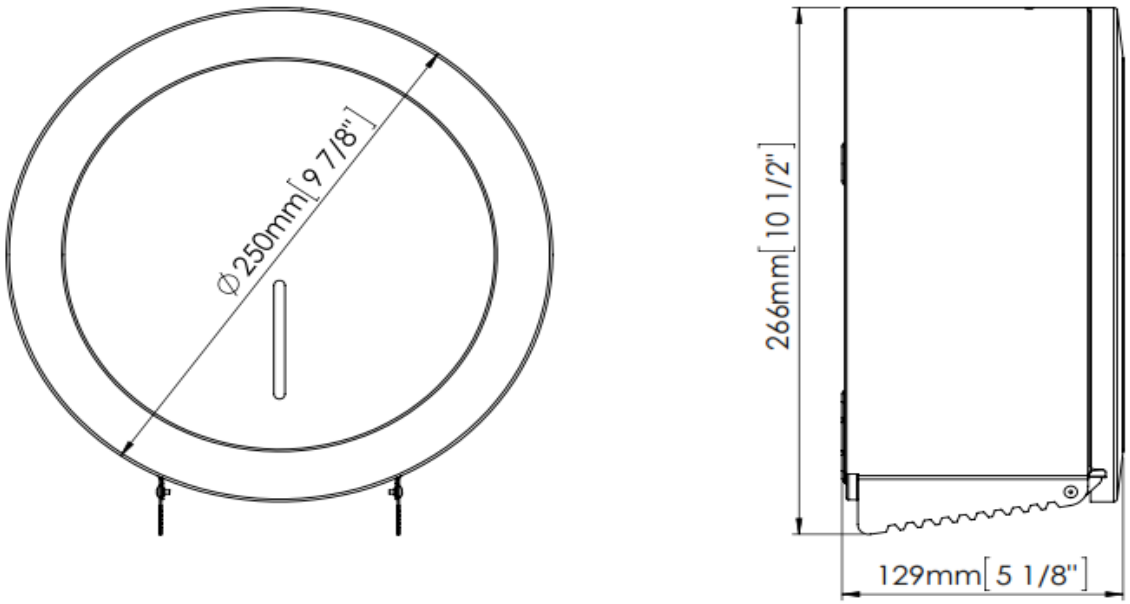




AS MEDICLINIC MODEL DJ0020F OR EQUIVALENT

TOILET PAPER ROLL DISPENSER

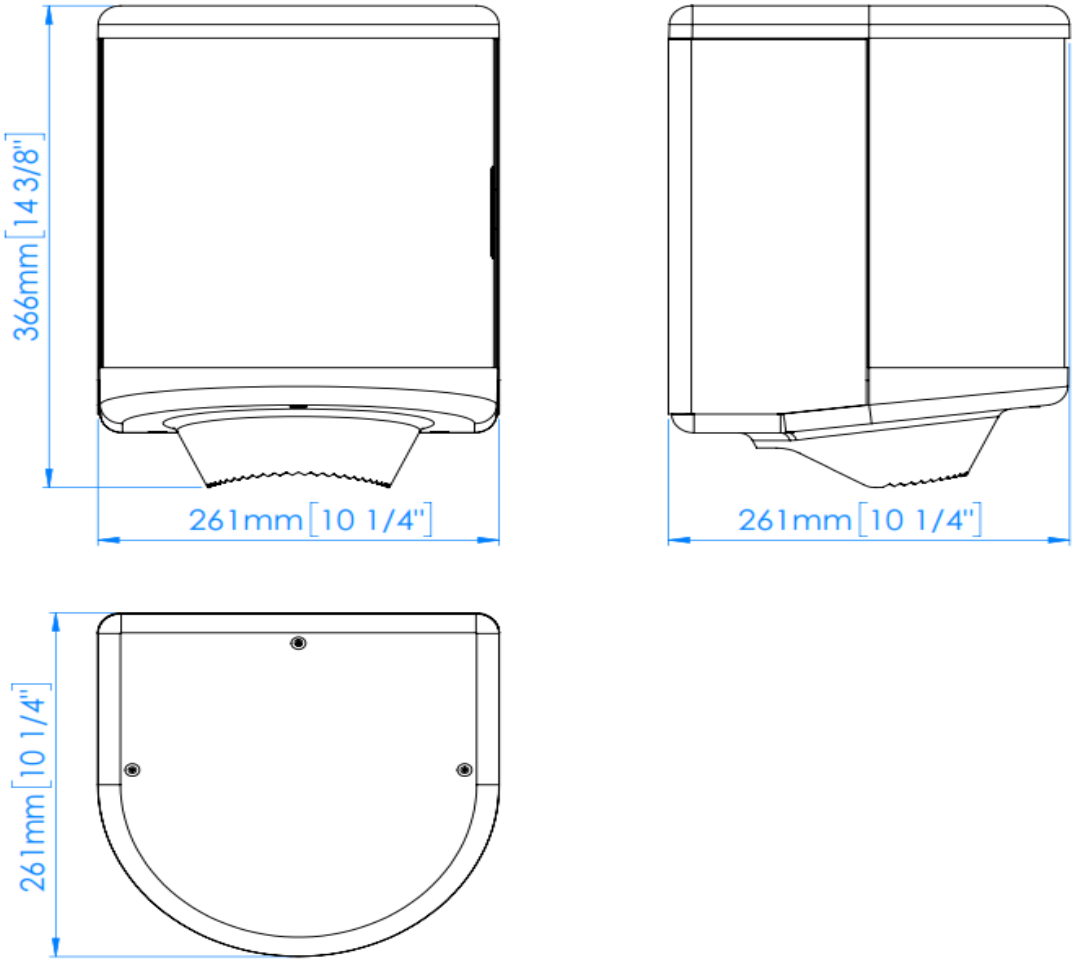
- Circular toilet paper dispenser for industrial rolls of 250/300 m, surface mounted
- One-piece body, 0,8 mm thick, round Ø 250 mm, fully sealed and with a catch system to prevent the opening of the door.
- It includes a lock system with standard key that allows opening the lid for replenishment.
- PA6 plastic shaft, for standard Ø45mm paper rolls tube, with inertial anti-spin retainer. This shaft is to be removable with 2 different positions to allow variety of paper rolls. It also allows the use of a standard paper roll in case of need.
- One-piece seamless lid, 0.8 mm thick, fully sealed. Fixed to the body by means of rivets that allow swinging down the lid for the replenishment.
- Slot at the front with a plastic viewer that indicates the content level
- Back-plate, 0.6 mm thick, with multiple slots
- With preferred dimensions as shown



AS MEDICLINIC MODEL PR2783B OR EQUIVALENT

PAPER TOWEL DISPENSER

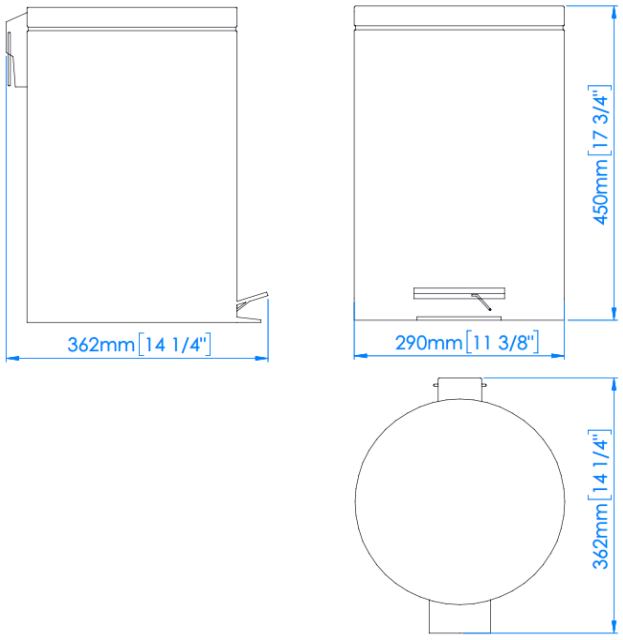
- Manual center feed paper towel dispenser, surface mounted,
- Supplied with a lock and special key for opening and screws.
- Seamless one-piece basis, 0.8 mm thick, welded to the body includes a teeth opening for the paper.
- Seamless one-piece sliding door, 0.8mm thick.
- Polyamide lid ring jointed to the top lid
- Polyamide door ring joint
- High density polyethylene ring placed over the basis with a slot to put out the paper
- With preferred dimensions as shown



AS MEDICLINIC MODEL DT0303CS OR EQUIVALENT

INDOOR CIRCULAR WASTE BINS

- Indoor circular body waste bins 20L capacity, operated by means of a pedal, to rest directly on the floor.
- LID: circular. Silent and anti-odors. Lid opening based on hinge system made of thermoplastic material.
- BASE: made of black thermoplastic, non-slip, insulates the cube bottom of moisture and makes the cube remain stable in place.
- INNER BUCKET: made of polypropylene with metal handle, for easy removal and capacity of 20 L
- PEDAL: metallic with a piece of non-slip black thermoplastic attached on its top. Activates the opening of the lid by pressing.
- HANDLE: metallic and located in the upper rear part of the bin to facilitate the transport.
- Made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel.
- The signs are all circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape



AS MEDICLINIC MODEL PP1321CS OR EQUIVALENT

WATER HEATER

- above sink electric storage with heater and pump
- With a temperature setting with indication LED and an on / off button to adjust the energy consumption.
- 15 litres capacity
- Manual temperature control
- Magnesium anti-corrosion anode
- CFC-free polyurethane insulation



AS BOSCH T2000ES10 OR EQUIVALENT

BATHROOM SIGNS

- Made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel.
- The signs are all circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape

WOMEN'S WASHROOM SIGN



AS MEDICLINIC MODEL PP1321CS OR EQUIVALENT

MEN'S WASHROOM SIGN



AS MEDICLINIC MODEL PS0003CS OR EQUIVALENT

ADAPTED WASHROOM SIGN



AS MEDICLINIC MODEL PS0004CS OR EQUIVALENT

SECTION NAME:

PIPING SPECIFICATIONS

PARTICULAR SPECIFICATIONS FOR PLUMBING AND DRAINAGE INSTALLATION WORKS

GENERAL

This section specifies the general requirements for plant, equipment and materials forming part of the plumbing and drainage installations.

MATERIALS AND STANDARDS

Pipework and Fittings

Pipework materials are to be used as follows:

a) Galvanized Steel Pipework

Galvanized steel pipe work up to 65mm nominal bore shall be manufactured in accordance with B.S. 1387 Medium Grade, with tapered pipe threads in accordance with B.S. 21. All fittings shall be malleable iron and manufactured in accordance with B.S. 143.

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

Galvanized steel pipe work, 80mm nominal bore up to 150mm nominal bore shall be manufactured to comply in all respects with the specification for 65mm pipe, except that screwed and bolted flanges shall replace unions and couplings for the jointing of pipes to valves and other items of plant. All flanges shall comply with the requirements of B.S. 10 to the relevant classifications contained hereinafter under Section 'C' of the Specification.

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

b) Copper Tubing

All copper tubing shall be manufactured in accordance with B.S. 2871 from C.160 'Phosphorous De-oxidized Non-Arsenical Copper' in accordance with B.S. 1172.

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

Short copper connection tubes between galvanized pipe work and sanitary fitments shall not be used because of the risk of galvanic action.

If, as may occur in certain circumstances, it is not possible to make the connection in any way than the use of copper tubing, then a brass straight connector shall be positioned between the galvanized pipe and the copper tube in order to prevent direct contact.

c) P.V.C. (Hard) Pressure Pipes and Fittings

All P.V.C. pipes and fittings shall be manufactured in accordance with B.S. 3505: 1968.

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturer's approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion.

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

b) HDPE Pressure Pipes and Fittings

All P.V.C. pipes and fittings shall be manufactured in accordance with B.S. 3505: 1968.

Jointing

The method of jointing to be employed shall be that of solvent welding, using the pipe and manufacturer's approved cement. Seal ring joint shall be introduced where it is necessary to accommodate thermal expansion.

Testing

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge.

c) A.B.S. Waste System

Where indicated on the Drawings and Schedules, the Sub-contractor shall supply and fix A.B.S. waste pipes and fittings.

The pipes, traps and fittings shall be in accordance with the relevant British Standards, including B.S. 3943, and fixed generally in accordance with manufacturer's instructions and B.S. 5572: 1978.

Jointing of pipes shall be carried out by means of solvent welding, the manufacturer's instructions and B.S. 5572: 1978.Jointing of pipes shall be carried out by means of solvent welding. The manufacturer's recommended method of joint preparation and fixing shall be followed.

Standard brackets, as supplied for use with this system, shall be used wherever possible. Where the building structure renders this impracticable the Sub-contractor shall provide purpose made supports, centers of which shall not exceed one meter.Expansion joints shall be provided as indicated. Supporting brackets and pipe clips shall be fixed on each side of these joints.

e) PVC Soil System

The Sub-contractor shall supply and fix PVC soil pipes and fittings as indicated on the Drawings and Schedules.

Pipes and fittings shall be in accordance with relevant British Standards, including B.S. 4514 and fixed to the manufacturer's instructions and B.S. 5572.

The soil system shall incorporate synthetic rubber gaskets as provided by the manufacturer whose fixing instructions shall be strictly adhere to.Connections to WC pans shall be effected by the use of a WC connector, gasket and cover, fixed to suit pan outlet. Suitable supporting brackets and pipe clips shall be provided at maximum of one metre centres.

The Sub-contractor shall be responsible for the joint into the Gully Trap on Drain as indicated on the Drawings.

Valves

Draw-off Taps and Stop Valves (Up to 50mm Nominal Bore)

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

Gate Valves

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

All gate valves required for fitting to buried water mains shall be of cast iron construction in accordance with the requirements of B.S.1218.

All gate valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S. 1952.

The pressure classification of all valves shall depend upon the pressure conditions pertaining to the site of works.

Globe Valves

All globe valves up to and including 65mm nominal bore shall be of bronze construction in accordance with the requirements of B.S.3061.
The pressure classification of all globe valves shall depend upon the pressure conditions pertaining to the site of works.

Waste Fitment Traps

a) Standard and Deep Seal P & S Traps

Where standard or deep seal traps are specified they shall be manufactured in suitable non-ferrous materials in accordance with the full requirements of B.S. 1184.
In certain circumstances, cast iron traps may be required for cast iron baths and in these instances bath traps shall be provided which are manufactured in accordance with the full requirements of B.S.1291.

b) Anti-Syphon Traps

Where anti-syphon traps are specified, these shall be similar or equal to the range of traps manufactured by Greenwood and Hughes Limited, Deacon Works Littleshampton, Sussex, England.
The trade name for traps manufactured by this company is 'Grevak'.

Pipe Supports

a) General

This sub-clause deals with pipe supports securing pipes to the structure of buildings for above ground application.
The variety and type of support shall be kept to a minimum and their design shall be such as to facilitate quick and secure fixings to metal, concrete, masonry or wood.
Consideration shall be given, when designing supports, to the maintenance of desired pipe falls and the restraining of pipe movements to a longitudinal axial direction only.

The Sub-contractor shall supply and install all steelwork forming part of the pipe support assemblies and shall be responsible for making good damage to builders work associated with the pipe support installation.

