



**NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
(NEMA)**

ADDRESS

ELAND HOUSE, POPO ROAD, OFF MOMBASA ROAD

P.O. BOX 67839 – 00200 NAIROBI.

EMAIL: procurement@nema.go.ke

Nemaprocurement627@gmail.com

**DRILLING AND EQUIPING OF BOREHOLES AND CONSTRUCTION OF
ACCOMPANYING STRUCTURES IN KAJIADO AND LAIKIPIA**

NEMA/T/026/2022-2023

OPEN NATIONAL TENDER DOCUMENT

ISSUE DATE : 29th NOVEMBER 2022

CLOSING DATE : 14th December 2022 11:00AM

INVITATION TO TENDER

PROCURING ENTITY: NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

CONTRACT DESCRIPTION: DRILLING OF BOREHOLE AND ACCOMPANYING STRUCTURES IN KAJIADO AND LAIKIPIA.

1. The National Environment Management Authority invites sealed tenders for the Drilling of borehole and Construction of accompanying structures in Kajiado and Laikipia.
2. Tendering will be conducted under National open competitive method using a standardized tender document. Tendering is open to all qualified and interested Tenderers.
3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours **0900 to 1500 hours**.
4. A complete set of tender documents may be purchased or obtained by interested tenders upon payment of a non-refundable fees of Kshs 1,000 in cash or Banker's Cheque and payable to National Environment Management Authority. Tender documents may be obtained electronically free of charge from the Website(s) www.nema.go.ke ; www.tenders.go.ke .
5. Tenderers who download the tender document must forward their particulars immediately to procurement@nema.go.ke; nemaprocurement627@gmail.com 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 119 days from the date of opening of tenders.
7. All Tenders must be accompanied by a **tender security of Kshs 500,000**.
8. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
9. Completed tenders must be delivered to the address below on or before **14th December 2022 at 11:00am**. Electronic Tenders not be permitted.
10. Tenders will be opened immediately after the deadline date and time specified above or any dead line date and times pecified 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 obtaining further information and for purchasing tender documents

National Environment Management Authority (NEMA)

Popo Road, South C, off Mombasa Road

P.O.BOX: 67839-00200, Nairobi.

020-2101370-ext 179

Procurement@nema.go.ke/nemaprocurement627@go.ke

B. Address for Submission of Tenders.

**National Environment Management Authority (NEMA)
P.O.BOX: 67839-00200, Nairobi.
Popo Road, South C, off Mombasa Road
Tender Box or Supply Chain Management Office Room G16 in the Main
Administration Building (Block A).**

C. Address for Opening of Tenders.

**National Environment Management Authority (NEMA)
P.O.BOX: 67839-00200, Nairobi.
Popo Road, South C, off Mombasa Road
Main Administration Building (Block A)**

Authorized Official

The Director General

National Environment Management Authority (NEMA)

Signature ----- Date -----

PART1: TENDERING PROCEDURES

SECTION I –

INSTRUCTIONSTENDERERS

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 and identification, and number of lots (contracts) of this Tender Document are specified in the TDS.

1.2 Throughout this tendering document:

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

2.0 Fraud and corruption

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

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

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

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

3.0 Eligible tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.8, or an individual or any combination of such entities in the form of a joint venture (JV) under an existing agreement 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 another tenderer;
 - b) Receives or has received any director indirect subsidy from another tenderer;
 - c) Has the same legal representative as an other tenderer;
 - d) Has a relationship with an other tenderer, directly or through common third parties, that puts it in a position to influence the tender of an other tenderer, or influence the decisions of the Procuring Entity regarding this tendering process;
 - e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods or works that are the subject of the tender;
 - f) Any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as a consultant for Contract implementation;
 - g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document;
 - h) Has a close business or personal relationship with senior management or professional staff of the Procuring Entity who has the ability to influence the bidding process and:
 - i) Are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or
 - ii) May be involved in the implementation or supervision of such Contract unless the conflicts stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.
- 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 enterprisetoenableitcompetewithfirmsintheprivatesectoronanequalbasis.
- 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) byanactofcompliancewith a decision of the United Nations Security Council taken under Chapter VII of theCharterof 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 I II - EVALUATION AND QUALIFICATION CRITERIA, Item 9*”.
- 3.11** Pursuant to the eligibility requirements of ITT 3.10, a tender is considered a foreign tenderer, if it is registered in Kenya and has less than 51 percent ownership by nationals of Kenya and if it does not subcontract to foreign firms or individuals more than 10 percent of the contract price, excluding provisional sums. JVs are considered as foreign tenderers if the individual member firms registered in Kenya have less 51 percent ownership by nationals of Kenya. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.
- 3.12** The National Construction Authority Act of Kenya requires that all local and foreign contractors be registered with the National Construction Authority and be issued with a Registration Certificate before they can undertake any construction works in Kenya. Registration shall not be a condition for tender, but it shall be a condition of contract award and signature. A selected tenderer shall be given opportunity to register before such award and signature of contract. Application for registration with National Construction Authority may be accessed from the website www.nca.go.ke.
- 3.13** The Competition Act of Kenya requires that firms wishing to tender as Joint Venture undertakings which may prevent, distort or lessen competition in provision of services are prohibited unless they are exempt in accordance with the provisions of Section 25 of

the Competition Act, 2010. JVs will be required to seek for exemption from the Competition Authority. Exemption shall not be a condition for tender, but it shall be a condition of contract award and signature. A JV tenderer shall be given opportunity to seek such exemption as a condition of award and signature of contract. Application for exemption from the Competition Authority of Kenya may be accessed from the website www.cak.go.ke.

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

4.0 Eligible goods, equipment, and services

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

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

5.0 Tenderer's responsibilities

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

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

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

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

B. CONTENTS OF TENDER DOCUMENTS

6.0 Sections of Tender Document

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

PART 1: Tendering Procedures

Section I – Instructions to Tenderers

Section II – Tender Data Sheet (TDS)

Section III- Evaluation and

Qualification Criteria Section IV –

Tendering Forms

PART 2: Works'

Requirements Section V -
Bills of Quantities Section
VI - Specifications Section
VII - Drawings

PART 3: Conditions of Contract and Contract Forms

Section VIII - General Conditions (GCC)

Section IX - Special Conditions of Contract

Section X- Contract Forms

- 6.2** The Invitation to Tender Notice issued by the Procuring Entity is not part of the Contract documents. Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of a pre-arranged site visit and those of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 10. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.
- 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** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender documents in accordance with ITT 7.4, including a description of the inquiry but without identifying its source. If so specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents following the procedure under ITT 8 and ITT 22.2.
- 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** The Procuring Entity shall also promptly publish anonymized (*no names*) Minutes of the

pre-arranged site visit and those of the pre-tender meeting at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-arranged site visit and those of the pre-tender meeting shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Non-attendance at the pre-arranged site visit and the pre-tender meeting will not be a cause for disqualification of a Tenderer.

8.0 Amendment of Tender Documents

- 8.1** At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tender Documents by issuing addenda.
- 8.2** Any addendum issued shall be part of the Tender Documents and shall be communicated in writing to all who have obtained the Tender Documents from the Procuring Entity. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's website in accordance with ITT 7.5.
- 8.3** To give Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity should extend the dead line for the submission of Tenders, pursuant to ITT 22.2.

C. PREPARATION OF TENDERS

9. Cost of Tendering

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

10.0 Language of Tender

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

11.0 Documents Comprising the Tender

11.1 The Tender shall comprise the following:

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

11.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include

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

12.0 Form of Tender and Schedules

- 12.1 The Form of Tender and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Section IV, Tendering Forms. The forms must be completed with out any alterations to the text, and no substitutes shall be accepted except as provided under ITT 20.3. All blank spaces shall be filled in with the information requested. The Tenderer shall chronologically serialize all pages of the tender documents submitted.
- 12.2 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender.

13. Alternative Tenders

- 13.1 Unless otherwise specified in the TDS, alternative Tenders shall not be considered.
- 13.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.
- 13.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by the Procuring Entity.
- 13.4 When specified in the **TDS**, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the **TDS**, as will the method for their evaluating, and described in Section VII, Works' Requirements.

14.0 Tender Prices and Discounts

- 14.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.
- 14.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.
- 14.3 The price to be quoted in the Form of Tender, in accordance with ITT 12.1, shall be the total price of the Tender, including any discounts offered.
- 14.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 12.1.
- 14.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except incases where the contract is subject to

fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.

- 14.6** Where tenders are being invited for individual lots (contracts) or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 14.4, provided the Tenders for all lots (contracts) are opened at the same time.
- 14.7** All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

15.0 Currencies of Tender and Payment

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

16.0 Documents Comprising the Technical Proposal

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

17.0 Documents Establishing the Eligibility and Qualifications of the Tenderer

- 17.1** Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.
- 17.2** In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.
- 17.3** If a margin of preference applies as specified in accordance with ITT 33.1, national tenderers, individually or in joint ventures, applying for eligibility for national preference shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

- 17.4** Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a particular contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.
- 17.5** The purpose of the information described in **ITT 17.4** above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.
- 17.6** The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.4. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.
- 17.7** All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.
- 17.8** If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.
- 17.9** If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:
- i) If the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
 - ii) if the contract has been awarded to that tenderer, the contract award will be set aside depending 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 have 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 tenderer.

18.0 Period of Validity of Tenders

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

19.0 Tender Security

- 19.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency **specified** in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms.
- 19.2 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:
- I) cash;
 - ii) a bank guarantee;
 - iii) a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority listed by the Authority;
 - (iv) a guarantee issued by a financial institution approved and licensed by the Central Bank of Kenya, from a reputable source, and an eligible country.
- 19.3 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 18.2.
- 19.4 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.
- 19.5 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the TDS. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined non-responsive or a bidder declines to extend tender validity period.
- 19.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the TDS.
- 19.7 The Tender Security may be forfeited or the Tender-Securing Declaration executed:
- a) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension there to provided by the Tenderer; or
 - b) if the successful Tenderer fails to:
 - i) sign the Contract in accordance with ITT 47; or

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

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

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

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

20.0 Format and Signing of Tender

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

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

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

20.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and 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 nvelope or package or container marked "COPIES", all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 13, and if relevant:
 - i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE

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

The inner envelopes or packages or containers shall:

- a) bear the name and address of the Procuring Entity,
- b) bear the name and address of the Tenderer; and
- c) bear the name and Reference number of the Tender.

21.2 If an envelope or package or container is not sealed and marked as required, the *Procuring Entity* will assume no responsibility for the misplacement or premature opening of the Tender. Tenders misplaced or opened prematurely will not be accepted.

22.0 Deadline for Submission of Tenders

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

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

23.0 Late Tenders

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

24.0 Withdrawal, Substitution, and Modification of Tenders

24.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 20.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

- a) prepared and submitted in accordance with ITT 20 and ITT 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and
- b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 22.

24.2 Tenders requested to be withdrawn in accordance with ITT 24.1 shall be returned unopened to the Tenderers.

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

25. Tender Opening

25.1 Except in the cases specified in ITT 23 and ITT 24.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place

specified in the TDS, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 22.1, shall be as specified in the TDS.

- 252 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.
- 253 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.
- 254 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 255 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.
- 256 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bill of Quantities (to be decided on by the tender opening committee) are to be initialed by the members of the tender opening committee attending the opening.
- 257 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 23.1).
- 258 The Procuring Entity shall prepare minutes of the Tender Opening that shall include, as a minimum: -
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security, if new as required;
 - e) number of pages of each tender document submitted.
- 259 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers.

E. EVALUATION AND COMPARISON OF TENDERS

26. Confidentiality

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

262 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.

263 Notwithstanding ITT 26.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any matter related to the tendering process, it shall do so in writing.

27.0 Clarification of Tenders

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

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

28.0 Deviations, Reservations, and Omissions

28.1 During the evaluation of tenders, the following definitions apply: -

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

29.0 Determination of Responsiveness

29.1 The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 11.

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

- a) Affect in any substantial way the scope, quality, or performance of the Works specified in the Contract;
- b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract;
- c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

29.3 The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 16, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

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

30.0 Non-material Non-conformities

30.1 Provided that a tender is substantially responsive, the Procuring Entity may waive any non-conformities in the tender.

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

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

31.0 Arithmetical Errors

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

31.2 Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis: -

- a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.
- b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid prices shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
- c) if there is a discrepancy between words and figures, the amount in words shall prevail

31.3 Tenderers shall be notified of any error detected in their bid during the notification of award.

32.0 Conversion to Single Currency

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

33.0 Margin of Preference and Reservations

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

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

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

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

34.0 Nominated Subcontractors

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

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

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

35. Evaluation of Tenders

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

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

- a) price adjustment in accordance with ITT 31.1 (iii); excluding provisional sums and contingencies, if any, but including Daywork items, where priced competitively;
- b) price adjustment due to discounts offered in accordance with ITT 14.4;
- c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 32;
- d) price adjustment due to quantifiable non material non-conformities in accordance with ITT 30.3; and
- e) any additional evaluation factors specified in the **TDS** and Section III, Evaluation and Qualification Criteria.

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

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

36.0 Comparison of tenders

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

37.0 Abnormally low tenders and abnormally high tenders

Abnormally LowTenders

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

Abnormally high tenders

- 37.4** An abnormally high tender price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.
- 37.5** In case of an abnormally high price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:
- i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
 - ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.
- 37.6** If the Procuring Entity determines that the Tender Price is abnormally too high because genuine competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering.

38.0 Unbalanced and/ or front-loaded tenders

- 38.1** If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or frontloaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.
- 38.2** After the evaluation of the information and detailed price analyses presented by the Tenderer, the Procuring Entity may as appropriate:
- a) accept the Tender;
 - b) require that the total amount of the Performance Security be increased at the

- expense of the Tenderer to a level not exceeding a 30% of the Contract Price;
- c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works;
- d) reject the Tender,

39.0 Qualifications of the tenderer

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

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

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

40.0 Lowest evaluated tender

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

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

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

The Procuring Entity reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without there by incurring any liability to Tenderers. In case 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 on how to request a debriefing and/ or submit a complaint during the stand still period;

44.0 Stand still Period

- 44.1** The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.
- 44.2** Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter into a Contract with the successful Tenderer.

45.0 Debriefing by The Procuring Entity

- 45.1** On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 43, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.
- 45.2** Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending such a debriefing meeting.

46.0 Letter of Award

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

47.0 Signing of Contract

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

48.0 Performance Security

- 48.1** Within twenty-one (21) days of the receipt of the Letter of Award from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 38.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent

bank is not required.

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

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

49.0 Publication of Procurement Contract

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

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

50.0 Procurement related Complaints and Administrative Review

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

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

Section II - Tender Data Sheet (TDS)

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

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
A. General	
ITT 1.1	<p>Name: Drilling and Equipping of boreholes and construction of accompanying structures at Kajiado and Laikipia.</p> <p>The reference number of the Contract is NEMA/T/ 026 /2022/2023</p> <p>Number of lots (contracts): 1 lot</p>
ITT 2.4	The Information made available on competing firms is as follows: N/A
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: Two (2No.)

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
B. Contents of Tender Document	
ITT 7.1	<p>(i) The Tenderer will submit any request for clarifications in writing at the Address DIRECTOR GENERAL National Environment Management Authority (NEMA) Popo Road, South C, off Mombasa Road P.O.BOX: 67839-00200, Nairobi.</p> <p>to reach the Procuring Entity not later than 8th December 2022 at 10:00am</p> <p>(ii) The Procuring Entity shall publish its response at the website: www.nema.go.ke</p>
ITT 7.2	<p>(A) A pre-arranged pretender site visit shall not take place. (B) Pre-Tender meeting shall not take place However, a Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing. The questions in writing to procurement@nema.go.ke, should reach the Procuring Entity not later than 7th December, 2022 at 3:00 PM</p>
ITT 7.5	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender will be published is www.nema.go.ke
C. Preparation of Tenders	
ITT 11.1 (h)	In addition to the original of the Tender, the number of copies is: Two (2), One in hard copy and one in PDF readable and labelled flash disk
ITT 13.1	Alternative Tenders <i>insert shall not</i> be considered.
ITT 13.2	Alternative times for completion " <i>shall not</i> permitted.
ITT 14.5	The prices quoted by the Tenderer shall be fixed
ITT 15.2 (a)	Foreign currency requirements is not allowed.
ITT 18.1	The Tender validity period shall be 119 days.
ITT 19.1	Tender shall provide a Tender Security of Kshs 500,000 (five hundred thousands Kenya shillings) The currency should be in Kenya Shillings (Ksh) and shall be valid for at least 149 days
ITT 20.1	In addition to the original of the Tender, the number of copies is: a duplicate copy and a Soft Copy in Pdf in a Readable & Labelled Flash Disc
ITT 20.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: Letter of Atttoney
ITT 22.1	<p>(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is:</p> <p>Director General, National Environment Management Authority,</p>

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	<p>P.O.BOX: 67839-00200, Nairobi.</p> <p>Popo Road, South C, off Mombasa Road</p> <p>Tender Box and Supply Chain Management Office Room G16 in the Main Administration Building (Block A) for large tenders</p>
ITT 25.1	<p>The Tender opening shall take place at the time and the address for Opening of Tenders provided below:</p> <p>National Environment Management Authority,</p> <p>Popo Road, South C, off Mombasa Road</p> <p>On 14th December, 2022 at 11:00 AM East African Time</p>
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 33.2	A margin of preference shall Not apply.
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	<p>Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: 10% of the total contract amount. Tenderers planning to subcontract more than 10% of total volume of work shall specify, in the Form of Tender, the activity (ies) or parts of the Works to be subcontracted along with complete details of the subcontractors and their qualification and experience.</p> <p>N/A</p>
ITT 34.3	<p>The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows:</p> <ol style="list-style-type: none"> 1) EIA 2) Hydrological survey 3) Civil works
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 is Contractor's all risks insurance cover.
ITT 50.1	<p>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.</p> <p>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:</p> <p>DIRECTOR GENERAL</p> <p>NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY</p>

Reference to ITC Clause	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	<p>Email address dgnema@nema.go.ke</p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <p>In summary, a Procurement-related Complaint may challenge any of the following (among others):</p> <ul style="list-style-type: none"><li>(i) the terms of the Tender Documents; and<li>(ii) the Procuring Entity's decision to award the contract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

ELIMINARY EVALUATION.