The Sub-contractor shall submit all his proposals for pipe supports to the Engineer for approval before any erection works commence.

b) Steel and Copper Pipes and Tubes

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

An approximate guide to the maximum permissible supports spacing in 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. 659**	**Steel Tube to B.S. 1387**
15mm	1.25m	2.0m
20mm	2.0m	2.5m
25mm	2.0m	2.5m
32mm	2.5m	3.0m
40mm	2.5m	3.0m
50mm	2.5m	3.0m
65mm	3.0m	3.5m
80mm	3.0m	3.5m
100mm	3.0m	4.0m
125mm	3.0m	4.5m
150mm	3.5m	4.5m

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

c) Expansion Joints and Anchors

Where practicable, cold pipework systems shall be arranged with sufficient bends and changes of direction to absorb pipe expansion providing that the pipe stresses are contained within the working limits prescribed in the relevant B.S. specification

Where piping anchors are supplied, they shall be fixed to the main structure only. Details of all anchor design proposals shall be submitted to the Engineer for approval before erection commences.

The contractor when arranging his piping shall ensure that no expansion movements are transmitted directly to connections and flanges on pumps or other items of plant.

The contractor shall supply flexible joints to prevent vibrations and other movements being transmitted from pumps to piping systems or vice versa.

Sanitary Appliances

All sanitary appliances supplied and installed as part of the Sub-contract works shall comply with the general requirements of B.S. Code of Practice 305 and the particular requirements of the latest B.S. Specifications.

Pipe Sleeves

Main runs of pipework are to be fitted with sleeves where they pass through walls and floors. Generally the sleeves shall be of P.V.C. except where they pass through the structure, where they shall be mild steel. The sleeves shall have 6mm – 12mm clearance all around the pipe or for insulated pipework all around the installation. The sleeve will then be packed with slag wool or similar.

INSTALLATION

General

Installation of all pipework, valves, fittings and equipment shall be carried out under adequate supervision from skilled staff to the relevant codes and standards as specified herein. The Sub-contractor shall be responsible to the Main Contractor for ensuring that all builders work associated with his piping installation is carried out in a satisfactory manner to the approval of the Engineer.

Above Ground Installation

a) Water Services

Before any joint is made, the pipes shall be hung in their supports and adjusted to ensure that the joining faces are parallel and any falls which shall be required are achieved without springing the pipe.

Where falls are not shown on the Contract Drawings or stated elsewhere in the Specification, pipework shall be installed parallel to the lines of the buildings and as close to the walls, ceilings, columns, etc., as is practicable.

All water systems shall be provided with sufficient drain points and automatic air vents to enable them to function correctly.

Valves and other user equipment shall be installed with adequate access for operation and maintenance. Where valves and other operational equipment are unavoidably installed beyond normal reach or in such position as to be difficult to reach from a small step ladder, extension spindles with floor or wall pedestals shall be provided.

Screwed piping shall be installed with sufficient number of unions to facilitate easy removal of valves and fittings, and to enable alterations of pipework to be carried out without the need to cut the pipe.

Full allowances shall be made for the expansion and contraction of pipework, precautions being taken to ensure that any force produced by the pipe movements are not transmitted to valves, equipment or plant. All screwed joints to piping and fittings shall be made with P.T.F.E. tape.
The test pressure shall be maintained by the pump for about one hour and if there is any leakage, it shall be measured by the quantity of water pumped into the main in that time. A general leakage of 4.5 litres per 25mm of diameter, per 1.6 kilometres per 24 hours per 30 metres head, may be considered reasonable but any visible individual leak shall be repaired.

b) Sanitary Services

Soil, waste and vent pipe system shall be installed in accordance with the best standard of modern practice as described in B.S. 5572 to the approval of the Engineer.The Sub-contractor shall be responsible for ensuring that all ground waste fittings are discharged to a gully trap before passing to the sewer via a manhole.

The Sub-contractor shall provide all necessary rodding and inspection facilities within the draining system in positions where easy accessibility is available.Where a branch requires rodding facilities in a position to which normal access is unobtainable, then that branch shall be extended so as to provide a suitable purpose made rodding eye in the nearest adjacent wall or floor to which easy access is available.

The vent stacks shall terminate above roof level and where stack passes through roof, a weather skirt shall be provided. The Sub-contractor shall be responsible for sealing the roof after installation of the stacks.

The open end of each stack shall be fitted with a plastic coated or galvanised steel wire guard. Access for rodding and testing shall be provided at the foot of each stack.

c) Sanitary Appliances

All sanitary appliances associated with the Sub-contract works shall be installed in accordance with the best standard of modern practice as described in C.P. 305 to the approval of the Engineer.

Underground Water Mains

After laying, jointing and anchoring, the mains shall be slowly and carefully charged with water so that all air is expelled and allowed to stand full for three days before testing under pressure.

A long main shall be tested in sections as the work of laying proceeds and all joints shall be exposed for inspection during the testing. The open end of the main may be temporarily closed for testing under moderate pressure by fitting a water pipe expanding plug, of which several types are available.

The end of the main and the plug should be secured by struts or otherwise, to resist the end thrust of the water pressure in the main. If the section of main terminates with a sluice valve, the wedge of the valve shall not be used to retain the water, instead the valve shall be fitted temporarily with a blank flange, or a socket valve with a plug and the wedge shall be placed in the open position while testing.

The Contractor shall provide suitable end supports to withstand the end thrust of the water pressure in the main.

Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times the design working pressure. If preferred, the Contractor may test the Pipelines in sections.

Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Contractor and the section retested.

The Contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be required or replaced at the Contractor's expenses.

Underground Drainage System

A site test shall be carried out on all drainage pipes before haunching or surrounds are applied. These tests shall be carried out preferably from manhole to manhole.

Short branch drains connected to a main drain between manholes shall be tested as one system with a main drain.

In long branches, a testing junction shall be inserted next to the junction with the main drain and the branch tested separately. After this has been passed, the testing junction shall be effectively sealed.

All tests on underground drains shall be permitted on cast iron drains at the discretion and to the approval of the Engineer. Water tests shall be carried out in accordance with the methods described under B.S. Code of Practice 301, Clause 601(b) and (c) and the test pressure shall not be less than 1,520mm head at the highest point in the pipe section and not more than 10.36mm head at any point in the section.

The test pressure shall be maintained for the period of one hour during which time the pipe and joints shall be inspected for sweating and leakage. Any leak discovered during the tests shall be made good by the Sub-Contractor and the section re-tested.

In addition to pressure tests, drain pipe runs shall be tested for straightness where applicable. This test shall be carried out in accordance with one of the two methods described in B.S. code of Practice 301, Clause 601(e).

Testing of manholes shall be carried out in accordance with the methods described under B.S. code of practice 301, clause 601 (f).

TESTING AND INSPECTION

Site Tests – Pipework Systems

a) Above Ground Internal Water Services Installation

All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure. If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer.During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested.

The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

b) Above Ground Soil Waste and Ventilation System

All soil, waste and ventilating pipe system forming part of the above ground installation, shall be given appropriate test procedures as described in B.S. 5572, 1972.

Smoke tests on above ground soil, waste and ventilating pipe system shall not be permitted.

Pressure tests shall be carried out before any work which is to be concealed is finally enclosed.

In all respects, tests shall comply with the requirements of B.S. 5572.

Site Test – Performance

Following satisfactory pressure test on the pipework system operational tests shall be carried out in accordance with the relevant B. S. Code of practice on the systems as a whole to establish that special valves, gauges, control, fittings, equipment and plant are functioning correctly to the satisfaction of the Engineer.

All hot water pipework shall be installed with pre-formed fibre glass lagging to a thickness of 25mm where the pipe runs above a false ceiling or in areas where the ambient temperature is higher than normal with the result that pipe "sweating", due to condensation will cause nuisance.

All lagged pipes which run in a visible position after erection shall be given a canvas cover and prepared for painting as follows

i) Apply a coating of suitable filler until the canvas weave disappears and allow to dry.

ii) Apply two coats of an approved paint and finish in suitable gloss enamel to colors approved by the Engineer.

All lagging for cold and hot water pipes erected in crawlways, ducts and above false ceiling which after erection are not visible from the corridors of rooms, shall be covered with a reinforced aluminium foil finish banded in colours to be approved by the Engineer.

In all respects, unless otherwise stated, the hot and cold water installation shall be carried out in accordance with the best standard of modern practice and described in C.P.342 and C.P.310 respectively to the approval of the Engineer.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precautions shall be taken to ensure that the required pressure is not exceeded.

Pressure gauges should be recalibrated before the tests.

The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

The test pressure shall be one and a half times the maximum working pressure except where a pipe is manufactured from a material for which the relevant B.S. specification designates a maximum test pressure.

STERILISATION OF HOT AND COLD WATER SYSTEM

All water distribution system shall be thoroughly sterilised and flushed out after the completion of all tests and before being fully commissioned for handover.

The sterilisation procedures shall be carried out by the Sub-contractor in accordance with the requirements of B.S. Code of Practice 301, Clause 409 and to the approval of the Engineer.

PLUMBING PIPES SPECIFICATION

- Impact Strength of over 45 avg ft/lbs tested by ASTM D2444 Standard Practice for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings
- Biofilm Formation Potential of less than 120 pg ATP/cm2
- integrates specialized additives that protect the pipe from UV
- To meet the requirement of having a flame spread index of 0-25 and a smoke developed index of 0-50 (25/50 rating) when tested in accordance with ASTM E84/UL723

Item	Parameter	Required
A	Material	Chlorinated Polyvinyl Chloride
B	Tensile Strength (MPa at 23°C)	High.55 MPa
C	Flow Rate	High due to higher ID
D	Jointing	cold fusion as done by solvent joint
E	Scale Formation/ Calcination	No scale formation, pitting and corrosion
F	Fire Retardance	LOI = 60%. Self extinguishes
G	Bacterial Growth	Less than 5000Kbe/cm
H	Thermal Conductivity	0.14W/MK Less energy loss
I	Coefficient of Thermal expansion	0.7x10 mm/mk less supports, less snaking.
J	Effect of UV	Dehydrochlorination reaction. Temp and pressure bearing capacity remains unaffected
K	Oxygen Permeation	Less than 1 cm3 /m day atmosphere (at 70°C) No corrosion risk
L	Reliability	Being in production for at least 20 years
M	Maximum Temperature	93 degrees centigrade
N	Resistance to water disinfectant (Chlorine)	Not affected by chlorine in water supply or by pH of Water

Certified to

- EN ISO 15877, which specifies the material is approved for use in hot and cold water distribution systems
- ASTM F656, standard for using a primer for potable water and sewer pipe
- NSF-61 Annex G certification, which verifies the material leaches almost no lead into the water.

PIPE SCHEDULE

Temperature and Pressure Tolerance

Item	Temperature (degrees centigrade)	Working Pressure for PN16(bar)	Working Pressure for PN20(bar)	Working Pressure for PN25(bar)
A	20	16	20	25
B	40	11	14	17
C	60	6	8	10
D	80	4	5	6
E	95	2	3	4

HANGERS AND SUPPORT

- Piping should not be anchored tightly to supports, but rather secured with smooth straps or hangers that allow for movement caused by expansion and contraction.
- Hangers should not have rough or sharp edges which come in contact with the tubing.

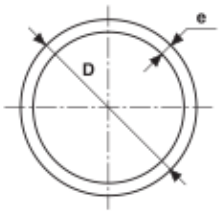
Item	Pipe size(mm)	Hangers Spacing			
		Horizontal			Vertical
		20 ° C	60 ° C	80 ° C	
A	16	850	700	600	1000
B	20	950	850	750	1200
C	25	1050	950	850	1300
D	32	1200	1100	1000	1400
E	40	1300	1150	1150	1500
F	50	1500	1450	1350	1700
G	63	1700	1650	1550	2000

PIPES

CPVC pipes SDR-11 for 15 mm (½") to 50 mm (2")

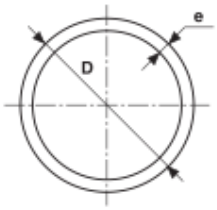
CPVC Schedule 40 pipes to ASTM F-441

PN 16



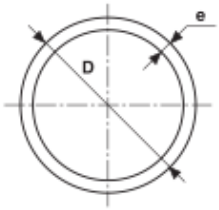
Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,4	16	TUBE CPVC	ML	0,111	13,20
20	1,5	16	TUBE CPVC	ML	0,151	17,00
25	1,9	16	TUBE CPVC	ML	0,234	21,20
32	2,4	16	TUBE CPVC	ML	0,379	27,20
40	3	16	TUBE CPVC	ML	0,590	34,00
50	3,7	16	TUBE CPVC	ML	0,910	42,60
63	4,7	16	TUBE CPVC	ML	1,460	53,60
75	5,6	16	TUBE CPVC	ML	2,100	63,80
90	6,7	16	TUBE CPVC	ML	2,900	76,60
110	8,1	16	TUBE CPVC	ML	4,310	93,80
125	9,2	16	TUBE CPVC	ML	5,460	106,60
140	10,3	16	TUBE CPVC	ML	6,850	119,40
160	11,8	16	TUBE CPVC	ML	9,070	136,40

PN 20



Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,5	20	TUBE CPVC	ML	0,115	13,00
20	1,9	20	TUBE CPVC	ML	0,187	16,20
25	2,3	20	TUBE CPVC	ML	0,270	20,40
32	2,9	20	TUBE CPVC	ML	0,470	26,20
40	3,7	20	TUBE CPVC	ML	0,701	32,60
50	4,6	20	TUBE CPVC	ML	1,090	40,80
63	5,8	20	TUBE CPVC	ML	1,720	51,40
75	6,8	20	TUBE CPVC	ML	2,420	61,40
90	8,2	20	TUBE CPVC	ML	3,750	73,60
110	10	20	TUBE CPVC	ML	5,130	90,00
125	11,4	20	TUBE CPVC	ML	6,620	102,20
140	12,7	20	TUBE CPVC	ML	8,200	114,60
160	14,6	20	TUBE CPVC	ML	10,800	130,80

PN 25

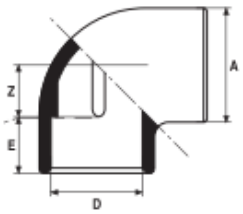


Diameter D	e/mm	PN	Description	Unit	Weight per meter (Kg)	Internal Diameter (mm)
16	1,8	25	TUBE CPVC	ML	0,140	12,40
20	2,3	25	TUBE CPVC	ML	0,220	15,40
25	2,8	25	TUBE CPVC	ML	0,330	19,40
32	3,6	25	TUBE CPVC	ML	0,490	24,80
40	4,5	25	TUBE CPVC	ML	0,830	31,00
50	5,6	25	TUBE CPVC	ML	1,290	38,80
63	7,1	25	TUBE CPVC	ML	2,020	48,80
75	8,4	25	TUBE CPVC	ML	2,880	58,20
90	10,1	25	TUBE CPVC	ML	4,250	69,80
110	12,3	25	TUBE CPVC	ML	6,160	85,40
125	14	25	TUBE CPVC	ML	7,90	97,00
140	15,7	25	TUBE CPVC	ML	9,920	108,60
160	17,9	25	TUBE CPVC	ML	12,910	124,20

PIPE FITTINGS

- CPVC pipes SDR-11 fittings to per ASTM D2846 for pipes Sizes 15 mm (½") to 50 mm (2")
- Schedule 40 fittings to ASTM F-438 for pipe Sizes above 50 mm (2")

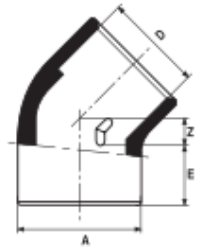
Elbow 90°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)
16	GIC 16	21,2	16,2	9,0	14,0
20	GIC 20	26,6	20,2	11,0	16,0
25	GIC 25	32,95	25,35	13,5	25,0
32	GIC 32	40,35	32,35	17,0	30,0
40	GIC 40	50,35	40,35	21,0	35,0
50	GIC 50	62,95	50,35	26,0	41,0
63	GIC 63	76,15	63,35	32,5	50,0
75	GIC 75	90,65	75,45	38,5	60,0
90	GIC 90	108,65	90,45	46,0	72,0
110	GIC 110	132,45	110,45	56,0	88,0