No.	Mandatory Requirements.	Responsive/ Not-Responsive	Remarks/ Evaluator's notes
1.	Company registration evidenced by a certificate of incorporation or BN2		
2.	Compliance to tax evidenced by a copy of Current and Valid Tax Compliance Certificate		
3	List of directors evidenced by BN2 or a current CR12 of 2021 or 2022		
4	Certified Copy of valid Registration with NCA class 6(Building) and above and valid practicing license.		
5	Certified Copy of Valid Certificates of Registration as qualified water resource contractors for the year 2022 with the Ministry of Water, Kenya, (Borehole Drilling Contractor Class B)		
6	Duly signed agreement with a registered and practicing EIA expert or firm to undertake EIA of the project. The firm or expert shall provide evidence to show he/ she has successfully done five (5) EIAs for boreholes in the last three (3) years		
7	Duly signed agreement with a registered and practicing Hydrological survey expert or firm The firm or expert shall provide evidence to show he/ she has successfully done five (5) hydrological surveys for boreholes in the last three (3) years		
8	Duly completed Confidential Business Questionnaire in the prescribed format		
9	Tender security Ksh.500, 000.00 issued from a reputable bank, microfinance, insurance firm or any other reputable financial institution in Kenya. The currency should be in Kenya Shillings (Ksh) and shall be valid for at least 149 days.		
10	Audited financial accounts for the last 3 years (2019 to 2021)		
11	Current and Valid Business permit		
12	Dully filled, signed and stamped Form of Tender as per prescribed format		
13	Duly filled, signed and stamped Bills of Quantities		
14.	Dully filled, signed and stamped certificate of independent tender determination		
16.	Dully filled, signed and stamped 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		
17.	Dully filled, signed and stamped self-declaration form; Form SD2 - Self Declaration that the person/tenderer will not engage in any corrupt or fraudulent practice		
18	Dully filled, signed and stamped Declaration to the code of ethics		
19.	There is a letter granting the power of attorney to sign the contract		
20.	The tender is signed by the person with the power of attorney without material deviation or omission		
21	Tenderer shall chronologically serialize all pages of the tender documents submitted including the attachments. Where the pages are printed both sides, each side should be serialized chronologically. The document shall be well bound.		
<i>N.B. Tenderers who do not provide any of the above shall be declared non-responsive at this stage and will not proceed to technical and financial evaluation</i>			

TECHNICAL EVALUATION CRITERIA

No.	DESCRIPTION	Compliant (YES OR NO)
T1	Three projects of equal or higher value in the last five years.	
T2	Ten (10) completed boreholes drilled in the last five (5) years.	
T3	Equipment (the bidder shall provide evidence of certified ownership or lease)	
	Rig mounted on a truck with a drilling capacity of over 300 meters with <ul style="list-style-type: none"> 1) Air compressor: Working pressure: 140 psi (9.9 kg/cm²)² 2) Welding machine 3) Diesel generator of at least 25KVA 	
	Borehole pump testing kit including truck, crane, pump, pipes etc.	
T4	Personel (the bidder shall attach certified copies of CVs, academic certificates, professional membership certificates and valid practicing licenses where applicable)	
	Site Agent: Bachelors Degree in civil or water engineering with at 5 years experience in similar works.Should be registered by EBK/ KETRB.	

	Foreman: Diploma in civil or water engineering with at 5 years experience in similar works. They should be registered with NCA as a Supervisor	
	Rig Operator	
T4	Provide an appropriate program of works	
T5	Duly filled form FIN-3.1, FIN 3.2 and FIN – 3.3	

Tenderers who do not provide any of the above shall be declared non-responsive at this stage and will not proceed to financial evaluation

Financial Evaluation

Tenderers who pass the Technical Qualification will have their bids subjected to financial evaluation. Financial Evaluation shall involve checking for completeness of the bill of quantities.

Due Diligence:

NEMA shall conduct a due diligence to confirm and verify the qualifications of the tenderer who submitted the lowest evaluated responsive tender to be awarded the contract in accordance with PPADA Act 2015.

Recommendation of Award

The lowest evaluated bidder will be recommended for consideration of award of the tender.

QUALIFICATION FORM*

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
1	Nationality	Nationality in accordance with ITT 3.6	Forms ELI – 1.1 and 1.2, with attachments	
2	Tax Obligations for Kenyan Tenderers	Has produced a current tax clearance certificate or tax exemption certificate issued by Kenya Revenue Authority in accordance with ITT 3.14.	Attachment	
3	Conflict of Interest	No conflicts of interest in accordance with ITT 3.3	Form of Tender	
4	PPRA Eligibility	Not having been declared ineligible by the PPRA as described in ITT 3.7	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.8	Forms ELI – 1.1 and 1.2, with attachments	
6	Goods, equipment and services to be supplied under the contract	To have their origin in any country that is not determined ineligible under ITT 4.1	Forms ELI – 1.1 and 1.2, with attachments	
7	History of Non-Performing Contracts	Non-performance of a contract did not occur as a result of contractor default since 1 st January 2019.	Form CON-2	
8	Suspension Based on Execution of Tender/Proposal Securing Declaration by the Procuring Entity	Not under suspension based on-execution of a Tender/Proposal Securing Declaration pursuant to ITT 19.9	Form of Tender	
9	Pending Litigation	Tender's financial position and prospective long-term profitability still sound according to criteria established in 3.1 and assuming that all pending litigation will NOT be resolved against the Tenderer.	Form CON – 2	
10	Litigation History	No consistent history of court/arbitral award decisions against the Tenderer since 1 st January 2019.	Form CON – 2	
11	Financial Capabilities	(i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as Kenya Shillings 3 million equivalent for the subject contract(s) net of the	Form FIN – 3.1, with attachments	

1	2	3	4	5
Item No.	Qualification Subject	Qualification Requirement	Document To be Completed by Tenderer	For Procuring Entity's Use (Qualification met or Not Met)
		<p>Tenderer's other commitments.</p> <p>(ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.</p> <p>(iii) The audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last 3 years (2019 to 2021) shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability.</p>		
12	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings 30 million equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 3 years, divided by 3 years	Form FIN – 3.2	
13	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 years, starting 1 st January 2017.	Form EXP – 4.1	
14	Specific Construction & Contract Management Experience	A minimum number of 10 borehole contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1 st January 2017 and tender submission deadline of the same value	Form EXP 4.2(a)	

SECTION IV - TENDERING FORMS

QUALIFICATION FORMS

1. FOREIGN TENDERERS 40%RULE

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

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

2. FORMEQU: EQUIPMENT

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

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

3. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

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

4. FORM PER - 2:

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

Name of Tenderer

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

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

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

Declaration

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

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

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

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

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

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

Signature: _____

Date: (day month year): _____

Countersignature of authorized representative of the Tenderer:

Signature: _____

Date: (day month year): _____

5. TENDERERS QUALIFICATION WITHOUT PREQUALIFICATION

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

5.1 FORM ELI -1.1

Tenderer

Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> 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 <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law <ol style="list-style-type: none">1. Establishing that the Tenderer is not under the supervision of the Procuring Entity2. Included are the organizational chart and a list of Board of Directors

5.2 FORM ELI -1.2

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

Date: _____

ITT No. and title: _____

Tenderer's JV name:
JV member's name:
JV member's country of registration:
JV member's year of constitution:
JV member's legal address in country of constitution:
JV member's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of <input type="checkbox"/> 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. <input type="checkbox"/> In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.5.
2. Included are the organizational chart and a list of Board of Directors.

5.3 **FORM CON -2**

Historical Contract Non-Performance, Pending Litigation and Litigation History

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January [insert year] specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January [insert year] specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
<input type="checkbox"/> Contract(s) withdrawn since 1 st 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			
<input type="checkbox"/> No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3.			
<input type="checkbox"/> 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			
<input type="checkbox"/> No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)
<input type="checkbox"/> Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
[insert year]	[insert percentage]	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: [insert full name] Address of Procuring Entity: [insert street/city/country] Matter in dispute: [indicate main issues in dispute] Party who initiated the dispute: [indicate "Procuring Entity" or "Contractor"] Reason(s) for Litigation and award decision [indicate main reason(s)]	[insert amount]

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

5.4 FORM FIN – 3.1:

Financial Situation and Performance

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

5.4.1. Financial Data

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

*Refer to ITT 15 for the exchange rate

5.4.2 Sources of Finance

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

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

5.4.3 Financial documents

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

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

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

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
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>		
Average Annual Construction Turnover *			

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

5.6 FORM FIN – 3.3:

Financial Resources

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

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

5.7 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

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

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

5.8 FORM EXP - 4.1

General Construction Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

Page _____ of _____ pages

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

5.9 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

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

5.9 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

Tenderer's Name: _____

Date: _____

JV Member's Name _____

ITT No. and title: _____

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



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

Specific Construction and Contract Management Experience (cont.)

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

5.10 FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____

Date: _____

Tenderer's JV Member Name: _____

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

ITT No. and title: _____

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

1. Key Activity No One: _

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

² If applicable

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

2. Activity No. Two

3.

OTHER FORMS

6. FORM OF TENDER

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

INSTRUCTIONS TO TENDERERS

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

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

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

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

To: [Insert complete name of Procuring Entity]

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

Request for Tender No.: [insert identification] **Name and description of Tender** [Insert as per ITT] **Alternative No.:** [insert identification No if this is a Tender for an alternative]

To: [insert complete name of Procuring Entity]

Dear Sirs,

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

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

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

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

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

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

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

5. We, the under signed, further declare that:

- i) **No reservations:** We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
- ii) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
- iii) **Tender - Securing Declaration:** We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's Country in accordance with ITT 19.8;
- iv) **Conformity:** We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works]*;
- v) **Tender Price:** The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*
- vi) **Option 1**, in case of one lot: Total price is: *[insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies]*; or
Option 2, in case of multiple lots:
 - (a) **Total price of each lot** *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and
 - (b) **Total price of all lots** (sum of all lots) *[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]*;
- vii) **Discounts:** The discounts offered and the methodology for their application are:
- viii) The discounts offered are: *[Specify in detail each discount offered.]*
- ix) The exact method of calculations to determine the net price after application of discounts is shown below: *[Specify in detail the method that shall be used to apply the discounts]*;
- x) **Tender Validity Period:** Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- xi) **Performance Security:** If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;
- xii) **One Tender Per Tender:** We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;
- xiii) **Suspension and Debarment:** We, along with any of our subcontractors, suppliers, 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 ITT 3.8]*;
- xv) **Commissions, gratuities, fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*.

Name of Recipient	Address	Reason	Amount

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

- xvi) **Binding Contract:** We understand that this Tender, together with your written acceptance 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 person acting for us or on our behalf engages in any type of Fraud and Corruption; and
- xix) **Collusive practices:** We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the “Certificate of Independent Tender Determination” attached below.
- xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from _____ (specify website) during the procurement process and the execution of any resulting contract.
- xxi) **Beneficial Ownership Information:** We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.
- xxii) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:
 - a) Tenderer's Eligibility; Confidential Business Questionnaire - to establish we are not in any conflict of interest.
 - (b) Certificate of Independent Tender Determination - to declare that we completed the tender without colluding with other tenderers.
 - (a) Self-Declaration of the Tenderer - to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - (d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal.

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

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

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

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

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

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

Datesigned _____ dayof _____, _____

Notes

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

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

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

QUESTIONNAIRE Instruction to Tenderer

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

(a) **Tenderer's details**

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

General and Specific Details

(b) **Sole Proprietor**, provide the following details.

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

(c) **Partnership**, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

(d) **Registered Company**, provide the following details.

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

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

- iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

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

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

If yes, provide details as follows.

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

(i) Conflict of interest disclosure

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

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

Certification

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

Full Name _____

Title or Designation _____

(Signature)

(Date)

b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

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

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

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

Name _____
Title _____
Date _____

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

(c) SELF-DECLARATION FORMS

FORM SD1

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

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/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 Procurement and 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 who has a conflict of interest with respect to a procurement: -
 - a) Shall not take part in the procurement proceedings;
 - b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and
 - c) shall not be a subcontractor or for the tender to whom was awarded contract, or a member of the group of tenderers to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
- 6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
- 7) If a person contravenes subsection (1) with respect to a conflict of interest described in

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

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

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:

- i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party; "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- iv) "obstructive practice" is:
 - Deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
 - acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.

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

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

- c) Rejects a proposal for award¹ of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- d) Pursuant to the Kenya's above stated Acts and Regulations, may recommend to appropriate authority(ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;
- e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect² all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
- f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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

a material modification to any existing contract.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Investigating Authority or persons appointed by the Procuring Entity to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

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

Beneficiary: _____

Request for Tenders No:

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

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

[signature(s)]

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

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

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

Sealed with the Common Seal of the said Guarantor this ___day of _____ 20__.

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

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

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

[Date]

[Signature of the Guarantor]

[Witness]

[Seal]

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

FORM OF TENDER - SECURING DECLARATION

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

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

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

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

declare that:

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

Signed:..... Capacity/title (director or partner or sole proprietor, etc.)

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

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

Appendix to Tender

Schedule of Currency requirements

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

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

PART II - WORKS REQUIREMENTS

BILLS OF QUANTITIES

ADAPTATION VILLAGE BILL OF QUANTITIES					
BILL NO. 1 PRELIMINARY ITEMS					
ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.1	Allow provision for insurance in accordance with contract conditions	L.s	1		
1.2	Water Resources Authority authorisation and abstraction permit	L.s	1		
1.3	Provide for performance bond as per contract conditions	L.s	1		
1.4	County government fee (where applicable)	P.C	1	20,000	20,000.00
1.5	Provide, erect and maintain sign boards at locations by the Engineer	No.	1		
1.6	Establish, maintain and remove contractors camps, offices, facilities at the end of contract	L.s	1		
1.7	Allow for the Resident Engineer's office (include for all site meetings, stationery, fuel, rent, airtime and allowances)	P.C	1	300,000	300,000.00
1.8	Provide for WRA authorisation permit and hydrological report	P. C		100,000	100,000.00
1.9	Provide for EIA License	P.C		100,000	100,000.00
1.10	Allow for production of as built drawings	L.s	1		
1.11	Allow for profits for item 1.4, 1.7,1.8 and 1.9	%			-
	TOTAL CARRIED TO THE SUMMARY PAGE				520,000.00

ADAPTATION VILLAGE BILL OF QUANTITIES**BILL 2: DRILLING OF BOREHOLE**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
2.1	Allow for site clearance (approx 10mX10m) at the borehole site where applicable)	M ²	100		
2.2	Mobilization of drilling unit, test pumping equipment, erect at position of bore hole, dismantle and demobilise on completion	L.s	1		
2.3	Allow for provision of water for all requirements at the site	L.s	1		
2.4	Drilling of a 250mm bore from 0-300	M	300		
2.5	Supply and installation of plain steel 152mm class B steel casing- 4.5mm thickness	No.	35		
2.6	Supply and installation of slotted steel casings 152mm class B diameter -4.5mm thickness	No.	15		
2.7	Installation of approved gravel pack and grouting at 3M to the top	M ³	20		
2.8	Construct a class 20 concrete slab at the top(1.5X1.5X0.15)	M ³	0.5		
2.9	Weld and secure in place a steel cap	L.s	1		
2.10	Borehole development by airlifting and /or surging for minimum of 4 hrs	Hr	4		
2.11	Test pumping continuously for 24 hours.	Hr	24		
2.12	Collect water samples and carry out full water quality analysis by an accredited laboratory	Ls	1		
TOTAL CARRIED TO SUMMARY PAGE					

ADAPTATION VILLAGE BILL OF QUANTITIES**BILL 7: FENCING**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<u>LEVELLING TRENCH</u>				
7.1	General excavation for disposal in top soil material ,sand dunes and undulating surfaces to create room for pole holes excavation, average 600mm wide and maximum depth: not exceeding 200mm.	M ³	40.0		
	POLE HOLES				
7.2	Excavate for fencing poles average spans 450 by 450mm in normal soil below the trench level above average depth not exceeding 500mm. Not less than 150mm extra span shall be left for concrete anchorage on all sides of pole.	No	150		
	CONCRETE POLES				
7.3	Purpose made reinforced cranked concrete poles average 150 by 100mm thick in 4 No D10 mains and D8 ties and length not less than 2500mm complete with all accessories palced at 2.5m centres.	No	110		
7.4	Purpose made reinforced cranked concrete poles average 150 by 100mm thick in 4 No D10 mains and D8 ties and length not less than 2000mm as strainer poles made to suit to be placed every 15m OR every sixth pole and at change of direction.	No	40		
	CHAIN LINK				

7.5	Install 2 M Heavy gauge (14) galvanized chain link wire fastened to above poles and strainers with galvanized binding wire to the Clients satisfaction. An average of 200mm must be below ground level or at the level of the trench described above.	M	320		
	<u>BARBED WIRE</u>				
7.6	Ngombe or equivalent brand, heavy gauge galvanised barbed wire in three strands on top of the chain link	M	960		
	<u>PARTIAL BACKFILL</u>				
7.7	Backfill the trench in common soil average 200mm high.	M ³	40		
	<u>CONCRETE</u>				
7.8	Provide class 15 houching with D8 hooks at 2M intervals at the trench above to hold down the fence	M ³	5		
	<u>GATES</u>				
7.9	Fabricate ,supply and fix a 4M wide steel gate as per drawing	No	2		
7.1	Provide for a standard 10 M cattle trough as instructed	No.	1		
	Total Carried to summery				0

ADAPTATION VILLAGE BOQ**BILL 8: Basic Hall**

Item	Description	Unit	Qty	Rate	Amount Ksh.
8.1	Foundation				
8.1.1	Site clearance. Clear all vegetation, tree stumps etc in readiness for construction	M ²	140		
8.1.2	Top soil stripping strip all soil up to 300mm deep	M ²	98		
8.1.3	Excavation Excavate soil other than top soil to firm ground to the satisfaction of the Engineer	M ³	98		
8.1.4	Strip footing				
8.1.4.1	provide and place 50 mm 1:3:6 blinding concrete	M ²	4		
8.1.4.2	Provide and place class 20 concrete for strip footing	M ³	13		
8.1.4.3	Provide and fix in place mild reinforcement steel (Dia 12mm Deformed)	Kg	150		
8.1.4.4	Provide and fix in place mild reinforcement steel (Dia 8mm for links) at 300 mm centers	Kg	67		
8.1.4.5	Provide and fix 300mm wide formwork to the sides of strip foundation	M	84		
8.1.5	Foundation walling				
8.1.5.2	Provide and place 225mm wide foundation walling in 1:3 motar.	M ²	42		
8.1.5.3	Provide place and compact 250mm hardcore	M ³	98		
8.1.5.4	provide and place 50mm quarry dust on top of hardcore	M ²	98		
8.1.5.5	Provide and place anti termite treatment.	M ²	98		
8.2	Floor				
8.2.1	Provide and fix in place 1000 guage polythene sheet damp proofing	M ²	98		
8.2.2	Provide and fix in place A142 B.R.C mesh reinforcement	M ²	98		
8.2.3	Provide mix place and cure class 20 concrete for floor,	M ³	10		
8.2.4	Provide and fix formwork to side of floor slab 100mm in width	M	36		
8.2.5	Red oxide finish to the top of floor	M ²	98		

8.2.6	Provide for fixing of steel bolts and cap in order to receive steel columns as shown on drawings	Lot	1		
8.3	superstructure				
8.3.1	walling in 150 mm Natural stone and 1:3 Motar as in drawings	M ²	105		
8.3.2	Apply 1:3 25mm motar for plaster on the inner wall, top of wall and beams	M ²	105		
8.3.3	Finish the outside wall with pointiny (KEY)	M ²	105		
8.3.4	Apply 3 coats (1 plastic emulsion and 2 su[er gross to interior walls)	M ²	105		
8.3.5	Apply silicone emulsion exterior paint to exterior plastered surfaces	M ²	5		
8.3.6	provide all materials and fix wiremesh on the sides of building qs shown on drawings held in place by 25mmX25mm angle irons at 1m intervals	M ²	42		
8.3.7	On bolts and base plate on the floor provide and fix 100X100X4 SHS as shown on drawings	M	24		
8.3.8	prove and fix 100X100X4 SHS for wall plate as shown on drawings	M	20		
8.3.9	Provide all materials and weld in place 40X40X3mm SHS so as to form truss as shown on drawings	M	60		
8.3.10	hoist and fix in place trusses as shown on drawings	No.	5		
8.3.11	provide and fix 100*50*3 SHS @600mm centers for purlins	M	176		
8.3.12	Using rubber and steel washer and bolts and nuts provide all materials and fix prepaited 28 guage box profile G.I roofing	M ²	152		
8.3.13	provide and fix 1200 X2200mm double Leaf steel doors complete with locks	No,	2		
8.3.14	Allow for all pipework for demo farm, kiosk, cattle troughs and sanitation blocks	Sum	1		
	TOTAL CARRIED TO SUMMERY PAGE				-

ADAPTATION VILLAGE BILL OF QUANTITIES**BILL 3: BOREHOLE EQUIPING**

Item	Description	Unit	Qty	Rate	Amount Ksh.
3.1	Supply and install Submersible solar powered 7.5 KW water pump complete with motor as directed by the Engineer.	Pcs	1		
3.2	cable interconnection and Inverter	Pcs	1		
3.3	6mm ² x four core submersible cable	Mtrs	300		
3.4	400 Watts Solar Panels	Pcs	30		
3.5	2.5" Borehole Upvc Pipes – Heavy duty	Mtrs	300		
3.6	2.5" Adaptor sets- Bottom and top	Set	1		
3.7	Solar Support Structure 3 Metres painted braced mild steel	Lot	1		
3.8	Solar DC main Circuit breaker	Pcs	2		
3.9	Solar DC enclosure	Pcs	2		
3.10	Solar MC 4 connectors	Pcs	4		
3.11	Electrode cable for probes – Black	M	300		
3.12	Electrode cable for probes – Brown	M	300		
3.13	Electrode probes	Set	1		
3.14	6mm ² x3 armored U. G. cable between solar unit and junction box	M	20		
3.15	2.5" master Water meter	Pcs	1		
3.16	2.5" Borehole cover sundries, composed of gate valve, NRV, unions, nipples, borehole cover plate and accessories	Lot	1		
3.17	Earth rod complete with earth clamp and earth cable	Lot	1		
3.18	3/4" Pvc Airline pipe	Pcs	50		
3.19	Cooling Sleeve	Pcs	1		
3.20	Automatic voltage switcher(AVS 30)	PCS	1		
3.21	Mounting of solar support system, mounting of panels, electrical connections, testing and commisioning	Lot	1		
3.22	Lowering of the pump into the borehole, electrical connections testing and commisioning	Lot	1		

3.23	Supply, transport to site, construct foundations and erect a 10 M ³ Plastic tank on 5M GI braced tower include for all piping (inlet, outlet and Scour) from bore hole and to water kiosk and all fittings and valves (NRV, Sluice valves, float valve etc) as directed by the Engineer	No.	1	
TOTAL CARRIED TO SUMMARY PAGE				

ADAPTATION VILLAGE BOQ

BILL 5: Water Kiosk

Item	Description	Unit	Qty	Rate	Amount Ksh.
5.1	Site clearance. Clear all vegetation, tree stumps etc in readiness for construction	M ²	10		
5.2	Top soil stripping strip all soil up to 300mm deep	M ²	7		
5.3	Excavation Excavate soil other than top soil to firm ground to the satisfaction of the Engineer	M ³	8		
5.4	provide and place compacted hardcore	M ²	8		
5.5	Place 50mm quarry dust on top of hardcore	M ²	8		
5.6	Provide and fix in place 1000 guage polythene sheet damp proofing	M ²	7		
5.7	Provide and fix in place A98 B.R.C mesh reinforcement	M ²	8		
5.8	Provide mix place and cure class 20 concrete for floor,	M ³	1.2		
5.9	Provide and fix formwork to side of floor slab	M	11		
5.10	Red oxide finish to the top of floor	M ²	8		
	Superstructure				
5.11	walling in 150 mm Natural stone and 1:3 Motar	M ²	21		
5.12	Apply 1:3 25mm motar for plaster on the inner wall, top of wall and beams	M ²	21		
5.13	Finish the outside wall with pointiny (KEY)	M ²	21		
5.14	Apply 3 coats (1 plastic emulsion and 2 su[er gross to interior walls)	M ²	21		
5.15	Provide all materials and fix 900X2000 steel door	No.	1		
5.16	Provide all materials and fix 1100X500 mm steel window as in drawinds	No.	1		

5.17	Provide and fix prepahtesd corrugated G,I sheet roof Guage 28. Include for all timber as per drawings	lot	1		
5.18	Provide and fix all pipework as shown on drawings	Lot	1		
TOTAL CARRIED TO SUMMARY PAGE					

ADAPTATION VILLAGE BOQ					
BILL 6: Sanitation Block					
Item	Description	Unit	Qty	Rate	Amount Ksh.
6.1	Site clearance. Clear all vegetation, tree stumps etc in readiness for construction	M ²	20		
6.2	Top soil stripping strip all soil up to 300mm deep	M ²	15		
6.3	Excavation Excavate soil other than top soil to firm ground to the satisfaction of the Engineer	M ³	20		
6.4	Provide and fix in place 1000 guage polythene sheet damp proofing	M ²	15		
6.5	Provide and fix in place deformed 12mm steel reinforcement on both axis	Kg	106.8		
6.6	Provide mix place and cure class 20 concrete for floor,	M ³	2.25		
6.7	Provide and fix formwork to side and bottom of floor slab	M	16		
6.8	Red Oxide finish to the top of floor	M ²	15		
6.9	provide all materials and install ceramic tiles on floor and half wall of the urinal	M ²	10		
6.1	Provide for 225 mm natural stone substructure walling	M ²	96		
	superstructure				
6.90	walling in 150 mm Natural stone and 1:3 Motar	M ²	42		
6.11	Apply 1:3 25mm motar for plaster on the inner wall, top of wall and beams	M ²	56		

6.12	Finish the outside wall with pointing (KEY)	M ²	28		
6.13	Apply 3 coats (1 plastic emulsion and 2 super gross to interior walls)	M ²	56		
6.14	Provide and fix flash doors to toilets including frames	No.	3		
6.15	Provide and fix prepainted corrugated iron sheet roof. Include for all timber as instructed	lot	1		
TOTAL CARRIED TO SUMMARY PAGE					

ADAPTATION VILLAGE BILL OF QUANTITIES**SUMMARY PAGE**

BILL 1: Preliminary Items	
BILL 2: Drilling	
BILL 3: Fencing	
BILL 4: Basic Hall	
BILL 5 : Borehole Equiping	
BILL 6 : Water Kiosk	
BILL 7 : Sanitation Block	
Total	
5% Contigencies	
Grand Total	
TOTAL FOR 2 No.	

SECTION IX (1)

SPECIAL SPECIFICATIONS

SECTION I GENERAL

The Resident Engineer's House.

The contract does not allow for Resident Engineer's office

1. Drawings

All drawings are deemed to be self-explanatory. However, where doubts exist, the contractor should liaise with the Engineer before proceeding with the works.

2. Site Office

There is a no provision for in this contract.

3. Labour camp

The contractor is not permitted to house labour on site. He will be responsible for the transportation of workmen to and from site at his own cost and risk.

02 THE MANAGEMENT OF THE CONTRACT

- a) The Project Engineer will be responsible for the contract management and site supervision.
- b) All materials and workmanship shall comply with the latest edition of the Ministry of Public Works specifications for Civil Engineering.

03 EXTENT OF CONTRACT AND ALTERATION OF DESIGN

- (i) The works specified under this contract shall include all general work preparatory to execution of all matters, things, requisites and work of any kind necessary for the due and satisfactory
- (ii) construction, completion and maintenance of the work to the intent and meaning of the drawings and this specification and further drawings and orders, that may be issued by the Engineer from time to time. Compliance by the Contractor with all the General Conditions of Contract, whether specifically mentioned or not in the clause of this specification, all materials, apparatus, plant, machinery, tools, fuel, water, timbering and tackle of every description, transport, offices, stores, workshops, staff, labour, the provision of proper and sufficient protective works, temporary fencing, lighting and watching required for the safety of the public and protection of the works and adjoining lands: first aid equipment, sanitary, accommodation for the staff and workmen; the effecting and maintenance of all insurances, the payment of all wages, salaries, fees, royalties, duties or other charges arising out of the execution of the works and the regular clearance of rubbish. Re-instatement and clearing and leaving perfect on completion. The Contractor will be deemed to have included in his rates the cost of complying with the requirements of this Specification and General Conditions of the Contract unless otherwise specified.

- (iii) Should the Contractor have comments regarding soundness of the design of any part of the work, or should he consider that the execution of the design is impossible on any part of the, Contract, the Contractor is required to notify the Engineer in writing at the time of the tender and provide factual evidence substantiating his opinion when required to do so by the Engineer.
- (iv) Notices given by the Contractor in respect of the above after the tender is submitted will not be considered as the basis of a claim for additional costs or extensions of the time.
- (v) The Engineer may require to alter the design of any part of the structure should site conditions warrant such a change and the rates entered in the Bill of Quantities should be applicable for the similar items. The rates for the items of the work not covered by the Bill of Quantities shall be established by the Engineer.

04 PROGRAMMES FOR EXECUTION OF THE WORKS

- 1) In accordance with the terms of Clause 14 of the General Conditions of the Contract, the Contractor shall submit to the Engineer within 14 days from the order to commence fully detailed programme showing the order, procedure and method by which he proposes to carry out the construction and completion of the works
- 2) The information to be supplied to the Engineer shall include drawings showing the general arrangement of the temporary offices and any other temporary structures, which the Contractor proposes to use together with details of the construction plant and temporary works and all other devices, which he proposes to adopt for the construction and completion of the whole of the works, and in addition to details of the labour strength, skilled and unskilled, and supervision arrangements.
- 3) The Order in which it is proposed to execute the permanent works is subject to adjustment and approval by the Engineer and the Contract Price shall be held to include for any reasonable and necessary adjustment required by the Engineer during the course of the Works.
- 4) The Contractor will be deemed to have considered the effect of seasonal weather variations, when programming his operations it must be clearly understood, that rains of up to 75mm per day will be deemed to be normal and expected. No claims by the Contractor for extension of time due to rains or floods less than 75mm per day as measured by the Meteorological Department will be considered by the Engineer.
- 5) The Contractor, when preparing his programme has to consider the time for the delivery of any imported material and the Engineer's normal working hours.
- 6) The Engineer's normal working hours shall be defined as 8a.m. to 5p.m. on weekdays with Saturdays and Sundays set aside for rest. If the Contractor wishes to execute permanent works outside these hours, he shall obtain the written permission of the Engineer to make provision for supervision of such works.
- 7) Contractor shall carry out the Contract in accordance with the Programme agreed with the Engineer, but he shall in no manner be relieved by the Engineer's approval of the programme of his obligations to complete the works by the prescribed completion date, and he shall from time to time review his progress and make such amendments to his rate of execution of the works as may be necessary to fulfill his obligations.

- 8) If in the opinion of the Engineer the plant or the equipment used by the Contractor for any specific item of the work does not fulfill the requirements of the specifications in respect of the workmanship, quality and safety of structures, sum items of plant and equipment shall be replaced with similar or equivalent items of plant or equipment to the satisfaction of the Engineer. No extra payment will be made in respect of such replacements.
- 9) The construction of hoarding shall commence immediately the project is handed over to the Contractor and shall comply with the requirements given in clause 1731.

05 TEMPORARY WORKS

- 1) After the Contract is placed and before the work commences, the Contractor shall submit to the Engineers drawings showing the general arrangement of his offices, quarters, workshops, etc and other temporary works with diagrams and descriptions showing how he proposes to execute such temporary works and how they fit into his programme for the permanent works, all to be subject to adjustment and approval by the Engineer.
- 2) The Contractor shall be fully responsible for the sufficiency, stability and safety of all temporary works and their care in accordance with the Conditions of Contract.
- 3) The Contractor shall at his own expense, supply in advance to the Engineer for his approval detailed drawings and calculations of stability of such temporary works as the Engineer may direct, but no approval given or implied by the Engineer shall relieve the Contractor of his responsibilities in connection with the temporary works
- 4) Unless otherwise instructed, upon completion of the contract and after receiving approval in writing from the Engineer, the Contractor shall take down and remove all structures forming part of his own camp and that of the Engineer, and shall arrange for the disconnection of water supply, remove all drains and culverts, backfill trenches, fill in all latrine pits, soak away and other sewage disposal excavations, with the exception of items and services to revert to the ownership of the Employer and shall restore the site as far as practicable to its original condition and leave it neat and tidy to the satisfaction of the Engineer.

06 SITE PERSONNEL

- 1) The Engineer will require the Contractor to submit a list of professional and sub-professional personnel to be employed on the site stating their qualifications and experience.
- 2) The Contractor shall be responsible for ensuring, that all personnel of Non-Kenyan origin employed on site by himself or his Sub-Contractors or who are otherwise connected with the construction contract through the Contractor must be approved and cleared individually in writing by the appropriate Government Official to work on the project. Where personnel are not approved, the Contractor shall be responsible at his own expense for obtaining and employing suitable and approved personnel.
- 3) The Engineer reserves the right to determine suitability of the persons employed by the Contractor and may request replacement at any time of any member of the team employed by the Contractor. If in the opinion of the Engineer the presence of such a person is deleterious to the execution of the Contract, the Engineer's decision is final and binding.
- 4) The Site Agent to be a Registered Engineer.
- 5) The Contractor shall keep constantly a literate English speaking Agent or Engineer as his

representative on the site, competent and experienced in the type of works Involved, who shall give his whole time to the Supervision of the Contractor's operations.

- 6) The name of such Agent or Representative shall be submitted in writing to the Engineer for approval and he shall receive on behalf of the Contractor all directions and instructions from the Engineer or his representative and such directions and instructions shall be deemed to have been given to the Contractor in accordance with the conditions of contract.

02 NOTICE OF OPERATIONS

- 1) No important operations shall be carried out without the consent of the Engineer in writing, or without full and complete notice also in writing, being given to the Engineer by the Contractor sufficiently in advance of the time of the operation as to enable the Engineer to make such arrangements, as he may deem necessary for its inspection.
- 2) The Contractor shall supply, from time to time, to the Engineer in writing, full information with respect of locations in which the work is being prepared.
- 3) The Contractor shall give the Engineer not less than 24 hours notice of his intentions to set out or give levels for any part of the works, in order that arrangements may be made for checking. Any benchmarks, setting out pegs or other line or level markings installed or made by the Engineer shall be carefully preserved by the Contractor. Working shall be suspended for such times as may be necessary for checking the lines and levels on any part of the work.

03 SETTING OUT

- 1) It will be the responsibility of the Contractor to obtain before commencing work the value and location of the benchmarks to be used for the works from the Engineer. All temporary benchmarks will be referred hereto. The Contractor shall construct such temporary benchmarks as the Engineer may direct and agree the level thereof with the Engineer. The establishment of such temporary benchmarks will be deemed to be part of the Contractor's responsibility in setting out the works and no additional payment will be allowed.
- 2) Should the Contractor discover any error in the alignment or levels of the basic setting out, he shall at once notify the Engineer, who will then issue amended drawings or instructions regarding the correction of the error.
- 3) All approved setting out points, lines, stations etc shall be marked by concrete markers and steel pegs or as otherwise approved by the Engineer.
- 4) The contractor shall allow in the Bill of Quantities for complying with the provisions of this Clause and any abortive setting out occasioned by errors in the alignment of levels of the Contractor's basic setting out.

11. HEALTH, SAFETY ON SITE AND WELFARE

1. The Contractor shall ensure, so far as is reasonably practicable and to the satisfaction of the Engineer, the health, safety and welfare at work of his employees including those of his sub-contractors and of all other persons on the site.
2. From the time any portion of the works is commenced, until the end of the maintenance period, the Contractor shall be responsible for protecting the public from anything dangerous to persons or property and for the safe and easy passage of pedestrians and

vehicular traffic.