Notes: All dimensions are in mm

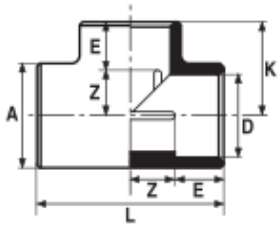
Elbow 45°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)
16	HIC 16	21,2	16,2	4,5	14,0
20	HIC 20	26,6	20,2	5,0	16,0
25	HIC 25	32,8	25,2	6,0	18,5
32	HIC 32	40,35	32,35	7,5	30,0
40	HIC 40	50,35	40,35	9,5	35,0
50	HIC 50	60,35	50,35	11,5	41,0
63	HIC 63	76,15	63,35	14,0	50,0
75	HIC 75	90,65	75,45	16,5	60,0
90	HIC 90	108,65	90,45	19,5	72,0
110	HIC 110	132,45	110,45	24,0	88,0

Notes: All dimensions are in mm

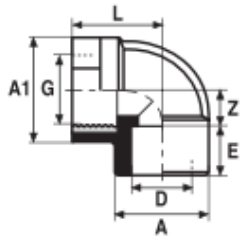
Tee 90°



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	K	L
16	TIC 16	21,2	16,2	9,0	14,0	23,0	46,0
20	TIC 20	26,6	20,2	11,0	16,0	27,0	54,0
25	TIC 25	32,95	25,35	13,5	25,0	38,5	77,0
32	TIC 32	40,35	32,35	17,0	30,0	47,0	94,0
40	TIC 40	50,35	40,35	21,0	35,0	56,0	112,0
50	TIC 50	62,95	50,35	26,0	41,0	67,0	134,0
63	TIC 63	76,15	63,35	32,5	50,0	82,5	165,0
75	TIC 75	90,65	75,45	38,5	60,0	98,5	197,0
90	TIC 90	108,65	90,45	46,0	72,0	118,0	236,0
110	TIC 110	132,45	110,45	56,0	88,0	144,0	288,0

Notes: All dimensions are in mm

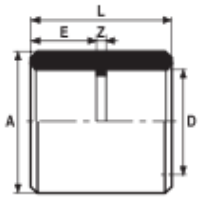
Elbow Metal Reduced and Threaded



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	G	A1	L
16x½"	GIRC 16x½"	21,2	16,2	9,0	14,0	½"	39,8	28,5
20x½"	GIRC 20x½"	26,75	20,35	11,0	20,0	½"	42,0	27,5
25x¾"	GIRC 25x¾"	32,95	25,35	13,5	25,0	¾"	43,0	33,8
32x1"	GIRC 32x1"	40,35	32,35	17,0	30,0	1"	49,3	39,7

Notes: All dimensions are in mm

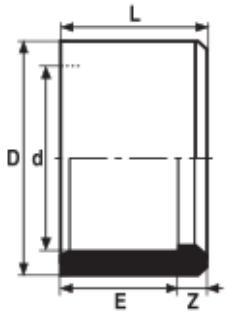
Sleeves



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	L
16	MIC 16	21,2	16,2	3,0	14,0	31,0
20	MIC 20	26,6	20,2	3,0	16,0	35,0
25	MIC 25	32,95	25,35	3,0	25,0	53,0
32	MIC 32	40,35	32,35	3,0	30,0	63,0
40	MIC 40	50,35	40,35	3,0	35,0	73,0
50	MIC 50	62,95	50,35	3,0	41,0	85,0
63	MIC 63	76,15	63,35	3,0	50,0	103,0
75	MIC 75	90,65	75,45	4,0	60,0	124,0
90	MIC 90	108,65	90,45	5,0	72,0	149,0
110	MIC 110	132,45	110,45	6,0	88,0	182,0

Notes: All dimensions are in mm

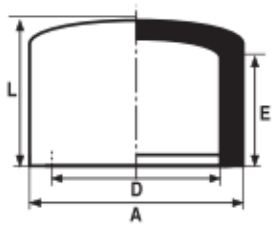
Reduction



Dn	Reference	D(min)	d(avg)	Z(avg)	E(min)	L(min)
20/16	DIC 20/16	20,0	16,35	4,0	16,0	20,0
25/20	DIC 25/20	25,0	20,35	5,0	20,0	25,0
32/20	DIC 32/20	32,0	20,35	10,0	20,0	30,0
32/25	DIC 32/25	32,0	25,35	5,0	25,0	30,0
40/20	DIC 40/20	40,0	20,35	15,0	20,0	35,0
40/25	DIC 40/25	40,0	25,35	10,0	25,0	35,0
40/32	DIC 40/32	40,0	32,35	5,0	30,0	35,0
50/20	DIC 50/20	50,0	20,35	15,0	20,0	35,0
50/25	DIC 50/25	50,0	25,35	16,0	25,0	41,0
50/32	DIC 50/32	50,0	32,35	11,0	30,0	41,0
50/40	DIC 50/40	50,0	40,35	6,0	35,0	41,0
63/32	DIC 63/32	63,0	32,35	20,0	30,0	50,0
63/40	DIC 63/40	63,0	40,35	15,0	35,0	50,0
63/50	DIC 63/50	63,0	50,35	9,0	41,0	50,0
75/50	DIC 75/50	75,0	50,35	19,0	41,0	60,0
75/63	DIC 75/63	75,0	63,35	10,0	50,0	60,0
90/75	DIC 90/75	90,0	75,45	12,0	60,0	72,0
110/90	DIC 110/90	110,0	90,45	16,0	72,0	88,0

Notes: All dimensions are in mm

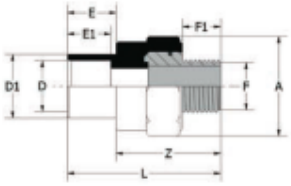
End Cap



Dn	Reference	A(min)	D(Avg)	E(min)	L(min)
16	CIC 16	21,2	16,2	14,0	19,5
20	CIC 20	26,6	20,2	16,0	22,2
25	CIC 25	32,8	25,2	18,5	25,3
32	CIC 32	40,35	32,35	30,0	37,0
40	CIC 40	50,35	40,35	35,0	43,0
50	CIC 50	62,95	50,35	41,0	50,3
63	CIC 63	79,15	63,35	50,0	60,9
75	CIC 75	93,85	75,45	60,0	73,2
90	CIC 90	112,65	90,45	72,0	88,1
110	CIC 110	137,45	110,45	88,0	107,5

Notes: All dimensions are in mm

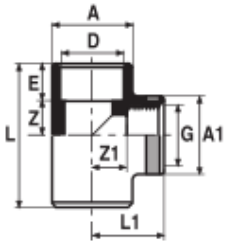
Reduced Metal Sleeve



Dn	Reference	D1(min)	D(avg)	A	E1	E	F	F1	L	Z
25x½"	KRGC 25x½"	32,95	25,35	40,8	25,0	28,0	½"	13,7	59,5	43,0
32x¾"	KRGC 32x¾"	40,35	32,35	47,5	30,0	33,0	¾"	16,6	65,0	47,5

Notes: All dimensions are in mm

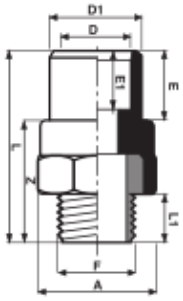
Tee Metal Threaded



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	L	G	A1	Z1	L1
16x½"	TIRC 16x½"	21,2	16,2	9,0	14,0	46,0	½"	39,5	15,0	30,0
20x½"	TIRC 20x½"	26,75	20,35	11,0	20,0	62,0	½"	42,5	13,5	30,0
25x¾"	TIRC 25x¾"	32,95	25,35	13,5	25,0	77,0	¾"	43,0	16,5	34,5
32x1"	TIRC 32x1"	40,35	32,35	17,0	30,0	94,0	1"	49,2	20,0	40,5

Notes: All dimensions are in mm

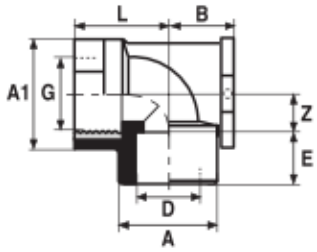
Metal Sleeves Male



Dn	Reference	D1(min)	D(avg)	A	E1	E	F	L1	L	Z
16x½"	KIGC 16x½"	21,2	16,2	39,5	14,0	16,0	½"	12,0	46,7	30,5
20x½"	KIGC 20x½"	26,75	20,35	34,9	20,0	19,0	½"	12,0	48,0	29,5
25x¾"	KIGC 25x¾"	31,75	25,35	40,8	25,0	15,6	¾"	13,7	59,5	43,0
32x1"	KIGC 32x1"	40,35	32,35	47,5	30,0	17,0	1"	16,6	65,0	47,5
40x1¼"	KIGC40x1¼"	48,55	40,35	59,5	35,0	19,5	1¼"	22,0	75,5	56,0
50x1½"	KIGC50x1½"	60,35	50,35	69,0	41,0	26,5	1½"	20,0	81,0	54,5
63x2"	KIGC 63x2"	76,15	63,35	81,0	50,0	33,7	2"	26,5	98,5	64,0

Notes: All dimensions are in mm

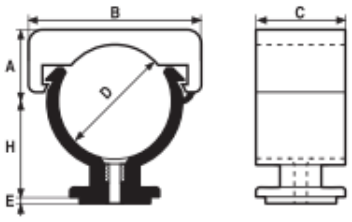
Wall Mount Elbow



Dn	Reference	A(min)	D(avg)	Z(avg)	E(min)	G	A1	L	B
20x½"	20x½"	26,75	20,35	11,0	20,0	½"	42,0	27,0	12,5
25x¾"	25x¾"	32,95	25,35	13,5	25,0	¾"	46,5	34,0	17,5

Notes: All dimensions are in mm

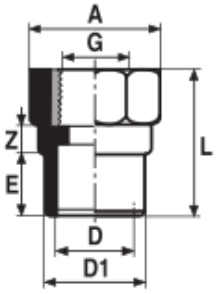
Bracket for Pipe



Dn	Reference	D	A	B	C	E	H
20	MDC 20	20,5	10,0	31,5	16,0	1,9	18,0
25	MDC 25	25,5	11,0	38,0	16,0	1,9	21,0
32	MDC 32	32,8	15,0	48,0	18,0	2,7	25,5

Notes: All dimensions are in mm

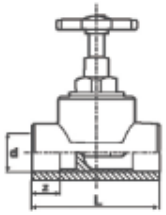
Sleeve Female Metal Threaded



Dn	Reference	D1(min)	D(avg)	A	E(min)	G	Z	L
16x½"	MIRC 16x½"	21,2	16,2	39,5	14,0	½"	3,0	34,5
20x½"	MIRC 20x½"	26,75	20,35	39,5	20,0	½"	3,0	35,2
25x¾"	MIRC 25x¾"	32,95	25,35	45,5	25,0	¾"	3,0	48,0
32x1"	MIRC 32x1"	40,35	32,35	50,5	30,0	1"	3,0	48,5
40x1¼"	MIGC 40x1¼"	48,55	40,35	60,0	35,0	1¼"	3,0	54,5
50x1½"	MIGC 50x1½"	60,35	50,35	69,0	41,0	1½"	3,0	61,0
63x2"	MIGC 63x2"	76,15	63,35	81,0	50,0	2"	3,0	72,0

Notes: All dimensions are in mm

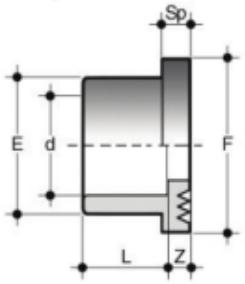
Stop Valve



Dn	Reference	d(avg)	Z(min)	L
20x½"	VKIK 20x½"	20.35	20.0	62.0
25x¾"	VKIK 25x¾"	25.35	25.0	77.0
32x1"	VKIK 32x1"	32,35	30.0	94.0

Notes: All dimensions are in mm

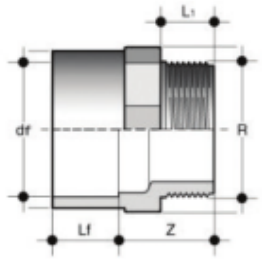
Flange Hub



Dn	Reference	d(avg)	E(min)	L	Z	SP	F
63	Colet 63	63.35	82.0	41.0	3.0	9.0	90.0
75	Colet 75	75.45	89.5	43.5	3.0	10.0	105.0
90	Colet 90	90.45	107.5	49.0	5.0	11.0	125.0
110	Colet 110	110.45	131.0	63.0	5.0	14.0	158.0

Notes: All dimensions are in mm

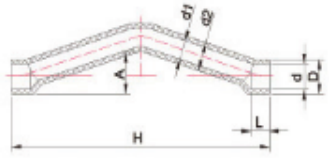
Sleeve Male Threaded



Dn	Reference	df(avg)	Lf(min)	L1(min)	Z	R
25x¾"	KIFC 25x¾"	25.35	25.0	16.3	27.0	¾"
32x1"	KIFC 32x1"	32.35	30.0	19.1	30.5	1"
40x1¼"	KIFC 40x1¼"	40.35	35.0	21.4	35.0	1¼"
50x1½"	KIFC 50x1½"	50.35	41.0	21.4	35.0	1½"
63x2"	KIFC 63x2"	63.35	50.0	25.7	41.0	2"
75x3"	KIFC 75x3"	75.45	60.0	34.5	46.5	3"
90x4"	KIFC 90x4"	90.45	72.0	41.0	52.0	4"

Notes: All dimensions are in mm

Step over bend



Dn	Reference	d(avg)	D(min)	L(min)	H(min)	A	d1	d2
20	SOBC 20	20.2	28.0	16.0	160.0	26,5	14,0	21,8
25	SOBC 25	25.2	34.8	18.5	180.0	29,5	17,7	26,7
32	SOBC 32	32.2	42.0	22.0	220.0	32,5	22,2	32,0

Notes: All dimensions are in mm



Elbow 45°



Expansion Loop



Coupler



Elbow 90°



Tee (Brass)



Cross Tee



Powder Coated
Metal Clamp



Union



Male Adaptor
Plastic Threaded
(MAPT)



Female Adaptor
Plastic Threaded
(FAPT)



End Cap



Equal Tee



Female Adaptor Brass
Threaded (FABT)



Step Over Bend



Reducer Elbow 90°



Tank Nipple



Reducer Tee



Flange Open



Flange Closed



Reducing Bush



Elbow 90° Brass



Reducer Coupler



Converter Bushing

INSTALLATION

Cutting

- CPVC pipe can be cut with a wheel-type plastic tube cutter, a hack saw or other fine toothed hand or power saw.
- Use of ratchet cutters is permitted, provided blades are sharpened regularly. A miter box should be used to ensure a square cut when using a saw.
- Pipes to be cut as squarely as possible to provide an optimal bonding area within the joint.
- If any indication of damage or cracking is evident at the pipe end, cut off at least 5 cm beyond any visible crack.

Deburring / Beveling

- Burrs and filings can prevent proper contact between pipe and fitting during assembly, and should be removed from the outside and inside of the pipe.
- A chamfering tool is preferred for this purpose. A slight bevel on the end of the pipe will ease entry of the pipe into the fitting socket and minimize the chances of pushing solvent cement to the bottom of the joint.