3. The Contractor shall designate one of his senior staff, who shall have specific knowledge of safety regulations and experience of safety precautions on similar works and who shall advise on matters affecting the safety of workmen and on measures to be taken to promote safety in compliance with the factories Act Cap. 514 as a safety officer.
4. The Contractor shall provide protective clothing and equipment, first aid stations with such personnel and equipment as are necessary. The appropriate information, instruction, training and supervision will be arranged by the Contractor to ensure the safety and health of all the persons employed on the works, all in accordance with the laws of Kenya.
5. The Contractor shall provide adequate waterborne sanitation and refuse collection and disposal complying with the laws of Kenya and all local by-laws, and to the satisfaction of the Engineer, for all houses, offices, workshop erected on site. Construction of pit latrines will not be permitted unless the Engineer has given his approval in writing.
6. During the period of execution of the works the Contractor shall ensure that
7. No pollution of existing water courses or of reservoir catchment areas is allowed to take place as a result of his operation.
8. In addition to providing, equipping and maintaining adequate first aid stations throughout the works in accordance with the Laws of Kenya, the Contractor shall provide and maintain on site for a duration of contract a fully equipped dispensary. This shall be with a qualified Clinical Officer who shall offer the necessary medical advice on AIDS/HIV and related diseases to Engineers and Contractors site staff. The contractor shall allow for all costs of providing these facilities in his rates.

1. **Welfare facilities:**

The Contractor **SHALL NOT** provide welfare facilities.

12 **PRIVATELY OWNED AND PUBLIC UTILITY SERVICES**

- 1) The Contractor shall make him acquainted with the position of all existing works and services inter alia sewers, storm water drains, cables for electricity and telephone and lighting poles and water mains before any excavation commences.
- 2) The Contractor will be held responsible for damage caused in the course of the execution of the works to sum existing works and services and shall indemnify the Employer against any claims arising from such damage (including consequential damages). Any damage caused must be made good at the Contractor's own expense.
- 3) Such existing works and services, where exposed the execution of the works, must be properly shored, hung-up and supported to the satisfaction of the Engineer and of the Authority concerned. The Contractor shall exercise special care, when refilling trenches or other excavations around sum existing works of services.
- 4) Poles supporting cables, etc adjacent to the works will be kept securely in place, until the work is completed and will then be made as safe and permanent as before.
- 5) Notwithstanding the foregoing requirements and without lessening the Contractor's responsibility, the contractor shall inform the Engineer immediately when existing works have been exposed and conform to any requirements of the Authority concerned and of the Engineer.

- 6) Any damage to or interference with existing services occasioned during the progress of the works, will be deemed to be the responsibility of the Contractor' who shall undertake to make good at his own expense any damage so caused to the existing underground services or other features, and shall be liable in respect of all claims arising from such damage or interference, however occasioned.
- 7) Only when and as directed by the Engineer the position of an existing work or service can be changed by the Contractor to meet the requirements of the proposed work. The cost of such work will be paid for on a day work basis, except where a specific item has been provided in the Bills of Quantities.

13. EXISTING ROADS AND ACCESSES

1. The Contractor shall comply with all requirements of the Employer, owners or the competent Authority concerning the use of traded equipment or other construction plant on any public or private road.
2. The cost of providing all *diversions*, signs, operators, flagmen and all reinstatement to the approval of the Engineer will be deemed to be included in the rates entered in the Bill of Quantities, as will the cost of any road opening permit.
3. Before excavating across any public road, the Contractor shall give 10 days notice in writing to the Engineer and the Local Authority his intention to excavate.
4. He shall satisfy the Engineer, the Local Authority and the Police as to the precautions he proposes to take and the signs and lights to be provided and operated. On any road or track at least 4 red lights shall be suitably placed on either side of the trench and diversions shall be clearly marked, signed and maintained.
5. The Contractor shall further give to the Engineer a 24 hours notice before excavating across a private road. Existing access to lands, property and all other things will be maintained by the Contractor during the continuance of the Works to the Engineer's satisfaction. The cost of such maintenance will be deemed to be covered by and included in the rates entered on the Bills of Quantities.
6. When a road, used by the Contractor for transporting labour or construction plant or for delivery of any materials for the works, is closed under Section 71 of the traffic ordinance 1962, or amendments thereto, the Contractor shall obey such closure and shall use alternative roads.

14 COMPLIANCE WITH STATUTES AND REGULATIONS

- 1) In addition to the requirements of Clause 26 of the General Conditions of Contract, the Contractor shall be responsible for acquainting himself with all current valid statute ordinances or bye-laws or building regulations, which may affect the Works and shall include in his rates for all costs arising from compliance with the same. This applies in particular to the training levy and similar taxes for which no claims on the part of the Contractor will be entertained.
- 2) The Contractor shall also keep in close touch with Police and other Government Officials of the area regarding their requirements in the control of traffic or other matters, and shall provide all assistance or facilities, which may be required by such officials in the execution of their duties.
- 3) The Contractor's attention is drawn to legal Notice No.237 of October, 1971, which requires

payment by the Contractor for Training Levy at the rate of 0.25% of the Contract sum on all contracts of more than KSh50,000.00 value and his tender must include for all costs arising or resulting thereof. The Training levy shall be paid by the Contractor without delay. The original receipt shall be given to the Engineer for verification. No payment certificate will be certified by the Engineer, until the Contractor complies with the above legal notice.

- 4) 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.
- 5) The tenderer is advised that in accordance with Government public notice No. 35 & 36 Dated 11th September 2003 operational from 1st October 2003, withholding VAT will be levied against the contract by the Employer and remitted 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.

This item **SHALL** be priced at the Grand Summary page.

15. **WATER SUPPLY**

- 1) The Contractor shall provide clean and sufficient supply of fresh water both for construction of the works and for all offices and workshops, etc. includes the arrangement of pipe lines, meters, etc for connecting to local water main, the provision of storage tanks or water conveyance where necessary, payment of all fees and water charges.
- 2) The water shall be reasonably clear of suspended solids and free from any matter in quantities considered by the Engineer to be deleterious to the proposed work. Water supplied to the Engineer's offices, laboratories, etc. shall be drinkable to the satisfaction of the Medical Officer in the area. No separate payment shall be made for the provision of water or its attendant facilities and the Contractor shall allow for all these in his tender rates.
- 3) In the event that a water main is not available on or near the site, or that any available mains will not have sufficient capacity to provide water adequate for the works, then the Contractor shall provide temporary tanks or other means of collecting, storing and distributing water on the site.

16. **LIGHTING, POWER AND TELEPHONE**

- 1) The Contractor shall make his own arrangements for the supply of light, power and telephone required for the construction of the works and shall pay all fees and charges in connection therewith.
- 2) The Contractor shall arrange with the appropriate authority for a temporary meter and supply of electricity and provide all temporary wiring, power and lighting points as he may consider necessary. In the event no fixed electricity being available, the Contractor shall provide the necessary power generating plant at his own expense.

17. **WORKING AREA**

- 1) The Contractor shall restrict his operations to those areas made available to him by the Engineer and shall at all times provide and maintain an adequate access for the Employer's employees and vehicles to carry out their normal duties in and around the existing works.

- 2) The Contractor shall, before entering upon any land purchased, rented, or for the use of which compensation has been paid, ensure that all formalities have been completed and the agreement of the Owner, Tenant and the Engineer has been obtained.
- 3) All requirements of land for temporary works and construction purposes shall be to the approval of the Engineer but the Contractor will make all necessary arrangements with the property owners concerned and pay all charges arising therefrom. On or before completion of the Contract, the Contractor shall remove all temporary works and shall restore all such land to the condition in which it was immediately prior to the occupation thereof as far as is reasonable and practicable. No separate payment will be made to the Contractor on account of these items and the Contractor must make due allowance for them in his rates

18. CO-ORDINATION OF THE WORKS

- 1) The Employer reserves the right to execute works on the site which are not included in this Contract. He will employ for this purpose either his own employees or another Contractor. The Contractor shall ensure that neither his own operations nor trespass by his employees will interfere with the operations of the Employer nor his Contractor employed on such works.
- 2) The Contractor will be required to carefully co-ordinate his activities and work, both on and off site, with the activities and work of the other Contractors, Sub-Contractors, statutory, undertaking and all supervisory staff for the works appointed by the Employer. He shall allow all works to proceed without undue hindrance and will cooperate to expedite execution of the works.
- 3) If any dispute or difference of any kind whatsoever shall arise between the Contractor or statutory undertaking regarding the phasing, progress or execution of the works then the Engineer shall have full power to direct in what order the works, or any portion thereof shall be carried on or completed and he may from time to time require the whole or any portion of the works to be discontinued or the execution thereof postponed for such a period as he may think fit.
- 4) The Contractor shall respect any works executed by others and articles supplied or installed by others and will be held responsible for any loss or damage thereto, if caused by him or his Sub-Contractors.

19. COPIES OF ORDERS AND TEST CERTIFICATES

- 1) Before entering into any Sub-Contract for the supply of any material or article the Contractor shall obtain the Engineer's approval in writing of the Sub-Contractor from whom he proposes to obtain such materials or goods. Should the Engineer at any time be dissatisfied with such materials or goods or with the method of operations carried out at such Sub-Contractor's works or place or business, he shall be empowered to cancel his previous given approval of sub-contract and shall specify any other supplier whom he may choose, or shall approve another sub-contractor for the supply of such materials or goods. The Contractor shall then obtain such said materials or goods from such other supplier and shall bear any additional cost thereof, together with the costs and consequences of replacing any unsatisfactory materials already incorporated in the work.
- 2) The Contractor shall deposit with the Engineer samples of materials and manufactured articles including the manufacturer's specification, when and where appropriate.
- 3) When instructed by the Engineer the Contractor shall submit test-certificates from the suppliers of

the materials and goods to be used for the contract to the Engineer. Such certificates shall certify that the materials or goods concerned have been tested in accordance with the requirements of the specifications and shall give the results of all tests carried out. The Contractor shall provide adequate means of identifying the materials and goods delivered to the site with the corresponding certificates.

- 4) The Contractor shall provide the Engineer with copies of all orders for the supply of materials and goods required in connection with the works as the Engineer may require.
- 5) All materials and manufactured articles shall be stored on site in a manner acceptable to the Engineer. The Contractor shall carefully protect from weather and vermin all work, materials and manufactured articles, which may be affected.

20. PROGRESS PHOTOGRAPHS AND RECORD DRAWINGS

- 1) The contractor shall keep a record of progress photos and submit them to the Engineer Weekly or as directed.
- 2) The photographs shall be mounted on A4 loose-leaf sheets, minimum 200g, with transparent plastic sheets.
- 3) After the work has been completed, the Contractor shall furnish as built drawings, showing the works as constructed together with all other information that may either be required or be useful for the operation and maintenance of the works in the future, such as alignment and depth of cover of pipelines, type of soil, rock levels, type, dimensions and location of structures, size of pipelines and cables encountered during excavation
- 4) All drawings shall be A 1 in size to the ink border and drawn on a perm trace paper.

21. SURVEY EQUIPMENT FOR THE ENGINEER

- 1) The Contract has no provision for the supply of survey equipment
- 2) The Contractor will provide two experienced chainmen for the assistance of the Engineer in checking the setting out of the works.

22. MAINTENANCE AND INSURANCE OF BUILDINGS

1. The Contractor shall keep all buildings provided by him, for the use of the Engineer and his staff, in a well maintained, clean and fully habitable condition, and shall maintain all access roads, car parks, footpaths, fences, gates, drains, potable water supplies and sewage disposal systems in a good state of repair, all to the satisfaction of the Engineer.
2. The Contractor shall also provide an adequate refuse collection service for the office, laboratory and other buildings provided by the Contractor for the use of the Engineer and his staff.
3. The Contractor shall maintain all furniture and equipment provided in a reasonable state of repair and usable condition and shall replace promptly any item which becomes unserviceable or is lost.
4. All buildings, furniture and any equipment provided by the Contractor for the Engineer's use shall be insured by the Contractor against any loss or damage by accident, fire or theft for the duration of the Contract, in accordance with the general conditions of Contract. Theft shall include all personal belongings of the Engineer and his staff.

23. ATTENDANCE ON ENGINEER AND STAFF

1. The Contractor shall provide such labour as is reasonably necessary to attend to the day to day office requirements and maintenance, and to assist with office cleaning, site measurements and the checking and testing of the works. The Contractor shall replace any of his employees attending to the Engineer who is unable to carry out his duties due to illness or any other reason.
2. The Contractor shall provide adequate security by day and by night for all the buildings provided by him for the Engineer and his staff. This shall include the Provision of full-time attending permanent watchmen.
3. The Contractor shall include all the costs of complying with this Clause in the item for maintenance of Engineer's office in the Bill of Quantities.

24. SIGNBOARDS

The Contractor to provide Signboards for the project.

25. SITE MEETINGS

The Contractor to provide for monthly site meetings to be held on site and where the Contractor would be expected to attend.

26 ENVIRONMENTAL PROTECTION (where applicable)

1. The Contractor shall comply with the Statutory Regulations in force in Kenya regarding environmental protection and waste disposal, and shall liaise with the National Environmental Management Agency (NEMA). Within four (4) weeks of the order to commence work, the Contractor shall prepare and submit a specific Environmental Management Plan for the project and his operations, relating to the approved Environmental Impact Assessment. The Environmental Management Plan shall outline potential environmental hazards and risks, and provide an action plan to deal with the hazards, minimize the risks, and mitigate adverse environmental impacts, and include a general decommissioning plan covering all relevant aspects of the project. The Environmental Management Plan shall identify monitoring indicators and reporting requirements.
2. The Contractor shall be required to submit environmental progress reports to the Engineer every three (3) months. The Contractor shall ensure so far as is reasonably practicable and to the satisfaction of the Engineer; that the impact of the construction on the environment shall be kept to a minimum and that appropriate measures are taken to mitigate any adverse effects during the construction.
3. The Contractor shall exercise care to preserve the natural landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring, or defacing of the natural surroundings in the vicinity of the work. Except where clearing is required for permanent works, all trees, native shrubbery, and vegetation shall be preserved and shall be protected from damage by the Contractor's construction operations and equipment. All unnecessary destruction, scarring, damage or defacing resulting from the Contractor's operations shall be repaired, replanted, reseeded or otherwise corrected as directed by the Engineer, and at the Contractor's

expense.

4. The Contractor shall ensure that measures are in place to control soil erosion and water pollution, by use of berms, dykes, silt fences, brush barriers, dams, sediment basins, filter mats, netting, gravel, mulches, grasses, slope drains, contour banks, and other erosion control devices and methods. Temporary erosion control provisions shall be coordinated with permanent erosion control features to assure economical, effective and continuous measures throughout the period of the works. The Contractor's attention is drawn to the requirements of Clause 502, in that works need to be progressively finished so that permanent vegetation can establish quickly to mitigate soil erosion and erosion of drains.
5. The Contractor shall provide all the labor, equipment, materials, and means required and shall carry out proper and efficient measures wherever and as often as necessary to minimize the dust nuisance. The Contractor shall comply with all applicable Kenyan laws, orders and regulations concerning the prevention, control and abatement of excessive noise. Blasting, use of jackhammers, pile driving, rock crushing, or any other activities producing high-intensity impact noise may be performed at night only upon approval of the Engineer.
6. Immediately after extraction of materials, all borrows pits shall be backfilled to the satisfaction of the Engineer. In
7. Particular borrow pits near the project road shall be backfilled in such a way that no water collects in them.
8. Spilling of bitumen fuels Oils and other pollutants shall be cleared up.
9. The Contractor's attention is drawn to the requirements of the Standard Specification in regard to the environment and in particular to the following clauses:
10. Clause 115: Construction Generally Clause 116: Protection from Water Clause 136: Removal of Camps
11. Clause 605: Safety and Public Health Requirements Clause Clause 607: Site Clearance and Removal of Topsoil and Overburden
12. Payment in respect of this Clause 142 is included as a Lump Sum in the Bill of Quantities. Payment of the Lump Sum will be by equal monthly instalments over the period of the Contract excluding the Period of Maintenance. The total sum of the instalments shall not exceed the Lump Sum, and payment of the monthly instalment will only be made for that month if the Engineer is satisfied that the Contractor has fully complied with the requirements of Clause 142, otherwise the Contractor shall forfeit such instalment.

SECTION IX (2)

MATERIALS SPECIFICATIONS

17. **CONCRETE WORKS**

1702. **DEFINITIONS**

1. Structural concrete is any class of concrete, which is used in reinforced concrete, prestressed or unreinforced concrete construction, which is subject to stress.
2. Non structural concrete is composed of materials complying with the specification, but for which no strength requirements are specified and which is used only for filling voids, building foundations and similar purposes, where it is not subjected to significant stress.
3. A formed surface is a face which has been cast against formwork, and an unformed surface is a horizontal or nearly horizontal surface preceded by screeding or trowelling to level and finished as required.
4. Moderate exposure shall refer to surfaces exposed from severe rain, buried concrete or concrete continuously under water.
5. Intermediate exposure shall refer to surfaces exposed to driving rain, alternate wetting and drying, traffic, corrosive fumes, and heavy condensation.
6. Severe exposure shall refer to surfaces exposed to sea water, any water having a PH of 4.5 or less, or ground water containing sulphates.
7. Formwork' or 'shuttering' shall include all temporary moulds for forming the concrete to the required shape, together with any special lining that may be necessary to produce the concrete finish required.
8. 'False work' or 'centering' shall consist of furnishing, placing and removal of all temporary constructions such as framing, props, struts and piles required for the support of forms.
9. A pour refers to the operation of placing concrete into any mould, bay or formwork, etc., and also to the volume which has to be filled. Pours in vertical succession are referred to as lifts.