Fitting Preparation

- Any dirt or moisture must be wiped from the fitting socket and pipe end.
- Check the dry fit of the pipe and fitting.
- The pipe should make contact with the socket wall 1/3 to 2/3 of the way into the fitting socket.
- Pipe should not bottom out in the socket.

Solvent Cement Application

- Only CPVC approved cement to be used

Assembly

- Immediately insert the pipe into the fitting socket, rotating the pipe 1/4 to 1/2 turn while inserting. This motion ensures an even distribution of cement within the joint. Properly align the fitting. Hold the assembly for approximately 10 seconds, allowing the joint to set.
- An even bead of cement should be evident around the joint. If this bead is not continuous around the socket edge, it may indicate that insufficient cement was applied. In this case remake the joint to avoid potential leaks.

ALL PIPE AN FITTINGS TO BE AS CPVC FLOWGUARD OR EQUAL

Site name

Date

Address

Contractor Name

Floor level

Floor/Wing

Room/Office

PRESSURE TEST RECORD

Starting Time of the Procedure……..

Testing Pressure ……

Duration	**Time**	**Recorded Pressure Readings (Bar)**	**Comment**
Starting Time			
1 hour			
2 hours			
4 Hours			
6 Hours			
8 Hours			
12 Hours			
24 Hours			

Certification

Plumber Name……..……..Date……

Engineers Rep (COW) Name…….……Date……..

Testing Procedure

- Disconnect ancillary equipment that may not be designed to withstand test pressures, e.g. shower, boiler, etc. Manufacturer's data should be consulted.
- Check all system high points for location of air vents.
- Blank or plug any open ends including float valves. Close valves where sub-sections only are being tested.
- Open all valves in the enclosed section under test.
- Attach test pump to a convenient point with non-return valve and testing gate valve
- Start filling the system by pump priming and replenishing the pump water reservoir.
- Ventilate air from high points until water shows.
- When the system is full, raise the pressure as required.
- Remove the pump and leave the system primed
- If pressure falls, check joints, valves, etc. for leakage.
- When the test is satisfied, ensure the appropriate documentation is signed.
- Physical examination of the system for any leakages

Test requirements

Test required test pressure is applied and maintained for initial 30 minutes for bleeding air out of the pipeline/system.
Test is satisfied if: there is no visible leakage and the pressure drop is a maximum of 5% of the start testing pressure.

Testing Notes

Pipelines shall be tested in sections under an internal water pressure normally one and a half times the maximum allowable working pressure of the class of pipe used or the design pressure. Testing shall be carried out as soon as practical after laying and when the pipeline is adequately anchored. Precautions shall be taken to eliminate all air from the test section and to fill the pipe slowly to avoid risk of damage due to surge. All water service pipe system installed above ground shall be tested hydraulically for a period of one hour to not less than one and half times to design working pressure.

If preferred, the Sub-contractor may test the pipelines in sections. Any such section found to be satisfactory need not be the subject of a further test when system has been completed, unless specifically requested by the Engineer. During the test, each branch and joint shall be examined carefully for leaks and any defects revealed shall be made good by the Sub-contractor and the section re-tested. The Sub-contractor shall take all necessary precautions to prevent damage occurring to special valves and

fittings during the tests. Any item damaged shall be repaired or replaced at the Sub-contractor's expenses.

The test pressure shall be applied by means of a manually operated test pump or, in the case of long main or mains of large diameter, by a power driven test pump which shall not be left unattended. In either case precautions shall be taken to ensure that the required pressure is not exceeded. Pressure gauges should be recalibrated before the tests. The Sub-contractor shall be deemed to have included in his price for all test pumps, and other equipment required under this specification.

The test pressure shall be one and a half times the maximum working pressure except where a pipe is manufactured from a material for which the relevant B.S. specification designates a maximum test pressure.
Note: If further testing is required, it should be done in intervals of 1hour up to 8hours (working hours). For overnight testing, the last recorded pressure before close of business and the first reading in the morning should be captured.

DRAINAGE PIPING

- Drainage Piping shall be with specifications as follows
    - Raw material - **100% VIRGIN Polyvinyl chloride (PVC-U)**
    - Stabilizers - Non-lead/ Organic
    - Jointing method - Rubber ring or Solvent Weld
    - Density (g/cm3) - 1.40
    - Yield strength (N/mm2) - 50 – 55
    - E-modulus (N/mm2) - 3000
    - Melting point - Ca. 90ºC
    - Vicat softening point - 80ºC
    - Specific heat - 1.00 kJ/kg • K
    - Colour Light Grey to BS EN 1329-1:2000 and quality to BS 5255
    - Colour Brown to BS EN 1401-1:1998 and quality to BS 4660
    - Coefficient of heat conduction - 0.16 W/mK
    - Tensile Strength : Min. 45 N/mm2
- Jointing by Rubber Ring/Solvent Weld
- With all associated fittings
    - WC Connectors
    - Vent pipes and caps
    - Air admittance valves
    - Traps/siphons
    - Floor gullies
    - Access fittings
    - Connectors and reducers
- 15° chamfer is applied to all spigot ends for rubber ring pipe.

Item	Parameter	Value	Test method
A	Impact Resistance	TIR ≤ 10%	EN 744
B	Vicat Softening	≥ 79°C	EN 727
C	Longitudinal Reversion	≤ 5%	EN 743
D	Dichloromethane Acid Resistance	No attack	EN 580
E	Water Tightness of Rubber Ring Joint	No leakage	EN 1277
F	Elevated Temp. Cycling	No leakage	EN 1055
G	Long Term Performance of TPE Seals	90 days ≥ 1.3 bar	EN 1989
		100 years ≥ 0.6 bar	EN 1989
H	Resistance to Internal Pressure	No failure during the test 10.0MPA for 1000 hours, at 60°C	EN 921

Item	Pipe Size (mm)	Mean outside diameter(mm)	Wall thickness (mm)
A	36	36.5	3.5
B	43	43.1	3.5
C	56	56.1	3.5
D	82	82.3	3.5
E	110	110.3	3.5
F	160	160.4	3.8

PIPE FITTINGS



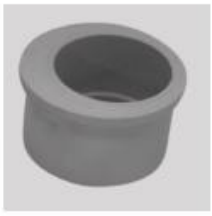
BEND 90° - SWR

Sizes
11/4"
11/2"
2"
3" (82mm)



BEND 45° - SWR

Sizes
4" (110mm) Bend 45°



REDUCING BUSH - SWR

Sizes
11/4"
11/2"
2"
3" (82mm)



W.C. CONNECTOR - SWR

Sizes
W.C. Connector Straight 4" (110mm)



SHOWER TRAP - SWR

Sizes
4" (110mm) Tee



BOSS CONNECTOR - SWR

Sizes
4' (110mm) x 11/4"
4' (110mm) x 11/2"
4' (110mm) x 2"



FLOOR TRAP - SWR

Description
Complete with Grill and Tile
Grill and Tile (inlet)
Main Trap
Grill



INSPECTION BEND 90° - SWR

Sizes
4" (110mm) Inspection Bend 90°



VENT COWL - SWR

Description
4' (110mm)



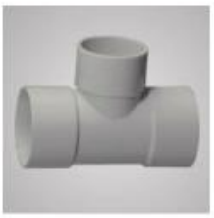
ACCESS PLUG - SWR

Sizes
11/4"
11/2"
2"



TEE SWR

Sizes
11/4"
11/2"
2"
3" (82mm)



TEE SWR

Sizes
4" (110mm) Tee



INSPECTION TEE

Sizes
4" (110mm) Bend 90°

SECTION NAME:

FIRE HOSEREEL SPECIFICATIONS

FIRE HOSEREEL SPECIFICATION

CLAUSE	DESCRIPTION
1.01	GENERAL
1.02	SCOPE OF WORKS
1.03	WATER/CO2 EXTINGUISHERS
1.04	CARBON DIOXIDE FIRE EXTINGUISHERS
1.05	DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER
1.06	SITE SUPERVISION
1.07	INSTALLATION
1.08	TESTING
1.09	COLOUR CODING
1.10	WELDING

PARTICULAR SPECIFICATIONS FOR PORTABLE FIRE EXTINGUISHER AND HOSE REEL INSTALLATIONS

1.0.1 GENERAL

The particular specification details the requirements for the supply and installation and commissioning of the Portable Fire Extinguishers and Boosted Hose Reel System.

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 works.

If in the opinion of the Sub-contractor there is a difference between the requirements of the Specifications and the Contract Drawings, he shall clarify these differences with the Engineer before tendering.

1.0.2 SCOPE OF WORKS

The Sub-contractor shall supply, deliver, erect, test and commission all the portable fire extinguishers and Hose Reel which are called for in these Specifications, Bills of quantities and as shown on the Contract Drawings.

1.0.3 WATER/CO2 EXTINGUISHERS

These shall be 9-litre water filled CO2 cartridge operated portable fire extinguishers and shall comply with B.S. 1382: 1948 and to the requirements of B.S.4523: 1977. Unless manufactured with stainless steel, bodies shall have all internal surfaces completely coated with either a lead tin, lead alloy or zinc applied by hot dipping. There shall be no visibly uncoated areas.

The extinguishers shall be clearly marked with the following:

a) Method of operation.

b) The words 'WATER TYPE' (GAS PRESSURE) in prominent letters.

c) Name and address of the manufacturer or responsible vendor.

d) The nominal charge of the liquid in imperial gallons and litres.

e) The liquid level to which the extinguisher is to be charged.

f) The year of manufacture.

g) A declaration to the effect that the extinguisher has been tested to a pressure of 24.1 bar (350 psi.).

h) The number of British Standard 'B.S' 1382 or B.S. 5423: 1977.

1.0.4 CARBON DIOXIDE FIRE EXTINGUISHERS

These shall be portable carbon dioxide fire extinguishers and shall comply with B.S. 3326: 1960 and B.S. 5423: 1977.

The body of extinguisher shall be a seamless steel cylinder manufactured to one of the following British Standards; B.S. 401 or B.S. 1288.

The filling ratio shall comply with B.S. 5355 with valves fittings for compressed gas cylinders to B.S.341. Where a hose is fitted it shall be flexible and have a minimum working pressure of
206.85 bar (3000 p.s.i.). The hose is not to be under internal pressure until the extinguisher is operated.

The nozzle shall be manufactured of brass gunmetal, aluminium or stainless steel and may be fitted with a suitable valve for temporarily stopping the discharge if such means are not incorporated in the operating head.

The discharge horn shall be designed and constructed so as to direct the discharge and limit the entrainment of air. It shall be constructed of electrically non-conductive material.

The following markings shall be applied to the extinguishers:-

a) The words "Carbon Dioxide Fire Extinguisher" and to include the appropriate nominal gas content.

b) Method of operation.

c) The words "Re-charge immediately after use".

d) Instructions for periodic checking.

e) The number of the British Standard B.S. 3326: 1960 or B.S. 5423.

f) The manufacturers name or identification markings

1.0.5 DRY CHEMICAL POWDER PORTABLE FIRE EXTINGUISHER

The portable dry powder fire extinguishers shall comply with BS3465: 1962 and BS 5423. The body shall be constructed to steel not less than the requirements of BS 1449 or aluminium to BS 1470: 1972 and shall be suitably protected against corrosion. The dry powder charge shall be not-toxic and retain its free flowing properties under normal storage conditions. Any pressurizing agent used as an expellant shall be in dry state; in particular compressed air.

The discharge tube and gas tube if either is fitted shall be made of steel, brass, copper or other not less suitable material. Where a hose is provided it shall not exceed 1,060mm and shall be acid and alkali resistant. Provision shall be made for securing the nozzle when not in use.

The extinguisher shall be clearly marked with the following information

a) The word "Dry Powder Fire Extinguisher"

b) Method of operation in prominent letters.

c) The working pressure and the weight of the powder charge in Kilogramme.

d) Manufacturers name or identification mark

e) The words "RECHARGE AFTER USE" if rechargeable type.

f) Instructions to regularly check the weight of the pressure container (gas Cartridge) or inspect the pressure indicator on stored pressure types when fitted, and remedy any loss indicated by either.

g) The year of manufacture.

h) The Pressure to which the extinguisher was tested.

i) The number of this British Standard BS 3465 or BS 5423: 1977.

j) When appropriate complete instructions for charging the extinguisher shall be clearly marked on the extinguisher or otherwise be supplied with the refill.

1.0.6 AIR FOAM FIRE EXTINGUISHER

These shall be of 9 litres capacity complete with refills cartridges and wall fixing brackets and complying with B.S. 5423 with the following specifications:-

Cylinder: to B.S. 1449

Necking: to be 76mm outside diameter steel EN 3A $2^3/_4$ X 8TPI female thread**.**

Head cap: to be plastic moulding acetyl resin.

CO_2 Cylinder: to be 75gm P.V.C coated.

Internal Finish: to be polythene lining on phosphate coating.

External finish: to be phosphated - One coat primer paint and one coat stove enamel B.S. 381 C.

1.0.7 FIRE BLANKET

The fire blanket shall be made from cloth woven with pre-asbestos yarn or any other fire proof material and to measure 1800 x 1210 mm and shall be fitted with special tapes folded so as to offer instantaneous single action to release blanket from storing jacket.

1.0.8 BOOSTED HOSE REEL SYSTEM

1.0.8.1 General

The Particular Specification details the requirements for the supply, installation and commissioning of the hose reel installation. The hose reel installation shall comply in all respects to the requirements set out in C.O.P 5306 Part 1: 1976, B.S 5041 and B.S 5274. The System shall comprise of a pumped system.

1.0.8.2 Hose Reel Pumps

The fire hose reel pumps shall consist of a duplicate set of multi-line centrifugal pumps from approved manufacturers. The pumps shall be capable of delivering **AS PER THE SPECIFICATIONS.**

The pump casing shall be of cast iron construction with the impeller shaft of stainless steel with mechanical seal.

1.0.8.3 Control Panel

The control panel shall be constructed of mild steel 1.0mm thick sheet, be moisture, insect and rodent proof and shall be provided complete with circuit breakers and a wiring diagram enclosed in plastic laminate.

The pump shall be controlled by a flow switch therefore, the control panel shall include the following facilities:

(a) 'On' push button for setting the control panel to live.

(b) Green indicator light for indicating control panel live.

(c) Duty / Stand-by pump auto change over.

(d) Duty pump run green indicator light.

(e) Stand-by pump run green indicator light.

(f) Duty pump fail red indicator light.

(g) Stand-by pump fail red indicator light.

(h) Low water condition pump cut-out with red indicator light.

The pumps are to be protected by a low level cut-out switch to prevent dry pump run when low level water conditions occur in the water storage tank.

1.0.8.4 Hose Reel

The hose reel to the installation shall consist of a recessed, swing-type hose reel as Angus Fire Armour Model III or from other approved manufacturers.

The hose reel shall comply with B.S. 5274: 1975 and B.S 3161: 1970 and is to be installed to the requirements of C.P. 5306 Part 1: 1976.

The hose reel shall be supplied and installed complete with a first-aid Non-kinking hose 30 meters long with a nylon spray / jet / shut-off nozzle fitted. A screw down chrome - plated globe valve to B.S 1010 to the inlet to the reel is to be supplied.

The orifice to the nozzle is to be not less than 4.8mm to maintain a minimum flow of 0.4 lit / sec to jet.

The hose reels shall be installed complete with electro-galvanised cabinet recessed on the wall.

The hose reels shall be installed at 1.5 metres centre above the finished floor level in locations shown in the contract drawings.

1.0.8.5 Pipe Work

The pipe work for the hose reel installation shall be galvanised wrought steel tubing heavy grade Class C to B.S 1387: 1967 with pipe threads to B.S 21. The pipe work and all associated fittings shall be in approved colour for fire fittings.

1.0.8.6 Pipe Fittings

The pipe fittings shall be wrought steel pipe fittings, welded or seamless fittings conforming to B.S. 1740 or malleable iron fittings to B.S 143.
All changes in direction will be with standard bends or long radius fittings. No elbows will be provided.

1.0.8.7 Non-return Valves

The non-return valves up to and including 80mm diameter shall be to B.S. 5153: 1974.
The valves shall be of cast iron construction with gunmetal seat and bronze hinge pin.

1.0.8.8 Gate Valves

The gate valves up to and including 80mm diameter shall be non-rising stem and wedge disc to B.S 5154: 1974 with screwed threads to B.S. 21 tapes thread

1.0.8.9 Sleeves

Where pipe work passes through walls, floors or ceilings, a sleeve shall be provided one diameter larger than the diameter of the pipe, the space between them to be packed with mineral wool, to the Engineer's approval.

1.0.8.10 Earthing

The hose reel installation shall be electrically earthed by a direct earth connection. The installation of the earthing shall be carried out by the Electrical Sub- contractor.

1.0.8.11 Finish Painting

Upon completion of testing and commissioning the hose reel installation, the pipework shall be primed and finish painted with 2 No. coats of paints to the Engineer's requirements.

1.0.8.12 Testing and Commissioning

The hose reel installation shall be flushed out before testing to ensure that no builder's debris has entered the system. The installation is to be then tested to one and half times the working pressure of the installation to the approval of the Engineer. Simulated fault conditions of the pumping equipment are to be carried out before acceptance of the System by the Engineer.

1.0.8.13 Instruction Period

The Sub-contractor shall allow in his contract sum for instructing of the use of the equipment to the Client's maintenance staff. The period of instruction may be within the contract period but may also be required after the contract period has expired.

The period of time required shall be stipulated by the Client but will not exceed two days in which time the Client's staff shall be instructed on the operation and maintenance of the equipment.

1.0.8.14 Signage-Fire Instruction /Fire Exit

10.8.1 Fire Instruction Notice

Print fire instruction on the Perspex plates with White Colour Background measuring 510mm length x 380mm width x 4mm thick as follows;

FIRE INSTRUCTION NOTICE

In the event of fire;

1. Raise the alarm by actuating the nearest alarm system point, Sound Siren /gong or **Shout Fire**
2. Attack fire using the nearest available equipment
3. Call nearest fire Brigade or Police 999 and inform your switchboard (PABX) Operator
4. Ensure that all personnel not involved in fire fighting evacuation to safety outside the building.
5. Close but **DO NOT LOCK** doors behind as you leave.
6. Evacuate the building using stairs or fire escapes. Do not use Lifts/escalators. Walk calmly. Avoid panic. Do not stop or return for personal belongings.
7. Assemble as per floor outside the building for roll call.

10.8.2 Fire Exit Sign

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **FIRE EXIT** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

10.8.3 Hose Reel Label

Print Fire Exit signs on the Perspex plate, 4mm thick, with white colour background as follows:-

1. Lettering **IN RED COLOUR** of not less than 50mm in height.
2. A pendant sign bearing words, **HOSE REEL** and with a directional arrow.

The sign must be capable of being read from both approaches to exit and so is double sided.

10.8.4 Cabinets

FIRE EXTINGUISHER CABINET

- Size of 560mm width by 710mm high and 260mm deep
- Surface Mounted
- Paint Finish in epoxy powder red (Minimum 70 micron)
- To host 2No.Portable 9kg Extinguisher
- Material Mild steel minimum 0.9mm thick



TO BE AS SRI FEX145-MS-090-RD

FIRE HOSEREEL CABINET

- Size of 1050mm width by 800mm high and 400mm deep
- Surface Mounted
- Paint Finish in epoxy powder red (Minimum 70 micron)
- To host Swing Type Hosereel and 1No.Portable 9kg Extinguisher



TO BE AS SRI HRS003-MS-400RD

SECTION NAME:

BILLS OF QUANTITIES

BILLS OF QUANTITIES AND SCHEDULE OF UNIT RATES

CONTENTS

ITEM.		PAGE
1.	GENERAL NOTES TO TENDERERS	(i)
2.	STATEMENT OF COMPLIANCE	(ii)
3.	PRICING OF ITEMS	(iii)
3.	BILLS OF QUANTITIES	BOQ -1 to BOQ -40
4.	SUMMARY PAGE	BOQ - 41
5.	SCHEDULE OF UNIT RATES	SU-1 - SU-1
6.	TECHNICAL SCHEDULE	TS-1 - SUR-4

GENERAL NOTES TO TENDERERS

1. The Bills of Quantities form part of the contract documents and are to be read in conjunction with the contract drawings, general specifications of materials and works and particular specifications of materials

2. The prices quoted shall be deemed to include for all obligations under the sub-contract including but not limited to supply of materials, labour, delivery to site, storage on site, installation, testing, commissioning and all taxes (**including 16% VAT**).

   In accordance with Government policy, the 3% Withholding Tax **shall be deducted** from all payments made to the Tenderer, and the same shall be forwarded to the **Kenya Revenue Authority (KRA).**

3 All prices omitted from any item, section or part of the Bills of Quantities shall be deemed to have been included to another item, section or part there of.

4. The brief description of the items given in the Bills of Quantities are for the purpose of establishing a standard to which the sub-contractor shall adhere. Otherwise alternative brands of **equal** and **approved** quality will be accepted.

   Should the sub-contractor install any material not specified here in before receiving **written approva**l from the Project Manager, the sub-contractor shall remove the material in question and, **at his own cost**, install the proper material.

5. The grand total of prices in the price summary page must be carried forward to the **Form of Tender for the tender to be deemed valid**.

Statement of Compliance

a) I confirm compliance of all clauses of the General Conditions, General Specifications and Particular Specifications in this tender.

b) I confirm compliance to the items specified in technical catalogues and brochures I have attached as required in the technical schedule.

Name: ……..

Capacity:…… *(Person with power of attorney)*

Signed: ……*for and on behalf of the Tenderer*

Date: ……..

Official Rubber Stamp: ……

PRICING OF ITEMS.

The Bills of Quantities are divided generally into three sections:-

Preliminaries – Bill 1

Prices will be inserted against item of preliminaries in the sub-contractor's Bills of Quantities and specification. These Bills are designated as Bill 1 in this Section. Where the sub-contractor fails to insert his price in any item he shall be deemed to have made adequate provision for this on various items in the Bills of Quantities. The preliminaries form part of this contract and together with other Bills of Quantities covers for the costs involved in complying with all the requirements for the proper execution of the whole of the works in the contract

Sub-contractors preliminaries are as per those described in section C – sub-contractor preliminaries and conditions of contractor.

The sub-contractor shall study the conditions and make provision to cover their cost in this Bill. The number of preliminary items to be priced by the Tenderer have been limited to tangible items such as site office, temporary works and others.

However the Tenderer is free to include and price any other items he deems necessary taking into consideration conditions he is likely to encounter on site.

Mechanical installation Items – Bill 2

The brief description of the items in these Bills of Quantities should in no way modify or supersede the detailed descriptions in the contract Drawings, conditions of contract and specifications.

Summary – Bill 3

The summary contains tabulation of the separate parts of the Bills of Quantities carried forward with provisional sum, contingencies and any prime cost sums included. The sub-contract shall insert his totals and enter his grand total tender sum in the space provided below the summary.
This grand total tender sum shall be entered in the Form of Tender provided elsewhere in this document

PROJECT:

PROPOSED CONSTRUCTION AND COMPLETION OF OFFICE BLOCK FOR COUNTY COMMISSIONER IN ITEN .

SITE:

ELGEYO MARAKWET

CONTRACT:

MECHANICAL INSTALLATION WORKS.

BILL NO 1

SUBCONTRACT PRELIMINARIES

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	PRELIMINARIES				
	Scope of Contract Works				
A	The contractor shall supply, deliver, unload, hoist, fix, test, commission and hand-over in satisfactory working order the complete installations specified hereinafter and/or as shown on the Contract Drawings attached hereto, including the provision of labour, transport and plant for unloading material and storage, and handling into position and fixing, also the supply of ladders, scaffolding the other mechanical devices to plant, installation, painting, testing, setting to work, the removal from site from time to time of all superfluous material and rubbish caused by the works.	1	Item		
	Firm price contract				
B	This is a firm-price Contract and the contractor must allow in his tender for the increase in the cost of labour and/or materials during the duration of the contract. No claims will be allowed for increased costs arising from the fluctuations in duties and/or day to day currency fluctuations. The Sub-contractor will be deemed to have allowed in his tender for any increase in the cost of materials, which may arise as a result of currency fluctuation during the contract period.	1	Item		
	Bond				
C	The tenderer must submit with his tender the name of one Surety who must be an established Bank only who will be willing to be bound to the Government for an amount equal to 5 % of the Contract amount	1	Item		
	Government Legislation and Regulations				
D	The Contractor's attention is called to the provision of the Factory Act 1972 and subsequent amendments and revisions, and allowance must be made in his tender for compliance therewith, in so far as they are applicable. The Contractor must also make himself acquainted with current legislation and any Government regulations regarding the movement, housing, security and control of labour, labour camps, passes for transport, etc.	1	Item		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Cost (Kshs)
	Total carried to from previous page				
	Import Duty and Value Added Tax				
A	The contractor will be required to pay full Import Duty and Value Added Tax on all items of equipment, fittings and plant, whether imported or locally manufactured. The tenderer shall make full allowance in his tender for all such taxes.	1	Item		
	Insurance Company Fees				
B	Attention is drawn to the tenderers to allow for all necessary fees, where known, that may be payable in respect of any fees imposed by Insurance Companies or statutory authorities for testing or inspection.	1	Item		
	Samples and Materials Generally				
C	The Contractor shall, when required, provide for approval at no extra cost, samples of all materials to be incorporated in the works. Such samples, when approved, shall be retained by the Engineer and shall form the standard for all such materials incorporated.	1	Item		
	Builder's Work				
	All chasing, cutting away and making good will be done by the Contractor. The Contractor shall mark out in advance and shall be responsible for accuracy of the size and position of all holes and chases required.				
D	The Contractor shall drill and plug holes in floors, walls, ceiling and roof for securing services and equipment requiring screw or bolt fixings.	1	Item		
	Any purpose made fixing brackets shall be provided and installed by the Contractor				
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Cost (Kshs)
	Total carried to from previous page				
A	**Position of Services, Plant, Equipment, Fittings and Apparatus** The Contract Drawings give a general indication of the intended layout. The position of the equipment and apparatus, and also the exact routes of the ducts, main and distribution pipework shall be confirmed before installation is commenced. The exact sitting of appliances, pipework, etc., may vary from that indicated. The contractor shall be deemed to have allowed in his Contract Sum for locating terminal points of services (e.g. lighting, switches, socket outlets, lighting points, control switches, thermostats and other initiating devices, taps, stop cocks) in positions plus or minus 1.2m horizontally and vertically from the locations shown on Contract Drawings.	1	Item		
B	**Setting to Work and Regulating System** The Contractor shall carry out such tests of the Contract Works as required by British Standard Specifications, or equal and approved codes as specified hereinafter and as customary. No testing or commissioning shall be undertaken except in the presence of and to the satisfaction of the Engineer unless otherwise stated by him (Contractor's own preliminary and proving tests excepted). It will be deemed that the Contractor has included in the Contract Sum for the costs of all fuel, power, water and the like, for testing and commissioning as required as part of the Contract Works. He shall submit for approval to the Engineer a suitable programme for testing and commissioning. The Engineer and Employer shall be given ample warning in writing, as to the date on which testing and commissioning will take place.	1	Item		
	Total carried forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to from previous page				
A	**Working Drawings** The Contractor shall allow for Working Drawings as may be necessary. The Working Drawings shall be complete in such detail not only that the Contract Works can be executed on site but also that the Engineer can approve the Contractor's proposals, detailed designs and intentions in the execution of the Contract Works. Two copies of all Working Drawings shall be submitted to the Engineer for approval. One copy of the Working Drawings submitted to the Engineer for approval shall be returned to the Contractor indicating approval or amendment therein.	1	Item		
B	**Record Drawings (As Installed) and Instructions** The Contractor shall allow for Record Drawings of the installed Contract Works. Three copies of all Record Drawing shall be submitted to the Engineer for approval.	1	Item		
C	**Maintenance Manual** The Contractor shall allow for furnishing the Engineer four copies of a Maintenance Manual relating to the installation forming part of all of the Contract Works. The manual shall be loose-leaf type, International A4 size with stiff covers and cloth bound. It may be in several volumes and shall be sub-divided into sections, each section covering one Engineering service system. It shall have a ready means of reference and a detailed index.	1	Item		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Cost (Kshs)
	Total carried to from previous page				
A	**Mobilization and Demobilization** The Contractor shall allow for mobilization of labour plant and equipment to site according to his programme and schedule of work. He shall ensure optimum presence and utilization of labour, plant and equipment. He should not pay and maintain unnecessary labour force or maintain and service idle plant and equipment. Where necessary he shall demobilize and mobilize the labour, plant and equipment, as he deems fit to ensure optimum progress of the works and this shall be considered to be a continuous process as works progress. He shall make provision for this item in his tender. No claim will be entertained where the contractor has not made any provision for mobilization and demobilization of labour, plant and equipment in the preliminary bills of quantities or elsewhere in this tender.	1	Item		
B	**Contractor Obligation** The contractor will finance all activities as part of his obligation to this contract. The employer shall pay interim payment for materials and work completed on site as his obligation in this contract, as the works progresses. No claims will be entertained for pre-financing of the project by the sub-contractor, or for loss of profit (expectation loss) in case of premature termination, reduction or increase of works as the sub-contractor shall be deemed to have taken adequate measures in programming his works and expenditure and taken necessary financial precaution while executing the works.	1	Item		
C	**Validation** **Allow for engineers cost in approval of sample sanitary fittings and pumps and casings which cannot be availed on site office.Allow a sum of Ksh.100,000**	**1**	**Item**	**100,000**	**100,000**
D	**Allow for profits and attendance for the above-----%**	**1**	**Item**		
E	**Continuos proffesional development** **Allow for Provisional sum of Kenya shilling for CPD training to staff at Engineers Board(EBK) and Institution of Engineers Kenya(IEK).Allow a sum of Ksh.150,000**	**1**	**Item**	**150,000**	**150,000**
F	Allow for profits and attendance for the above-----%	1	Item		
G	**Any other Preliminaries** The contractor to allow for any other preliminaries neccesary for hime to complte all the works	1	Item		
	Total preliminaries carried to summary page				

BILL NO.2

SANITARY FITTINGS

(i) ALL ITEMS SHALL BE SUPPLY,DELIVER,INSTALL,TEST AND COMMISSION

(ii) ALL ITEMS SHALL BE COMPLETE WITH ALL ACCESSORIES INCLUDING CONNECTIONS TO THE SERVICES,JOINTING TO WATER SUPPLY OVERFLOWS AND SUPPORTS