1703 a **CEMENT**

1. Ordinary and Rapid Hardening Portland Cement shall be sampled and tested in accordance with and shall comply with all the requirements of Kenya Standard KS02-21.
2. The weight of magnesium oxide in the cement shall not exceed 5% and the content of total sulphur expressed as SO₃, shall not exceed 3.5%.
3. The minimum compressive strength of 3 mortar cubes shall be as follows:-

TABLE 1703 b-1

Type of Cement	Strength at 3 days N/mm ²	Strength at 7 days N/mm ²	Strength at 28 days N/mm ²
Ordinary Portland Cement Rapid	17.5	6.5	38.0
Rapid Hardening Cement	23.0	31.0	46.0

4. Cement shall be free flowing and free of lumps. It shall be supplied in the manufacturer's sealed unbroken bags or in bulk. Bagged cement shall be transported in vehicles provided with effective means of ensuring that it is protected from the weather. Bulk Cement shall be transported in vehicles or in containers built and equipped for the purpose.
5. Cement in bags shall be stored in a suitable weatherproof structure of which the interior shall be dry and well ventilated at all times. The floor shall be raised above the surrounding ground level and shall be so constructed that no moisture rises through it
6. Each delivery of cement in bags shall be stacked together in one place. The bags shall be closely stacked so as to reduce air circulation but shall not be stacked against an outside wall. If pallets are used, they shall be constructed so that bags are not damaged during handling and stacking. No stack of cement bags shall exceed 3m in height. Different types of cement in bags shall be clearly distinguished by visible markings and shall be stored in separate stacks.
7. Bulk cement shall be stored in weatherproof silos which shall bear a clear indication of the type of cement contained in them. Different types of cement shall not be mixed in the same silo.
8. The Contractor shall provide sufficient storage capacity on site to ensure that his anticipated programme of work is not interrupted due to lack of cement. Cement which has become hardened or lumpy or fails to comply with the specification in any way shall be removed from the site.
9. All cement used in the works shall be tested by the manufacturer or the Contractor in a laboratory acceptable to the Engineer. The tests to be performed shall be those set out in KS 02-21 and the Contractor shall supply two copies of each certificate to the Engineer.
10. Each set of tests carried out by the manufacturer or Contractor shall relate to not more than one day's output of each cement plant, and shall be made on samples taken from cement which is subsequently delivered to the site. Alternatively, subject to the agreement of the Engineer, the frequency of testing shall be one set of tests for every 200 tonnes of cement delivered to site from each cement plant.
11. Cement which is stored on site for longer than one month shall be retested in the laboratory of the Materials Department of the Ministry of Transport, Infrastructure, Housing and Urban Development or at the Kenya Bureau of Standard at the rate of one set of tests for every 200 tonnes and at monthly intervals thereafter.

1703 b**FINE AGGREGATE**

1. Fine aggregate shall be clean, hard and durable and shall be natural sand, crushed gravel sand or crushed rock sand complying with KS 02-95. All the material shall pass through a 5mm sieve and the grading shall be in accordance with Zones 1, 2, or 3 of KS 02-95. In order to achieve an acceptable grading, it may be necessary to blend materials from more than one source.

2. The fine aggregate shall not contain iron pyrites or iron oxides. It shall not contain mica, shale, coal or other laminar, soft or porous materials or organic matter unless the Contractor can show by comparative tests, on finished concrete as set out in KS 02-595, that the presence of such materials does not adversely affect the properties of the concrete.
3. Content passing a 75-micron BS sieve shall not exceed 3 per cent for natural or crushed gravel sand or 15 per cent for crushed rock sand.
4. Chlorides soluble in a 10 per cent solution by weight of nitric acid shall not exceed 0.05 per cent by weight expressed as Chloride iron when tested as set out in KS 02- 1238, Subject also to the further restriction given on total chloride content in Clause 1703 d.
5. Sulphate soluble in a 10 per cent solution by weight of hydrochloric acid shall not exceed 0.4 per cent by weight expressed as SO_3 , Subject also to the further restriction given on total sulphate content in Clause 1703 d.
6. Soundness: After five cycles of the test in AASHTO- T -104 the aggregate shall not show a weight loss of more than 10 per cent.

1703c ADMIXTURES TO CONCRETE MIXES

1. The Contractor will not be permitted to use admixtures in the concrete without the express approval of the Engineer and in no circumstances will corrosive admixtures be allowed.
2. Admixtures shall not be used to replace cement. If admixtures are used to entrain air, to reduce the water/cement ratio, to retard or accelerate setting time or to accelerate the development of strength, they shall be used at the rate of dosages as directed by the Engineer. Admixtures shall be measured accurately into each batch by methods approved by the Engineer.
3. Admixtures shall be dispensed in liquid form. Dispensers for liquid admixtures shall have sufficient capacity to measure at one time the full quantity required for each batch. Unless liquid admixtures are added to pre-measure water for the batch, their discharge into the batch shall be arranged to flow uniformly into the stream of water. Dosages of liquid admixtures shall not vary from the dosage ordered by the Engineer by more than 5%. Equipment for measurement shall be designed to provide convenient confirmation of the accuracy of the measurement. If more than one mixture is used, each shall be dispensed of separate equipment unless otherwise permitted by the Engineer.
4. In the event of permission being granted in principle, the tests described in
5. The specification shall be carried out with the intended proportion of admixture incorporated and comparison shall be made with concrete manufactured without the admixtures to prove, the density has not been reduced by more than 5%.
6. Except as otherwise provided for air entraining agents, samples of admixtures proposed for use shall be submitted by the Contractor to the Engineer sufficiently in advance of intended use, to permit test arrangements for determining compliance with the claimed properties.
7. Any type of admixture shall be uniform in properties throughout its use in the works. Should it be found that the admixtures as furnished is not uniform in properties, its use shall be discontinued
8. The Contractor may be permitted to use an air-entraining agent to facilitate the use of any construction procedure or equipment. If the Contractor selects to use an air-entraining agent, additional cement shall be included in the concrete mixture. The amount of additional cement shall conform to the weights set forth in table 1703c-1 within the range of air contents shown:

TABLE 1703 c-1

AIR CONTENT	<3%	3%-4%	4%-5%	5%-6%
Additional Cement per m ³ concrete (kg)	0	30	56	104

- 3) When an air entraining agent is used, the air content shall in no case exceed 6% by volume in the freshlymixed concrete.
- 4) Full compensation for furnishing and mixing the air entraining agent and the additional cement as provided above will be considered as included in the contract prices paid for the concrete involved andno additional compensation will be allowed.
- 5) When water reducing retarders are used, the permitted dosage of the admixture shall not exceed that whim will result in an increase in the drying shrinkage of the concrete in excess of 10%.
- 6) Water reducers shall reduce the water demand of concrete for a given slump by at least 7% when used at the maximum dosage recommended by the manufacturer, but not more than that needed to obtain thedesired retardation. The strength of the concrete containing the admixture shall at the age of 48 hours and after, be not less than that of similar concrete without the admixture.

1703 d COARSE AGGREGATE

- 1) Coarse aggregate shall be clean hard and durable crushed rock, crushed gravel or natural gravel complying with the requirements of KS 02-95. The material shall not contain any iron pyrites, iron oxides, flaky or laminated material, hollow shells, coal or other soft or porous material, or organic matterunless the Contractor can show by comparative tests on finished concrete as set out in KS02-595 that thepresence of each material does not adversely affect the properties of the concrete. The pieces shall be angular, rounded or irregular as defined in KS 02-1238.

- 3) Coarse aggregate shall be supplied in the nominal sizes called for in the Contract and shall be graded in accordance with KS 02-95 for each nominal size as follows:

TABLE 1703d-1

Test Size	Percentage by weight passing			
	Normal size of single-size aggregate			
	40mm	20mm	15mm	10mm
40mm	85-100	100	-	-
20mm	0-20	80-100	100	-
15mm	-	-	85-100	100
10mm	-	0-20	0-45	100
5mm	-	0-5	0-10	0-20
2.5mm	-	0-2	0-2	0-5

- 4) The single sized aggregate shall be combined in proportions to give overall grading of coarse aggregate within the limits set out in Table 1703-2 as follows:-

TABLE 1703 d-2

Test Service	Percentage by weight passing		
	Normal size of Graded Aggregate		
	40mm to 5mm	20mm-5mm	15mm-5mm
40mm	95-100	100	-
20mm	30-70	95-100	100
15mm	-	-	90-100
5mm	0-5	0-10	0-10

- 1) The proportion of clay, silt and other impurities passing a 75 micron sieve shall be not more than one percent by weight.
- 2) The content of hollow and flat shells shall not be such as will adversely affect the concrete quality when tested as set out in BS 1881. The total shell content shall not be more than the following:
 - a) 40mm nominal size and above 2% of dry weight
 - b) 20mm nominal size 5% of dry weight
 - c) 10mm nominal size 15% of dry weight
- 1) Soundness: After 5 cycles of the test in AASHTO T104 the aggregate shall not show a weight loss of more than 12 per cent.
- 2) Flakiness Index when tested in accordance with KS 02-1238 shall be not more than 40 for 40mm stone and above and not more than 35 for 20mm stone and below.

- 3) If the Flakiness Index of the coarse aggregate varies by more than five units from the average value of the aggregate used in the approved trial mix, then a new set of trial mixes shall be carried out if the workability of the mixes has been adversely affected by such variation.
- 4) Impact value shall not be more than 45 per cent when tested in accordance with KS02-1238 and the ten per cent fines shall not be less than 50kN.
- 5) Coarse aggregate when mixed with other ingredients in the approved proportions for concrete and tested as set out in KS 02-595, the shrinkage factor shall not exceed 0.05 percent.
- 6) The aggregate shall not have a water absorption of more than 2.5 per cent when tested as set out in KS02-1238. Aggregate Crushing Value not exceeding 35% and Los Angeles Abrasion (LAA) not exceeding 50%.
- 7) Chloride soluble in a 10 per cent solution by weight of nitric acid shall not exceed 0.05 per cent by weight expressed as chloride ion provided that the total chloride content arising from all ingredients in a mix including cement water and admixtures shall not exceed 0.05 per cent for prestressed concrete, steam cured concrete or concrete containing sulphate resisting or super sulphated cement and 0.3 per cent for any other reinforced concrete.
- 8) Sulphate soluble in a 10 per cent solution by weight of hydrochloric acid shall not exceed 0.4 per cent by weight expressed as SO_3 , provided that the total sulphate content expressed as SO_3 of all the ingredients in a mix including cement, water and admixtures shall not exceed 0.4 per cent by weight of fine aggregate or 4.0 per cent of the weight of cement in the mix, whichever is the lesser.
- 9) Aggregate which is potentially reactive when tested in accordance with ASTM Test C289- 71 for the alkali aggregate reaction must not be used? The standard for acceptance being that test results shall plot to the left of the solid line which is shown in figure 2 of the test standard. The Engineer may require that any aggregate be tested for potential reactivity in accordance with ASTM-C289-71.

1703e

TESTING OF AGGREGATE

- 1) The Contractor shall deliver to the Engineer samples containing not less than 50 Kg .of any aggregate which he proposes to use in the Works and shall supply such further samples as the Engineer may require. Each sample shall be clearly labelled to show its origin and shall be accompanied by all the information called for in KS02-45.
- 2) Tests to determine compliance of the aggregates with the requirements of Clauses 1703c and 1703d shall be carried out by the contractor in a laboratory acceptable to the Engineer. If the tested materials fail to comply with the Specification, further tests shall be made in the presence of the Contractor and the Engineer and acceptance of the material shall be based on such tests.
- 3) A material shall be accepted if not less than three consecutive sets of test results show compliance with the specification.
- 4) The Contractor shall carry out routine testing of aggregate for compliance with the Specification during the period that concrete is being produced for the works. The tests to be performed are: grading, silt and clay contents, moisture content and check on organic impurities.
- 5) The above tests shall be performed on aggregates from each separate source on the basis of one set of tests for each day on which aggregates are delivered to Site provided that no set of tests shall

represent more than 250 tonnes of fine aggregate nor more than 500 tonnes of coarse aggregate, and provided also that the aggregates are of uniform quality. If the aggregate from any source is variable, the frequency of testing shall be increased as instructed by the Engineer.

- 6) In addition to the above routine tests, the Contractor shall carry out moisture content as frequently as may be required in order to control the water content of the concrete and chloride contents test as frequently as may be required to ensure that the proportion of chloride does not exceed the limit specified.
- 7) The Contractor should take into account of the fact that when the chloride content is variable it may be necessary to test every load in order to prevent excessive amounts of chloride contaminating the concrete.

1703 f. STORAGE OF AGGREGATES

- 1) Aggregates shall be delivered to site in clean and suitable vehicles. Different types or sizes of aggregates shall not be delivered in one vehicle.
- 2) Each type of size of aggregate shall be stored in a separate bin or compartment having a base such that contamination of the aggregate is prevented. Dividing walls between bins shall be substantial and continuous so that no mixing of types or sizes occurs.
- 3) The storage of aggregates shall be arranged so that as far as possible rapid drying out in hot weather is prevented in order to avoid sudden fluctuations in water content. Storage of fine aggregates shall be arranged so that they can drain sufficiently before use in order to prevent fluctuations in water content of the concrete.

1703g. WATER FOR CONCRETE

- 1) Seawater or brackish water containing more than 1000-ppm chloride ion or 2000ppm sulphate iron shall not be used for mixing or curing concrete.
- 2) Water shall be clean and free from harmful matter and shall comply with the requirements of BS3148.
- 3) The Contractor shall carry out tests in accordance with BS 3148 to establish compliance with the Specification.

1704 a CLASSIFICATION OF CONCRETE MIXES

- 1) The concrete mixes to be used in the various parts of the works shall be as shown on the drawings and described herein and shall attain the strengths specified herein.
- 2) These mixes are of two categories.
 - a. Concrete Mix by proportion or prescribed mix.
 - b. Guaranteed strength concrete or designed mix.
- 3) The class of concrete is denoted by a number for characteristic strength in N/mm^2 . This number may be followed by a number for maximum size of aggregate in millimeter, e.g. class 30-(20) concrete is of compressive strength of $30 N/mm^2$ with maximum size of aggregate of 20mm. The 'characteristic strength' being the 28-day works cube strength below which no more than 5% of the

test results may be expected to fall.

- 4) A 'designed mix' shall mean a concrete, where the Contractor will be responsible for selecting the mix proportions in accordance with Clause 1704b in order to achieve the required strength and workability and the Engineer will be responsible for specifying the minimum cement content and any other requirements to ensure durability.
- 5) A 'prescribed mix' shall mean a concrete, where the Engineer will specify the mix proportions and specifications. The Contractor will undertake to provide a properly mixed concrete as specified in accordance with Clause 1704c. The Engineer will therefore be responsible for ensuring that the mix prescribed will provide the strength and durability required.

1704 b. REQUIREMENTS FOR CONCRETE

- 1) The Contractor shall submit to the Engineer full details of all materials which he proposes to use for making concrete. No concrete shall be placed in the works until the Engineer has approved the materials of which it is composed. Approved materials shall not thereafter be altered or substituted by other materials without the consent of the Engineer.
- 2) The amount of water to be used in any particular class of concrete shall ensure complete hydration and for thorough mixing and subsequent working of the concrete in place, taking into consideration the purpose for which the concrete is intended for and the method of compacting. Therefore for given aggregates the cement content shall be sufficient to provide adequate workability with a low water/cement ratio so that the concrete can be completely compacted with the means available.
- 3) The maximum cement content shall not exceed 500kg/m³ or as otherwise described in the contract or directed by the Engineer. Cement contents in excess of 500kg/m³ should not be used unless special consideration has been given in design to the increased risk of cracking due to drying shrinkage in the sections or to thermal stresses in thicker sections. Where the minimum dimension of concrete to be placed at a single time is greater than 600mm and especially where the cement content is likely to exceed 400kg/m³ or more, measures to reduce temperature, such as selection of the cement type with slower release of heat of hydration may be considered.
- 4) The minimum cement content to ensure sufficient durability shall not be less than described in Table 1704b-1

TABLE 1704 b-1 MINIMUM CEMENT REQUIREMENT (kg/m³)

Exposure	Nominal maximum size of aggregate (mm)								
	Plain concrete			Reinforced concrete			Prestressed concrete		
	40	20	10	40	20	10	40	20	10
Moderate	220	250	300	260	290	340	300	300	340
Intermediate	240	280	330	290	320	370	310	330	370
Severe	270	310	360	320	400	410	320	400	410

- 1) The minimum cement content shown in the above table is required in order to achieve impermeability and durability. In order to meet the strength requirements, higher contents may be required.

- 2) The cement content given in table 1704 b-1 may be reduced when trial mixes have verified that concrete with the maximum free water/cement ratio not greater than that given for the particular condition can be consistently produced and that it is suitable for the conditions of placing and compacting.

1704 c GUARANTEED STRENGTH CONCRETE (DESIGN MIXES)

- 1) The Contractor shall design all the concrete mixes called for on the drawings, making use of the ingredients, which have been approved by the Engineer for use in the works and in compliance with clause 1704 b.
- 2) The aggregate portion shall be well graded from the nominal maximum size of stone down to the 150-micron size. The cement content shall be such as to achieve the strength called for in table 1704 c-1 but in any case not less than the minimum necessary for impermeability and durability.
- 3) The workability shall be consistent with ease of placing and proper compaction having regard to the presence of reinforcement and other obstructions.
- 4) The water/cement ratio shall be the minimum consistent with adequate workability, but in any case not greater than that shown in table 1704 b-1, taking due account of any water contained in the aggregates. The Contractor shall take into account that this requirement may in certain cases require the inclusion of workability agent in the mix.
- 5) At least six weeks before commencing placement of concrete in the permanent works trial mixes shall be prepared for each class of concrete specified.
- 6) For each mix of concrete for which the Contractor has proposed a design, he shall prepare three separate batches of concrete using the materials which have been approved for use in the works and the mixing plant which he proposes to use for the works. The volume each batch shall be the capacity of the concrete mixer, proposed for full production.
- 7) Samples shall be taken from each batch and the slump of the concrete shall be determined. Six test cubes shall be cast from each batch. In case of the concrete having a maximum aggregate size of 40mm or less, 150mm cubes shall be used. In case of concrete containing 75mm or larger aggregate, 200mm cubes shall be used and in addition any pieces of aggregate retained on an 85mm sieve shall be removed from the mixed concrete before casting the cubes.
- 8) Subject to the agreement of the Engineer, the compacting factor apparatus may be used in place of a slump cone. In this case the correlation between slump and compacting factor shall be established during preparation of the trial mixes.
- 9) Three cubes from each batch shall be tested for compressive strength at seven days and the remaining three at 28 days. The density of all the cubes shall be determined before the strength tests are carried out.
- 10) The average strength of the nine cubes tested at 28 days shall be not less than the target mean strength shown in table 1704c-1. The Contractor shall also carry out tests to determine the drying shrinkages of the concrete unless otherwise directed by the Engineer. The drying shrinkages shall not be greater than 0.05%.
- 11) Based on the results of the tests on the trial mixes, the Contractor shall submit full details on his proposals for mix design to the Engineer, including the type and source of each mix and the results of the tests on the trial mixes. If the Engineer does not agree to a proposed concrete mix for any reason, the contractor shall amend his proposal and carry out further trial mixes. No mix shall be used in the works without the written consent of the Engineer.