(iii) ALL ITEMS SHALL BE COMPLETE WITH ALL PLUGGING AND SCREWING TO WALLS AND FLOORS

(iv) ALL ITEMS SHALL BE AS PER PARTICULAR SPECIFICATIONS

(v) ALL ITEMS SHALL BE SUBJECT TO CLIENT APPROVAL

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	WATER CLOSET AREA				
	Water Closet				
A	Ceramic Wall Hung water closet pan with with an antibacterial ceramic glaze Finish AS D-CODE WALL MOUNTED DURAVIT MODEL 257009	6	No		
	Water closet Flush valve				
B	40mm Size Flush Valve Dual Flow with Concealed Body and With Exposed Shut Off Provision .Has 100mm Square Plate **AS JAQUAR FLV-CHR-1089SQs OR APPROVED EQUIVALENT**	6	No		
	Health Faucet Kit				
C	Health Faucet Kit with Flexible Chrome Hose, Handset, ABS Body & Bracket **as JAQUAR CODE ALE-ESS-593 OR EQUIVALENT**	0	No		
	Toilet brush				
D	Toilet brush set for fixing to the bathroom wall, made of AISI 304 stainless steel 1 mm thick with Circular lid with an airtight seal **AS MEDICLINIC MODEL ES1002B OR APPROVED EQUIVALENT**	1	No		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Toilet Paper Dispenser				
A	One-piece body, 0,8 mm thick, round Ø 250 mm Circular toilet paper dispenser for industrial rolls of 250/300m AS **MEDICLINIC MODEL PR2783B OR APPROVED EQUIVALENT**	0	No		
	Robe Hook				
B	Double-ended bathroom robe hook, made of AISI 304 stainless steel black finish **AS MEDICLINIC MODEL AI2318B OR APPROVED EQUIVALENT**	6	No		
	Signage				
C	Signage made of stainless steel, 0.5 mm thick and the subject is embossed in black on the stainless steel. The signs to be circular and have a diameter of 116 mm and they are fixed to the wall by means of a double side tape **AS MEDICLINIC MODEL PP1321CS OR APPROVED EQUIVALENT for Ladies,AS MEDICLINIC MODEL PS0003CS OR APPROVED EQUIVALENT for Gents and AS MEDICLINIC MODEL PS0004CS R APPROVED EQUIVALENT for physically challenged persons**	4	No		
	WASH HAND AREAS				
	Wash hand basin				
D	Ceramic Rectangular shape Counter top wash hand basin Size: 480x850mm complete with Push waste and bottle trap AS D-CODE COUNTER MOUNTED DURAVIT MODEL 03528500002 OR APPROVED EQUIVALENT	6	No		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Wash hand basin tap				
A	Self-closing pillar tap DN 15 with Self-closing cartridge, hydraulically controlled, piston-free design, self-closing, stepless adjustment of flow duration AS FRANKE MODEL NO 3 F3SV1001 OR APPROVED EQUIVALENT	6	No		
	Paper Towel Dispenser				
B	Seamless one-piece Paper Towel Dispenser with manual center feed paper towel dispenser **AS MEDICLINIC MODEL DT0303CS OR APPROVED EQUIVALENT**	3	No		
	Waste Bin				
C	Indoor circular body waste bins 20L capacity, operated by means of a pedal, to rest directly on the floor **AS MEDICLINIC MODEL PP1321CS OR APPROVED EQUIVALENT**	3	No		
	Hand Dryer				
D	Hand Dryer with air speed 400 km / h and Noise level less than 65 dBA **AS MEDICLINIC MODEL M17AB-I OR APPROVED EQUIVALENT**	3	No		
	Soap Dispenser				
E	Automatic wall-mounted liquid soap dispenser of 1 L capacity in stainless steel AISI 304, 0.8 mm thick and to operate with an AC adapter **AS MEDICLINIC MODEL DJ0037AB/C/CS-TRAFO OR APPROVED EQUIVALENT**	3	No		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
A	**Shower Tray** Ceramic non-slip 900 x 900mm corner shower tray complete with chrome plated waste outlet, trap and all other accessories. All to be as Ideal Standard "Corner 900 x 900 mm shower tray model 109.003.16 or an approved equivalent.	0	No		
B	**Shower Fittings** Concealed shower fitting consisting of 15mm chrome plated riser pipe to connect the concealed three way diverter single lever shower mixer as of Cobra Model "Trini TR 856" or approved equivalent for hot and cold water to a 100mm diameter swivel/ adjustable shower rose as Cobra model P-0681 CAT No. 101.001.78 or approved equivalent, shower arm and other necessary fittings and accessories. All to be as Cobra or equal and approved.	1	No.		
C	**Soap Dish** Semi recessed built in soap tray in vitreous china of size: 150 x 150mm in approved colour as Ideal Standard Model Cassara Cat No.	1	No.		
D	**Towel Rail** Chrome plated towel rail 600mm long with the rail and brackets as one piece. To be as GROHE "Atrio Accessories Tier:G5 Prestige" model 40 309" or equal and approved.	1	No.		
E	**Bathroom Shelf** Chrome plated bathroom shelf as Ideal Standard or approved equivalent.	1	No		
F	**Mirror** 6mm thick polished plate glass silver backed mirror with bevelled edges, size 610 x 610mm, Plugged and screwed to wall with 4No. chrome plated dome capped screws. The mirror shall rest against a layer of 5mm thick foam **AS IMPALA GLASS OR APPROVED EQUIVALENT**	6	No		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	URINAL AREAS				
	Urinal Bowl				
A	Ceramic Bowl Urinal of approximate size 370x315x620mm complete with Fixing Accessories **AS JAQUAR URINAL MODEL URS-WHT-13253O OR APPROVED EQUIVALENT**	3	No		
	Urinal Automatic Flush System				
B	Urinal Automatic Flush System with Solenoid Valve Specification Operating pressure 0.5 - 6.0 bar, The system to be powered by mains power in stainless steel finish AS AS JAGUAR MODEL NO. SNR-STL-51077 OR EQUIVALENT	3	No		
C	Rectangular shaped urinal partition/Division with frosted glass of Size Height 900mm and Width 450mm **AS JAQUAR URINAL PARTITION PRODUCT MODEL JSE-CHR-110US450X OR EQUIVALENT**	3	No		
	KITCHENNETTE AREAS				
	Kitchen sink				
D	Kitchen sink made of Stainless steel material of Size 1000 x 490 x 220mm includes Waste & Bottle Trap.The sink consists of two bowls (one and a half bowl) and one drain on the side **AS CONTEMPO KITCHEN SINK MODEL NO EISN7304F OR APPROVED EQUIVALENT**	1	No		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Kitchen sink basket				
A	Kitchen sink basket of size 430 x 380mm including Fitting Screws **AS CONTEMPO SINK BASKET MODEL EIACD28G OR APPROVED EQUIVALENT**	1	No		
	Kitchen sink Tap				
B	Kitchen sink Sink Mixer Wall Type with Swivel Spout A**S TIVOLI MISTRAL FRBW42CR4742 OR APPROVED EQUIVALENT**	1	No		
	Cleaners Sink				
C	High Back Cleaner Sink 470 x405 including grating with Easy Clean Stain Resistant Glazed Surface, Stainless Steel Hinged Grating Over The Sink With brackets, legs and stays **AS TWYFORD FC1044WH OR APPROVED EQUIVALENT**	1	No		
	PHYSICALLY CHALLENGED WASHROOM				
D	**Water closet and basin set unit**				
	700mm projection Rim free pan Concealed cistern, single flush lever, 4 litre flush Seat ring, stainless steel bar hinge, top fix and stability buffers back support with cushion hand rinse basin 400, no overflow 1 tap basin tap with fixed spout and copper tails Seat ring, stainless steel bar hinge, top fix and stability buffers 4 x 600mm grab rails concealed fixings 1 x 450mm grab rail concealed fixings 1x Hinged support rail and toilet roll holder concealed fixings Angle Valve with Triangular Handle & Wall Flange ALL AS AS TWYFORD DOC M PACK MODEL PK8357BE OR APPROVED EQUIVALENT	1	No		
	Total for 1No.Floor				
					X4
	Total carried to summary page Total carried for 4No.Floors				
					X2
	Total carried to summary page Total carried for 2No.Blocks				

BILL NO.3

INTERNAL PLUMBING PIPEWORK					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	CPVC Pipework				
A	20mm diameter pipework	1	Lm		
B	25mm diameter pipework	125	Lm		
C	32mm diameter pipework	68	Lm		
D	40mm diameter pipework	20	Lm		
E	50mm diameter pipework	120	Lm		
F	63mm diameter pipework	200	Lm		
G	75mm diameter pipework	20	Lm		
H	90mm diameter pipework	0	Lm		
	Bends				
I	20mm diameter bend	1	No.		
J	25mm diameter bend	30	No.		
K	32mm diameter bend	24	No.		
L	40mm diameter bend	2	No.		
M	50mm diameter bend	40	No.		
N	63mm diameter bend	12	No.		
O	75mm diameter bend	10	No.		
P	90mm diameter bend	0	No.		
	Tees				
Q	25mm equal tee	15	No.		
R	32mm equal tee	10	No.		
S	40mm equal tee	1	No.		
T	50mm equal tee	20	No.		
U	63mm equal tee	10	No.		
V	75mm equal tee	6	No.		
W	90mm equal tee	0	No.		

Total carried to collection page	

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Reducing Bushes				
A	25 x 20mm diameter reducer	1	No.		
B	32 x 20mm diameter reducer	1	No.		
C	32 x 25mm diameter reducer	10	No.		
D	40 x 25mm diameter reducer	2	No.		
E	40 x 32mm diameter reducer	2	No.		
F	50 x 25mm diameter reducer	10	No.		
G	50 x 40mm diameter reducer	6	No.		
H	63 x 50mm diameter reducer	15	No.		
I	75 x 50mm diameter reducer	2	No.		
J	75 x 63mm diameter reducer	4	No.		
K	90 x 63mm diameter reducer	0	No.		
L	90 x 75mm diameter reducer	0	No.		
	Male/Female Adapters (CPVC threaded)				
M	20mm threaded adapter	1	No.		
N	25mm threaded adapter	16	No.		
O	32mm threaded adapter	1	No.		
P	40mm threaded adapter	1	No.		
Q	50mm threaded adapter	16	No.		
	Male/Female Bend (CPVC threaded)				
A	20mm threaded bend	6	No.		
B	25mm threaded bend	18	No.		
C	32mm threaded bend	4	No.		
D	40mm threaded bend	4	No.		
E	50mm threaded bend	18	No.		
	Total carried to collection page				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Threaded Brass Coupling (CPVC threaded)				
F	25mm threaded coupling	1	No.		
G	63mm threaded coupling	6	No.		
H	75mm threaded coupling	1	No.		
I	90mm threaded coupling	0	No.		
	Valves				
J	25mm diameter gate valve	4	No.		
K	32mm diameter gate valve	17	No.		
L	40mm diameter gate valve	1	No.		
M	50mm diameter gate valve	8	No.		
K	63mm diameter gate valve	4	No.		
L	75mm diameter gate valve	1	No.		
M	90mm diameter gate valve	0	No.		
	Unions				
A	25mm diameter pipe union	4	No.		
B	32mm diameter pipe union	17	No.		
C	40mm diameter pipe union	1	No.		
D	50mm diameter pipe union	8	No.		
E	63mm diameter pipe union	4	No.		
F	75mm diameter pipe union	1	No.		
G	90mm diameter pipe union	0	No.		
	Pipe Sleeves				
H	100mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	15	Lm		
	Pressure Testing				
I	Allow for all costs for pressure testing for plumbing piping and issuance of pressure testing certicates	1	No.		
	Total Carried Forward				
					X2
	Total Carried Forward for 2 blocks				

BILL NO.4

INTERNAL DRAINAGE PIPEWORK					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	FOUL WATER INTERNAL DRAINAGE				
	MuPVC and uPVC Waste and Soil pipework				
A	100mm diameter heavy gauge golden brown UPVC pipe	250	Lm		
B	100mm diameter heavy gauge grey mUPVC pipe	150	Lm		
C	50mm diameter waste pipe	100	Lm		
D	40mm diameter waste pipe	75	Lm		
E	32mm diameter waste pipe	45	Lm		
	Bends				
F	100mm diameter long radius bend	30	No.		
G	100mm diameter short radius bend	12	No.		
H	100mm diameter bend with access	4	No.		
I	100mm diameter sweep bend	4	No.		
J	50mm diameter sweep bend	4	No.		
K	40mm diameter sweep bend	1	No.		
L	32mm diameter sweep bend	4	No.		
	Tees				
M	100mm diameter sweep tee	15	No.		
N	50mm diameter sweep tee	15	No.		
O	40mm diameter sweep tee	25	No.		
P	32mm diameter sweep tee	20	No.		
	Access Caps				
Q	100mm diameter access cap	36	No.		
R	50mm diameter access cap	20	No.		
S	40mm diameter access cap	10	No.		
T	32mm diameter access cap	30	No.		
Total carried to collection page					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total carried to collection page				
	Boss Connectors				
U	100 x 50mm diameter boss connector	30	No.		
V	100 x 40mm diameter boss connector	4	No.		
	Single Branches				
A	100mm diameter single branch	24	No.		
	WC Connectors				
B	100mm diameter WC connector	36	No.		
	Traps				
C	100 x 50mm diameter floor trap and grating	30	No.		
D	300 x 300mm Gulley trap and heavy duty gulley trap cover	10	No.		
E	600 x 450mm manhole with heavy duty cover.Manual depth to be determined on site but to a minimum of 600mm	10	No.		
F	150mm diameter heavy gauge golden brown UPVC pipe for interconnecting the inspection chambers	100	Lm		
G	Allow for all costs for level testing for drainage piping and issuance of level testing certicates	1	No.		
	Total Carried to summary page				
					X2
	Total Carried Forward for 2 blocks				

BILL NO.5

FIRE FIGHTING

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	FIRE FIGHTING				
	Supply, deliver and install the following fire fighting equipment in positions indicated on the contract drawings or as shall be instructed by the Engineer.				
	Hose Reel System				
	GMS Pipes Class B				
A	25mm diameter pipework	72	Lm		
B	50mm diameter pipework	300	Lm		
	Extra Over Pipework				
	Bends				
C	25mm diameter bend	9	No.		
D	50mm diameter bend	1	No.		
	Tees				
E	50mm diameter equal tee	9	No.		
	Reducers				
F	50 x 25 mm diameter reducer	8	No.		
	Valves				
G	25mm diameter approved medium pressure screw down full way non-rising stem wedge gate valve to BS 1952, with wheel and head joints to steel tubing. The gate valve to be as s PEX OR APPROVED EQUIVALENT	8	No.		
H	Ditto but 50mm diameter gate valve as PEX OR APPROVED EQUIVALENT	2	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Unions				
A	25mm diameter pipe union	8	No.		
B	50mm diameter pipe union	2	No.		
	Painting				
C	Allow for painting of the hose reel pipework as per particular specifications.	1	Item		
	Fire Water Pumpset				
D	Set of automatic electrically driven twin booster pumps. One duty and the other one standby with automatic changeover, capable of delivering 5 cubic metres per hour against a head of 30 meters.The pumpset to have with inbuilt pressure controller and mounting skid.The Pumpset to be **AS WILO OR APPROVED EQUIVALENT**	1	Item		
E	60 litre Pressure Vessel for above pumpset	1	No		
	Associated Electrical Works				
F	Allow for associated electrical works wiring and fitting to pumps, control panel and float switches from isolator provided by others.	1	Item		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Portable Fire Extinguishers				
	Water/Carbon Dioxide Gas Fire Extinguisher				
G	9 litres water/carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	16	No		
	Carbon Dioxide Gas Fire Extinguisher				
H	5 Kg carbon dioxide gas portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	16	No		
	Dry Chemical Powder Fire Extinguisher				
A	6kg dry chemical podwer portable fire extinguisher complete with pressure gauge, initial charge and mounting brackets.	16	No		
	Fire Ball				
B	5kg fully automatic fire extinguisher Ball made of the water-proof plastic shell and filled up with harmless environmental powder.Can handle ABC and Dry powder Fire Classes. When the ball explodes, the built-in alarm goes off releasing an approximately 138-decibel noise. The ball will not self-ignite when shaken or damaged with the The outward driving force from activation of the ball does not harm human or environment.Non-toxic to the environment. It activates within 5-10 seconds after contacting the fire. To be AS AFO FIRE BALL or equivalent	1	No		
	Total Carried Forward				0