TABLE 1704 c-1

CONCRETE CLASSES AND STRENGTHS

Class of concrete	Nominal Strength (N/mm ²)	Maximum nominal size aggregate (mm)	Maximum water/cement ratio		Trial mixes Target Mean Strength (N/mm ²)	Early works test cubes	
			A	B		Any one cube (N/mm ²)	Ave. of any group of 4 cubes (N/mm ²)
10/75	10	75	0.60	0.55	13.5	8.5	13.3
15/75	15	75	0.60	0.50	21.5	12.8	20.0
15/40	15	40	0.60	0.50	21.5	12.8	20.0
15/20	15	20	0.57	0.50	21.5	12.8	20.0
20/40	20	40	0.55	0.48	31.5	17.0	27.5
20/20	20	20	0.53	0.48	31.5	17.0	27.5
20/10	20	10	0.50	0.48	31.5	17.0	27.5
25/40	25	40	0.52	0.48	36.5	21.3	32.5
25/20	25	20	0.50	0.46	36.5	21.3	32.5
25/10	25	10	0.48	0.46	36.5	21.3	32.5
30/40	30	40	0.50	0.46	41.5	25.5	37.5
30/20	30	20	0.48	0.45	41.5	25.5	37.5
30/10	30	10	0.47	0.45	41.5	25.5	37.5
40/20	40	20	0.46	0.43	51.5	34.0	47.5
40/10	40	10	0.45	0.43	51.5	34.0	47.5

Note: Under water/cement ratio, column A applies to moderate and intermediate Exposure, and column B applies to severe exposure.

1704 d PRESCRIBED MIXES FOR ORDINARY STRUCTURAL CONCRETE

- 1) Unless otherwise specified, the concrete mix shall be as detailed in table 1704 d-1 which gives the weights of cement and total dry aggregates in kg to produce approximately one cubic metre of fully compacted concrete together with the percentages of sand in total dry aggregates.
- 2) Provided that the Engineer is satisfied that the materials used are in accordance with this specification and that correct methods of manufacture and practices of handling raw materials and manufacture of concrete have been used, the compliance of a prescribed mix for ordinary concrete should, unless otherwise specified, be judged on the basis of the specified mix proportions, workability and strength.
- 3) The Engineer shall arrange for preliminary strength tests to be carried out, unless satisfactory evidence is available from previous use of the mix. He shall also arrange for strength tests to be carried out during the progress of the work in accordance with clause 1704e to satisfy himself that the mix proportions are suitable.
- 4) The actual batch weights shall be calculated to suit the size of the mixer for the appropriate grade of concrete. Allowance shall be made for moisture content typical of the aggregates being used.
- 5) Where permitted, the aggregates for grades 10 and 15 may be batched by volume, in which case

the bulk density of the damp aggregate may be taken as 1500kg/m³. One whole bag of cement may be taken as weighing 50 kg. With volume batching, stout gauge boxes approved by the Engineer shall be used.

- 6) Gauge boxes shall be soundly constructed of timber or steel to contain exactly the volume of the respective materials required for one batch of each mix. They shall have closed bottoms and be of such proportions that their depth exceeds the cube root of their volume. No measurements shall be made by estimating fractional parts of a box and all gauge boxes shall be completely filled and the top struck off level. Consolidation of aggregates in gauge boxes will not be allowed.
- 7) Prescribed mixes shall not be used as structural concrete for the construction of the Jetty, but may be used for other secondary purposes with the approval of the Engineer.

TABLE 1704 d-1

PRESCRIBED MIXES FOR 1m³ ORDINARILY STRUCTURAL CONCRETE

Grade of Concrete	Normal max. Size of aggregate (mm)						
		40		20		10	
	Limits to slump (mm)	50-100	100-150	25-75	75-125	15-25	25-50
10	Cement(kg)	210	230	240	260	-	-
	Total Aggr(kg)	1900	1850	1850	1800	-	-
	Sand (%)	30-40	30-45	35-45	35-50		
15	Cement(kg)	250	270	280	310	-	-
	Total Aggr(kg)	1850	1800	1800	1750	-	-
	Sand (%)	30-40	35-45	35-45	35-50		
20	Cement(kg)	300	320	320	350	360	410
	Total Aggr(kg)	1850	1750	1800	1750	1750	1650
	Coarse Sand (%)	35	40	40	45	50	55
	Medium sand(%)	30	35	35	40	45	50
	Fine Sand (%)	30	30	30	35	40	45
25	Cement(kg)	340	360	360	390	400	450
	Total Aggr(kg)	1800	1750	1750	1700	1700	1600
	Coarse Sand (%)	35	40	40	45	50	55
	Medium sand(%)	30	35	35	40	45	50
	Fine Sand (%)	30	30	30	35	40	45
30	Cement(kg)	370	390	400	430	460	510
	Total Aggr(kg)	1750	1700	1700	1650	1650	1550
	Coarse Sand (%)	35	40	40	50	50	55
	Medium sand(%)	30	35	35	40	45	50
	Fine Sand (%)	30	30	30	35	40	45

- 1) The proportion of cement to fine plus coarse aggregate measured separately shall not be altered,

but the proportion of fine to coarse aggregates shall be varied to suit the type of grading of aggregates so as to produce, except where otherwise required, concrete of the maximum density consistent with proper workability and complying with the cube strength requirements.

- 2) Three cubes from each batch shall be tested for compressive strength at seven days the remaining three at 28 days. The density of all the cubes shall be determined before the strength tests are carried out.
- 3) The average strength of the nine cubes tested at 28 days shall be not less than the target mean strength shown in table 1704c-1. The Contractor shall also carry out tests to determine the drying shrinkages of the concrete unless otherwise directed by the Engineer. The drying shrinkages shall not be greater than 0.05%.
- 4) Based on the results of the tests on the trial mixes, the Contractor shall submit full details on his proposals for mix design to the Engineer, including the type and source of each mix and the results of the tests on the trial mixes.
- 5) If the Engineer does not agree to a proposed concrete mix for any reason, the
- 6) Contractor shall amend his proposal and carry out further trial mixes. No mix shall be used in the works without the written consent of the Engineer.

1704 e QUALITY CONTROL OF CONCRETE

- 1) The proportions of materials used in the works shall follow the proportions found to be acceptable in the trial mixes. The concrete shall be prepared under the control of a competent person, and dose control kept over quantities, and water content, care being taken to make due allowance for variations in the moisture content of the materials.
- 2) All samplings and testing of concrete shall be carried out in accordance with KS 02595. Compliance with the specific characteristic strength shall normally be based on tests made on cubes at an age of 28 days.
- 3) Unless otherwise directed by the Engineer, the rate of sampling shall be as given in the table below, but not less than one sample shall be taken on each day the concrete of that grade is used. A higher rate of sampling and testing should be adopted at the start of the works to establish the level of quality or during periods of production, when quality is in doubt.

TABLE 1704e-1 RATES OF SAMPLING AND TESTING

Volume of concrete at risk	Sample from one batch selected at random and at intervals such that each sample represents an average volume of not more than:
30m ³	10 m ³ or 10 batches – Highly stressed structural course
60 m ³	20 m ³ or 20 batches – Normal structural concrete
150 m ³	50 m ³ or 50 batches – Mass concrete

- 1) For each class of concrete in production at each plant for use in the works, samples of concrete shall be taken at the point of mixing or of deposition as instructed by the Engineer, all in accordance with the sampling procedures described in sub-clause 1704 e

- 2) Six 150mm or 200mm cubes as appropriate shall be made from each sample and shall be cured and tested all in accordance with KS 02-595, two at seven days and the other four at 28 days.
- 3) The slump of the concrete shall be determined for each batch from which samples are taken and in addition for other batch at the frequency instructed by the Engineer.
- 4) The slump of the concrete in any batch shall not differ from the value established by the trial mixes by more than 25mm or one third of the value, whichever is the greater.
- 5) The air content of air-entrained concrete in any batch shall be within 1.5 units of the required value and the average value of four consecutive measurements shall be within 1 unit of the required value, expressed as a percentage of the volume of freshly mixed concrete.
- 6) Until such time as sufficient test results are available to apply the method of
- 7) control described in sub-clause 10 below, the compressive strength of the concrete at 28 days shall be such that no single result is less than the value shown in table 1704 c-1 under the heading early works test cubes and also that the average value of any four consecutive results is not less than the value shown in table 1704 c-1 under the same heading.
 1. When test cube results are available for at least 40 consecutive batches of any class of concrete mixed in any one plant, compliance with the specified characteristic strength will be assumed, if the following requirements are met:
 - b. The average strength determined from any group of four consecutive test cubes exceeds the specified characteristic strength by not less than 0.5 times the 'current margin'.
 - c. Each individual test result is greater than 85% of the specified characteristic strength.
 - i. The 'current margin' shall normally be taken as 1.64 times the standard deviation of cube tests on at least 40 separate batches of the same specification produced during concreting of the last six months, but not less than 5N/mm² for grade 15 or 7.5N/mm² for grade 20 or above.
- 8) If any one cube result fails to meet requirement 10(b), then that result will be considered to represent only the particular batch of concrete from which that cube was taken.
- 9) If average strength of any group of four consecutive test cubes fails to meet requirement 10(a), then all the concrete in all the batches represented by these cubes shall be deemed not to comply with the strength requirements. For the purposes of this sub-clause the batches of concrete represented by a group of four consecutive test cubes shall include the batches from which samples were taken to make the first and the last cubes in the group of four, together with all the intervening batches.
- 10) The action to be taken in respect of the concrete which is represented by the test cubes which fail to meet either of the requirements must be determined by the Engineer. This may range from qualified acceptance in less severe cases to rejection and removal in the most severe cases.
- 11) The Engineer may wish to carry out tests on the hardened concrete in the structure. These may include non-destructive methods or the taking of cored samples. The results of any such tests should not nullify the establishment of non-compliance with the testing plan, provided that this was based on valid cube test results.
- 12) If the Contractor disputes the results of such tests, he may arrange at his own expense to have confirmatory tests made on cubes of set concrete cut from that portion of the works in dispute. Such tests shall be carried out by an agreed authority having suitable facilities. 1706 READY MIXED CONCRETE
- 13) Ready mixed concrete as defined in BS 1926, batched off the site, may be used only with the agreement of the Engineer and shall comply with the requirements of the Contract. Mixing at a central plant shall conform to the requirements for mixing at the site. The organization supplying concrete shall have sufficient plant capacity and transporting to ensure continuous delivery at the rate required.

- 14) The concrete shall be carried in purpose made agitators operating continuously or truck mixers. The concrete shall be compacted in its final position within 75 minutes of the introduction of cement to aggregates unless a longer time is agreed by the Engineer.
- 15) The time of such introduction shall be recorded on delivery note together with the weight of the constituents of each mix. When truck mixed concrete is used, water shall be added under supervision either at the site or at the central batching plant as agreed by the Engineer, but in no circumstances shall water be added in transit. Unless otherwise agreed by the Engineer, truck mixer units and their mixing and discharge performance shall comply with the requirements of BS 4251. Mixing shall continue for the number and rate of revolutions recommended in accordance with BS 4251.
- 16) Each mixer, agitator and truck shall have attached thereto in a prominent place a metal plate or plates on which the equipment is designed, the manufacturers guaranteed capacity of the drum, and the speed of the rotation of mixing drum or blades.
- 17) Approval to the use of ready mixed concrete may be withdrawn, if the Engineer is not satisfied with the control of the materials being used and the control during mixing.

MEASURING MATERIALS FOR CONCRETE

- 1) The Contractor shall provide adequate supervision to ensure that, the required standard in control of materials and workmanship are maintained.
- 2) Cement shall be stored in dry weatherproof sheds with raised floor or in silos. If in sheds each consignment shall be kept separate and distinct. Any cement that has become injuriously affected by damp or other causes shall be removed from the site immediately
 1. Single sized coarse aggregates and sand shall be used unless otherwise authorized by the Engineer. They shall be stored in separate hoppers or different stacks which shall be separated from each other.
- 3) All aggregates shall be kept free from contact with deleterious matter with adequate provision for drainage and shall be stored and handled so as to avoid segregation.
- 4) The overall grading of the aggregates shall be such as to produce concrete of the specified quality that readily will work into position on without segregation and without use of excessive water. The overall grading shall be controlled throughout the work so that it conforms closely to that assumed in the selection of the mix proportions. Each delivery shall be inspected and if required by the Engineer, tested in accordance with KS 02-1238.
- 5) The quantities of cement, sand and the various sizes of coarse aggregate shall be measured by weight, unless otherwise authorised by the Engineer.
- 6) The Contractor shall be responsible for calculating the correct batch proportions for each mix ensuring that they are used and that the quality of the concrete as placed complies with the requirement of the specification.
- 7) The Engineer may approve or direct the variation of the ratio of fine to coarse aggregates specified,

but always in such a manner that the total volume of aggregate for 50kg of cement shall remain constant. This shall not be considered a variation of the rates and prices in the bill of quantities.

- 8) A separate weighing machine shall be provided for weighing the cement. Alternatively the cement may be measured by using a whole number of bags in each batch.
- 9) The quantity of water shall be measured and also any admixture to be added. If solid, the admixture shall be measured by weight. All measuring equipment shall be maintained in clean and serviceable condition. Its accuracy shall be checked over the range in use when set up at site, and maintained thereafter and periodically rechecked.
- 10) The accuracy of measuring equipment shall fall within $\pm 3\%$ for the quantity of cement, water or total quantity of aggregate and within $\pm 5\%$ for the quantity of admixtures. The minimum size of mixer shall allow for at least one bag of cement.
- 11) The mixing time shall be not less than 2 minutes after all the ingredients are present in the drum. Mixers that have been out of use for more than 30 minutes shall be thoroughly cleaned before any fresh concrete is mixed.
- 12) The water content of each batch shall, if necessary and subject to the approval of the Engineer, be adjusted to produce a concrete of the specified workability.

1707

MIXING OF CONCRETE

- 1) All concrete shall be mixed in mechanically operated mixers of the batch-type, complying with the requirements of BS 1305. When permitted by the Engineer, batches not exceeding 0.25m^3 may be mixed by hand methods in accordance with provisions under Clause 1708.
- 2) Concrete mixers may be of the revolving drum or the revolving blade type and the mixing or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. The pickup and throw over blades of mixers shall be restored or replaced when any part or section is 25mm or more below the original height of the manufacturer's design. Mixers and agitators which have an accumulation of hard concrete or mortar shall not be used. Mixers shall be fitted with an automatic recorder registering the number of batches discharged. The temperature of the materials as charged into the mixer shall be such that the temperature of the mixed concrete at the time it is placed in final position does not exceed 30°C .
- 3) The batch shall be so charged into the mixer that some water will enter in advance of cement and aggregates- All water shall be in the drum by the end of the first $\frac{1}{4}$ of the specified mixing time. Mixing shall continue for at least 90 seconds, after all materials including water, which shall be added last of all, have been passed into the drum and before any portion of the batch is discharged.
- 4) Cement shall be batched and charged into the mixer by means that will not result in a loss of cement due to the effect of wind or in accumulation of on surfaces of conveyors or hoppers, or in the other conditions which reduce or vary the required quantity of cement in the concrete mixture.
- 5) The total elapsed time between the intermingling of damp aggregates and cement and the start of mixing shall not exceed 30 minutes. The concrete shall be discharged onto a watertight platform or

into watertight containers for removal and deposition as specified hereafter. The mixer drum shall be completely empty before recharging. Should there for any reason be a stoppage of greater than 10 minutes duration, the drum of the mixer and all handling equipment shall be thoroughly washed out with clean fresh water and rendered free from hardened concrete before mixing is resumed.

- 6) Uniformity of concrete mixes will be determined by comparing slump tests on two samples of mixed concrete from the same batch or truck load. Differences shall not exceed 25mm. Variations in the proportion of coarse aggregate will be determined from the results of tests from two samples of mixed concrete from the same batch or truck load. The difference between the two results shall not exceed 100kg/m³.
- 7) Concrete shall be mixed in such quantities that any batch can be placed in the works within 30 minutes. The retampering of concrete which has received its initial
- 8) Set will not be permitted under any circumstances. Mixing shall be performed at a point not farther away than 300m by haul route from the position of placement of the concrete.
- 9) Any mix, considered to be unsatisfactory by the Engineer for any reason, will be discharged to waste at Contractor's expense, as and where directed by the Engineer, will clear of all mixing and placing of concrete.
- 10) Uniformity of concrete mixes will be determined by comparing slump tests on two samples of mixed concrete from the same batch or truck load. Differences shall not exceed 25mm. Variations in the proportion of coarse aggregate will be determined from the results of tests from two samples of mixed concrete from the same batch or truck load. The difference between the two results shall not exceed 100kg/m³.
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- 12) Set will not be permitted under any circumstances. Mixing shall be performed at a point not farther away than 300m by haul route from the position of placement of the concrete.
- 13) Any mix, considered to be unsatisfactory by the Engineer for any reason, will be discharged to waste at Contractor's expense, as and where directed by the Engineer, will clear of all mixing and placing of concrete.

1708

MIXING OF CONCRETE BY HAND

- 1) Where it is not practical to employ machine mixing and approval has been obtained from the Engineer, concrete shall be mixed by hand as near as practicable to the site where it is to be deposited. Hand mixed concrete shall be made in batches of not more than 0.25 m³.
- 2) The mixing shall be done on a clean watertight, non-absorbent platform approved by the Engineer. The cement and fine aggregate shall then be added and mixed dry until the mixture is thoroughly blended and uniform in colour. The coarse aggregate shall then be added and mixed until the coarse aggregate is uniformly distributed throughout the batch. The correct quantity of water shall be added using a can with a nose nozzle and the mixing continued until the entire batch of concrete

is homogenous and has the desired consistency.