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Manual Alarm Bell				
A	9" (225mm) manual operated alarm bell (Gong)	16	No		
	Fire Notices				
B	Allow for fire signage for the hose reel system, fire exits and fire instructions as directed by the Project Engineer.	16	No		
	Sheet Metal Box				
C	Inlet breeching sheet metal box with wired glass door secured with spring locks openable from inside by smashing the glass and releasing the locking devices on the lock. Approximate size to be 595 x 295 x 395mm high.	1	No.		
	Fire Brigade Breeching Inlet				
D	100mm diameter inlet breeching with twin inlets, each inlet consisting of a 65mm diameter male instantaneous coupling with a non-return valve and black cap secured with a short length of chain.	2	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Landing Valve				
A	65 mm diameter, gunmetal gate pattern landing valve with flanged inlet and female instantaneous outlet fitted with plug secured by short chains and fixed on 100mm diameter dry riser pipe.	8	No.		
	Fire Hose				
B	65mm diameter, 30 metres long canvas fire hose complete with branch pipe, nozzle, female instantaneous coupling head, hanging hook and other associated fittings for its proper functioning.	8	No.		
	Associated Pipework				
	Supply and installation of Galvanized mild steel piping and fittings with screwed & socketed joint to medium grade class "B" to BS. 1387.				
	GMS Pipework				
C	100mm diameter pipe	30	Lm		
D	65mm diameter ditto	20	Lm		
E	50mm diameter ditto	6	Lm		
	Extra over Pipework				
F	100mm diameter bends/elbows	5	No.		
G	65mm diameter bends/elbows	5	No.		
H	50mm diameter bends/elbows	1	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Tees				
A	100 x 100 x 100mm tee	1	No.		
B	100 x 100 x 65mm tee	8	No.		
C	100 x 100 x 50mm tee	1	No.		
	Reducers				
D	100 x 65mm reducer	8	No.		
E	100 x 50mm reducer	1	No.		
	Valves				
F	65mm isolating valve with its associated unions	8	No.		
G	65mm diameter flange	8	No.		
H	50mm automatic air release valve	1	No.		
	Testing and Commissioning				
I	Allow for testing and commissioning of the dry riser, Hosereel and portable fire extinguishers installations to the satisfaction of the Engineer.	1	Item		
	Total carried to collection page				

BILL NO.6

WATER TANKS AND PUMPS

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
A	**Water Storage and Rising Mains** **All GALVANIZATION SHALL BE HOT DIPPED AND DONE AS PER ISO 1461 AND APPLICABLE KS STANDARDS TO AT LEAST 70 MICRONS WITH A MINIMUM 25 YEAR GUARANTEE ISSUED.** **Ground Water Tank** Supply, deliver and assemble a high level water tanks, made of pressed **Galvanized** steel sectional tank plates 6mm thick plates (type 1 and 4) and of size 1000mm x 1000mm capacity of tank to be 144,000 litres and of preferred dimensions 8000mm x 6000mm x 3000mm. The tank to come complete with tank cover, mosquito proof inspection vent, internal stays, jointing material, bolts and nuts including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminum paint on the outside. The tank shall be complete with the following pipe connections:-- -100mm diameter overflow -100mm diameter outlets -100mm diameter inlet -100mm diameter washout with gate valve	1	No.		
Total Carried Forward Collection Page for Water Tanks					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
A	**Roof Water Tank for the site** Supply, deliver and assemble a roof level water tanks, made of pressed **Galvanized** steel sectional tank plates 6mm thick plates (type 1 and 4) and of size 1000mm x 1000mm capacity of tank to be 50,000 litres and of preferred dimensions 5000mm x 5000mm x 2000mm. The tank to come complete with tank cover, mosquito proof inspection vent, internal stays, jointing material, bolts and nuts including applying two coats of non-toxic bituminous paint on the inside and two coats of aluminum paint on the outside. The tank shall be complete with the following pipe connections:-- -100mm diameter overflow -100mm diameter outlets -100mm diameter inlet -100mm diameter washout with gate valve	2	No.		
B	Allow for lightining arrester installed at the elevated pressed steel tank	2	No.		
C	Conductor cable from lightining arrestor to the ground	30	Lm		
D	Allow facilitation for 4No.officers to undertake inspection of the galvanization process at a local plant where the contractor proposes to galvanize the tanks.Allow an amount of ksh 75,000 exclusive of attendance and taxes	1	Item		
	Supply Pipework **Pipe**				
E	50mm diameter pipework	200	Lm		
F	65mm diameter pipework	40	Lm		
G	75mm diameter pipework	40	Lm		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Bends				
A	50mm diameter bend	12	No.		
B	63mm diameter bend	12	No.		
C	75mm diameter bend	12	No.		
	Tees				
D	50mm equal tee	12	No.		
E	65mm equal tee	12	No.		
F	75mm equal tee	12	No.		
	Reducers				
G	50 x 32mm diameter reducer	8	No.		
H	50 x 40mm diameter reducer	8	No.		
I	65 x 50mm diameter reducer	12	No.		
J	75 x 65mm diameter reducer	0	No.		
	Valves				
K	50mm gate valve	2	No.		
L	65mm gate valve	3	No.		
M	75mm gate valve	0	No.		
	Unions				
N	50mm diameter pipe union	2	No.		
O	65mm diameter pipe union	3	No.		
P	75mm diameter pipe union	0	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
A	**Water Booster Pumpset** Set of automatic electrically driven twin booster pump. One duty and the other one standby with automatic changeover, capable of delivering 6 cubic metres per hour against a head of 50 meters with a three phase power source. The pumpset shall be complete with 100 litres pressure vessel (as Dayliff pressure set or equal and approved) and all accessories required for proper and satisfactory operation. It includes pressure switches, time delay switch, a switch to protect against dry run, timer, gate valves, non-return valves, water level indicator, float level regulator, 65mm diameter foot valve and strainer. The pump to be as Grundfos model or approved equivalent. Pump to be installed on mild steel frame with approved paint. **Control and Control Panel** Control panel for above pumps with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, 180 meters long float switch control cable to the roof tanks, start/stop push buttons and indicator lights. All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet that is oven powder coated. There shall also be an adjustable time delay switch to ensure pumping cycles are controlled to not more than 6 per hour. It should include a change-over switch to enable the pumps to work alternately.	1	Item		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Control and Control Panel				
A	Control panel for above pumps with contactors, over voltage and under voltage protection relays, MCBs, phase failure protection, timer, 180 meters long float switch control cable to the roof tanks, start/stop push buttons and indicator lights. All these shall be housed in a lockable cabinet (with integral isolator) made from SWG 18 mild steel sheet that is oven powder coated. There shall also be an adjustable time delay switch to ensure pumping cycles are controlled to not more than 6 per hour. It should include a change-over switch to enable the pumps to work alternately.	1	Item		
	Electrical Works				
B	Allow for electrical works wiring and fitting to all pumps, control panel and float switches, from isolator provided by others with 3 metres distance.	1	Item		
	Supply Pipework				
	Pipe				
C	50mm diameter pipework water supply to tank	150	Lm		
D	65mm diameter pipework	40	Lm		
E	75mm diameter pipework	40	Lm		
	Bends				
F	50mm diameter bend	12	No.		
G	63mm diameter bend	12	No.		
H	75mm diameter bend	12	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Tees				
A	50mm equal tee	12	No.		
B	65mm equal tee	12	No.		
C	75mm equal tee	0	No.		
	Reducers				
D	50 x 32mm diameter reducer	8	No.		
E	50 x 40mm diameter reducer	8	No.		
F	65 x 50mm diameter reducer	12	No.		
G	75 x 65mm diameter reducer	0	No.		
	Valves				
H	50mm gate valve	2	No.		
I	65mm gate valve	3	No.		
J	75mm gate valve	0	No.		
	Unions				
K	50mm diameter pipe union	2	No.		
L	65mm diameter pipe union	3	No.		
M	75mm diameter pipe union	0	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Supply Drop Piping to floors				
A	100mm diameter pipework	200	Lm		
B	100mm diameter bend	72	No.		
C	100mm equal tee	72	No.		
D	100 x 50mm diameter reducer	30	No.		
E	100 x 40mm diameter reducer	30	No.		
F	100 x 32mm diameter reducer	30	No.		
G	100 x 25mm diameter reducer	30	No.		
H	100mm gate valve	2	No.		
I	100mm diameter pipe union	2	No.		
	Total Carried Forward				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
A	100mm diameter heavy duty PVC pipe sleeves for crossing over columns and beams.	5	Lm		
	Water Meters				
B	32 mm coucil water meter as 'Kent' or equal and approved equivalent	1	No.		
C	Allow for connection to the water main supply and include local council charges.	1	No.		
D	Meter chamber size 450x450x600mm deep with 100mm concrete (1: 3: 6) base 50mm block sides rendered all round in cement and sand (1:4) and with approved hinged and flanged cast iron cover and frame including all necessary excavation, disposal and formwork.	1	No.		
	Pipe Sleeves				
E	100mm diameter heavy duty PVC (class 41, 2.5mm thick) pipe sleeves for crossing over columns and beams.	12	Lm		
	Sterilization				
F	Allow for flushing out and sterilizing the whole system with chlorine to the satisfaction of the Project Engineer.	1	Item		
	Project Stationery				
G	1 Terabyte portable external Hard disk as Transcend or approved equivalent	5	No.		
H	Site Safety Boots	5	Pairs		
I	Construction/Military Grade Design Laptop to be at least 12th Gen Intel Core i7-1265U 16GB RAM 512GB SSD 14" Full HD Touchscreen Display Intel HD Graphics 620 Certified as LENOVO Yoga or equivalent	1	No.		
J	Standard Office Printer as HP Color LaserJet Pro MFP 4303dw Printer (5HH65A) or equivalent	1	No.		
	Testing and commisioning				
K	Allow for testing and commissioning for all installations to the satisfaction of the engineer.	1	Item		
	Total Carried Forward				

BILL NO.7

Low Level Water Tanks Bases					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	ELEMENT NO. 1- SUBSTRUCTURES				
	ALL PROVISIONAL				
A	Clear the site all bushes including grubbing up roots and cart away from site	100	sm		
B	Excavate 150mm deep to remove top soil and cart away from site	100	sm		
	Excavating and filling				
C	Bulk excavation to remove cotton soil starting from reducing levels but not exceeding 1.5metres deep	150	cm		
D	Extra over for excavating in rock of any	10	cm		
E	Allow for plunking and strutting	1	Item		
F	Keep the excavation free from water	1	Item		
	Diposal				
G	Load and cart away excavated materials from site	150	cm		
	Back Filling				
H	Selected excavated materials	50	sm		
	Return, fill-in and rum selected and approved excavated material around excavations	100	cm		
Total Carried Forward Collection Page for Water Tanks					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Hardcore				
I	300mm average thick well watered rolled and compacted in layers 150mm thick	100	sm		
	Anti-termite treatment				
A	TERMIDOR' or other equal and approved insecticide with a ten-years guarantee to surfaces of fill and tops of foundations	100	sm		
B	50mm thick murram blinding to surfaces of hardcore	100	sm		
	Damp proof membrane				
C	1000 gauge,Polythene; 300mm laps (no allowance made to laps), horizontal; 1 no. layer laid on murram blinding	100	sm		
	Plain Concrete (1:4:8) in				
D	Raft foundation	100	sm		
	Vibrated reinforced concrete class 25/1:1/2:3-20mm aggregate) in :-				
E	Raft foundation	20	cm		
F	Pedestal	15	cm		
	FORMWORK				
	Sawn timber formwork				
G	Side of raft foundation	28	Sm		
H	Vertical side of pedestal	100	sm		
	Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks				
I	10mm diameter	200	lm		
J	12mm diameter	100	lm		
	Plinth finishes				
K	15mm thick cement and sand (1:3) rendering trowelled smooth to plinth walls	100	sm		
	Total Carried Forward Collection Page for high level bases				

BILL NO.8

Pump House					
Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	ELEMENT NO. 1 **SUBSTRUCTURES**				
	Site clearance				
A	Clear the site off grass, shrubs and all vegetation; cart away as directed	sm	100		
	Excavation				
B	Excavate oversite dumping to reduce levels commencing from stripped level average 900mm deep and wheel, heap on site	cm	100		
C	Excavate trench for strip foundation starting from reduced level not exceeding 1.50 metres deep	cm	20		
D	Extra over excavation for excavating in rock	cm	4		
E	Return, fill-in and rum selected excavated material	cm	6		
	Diposal of water				
F	Keeping all excavations free from all water including spring or running water	item	1		
	Planking and strutting				
G	Uphold the sides of all excavations	item	1		
	Filling				
H	Hardcore filling in making up levels not exceeding 300mm thick, depositing and compacting in layers of 100mm maximum thickness	sm	25		
I	50mm thick murram/quary dust blinding to surfaces of fill	sm	25		
Total Carried Forward Collection Page for Water Tanks					

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Antitermite treatment				
A	TERMIDOR' or other equal and approved insecticide with a ten-years guarantee to surfaces of fill and tops of foundations	sm	25		
	Concrete				
B	50mm thick mass concrete class 20 (1:2:4) to bottoms of base and foundations	sm	25		
	Insitu concrete; reinforced; class 20 / (20mm); vibrated				
C	Foundations in trenches irrespective of thickness (300mm)	cm	10		
D	150mm thick bed	sm	12		
	Reinforcement				
	Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks				
E	8mm diameter(d8) 8m long	Lm	100		
F	12mm diameter(d120	Lm	50		
	Fabric; B.S.4483				
G	Reference A142 mesh 200x200x200mm, weight 2.22 kgs per square meter (measured net-no allowance made for slaps (including bends, tying wir and distance blocks	sm	36		
	Sawn formwork to insitu concrete as described:-				
H	Edges of ground floor slab;75 to 150mm wide	Lm	15		
	Total Carried Forward Collection Page for Water Tanks				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Walling				
A	200mm thick approved local natural stone; roughly dressed and squared to foundation walling; bedding and jointing in cement sand (1:3) mortar	sm	48		
	Damp proofing				
B	Polythene; 1000 gauge, 150mm laps (no allowance made to laps), horizontal; 1 no. layer laid on murram blinding	sm	25		
C	200mm wide; B.S. 743 Type A bitumen hessian base 150 mm laps (no allowance made for laps); horizontal, 1 no. layer, bedded in cement sand (1:3) mortar	Lm	25		
	Insitu finishings				
D	14mm thick 2no. coatwork cement sand (1:3) render; steel floated to concrete or blockwork base to walls; external	sm	25		
	Prepare and apply three coats black bituminous paint on:-				
E	Rendered plinths, externally.	sm	18		
	ELEMENT NO. 2				
	RING BEAM				
	Insitu concrete; reinforced; class 20 / (20mm); vibrated				
A	Beams	cm	4		
	Total Carried Forward Collection Page for Water Tanks				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Reinforcement				
	Bars; high yield steel; cold worked to B.S. 4461 including bends, hooks, tying wire and distance blocks				
B	8mm diameter(d8)	LM	100		
C	12mm diameter(d120	Lm	40		
	Sawn formwork to insitu concrete as described:-				
D	Edges of beams	sm	10		
	ELEMENT NO. 3				
	ROOFING				
	Galvanized corrugated sheet roofing; 30gauge;Pre-painted				
E	Roof covering not exceeding 45^0 from horizontal;fixing to timber structure (m/s) with roofing nails and neoprene washers J bolts nuts neoprene washers and caps.	sm	30		
	Accessories, fixing as necessary to roof				
F	Ridge cap	Lm	7		
	CARPENTRY				
	The following in sawn celcured cypress				
A	100 x 50mm sawn cypress wall plate	Lm	20		
B	100 x 50mm rafters	Lm	64		
C	100 x 50mm wall plate support at 1000mm centres with 12mm diameter hoop iron (m/s)	Lm	24		
	Total Carried Forward Collection Page for Water Tanks				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
	Wrot cypress, prime grade				
D	200 x 25mm thick fascia board	Lm	34		
	On Woodwork				
	Prepare and apply one undercoat and two coats of 'CROWN SOLO' or other equal and approved super gloss oil paint to:-				
E	Fascias; 200 to 300mm girth; external	Lm	17		
	PLUMBING AND DRAINAGE				
F	150 x 100mm semi circle gutter including corners/ joints in the running length fixed to fascia board with and including brackets at approved centers	Lm	10		
G	Extra; for blocked ends with 75mm dia.outlet 100mm long	No	4		
H	Extra; for 90^0 bends	No	6		
I	75mm dia. rainwater downpipe fixed with and including mild steel straps at 900mm centres, plugged and screwed to wall	Lm	4		
	ELEMENT NO.4				
	EXTERNAL & INTERNAL WALLING				
	NATURAL STONE WALLING				
A	200 mm thick approved local building stones ,fine chisel or machine dressed three sides; reinforced with hoop iron G500 in every alternate course jointing and pointing in cement sand (1:3) mortar	sm	90		
	ELEMENT NO. 5				
	DOORS				
	Standard door 4mm Steel door complete with hinges stays, fasteners, permanent vent mosquit gaze and sheet metal hood etc assemled and fixed to opening including cutting and bending frame in cement and sand mortar (1:4) grill and glazing excluded steel casement door compromising 40x253mm stiles, bottom & top rail & 4No. intermediate rails all primed with red oxide.				
	Total Carried Forward Collection Page for Water Tanks				

Item	Description	Qty	Unit	Rate (Kshs)	Amount (Kshs)
	Total Carried Forward				
B	Double leafs door; 45mm thick; overall size 1000x2000mm high per Leaf to max.2000x2000mm high overall size	No	1		
	Painting and Decorations				
	On Metal work				
	Prepare and apply three coats oil paint full gloss to Crown Solo or other equal and approved to: -				
C	General surfaces of doors	sm	4		
	ELEMENT NO.6				
	WINDOWS				
	ELEMENT NO.7				
	FINISHES				
	Wall finishes				
	Plaster; 12mm thick 2 No. coatwork, 9mm first coat of cement sand (1:6); 3mm second coat of cement ; steel trowelled to concrete or blockwork base generally to: -				
A	Walls;external	sm	80		
B	Walls;internal	sm	80		
	Painting and decorations				
	Prepare and apply three coats silk vinyl paint ; crown solo" paints or equal and approved to: -				
	Prepare and apply three coats silk vinyl paint ; crown solo" paints or equal and approved to: -				
C	Plastered walls and beams	sm	80		
	Floor finishes				
	Beds and backings				
D	32 mm thick one coat backings; steel trowelled smooth to concrete base; to floors level; internal including channels and sumps	sm	25		
	Total Carried Forward Collection Page for pump house				

SUMMARY PAGE

Item	Description	Amount (Kshs)
1	Total carried forward for sanitary fittings	
2	Total carried forward for internal plumbing piping	
3	Total carried forward for drainage piping	
4	Total carried forward for fire protection systems	
5	Total carried forward for water tanks	
6	Total carried forward for Tank Bases	
7	Total carried forward for PumpHouse	
	Total for Plumbing and Drainage Installation Works carried to final summary page	

FINAL SUMMARY PAGE

Item	Description	Total Cost
1	Preliminaries	
2	Total cost for mechanical installation works	
	Total Cost for mechanical works carried to Main Works Summary Page	

Amount in words…….....

…….……..……..

Tenderer's Name and Stamp……..

……..……..……..……..……

……..

Address ……..……..…..……

Period To Execute The Works ……...……..

Tenderer's V.A.T No ……..……

Tenderer's P.I.N No ……..…… …….

Telephone No. ……..……

Mobile No. ……..…… …….

Tenderer's Signature …… Date……..……

Witness Signature ……... Date……

PROVISIONAL SUMS

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	PRIME COST AND PROVISIONAL SUMS				
	Provisional sums				
	The following provisional sums are to be measured on completion and priced in accordance with the rates contained in this bills if quantities or prorata thereto, or deducted in whole if not required				
A	Provide a provisional sum of Kenya Shillings Seven Million, Five Hundred Thousand (7,500,000.00) only for Contingencies, to be expended in consultation with the Project manager and the Client				**7,500,000.00**
B	Allow a provisional sum of Kenya Shillings Four Million, Five Hundred Thousand Only (4,500,000.000 for construction to completion of a 90,000 litres capacity concrete Septic tank and soakpit to the specifications of the Project Manager				**4,500,000.00**
C	Provide a provisional sum of Kshs Fifty Thousand (50,000.00) only for Branding, Labelling and Logo				**50,000.00**
	Total Prime Cost and Provisional Sums carried to Grand Summary				**12,050,000.00**

GRAND SUMMARY

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNY COMMISSIONER, ELGEYO MARAKWET COUNTY

GRAND SUMMARY

ITEM	DESCRIPTION	Page No.	For Official use only	For Tenderers use only
A	Preliminaries	P/1		
B	Builders Works	BW/1		
C	External Works	E/1		
D	Electrical Works	E/1		
E	Mechanical Works	BOQ 32		
F	Provisional Sums	PC/PS 1	12,050,000.00	
	Sub total			
	Add 0.03% PPRA LEVY			
TOTAL CARRIED TO FORM OF TENDER (INCLUSIVE OF ALL TAXES): KSHS				

Contract Period.....weeks

Amount in words: Kenya Shillings.....

.....

.....

Tenderer's Name.....

Address.....

Date ..... Signature and stamp.....

Witness Name.....

Address.....

Date ..... Signature.....

PART III - THE CONDITIONS OF CONTRACT AND CONTRACT

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY

PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.

STATE DEPARTMENT FOR PUBLIC WORKS

General Conditions of Contract

1. GENERAL PROVISIONS

1.1 Definitions

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

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

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

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

"Completion Date" 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 may be) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], which extends over the days stated in the Special Conditions of Contract.

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

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

"Final Statement" means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate].

"Force Majeure" is defined in 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.

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

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

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

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

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

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, sent, or 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 addressfromwhichtherequestwasissued.

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, the Party 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 As agreed between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

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

1.11 Contractor's Use of Procuring Entity's Documents

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

1.12 Confidential Details

1.12.1 The Contractor's and the Procuring Entity's Personnel shall ensure confidentiality at all times. The confidentiality shall survive termination or completion of the contract. They shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

1.12.2 The Contractor's and the Procuring Entity's Personnel shall also treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

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

a) The Procuring Entity shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specificationsas 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's Personnel

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

a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and

b) take actions similar to those which the Contractor is required to take under sub-paragraphs (a), (b) and (c) of Sub-Clause 4.8 [Safety Procedures] and under Sub-Clause 4.18 [Protection of the Environment].

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 an other 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.

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

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

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

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

4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that thesemore 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 Entity shall be responsible for the Procuring Entity's Equipment, except that

b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-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 Sub contractor."

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 refuseto 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, directtothe 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 similarto 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 Labor 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 super intendence to plan, arrange, direct, manage, inspect and test the work.

6.8.2 Superintendence shall be given by a sufficient number of persons having adequate knowledge of the language for communications (defined in Sub-Clause 1.4 [Law and Language]) and of the operations to be carried out (including the methods and techniques required, the hazards likely to be encountered and methods of preventing accidents), for the satisfactory and safe execution of the Works.

6.9 Contractor's Personnel

6.9.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractors Key personnel shall be named in the Special Conditions of Contract. The Architect may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:

a) Persists in any misconduct or lack of care,
b) Carries out duties in competently or negligently,
c) fails to conform with any provisions of the Contract,
d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution 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 Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

6.14 Measures against Insect and Pest Nuisance

The Contractor shall 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) thedisposal 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 a gainst 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 Prolonged Suspension

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

8.12 Resumption of Work

After the permission or instruction to proceed is given, the Contractor and the Architect shall jointly examine the Works and the Plant and Materials affected by the suspension. The Contractor shall make good any deterioration or defect in or loss of the Works or Plant or Materials, which has occurred during the suspension after 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 AN DEVALUATION

12.1 Works to be Measured

12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.

12.1.2 Whenever the Architect requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:

a) promptly either attend or send another qualified representative to assist the Architect in making the measurement, and
b) supply any particulars requested by the Engineer.

12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the Architect shall be accepted as accurate.

12.1.4 Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine andagreet 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 work done 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 X100*.

12.4 Omissions

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

a) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;

b) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and

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

13. VARIATIONS AND ADJUSTMENTS

13.1. Right to Vary

13.1.1 Variations may be initiated by the Architect at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. No Variation instructed by the Architect under this Clause shall in any way vitiate or 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 Priortoany Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

a) A description of work, if any, to be performed and a programme for its execution, and
b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and
c) the Contractor's proposals for adjustment to the Contract Price.

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

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

13.2.2 Disagreement on Adjustment of the Contract Price

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

a) The cost of any partial execution of the Work srendered 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 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 Payment in Applicable Currencies

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

13.6 Provisional Sums

13.6.1 Each Provisional Sum shall only be used, in whole or 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.

13.8.2 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.

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

13.8.4 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 receivedthe 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 Payment on Termination

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

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

17. RISK AND RESPONSIBILITY

17.1 Indemnities

17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

a) Bodily injury, sickness, disease or death, of any person what so ever arising 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 with the Contract.

17.2.4 The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3 Procuring Entity's Risks

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

a) War hostilities (whether war be declared or not),

b) rebellion, riot, commotion or disorder, terrorism, sabotage by persons other than the Contractor's Personnel,

c) explosive materials, ionizing gradiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such explosives, radiation or radio-activity,

d) pressure waves caused by aircraft or other aerial devices traveling at sonic or supersonic speeds,

e) use or occupation by the Procuring Entity of any part of the Permanent Works, except as may be specified in the Contract,
f) design of any part of the Works by the Procuring Entity's Personnel or by others for whom the Procuring Entity is responsible, and
g) any operation of the forces of nature which is Unforeseeable or against which an experienced contractor could not reasonably have been expected to have taken adequate preventive precautions.

17.4 Consequences of Procuring Entity's Risks

17.4.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Architect and shall rectify this loss or damage to the extent required by the Engineer.

17.4.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

(a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of 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 anyW orks, loss of profit, loss of any contractor for any in director 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, Material sand 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) Shal lbe 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,t his 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 of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

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

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

20.7 Arbitration with Foreign Contractors

20.7.1 Arbitration with foreign contractors shall be conducted in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules.

20.7.2 The place of arbitration shall be a location specified in the **SCC;** and the arbitration shall be conducted in the language for communications defined in Sub-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 Failure to 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.

Part A - Contract Data

Conditions	Sub Clause	Data
Procuring Entity's name and address	Heading	THE COUNTY COMMISSIONER, ELGEYO MARAKWET COUNTY.
Name and Reference No. of the Contract	Heading and 3.1.1	PROPOSED CONSTRUCTION AND COMPLETION OF AN OFFICE BLOCK FOR THE COUNTY COMMISSIONER IN ELGEYO MARAKWET COUNTY.
Engineer's Name and Address	Heading and 3.1.1	State Department for Public Works
Contractor's Representative Name	4.3.1	To be agreed with the Engineer
Key Personnel names	16.9.1	To be agreed with the Engineer
Time for completion	1.1	To be agreed with the Engineer
Defects Notification Period	1.1	180 Days
Time for parties to enter into a contract agreement	1.6	Within 30 Days
Commencement date	8.1.1	To be agreed with the Engineer
Time for access to the site	2.1	To be agreed with the Engineer
Architect Duties and Responsibilities	3.1.6 (b) (ii)	Any Variations resulting in an increase of the accepted contract Amount in excess of 0% shall require approval from the procurement entity
Performance Security	4.2.1	The performance security will be in the form of a performance bond in the amount of 10% of the accepted Amount in the same currency(ies) of the accepted contract amount
Normal Working Hours	6.5	To be agreed with the Engineer
Delay damages for the Works	8.7 & 14.15 (b)	0.005 % of the Contract price per day
Maximum amount for Delay Damages	8.7	5% of the final contract price

Conditions	Sub Clause	Data
Provisional Sums	13.6. 1(b)(ii)	25%
Adjustments for Changes in Cost	13.8	Period "n" applicable to the adjustment multiplier "Po": *12 months*
Total advance payment	14.2.1	NIL
Repayment amortization rate of advance payment	14.2.5 (b)	N/A
Percentage of Retention	14.3.2 (c)	10%
Limit of Retention Money	14.3.2 (c)	10 % of the Accepted Contract Amount
Plant and Materials	14.5(b)(i) 14.5(C)(i)	Not applicable Not applicable
Minimum Amount of Interim Payment Certificates	14.6	Not applicable
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	Annual rate of three percentage points above the mean lending rate of the Central Bank in Kenya of the currency of payment
Maximum total liability of the Contractor to the Procuring Entity	17.6	As per applicable laws
Periods for submission of insurance: a. evidence of insurance. b. Relevant policies	18.1	 14 days 14 days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	*As per applicable laws*
Minimum amount of third-party insurance	18.3	*As per applicable laws*
The place of arbitration	20.7.2	*Nairobi County, Kenya*

SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM No. 2 – REQUEST FOR REVIEW

FORM No. 3 – LETTER OF 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. 9 – BENEFICIAL OWNERSHIP DISCLOSURE FORM

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 (3) 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 (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint?

a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [*insert date*] (local time).

b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
   i) Attention: [*insert full name of person, if applicable*]
   ii) Title/position: [*insert title/ position*]
   iii) Agency: [*insert name of Procuring Entity*]
   iv) Email address: [*insert email address*]

c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations 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 [*insert date*] (local time).
ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

_____

Telephone: _____

FORM 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.

   Signed and sealed by_____(for the Procuring Entity)

   Signed and sealed by_____(for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: *[insert name and Address of Procuring Entity]*

Date: _____*[Insert date of issue]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been 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. Atthe 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 tot he Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.” .....

[Name of Authorized Official, signature(s) and seals/stamps]

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

[1] *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.*

[2] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM No. 6- PERFORMANCE SECURITY

[Option 2– Performance Bond]

*[**Note:** Procuring Entities 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_____

Inthepresence 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)**
	Full Name		Directly---------- %	Directly…….% of voting	1. Having the right to appoint a majority of	1. Exercises significant influence or control
1.	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		of shares Indirectly---------- % of shares	rights Indirectly---------- % of voting rights	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…… ...	over the Company body of the Company (tenderer) Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…….. Indirect……

	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 personduly 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