- 3) Mixing shall be carried out until the whole batch has been turned at least three times dry and three times wet.
- 4) For hand mixing the cement content shall be increased by 10% over that required for machine mixing.
- 5) The platform shall be emptied before a subsequent batch is mixed and thoroughly cleaned, if not in use for more than 30 minutes, before the next batch is prepared.

1709

TRANSPORT OF CONCRETE

- 1) Concrete shall be taken from the place of mixing to the place of deposition by means of barrows, carts, chutes or by any other approved method which will prevent the drying out and consolidation of the concrete, the segregation and loss of the ingredients and which are sufficiently rapid to ensure that the concrete does not commence to set before it is finally compacted in position.
- 2) During transportation the concrete shall be protected from any adverse effects of sun, wind and rain. The concrete shall be deposited as near as possible to its final position in the works and no concrete shall be dropped freely or deposited by means of mutes through a depth exceeding 1.5m.
- 3) Chuting shall be approved by the Engineer before use and shall not exceed a 45 degree slope. It is to be dean and free at all times from the gradual deposition of concrete. All mixers, barrows, spades and other mixing and distributing equipment shall be kept free of partly set concrete, which shall not be used in the works.
- 4) Concrete shall be guarded from harmful vibration and vibration during the setting period and transportation and similar activities executed on and adjacent to such works will be forbidden. No planks or ways for skips, etc shall be supported on either formwork or reinforcement.
- 5) In no case shall more than 30 minutes elapse between mixing and placing of any batch of concrete in its final position.

1710

PLACING OF CONCRETE

- 1) No concrete shall be placed in any part of the works until written permission to do so has been obtained from the Engineer. Well in advance of the intention to place concrete, the contractor shall forward to the Engineer for his approval full information about the order in which he proposes to place concrete in the various parts of the works, the height of each lift of concrete, details of the shuttering being proposed to employ with relevant calculations and positions of all construction joints.
- 2) During hot weather the Contractor shall take all measures necessary to ensure that the temperatures of concrete at the time of placing in the works does not exceed 30 degrees centigrade and that the concrete does not lose any moisture during transporting and placing. Such measures may include, but may not necessarily be limited to shielding aggregates from direct sunshine, use of mist water spray on aggregates and sun shields on the mixing plants and transporting equipment.
- 3) Areas in which concrete is to be placed shall be shielded from direct sunshine. Rock or concrete surfaces shall be thoroughly wetted to reduce absorption of water from the concrete placed on or against them.

- 4) The entire area of the bottom of the excavation shall be blinding with a layer of class 15 (mix 1:3:6) concrete of a minimum thickness of 50mm. The concrete shall be as dry as practicable and shall be well tamped into the ground. The surface of the blinding layer shall be spade finished and the specified cover of concrete under the reinforcement shall be provided above the blinding layer.
- 5) The area on which any concrete is to be placed must be made and maintained free from standing water during concreting operations, unless otherwise approved. Running water crossing or entering such areas must be brought under control before concreting proceeds. No pumping that may adversely affect the concrete being placed shall be done while placing, or within twenty-four hours of placing the concrete.
- 6) The arrangements for placing concrete are to be such that in all cases the materials may be conveniently handled and placed in the required position without re-handling or segregation. All concrete must be placed in position as rapidly as possible and in any case before it has taken an initial set.
- 7) For members involving 'vertical' placing of the concrete (e.g. walls) each lift shall be deposited in layers extending for the full width between end shuttering and of such depth that each layer can be easily and effectively integrated with the layer below by the means of compaction being employed. The layers shall be placed horizontally. Forms for walls, columns and other thin section of significant height shall be provided with openings or other devices that will permit the concrete to be placed in a manner that will prevent segregation.
- 8) For members involving 'horizontal' placing of the concrete (e.g. deck slabs) the concrete shall be placed along the line of the starting point in such quantities as will allow the member to be cast to its full depth along the full width between side shuttering and then along its entire front, parallel to the starting line.
- 9) Concrete in reinforced concrete work shall be deposited in small quantities in a plastic state with a water-cement ratio such as to give the specified strength. The depositing of concrete in individual members shall be continued without stoppage up to an approved prearranged construction joint or until the member is completed and shall be finished off in such a manner that the junction of member shall be monolithic.
- 10) All members shall be concreted at such a rate as will eliminate any possibility of fresh batches of concrete being deposited immediately adjacent to batches which have commenced to set. Mass concreting shall be carried out in sections previously ordered or approved by the Engineer and shall proceed continuously in each section until completed and no interval shall be allowed to lapse while the work is in progress.

1711 PLACING OF CONCRETE UNDER WATER

- 1) Concrete may only be placed under water where indicated on the drawings or with the prior approval of the Engineer who shall likewise approve the method to be used and the precautions necessary to prevent loss of material.
- 2) The concrete quality shall be Class 25(20) or as specified on the drawings. The quantity of cement in any concrete placed under water shall, at the Contractor's expense, be increased by 20% above the cement content, first batch which shall have the cement content increased by 40%. If possible rounded aggregates with the addition of approved plasticiser with high percentage of fines should be used to obtain plastic mix. The slump of the concrete should be not less than 25mm.

- 3) The formation shall be cleaned by the diver and all silt removed by airlift or other approved methods. Care should be also taken to ensure that no silt or laitance is trapped in the corners.
 1. Just before placement of the concrete, reinforcement shall be cleaned by the diver by air lift, or other approved methods of all silt, trapped debris, etc.
- 4) A tremie shall consist of a watertight tube having a diameter of not less than 200mm with a hopper at the top. The tube shall be equipped with a device that will prevent water from entering the tube whilst charging the tube with concrete. The tremie shall be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete.
- 5) The tremie shall be filled by a method that will prevent washing of the concrete. The lower ends of the tremie pipes shall always be kept before the surface of the wet concrete already deposited and shall contain sufficient concrete to prevent any water entry. Where a batch is dumped into the hopper, the flow of concrete shall be induced by slightly raising the discharge end, always keeping it in the deposited concrete.
 1. The flow shall be continuous until the work is completed and the resulting concrete shall be monolithic and homogeneous. The raising speed of the cast concrete surface shall be at least 300mm/hour. Maximum distance between tremies, when concreting extensive areas, shall be 4m.
- 6) No concrete shall be allowed to fall through water at any time. Concrete shall be placed evenly over the whole area enclosed by the shuttering and must not be raked over, only the minimum of screeding being allowed once the concrete has been placed.

1712

COMPACTION OF CONCRETE

- 1) After the concrete has been placed in position it shall be compacted in such a manner as to produce a dense uniform mass. Compaction of all reinforced concrete work shall be by mechanical vibrators. Elsewhere it may be effected by either hand or mechanical tools. All compacting tools must be approved by the Engineer before being used in the works.
- 2) Where vibrators are used, they shall be of the rotary out-of-balance type or the electromagnetic type and shall operate at a frequency of not less than 8000 cycles per minute. The vibrators shall be disposed in such a manner, that the whole of the mass treatment shall be adequately compacted at a speed commensurate with the supply of concrete from the mixers. Vibration shall continue until all air has been expelled. At least two vibrators shall be available at the site of a structure in which more than 20m³ of concrete is to be placed.
- 3) The concrete shall be worked up against whatever surface it adjoins and compacted to such a degree, that it reaches its maximum density as a homogenous mass, free from air and water holes, and penetrates to all corners of the moulds and shuttering and completely surrounds the reinforcement. Care shall be taken to ensure that neither hand punners nor mechanical vibrators or shock come into contact with the formwork, reinforcement, nor any embedded fittings and to prevent the operation of compaction from transmitting any harmful vibrations or shocks to the use of external vibrators for compacting concrete will be permitted when the concrete is inaccessible for adequate compaction, provided the forms are constructed sufficiently rigid to resist displacement or damage from external vibration.

1713

CURING OF CONCRETE

- 1) Concrete shall be protected during the first stage of hardening from loss of moisture and from the development of temperature differentials within the concrete sufficient to cause cracking. The methods used for curing shall not cause damage of any kind to the concrete.
- 2) Curing shall begin as soon as surface of the concrete has hardened sufficiently. The concrete shall be kept continuously wet by the application of water for a minimum period of 7 days after the concrete has been placed. Cotton mats, rugs, carpets or each or sand blankets may be used as a curing medium to retain the moisture during the curing period.
- 3) The entire surface of the concrete shall be kept damp by applying water with a nozzle preferably in form of a mist so as to not damage the surface until the surface is covered with the curing medium. The moisture from the nozzle shall not be applied under pressure directly upon the concrete and shall be allowed to accumulate on the concrete in a quantity sufficient to cause or wash the surface.
- 4) Where the concrete to be cured is enclosed by shuttering, the shuttering shall be covered with clean sacks or hessian which must be kept continuously in a wet condition. When the shuttering is removed, the damp hessian or sacks shall be hung directly around the concrete member and kept continuously wet by spraying with clean water. On no account must the surrounding sacks, hessian, etc. be allowed to dry during the curing period.
- 5) Surfaces of newly placed concrete to be cured by the membrane method shall be kept moisture wet until curing compound is applied, which shall not be done until all patching or surface finishing has been complete. The water shall be applied with a nozzle as described above.
- 6) The curing compound shall be delivered to the work in ready mixed form. At the time of use the compound shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. The compound shall not be diluted or altered in any manner. The curing compound shall be applied to the exposed surface at a uniform rate of 0.3 litres/m².
- 7) Curing compound used on the surface exposed to the sky shall contain sufficient finely divided aluminium suspension to produce a complete coverage at the rate recommended by the manufacturer.
- 8) Curing compounds shall become stable and impervious to evaporation of water from the concrete surface within 60 minutes of application. The material shall not react chemically with the concrete and shall not crack, peel or disintegrate within three weeks after application. Should the film of curing compound be damaged from any cause, the damaged portions shall be repaired immediately with additional compound.
- 9) If instructed by the Engineer, the Contractor shall, in addition to the curing provisions set out above, provide a suitable form of shading to prevent the rays of the sun reaching the Concrete for at least the first four days of the curing period.
- 10) No separate payment will be made for complying with the provisions of this clause except for the specified curing compounds. The costs involved shall be included in the rate for concrete.
- 11) Layers shall not be placed so that they form feather edges, nor shall they be placed on a previous layer which has taken its initial set in order to comply with this requirement a layer may be started before completion of the preceding layer.

- 12) Great care shall be taken to avoid disturbing partially set concrete in any way. The Contractor shall not permit his workmen to walk over it and shall so arrange his operations that the partially set concrete is not subjected to unnecessary loads, shocks or vibrations from plant and labour operating in the immediate vicinity.
- 13) Should any unforeseen occurrence result in a stoppage of concreting for such time as might allow the concrete already placed to begin to set before the next batches can be compacted into place, the Contractor shall immediately insert at his own cost, a proper end-shutter to form a tongue and groove construction joint, as specified, normal to the work at that point, which will ensure that the section already cast is formed completely in accordance with this specification. Any additional reinforcement required as a result of the joint shall be provided by Contractor at his own expense.
- 14) Before concreting is resumed after such an interruption, the contractor shall cut out and remove all damaged or uncompacted feather edges or any other undesirable features and shall leave a clean, sound surface against which fresh concrete may be placed.
- 15) All foundation bolts, fittings, etc. are to be either built into the works as concreting proceeds by supporting them from the formwork in their correct position, or grouted into recesses cast in the work as specified or as approved by the Engineer. Recesses to accommodate such items shall be cast against properly constructed formwork and in no circumstances shall they be formed by cutting out green concrete. Similarly, no fittings shall be positioned in the works by securing to partially set concrete.
- 16) No vehicle will be allowed on any span until after the concrete in the span has attained a compressive strength of not less than twice the design strength and loads of any character having a total weight in excess of 2 tons will not be permitted on any span, until the concrete in the span has attained a compressive strength of at least 210kg/cm².
- 17) Concreting may be continued during showers of a light drizzling nature, provided the run-off from elsewhere is intercepted. In the likelihood of a heavy rainfall developing, the Engineer may permit concreting to continue only if adequate protection is provided and the water/cement ratio adjusted to offset the additional moisture in the aggregates.
- 18) After concrete in any part of the area has been placed, the selected curing process shall be commenced as soon as possible. If any interval occurs between completion of placing and start of curing, the concrete shall be closely covered during the interval with polythene sheeting to prevent loss of moisture.

1714

FINISHES ON UNFORMED SURFACES

Horizontal or nearly horizontal surfaces which are not cast against formwork shall be finished to the class shown on the drawings and defined hereunder.

1. Class UF 1 finish

All surfaces on which no higher class of finish is called for on the drawings or instructed by the Engineer shall be given a UF 1 finish. The concrete shall be leveled and screed to produce a uniform

2. Class UF 2 finish

This is a floated finish for roof or floor slabs and other surfaces where a hard trowelled surface is not

required. The surface shall first be treated as a Class UF 1 finish and after the concrete has hardened sufficiently, it shall be floated by hand or machine sufficient only to produce a uniform surface free from screed marks.

3. Class UF3 finish

This is a hard trowelled surfaced for use where weather resistance or Appearance is important, or which is subject to high velocity water flow. The surface shall be floated as for a UF2 finish, but to the tolerance stated below. When the moisture film has disappeared and the concrete has hardened sufficiently to prevent laitance from being worked to the surface, it shall be steel- trowelled under firm pressure to produce a dense, smooth uniform surface, free from trowel marks.

4. Surface tolerance for unformed concrete shall be as shown on table 1714- 1. Where dimensional tolerance are given on the drawing they shall take precedence.

TABLE 1714-1 SURFACE TOLERANCE (mm)

	Sudden change of level in surface	Gradual change of surface as measured by 3m straight edge	Difference in level between 3m straight edge and the specified surface level
UF 1	Not applicable Nil	10mm	+20-10mm
UF 2	Nil	10mm 5mm	+20-10mm
UF 3			12.5 of -7.5mm

1715 CEMENT MORTAR

- 1) Mortar shall be composed of fine aggregate complying with Clause 1703c and ordinary Portland cement complying with KS 02-21. The mix proportions shall be as stated on the drawings or if not stated, shall be one part of cement to two parts of fine aggregate by weight
- 2) Small quantities of mortar may be hand mixed but for amounts over 0.5m³ a mechanical mixer shall be used. Mixing shall be done in an approved mixer, the amount of water added being just sufficient to give consistency and workability desired for the use to which the mortar is to be put, but in any case the water/cement ratio shall not be more than 0.5.
- 3) Where hand mixing of mortar is permitted the dry sand and cement shall first be mixed together by running over with a clean shovel or trowel on a clean steel platform or other approved surface until a mixture of uniform colour has been obtained. Water shall be added, a little at a time, the mixture being turned over after each addition until a homogenous paste has been obtained. This process shall be repeated until the required consistency has been obtained.
- 4) Cement mortar shall be made in suitable small quantities only as and when required and any mortar which has begun to set or which has been mixed more than 30 minutes before placing shall be rejected.

1716

CONCRETE FOR SECONDARY PURPOSES

- 1) Non structural concrete shall be composed of ordinary Portland cement complying with KS 02-21 and aggregates complying with KS 02-95 including all-in aggregate within the grading limits of table 3 of KS 02-95. The weight of cement mixed with 0.3m³ of combined or all-in aggregate shall not be less than 50kg. The maximum aggregate size shall be 40mm nominal.
- 2) The concrete shall be mixed by machine or by hand to uniform colour and consistency before placing. The quantity of water used shall not exceed that required to produce a concrete with sufficient workability to be placed and compacted where required.
- 3) No fines concrete is intended for use where a porous concrete is required. The mix shall consist of ordinary Portland cement complying with KS 02-21 and aggregate complying with KS 02-95. The aggregate size shall be 40mm to 10mm only. The weight of cement mixed with 0.3m³ of aggregate shall not be less than 50kg. The quantity of water shall not exceed that required to produce a smooth cement paste which will coat evenly the whole of the aggregate.

1717

CONSTRUCTION JOINTS

- 1) Whenever concrete is to be bonded to other concrete which has hardened, the surface of contact between the Sections shall be deemed a construction joint. All joints in all classes of work shall be conveniently rebated to form a key by inserting a tongue and groove against which concrete can be properly compacted.
- 2) Where construction joints are shown on the drawings, the Contractor shall form such joints in those positions. The location of joints which the Contractor requires to make for the purpose of construction shall be subject to the agreement of the Engineer. Construction joints shall be in vertical or horizontal planes except in sloping slabs, where they shall be normal to the exposed surface or elsewhere, where the drawings require a different arrangement.
- 3) Construction joints shall be so arranged as to reduce to a minimum the effects of shrinkage in the concrete after placing, and shall be placed in the most advantageous positions with regard to stresses in the structures and the desirability of staggering joints. Generally, construction joints shall be located at points, where shear or tensile stresses are at a minimum.
- 4) Feather edges of concrete at joints shall be avoided and any feather edges which may have formed, where reinforcing bars project through a joint, shall be cut back until sound concrete has been reached.
- 5) The intersections of horizontal or near horizontal joints and exposed faces of concrete shall appear as straight lines produced by use of a guide strip fixed to the formwork at the top of the concrete lift, or by other means acceptable to the Engineer.
- 6) Construction joints formed as free surfaces shall not exceed a slope of 20% from the horizontal.
- 7) The surface of the fresh concrete in horizontal or near horizontal joints shall be thoroughly cleaned and roughened by means of high pressure water and air jets when the concrete is hard enough to withstand the treatment without the leaching of cement. The surface of vertical or near vertical joints

shall be similarly treated if circumstances permit the removal of formwork at a suitable time.

- 8) Where concrete has become too hard for the above treatment to be successful, the surface whether formed or free is to be thoroughly scabbled by mechanical means or wet sand blasted and then washed with clean water. The indentations produced by scabbling shall be not less than 10mm deep and shall not extend closer than 40mm to a finished face.
- 9) If instructed by the Engineer the surface of the concrete shall be thoroughly brushed with a thin layer of mortar composed of one part of cement to two parts of sand by weight and complying with clause 1704b.
- 10) The mortar shall be kept just ahead of the fresh concrete being placed and the fresh layer of concrete shall be thoroughly and systematically vibrated to full depth to ensure complete bond with the adjacent layer.
- 11) No mortar or concrete may be placed in position on or against a construction joint until the joint has been inspected and passed by the Engineer.

1718

EXPANSION JOINTS

- 1) The size of the gap shall be compatible with the mean temperature at the time of the installation, which shall be carried out earliest possible in the morning with the expected ambient temperature of structure in region of +20°C.
- 2) In order to attain this temperature it may be necessary to spray structure with fine mist of water. The final arrangement to determining the temperature shall be made with the Engineer on site.
- 3) The position of bolts cast into concrete and holes drilled in plates shall be accurately determined. The mixing application and curing of all proprietary materials shall comply with the manufacturer's requirements.
- 4) During placing and hardening of concrete or mortar under expansion joint components relative movement shall be prevented between them and the supports to which they are being fixed. When one half of the joint is being set other half shall be completely free from longitudinal restraint.
- 5) Screw threads shall be kept clean and free from rust. Ramps shall be provided and maintained to protect all expansion joints from vehicular loading. Vehicles shall cross the joints only over the ramps until Engineer permits their removal.

1719

EXPANDED RUBBER SEALANTS

- 1) The materials shall comply in all respects with the ASTM Specification D471 and D2628. The size of the sealant shall be determined from following parameters.
 - a) Greatest size of the opening 0.9BN.
 - b) Smallest size of the opening 0.55BN.
 - c) Smallest working opening 0.35BN where BN = Breadth of unstressed sealant
- 2) The sealants shall be installed strictly with the manufacturer's instructions with the particular attention to the anchorages. The sealants may have to be precompressed by external means such as clamps before installation.

- 3) The installation shall be carried out early in the morning with the ambient temperature of the structure being 20°C.
- 4) The surfaces of the steelwork in contact with sealant shall be free of all organic and inorganic debris and impurities.
- 5) The amount of pre-compression shall be agreed with the Engineer on site.
- 6) Unit measurement of sealant shall be linear meter. The rates shall include for supply, transportation, installation anchor bolts, fixings sealing and all expenses, taxes (except VAT), duties and profits and all other items necessary for satisfactory incorporation in works.

1720

JOINT SEALING COMPOUND

- 1) Poured joint sealing compound shall consist of hot or cold poured material as agreed with the Engineer on site.
- 2) Hot poured compound shall comply with the requirements of B.S. 2499. Two-component cold poured compound shall comply with the requirements of U.S. Federal Specification SS-S-170 and test certificates prepared in an approved laboratory shall be supplied by the Contractor to show that it complies with the following requirements.

Test

Requirements

- | | |
|--|--|
| <ol style="list-style-type: none"> 1) Cone penetrating-150g for 5 seconds at Standard grease cone. <ol style="list-style-type: none"> a. Flow on a plane inclined at 75° to Horizontal, 5 hours at 60°C b. Bond 25mm wide joint extended to 12.5mm per hour at 3 cycles of and compression opening more than 6mm deep. | <p>Penetration to be not less than 5mm 25°C. Not more than 27.5mm.</p> <p>Flow not to exceed 20mm.</p> <p>Not more than one specimen in 3
Develop a crack, separation or other extension</p> |
|--|--|
- 2) In addition to the materials complying with US Specification SS-170, the Engineer may approved the use of the alternative materials provided these meet the other requirements of this clause relating to coldpoured joint sealing compounds.
 - 3) The treatment of the surfaces to receive sealant shall be carried out strictly with the suppliers' instructions.
 - 4) The pouring of the sealant shall be carried out at mean temperature of 20 ° -22°C, unless otherwise agreed with the Engineer on site. The measurement of the sealant shall be linear meter.
 - 5) The rates shall include for supply, transportation, installation anchor bolts and fixings, sealing, and all expenses, taxes, duties and profits and all other necessary items for satisfactory incorporation in works.

1721

JOINT FILLER

1. Joint filler shall be either

- a) Flexcell, as manufactured by Expandite Limited
- b) Korkpak, as manufactured by Services Limited
- c) Or similar approved material

2. Joint filler shall be maintained in position during construction by use of a suitable adhesive as recommended by the manufacturer or by approved mechanical means.

1722 CEMENT GROUT

- 1) Cement grout shall consist of neat cement mixed with sufficient water to produce a freely running mixture. Normally this will comprise one part by volume of cement to one and a half parts by volume of water. In situations where it is possible and desirable in the opinion of the Engineer, to mix fine sand with grout, the proportions of sand to cement will be determined by the Engineer. The grout shall be used whilst fresh and within half an hour of mixing,
- 2) Any concrete area to be in contact with grout shall be cleaned of all loose or foreign material that would in any way prevent bond between the mortar and the concrete surfaces and shall be kept thoroughly moistened with water for a period of not less than 24 hours immediately prior to placing the grout.
- 3) The grout shall completely fill and shall be tightly packed into recesses, holes, etc. After placing, all surfaces of grout shall be cured by the water method for a period of not less than 3 days.

1723 FORMWORK FOR STRUCTURES

- 1) Formwork shall include all temporary forms required for forming the concrete together with all temporary construction required for the support. All formwork shall be so constructed that there shall be no loss of material from the concrete and shall be of sum quality and strength as will ensure rigidity throughout the placing, compaction and setting of the concrete. After hardening, the concrete shall be in the position and of the shape, dimensions and surface as described in the contract.
- 2) False work or centering shall be founded upon a solid footing safe against undermining and protected from softening. Falsework which cannot be founded on satisfactory footing shall be supported on piling which shall be spaced, driven and removed in a manner approved by the Engineer.
- 3) The design of the forms shall also take into account the effect of vibration of concrete as it is placed. They shall be built mortar tight and of sufficient rigidity to prevent distortion due to the pressure of concrete and other loads incidental to the construction operations and so as to prevent warping and the opening of joints due to shrinkages of the timber.
- 4) The form shall be so constructed that they shall be capable of being removed without shock, vibration or damage to the concrete. All forms for beams and similar members shall be designed and constructed so that the sides may be removed without disturbing the bottom boards or supports thereof. The supporting struts shall be adjusted and securely fixed in position by approved means.

- 5) Struts and props shall be fitted with double hardwood wedges or other approved devices, so that the moulds may be adjusted as required and eased gradually after casting the concrete. Wedges shall be 'Spiked' into position, and any adjusting device locked before the concrete is cast.
- 6) All forms for the outside surfaces shall be constructed with stiff wales at right angles to the studs and all form clamps shall extend through and fasten such wales. When removable bolts are used they shall be greased with water dissoluble grease to allow for easy withdrawal. No form of fixing passing through the concrete shall be used in concrete slabs.
- 7) Form clamps, bolts and anchors shall be used to fasten forms. The use of wire ties to hold forms in position during placing of concrete will not be permitted. Bolts or dampers shall be positive in action and shall be of sufficient strength and number to prevent spreading or springing of the forms. They shall be of such type that they can be entirely removed or cut back 25mm or more below the finished surface of the concrete leaving no metal within 25mm of the concrete surface. The cavities shall be filled with grout and the surface left sound, smooth, even and uniform in colour.
- 8) Where reinforcement passes through the faces of a construction joint the stopping off board shall be drilled so, that the bars can pass through, or the board shall be made in sections with a half round indentation in the joint faces for each bar, so that when placed, the board is a neat and accurate fit and no grout leaks from the concrete through the bar holes or joints.
- 9) Where holes are to be provided in formwork for weep holes and the like, they shall be neatly trimmed off to fit the pipe and caulked with an approved material to form a waste-tight joint.
- 10) Formwork for columns and small concrete sections, or where directed by the Engineer, shall be fitted with trap doors through which saw dust, shaving and other debris can be removed.
- 11) All formwork for new lifts of concrete shall be tightly and accurately fitted against the concrete already cast to ensure that the surface of the new work will be quite flush and in line with that of the old one.
- 12) All surfaces of the formwork which come into contact with the wet concrete shall be treated with an approved non-staining mould oil or similar oil. Any material which will adhere to or discolour concrete shall not be used. The Contractor shall ensure that the oil will be kept from contact with the reinforcement or embedded fittings.
- 13) All forms shall be set and maintained true to the line designated until the concrete is sufficiently hardened. Forms shall remain in place for periods which shall be as specified in table 1724-1. When forms appear to be unsatisfactory in any way, either before or during the placing of concrete, the Engineer shall order the work stopped until the defects have been corrected.
- 14) Formwork shall be provided for concrete surfaces at slopes of 30 degrees to the horizontal or steeper. Surfaces at slopes less than 20 degrees may be formed by screeding. Surfaces at slopes between 20 degrees and 30 degrees shall generally be formed unless the Contractor can demonstrate to the satisfaction of the Engineer that such slopes can be screeded with the use of special screed boards to hold the concrete in place during vibration.
- 15) Horizontal or inclined formwork to the upper surface of concrete shall be adequately secured against uplift due to pressure of fresh concrete. Formwork to voids within the body of concrete shall also be tied down or otherwise secured against floating.
- 16) All timber used for forms, false work and centering shall be sound wood, well seasoned and free from loose knots, shakes, large cracks, warping and other defects. Before use on the work, it shall be properly stacked and protected from injury from any source. Any timber which becomes badly warped, cracked, prior to the placing of concrete shall be rejected.
- 17) Where steel shuttering is to be used, it shall be of approved manufacture and panels shall fit tightly and accurately to form a true surface and joints, which will not allow the escape of liquid from the concrete. All rivets and bolt heads must be countersunk on the inside face and finished flush, so as to leave no mark on the resulting concrete surface. The provisions for timber shuttering specified above shall also apply to steel shuttering where applicable.

18. All formwork shall be approved by the Engineer before concrete is placed within it. The Contractor shall, if required by the Engineer, provide the later with copies of his calculations, of the strength and stability of the formwork or false work, but not withstanding the Engineer's approval of these calculations, nothing will relieve the Contractor of his responsibility for safety or adequacy of the formwork.
19. Formwork shall be measured by the square metre of formwork actually on contact with the finished face of the concrete. No deduction shall be made in the measurement for openings, pipes, ducts and the like, provided that the area of each is less than 0.05 square metres. Unless otherwise stated, if the volume or area of concrete has not been deducted when measuring the concrete in accordance with clause 320, formwork to form or box out the void shall not be measured. Formwork less than 300mm high to edges of slabs shall be measured by the linear metre.
20. Formwork required for blinding concrete, to form construction joints and hear keys for future concrete and other construction surfaces, shall not be measured and the costs shall be included in the rates for other work.
21. Formwork to contraction and expansion joints shall be measured by the square metre on one face only. The rates shall include for the costs stated below and for forming recesses for sealant and channels for grout
22. The rates for formwork shall include for the cost of submission of details, providing and transporting all materials for formwork and falsework, erection including provision of supports, fillets and chamfers 75mm and less in width, bolts, ties, fixings, cutting to waste, drilling or notching the formwork for reinforcement where required.

1724 REMOVING OF FORMWORK

1. In the determination of the time for the removal of forms, falsework and husing, consideration shall be given to the location and character of the structure, the weather and other conditions influencing the setting of the concrete and the admixture used in the mix.
2. No formwork shall be removed without the prior approval of the Engineer and in no case shall shuttering of props be removed before the periods mentioned in table -1 have elapsed after placing the concrete. Compliance with these requirements shall not relieve the Contractor of his obligation to delay the removal of the forms, if the concrete has not set sufficiently hard.

TABLE 1724-1

MINIMUM PERIOD FOR FORMWORK REMOVAL

POSITION OF FORMWORK	MINIMUM PERIOD FOR TEM. OVER 10 DEG.C.	STRENGTH TO BE ATTAINED
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Vertical or near vertical faces of mass concrete	24 hours	0.2C
Vertical or near vertical faces of reinforced walls, beams and columns	48 hours	0.3C
Underside of arches, beams and slab formwork only	4 days	0.5C
Supports to underside of arches, beams and slabs	21 days	0.75C
Arched linings in tunnels and underground works	24 hours	4N/mm ²

Note: C is the nominal strength for the class of concrete used.

- 4 When shuttering is removed after 3 days it will be necessary to ensure that the exposed surfaces of the concrete are kept thoroughly wetted for the period of curing specified in this section.
- 5 Forms shall be removed in such a manner as will not injure the concrete. The formwork shall be removed by gradual easing without jarring and only under competent supervision. Before removal of the shuttering, the concrete shall be examined and removal shall only be proceeded with, if the concrete has attained sufficient strength to sustain all the loads to which it will be subjected.
- 6 The Contractor shall be responsible for any injury or damage to the work caused by or arising out of the removal of formwork and props and any advice, permission or approval given by the Engineer relative to the removal of formwork and props shall not relieve the Contractor of this responsibility. Any work showing sign of damage through premature removal of shuttering or through premature loading shall be entirely reconstructed at the Contractor's expense.
- 7 Where props are to be left in position under slabs and beams, the formwork shall have been made in such a fashion, that it can be removed without disturbing the props in any way. Otherwise it must be left in position for the full period that the props are left in position.
- 8 False work supporting any span of a continuous or rigid frame structure shall not be released before the period specified for the concrete placed in that span. The same shall apply for the adjacent portions of each adjoining span over a distance of at least half the length of the span where false work is to be released.
- 9 The shuttering for a part of a structure supported by concrete placed subsequently to that in, or on the shuttering, shall not be removed until the supporting concrete has matured, and such shuttering shall be prominently marked with a warning against premature removal.
- 10 The structure shall not be assumed to be capable of carrying its full load until 28 days have elapsed from completing the placing of the concrete.
- 11 All false work materials shall be completely removed. False work piling shall be removed to at least 0.5m below the surface of the original ground or original stream bed.

1725 FINISHES ON FORMED SURFACES

1. Class F 1 finish

This finish is for surfaces against which backfill or further concrete will be placed. Formwork may be sawn boards, sheet metal or any other suitable material, which will prevent the loss of fine material from the concrete being placed.

2. Class F 2 finish

This finish is for surfaces which are permanently exposed to view, but where the highest standard of finish is not required. Forms to provide Class F2 finish shall be faced with wrought thickness tongued and grooved boards with Square edges arranged in a uniform pattern and close jointed or with suitable sheet material.

The thickness of boards or sheets shall be such that there shall be no visible deflection under the pressure exerted by the concrete placed against them. Joints between boards or panels shall be horizontal and vertical, unless otherwise directed. This finish shall be such as to require no general filling of surface pitting, but fins, surface discoloration and other minor defects shall be remedied by methods agreed by the Engineer.

3. Class F 3 finish

This finish is for surfaces which will be in contact with water flowing at high velocity, and for surfaces prominently exposed to view where good appearance is of special importance. To achieve this finish, which shall be free of board marks, the formwork shall be faced with plywood, complying with BS 1088 or equivalent material in large sheets. The sheets shall be arranged in an approved uniform pattern. Whenever possible, joints between sheets shall be arranged to coincide with Engineerural features or changes in direction of the surface.

4. All parts of formwork concrete surface shall be in the positions shown on the drawings within the tolerances set out in table 1725-1. In cases where the drawings call for tolerances other than those given in the table the drawings shall rule.

TABLE 1725-1 TOLERANCES

Class of finish	Tolerance in mm		
	Sudden change in the surface	Gradual change of the surface measured by 3m straight edge	Concrete face displacement from correct position
F1	10	10 TO +25	+25 TO -10
F2	5	10	+ or -15
F3	2	5	+ or 110

5. Where precast have been set to a specified tolerance, further adjustments shall be

made as necessary to produce a satisfactory straight or curved line. When the Engineer has approved the alignment, the Contractor shall fix the units so that there is no possibility of further movement.

1726

REMEDIAL WORK TO DEFECTIVE SURFACES

1. If on stripping any formwork the concrete surface is found to be defective in any way the contract shall make no attempt to remedy such defects prior to the Engineer's inspection and thereceipt of any instructions which the Engineer may give. Defective surface shall not be made good by plastering.
2. Areas of honeycombing which the Engineer agrees may be repaired shall be cut back to sound concrete or to 75mm. whichever is the greater distance. In the case of reinforced concrete the area shall be cut bad to at least 25mm clear distance behind the reinforcement or to 75mm. whichever *is* the greater distance. The cavity shall have sides at right angles to the face of the concrete. After cleaning out with water and compressed air, a thin layer of cement grout shall be brushed on to the concrete surfaces in the cavity and it shall then be filled immediately with concrete of the same class as the main body but with aggregate larger than 20mm nominal size removed. A form shall be used against the cavity provided with a lip to enable concrete to be placed. The form shall be filled to a point above the top edge of the cavity. After seven days the lip shall be broken off and the surface ground smooth.
 - a) Surface irregularities which are outside the limits of tolerance set out in table 1725-1 shall be grounddown in the manner and to the extent instructed by the Engineer.
3. Defects other than those mentioned above shall be dealt with as instructed by the Engineer.

REINFORCEMENT FOR CONCRETE

1. Reinforcement which shall comply with the following Kenya Standards, covers and deformed bar reinforcement and steel fabric to be cast into concrete in any part of the Worksbut does not include pre-stressing tendons or any other embedded steel.
 - a) KS 02 -22 for hot rolled plain bar
 - b) KS 02 -105 for hard drawn mild steel wire
 - c) KS 02 -573 for cold worked steel bar
 - d) KS 02 -574 for steel mesh fabric
2. All reinforcement shall be from an approved manufacturer and, if required by the Engineer, theContractor shall submit a test certificate from the manufacturer.
3. All reinforced for use in the works shall be tested for compliance with the Appropriate Kenya Standard ina laboratory acceptable to the Engineer and two Copies of each test certificate shall be supplied to the Engineer. The frequency of Testing shall be as set out in the Kenya Standard.

1728

BENDING AND FIXING REINFORCEMENT

- 1) Unless otherwise shown on the drawings, bending and cutting shall comply with BS 4466.
- 2) The Contractor shall satisfy himself as to the accuracy of any bar bending schedules supplied and shallbe responsible for cuffing, bending and fixing the reinforcement in accordance with the drawings.

- 3) Bars shall be bent cold by the application of slow steady pressure. At temperatures below 15 degreescentigrade the rate of bending shall be reduced, if necessary to prevent fracture of the steel.
- 4) After bending, bars shall be securely tied together in bundles or groups and legibly labelled as set out in BS 4466.
- 5) Reinforcement shall be thoroughly cleaned and all dirt, scale, loose rust, oil and other contaminants removed before it is placed in the works.
- 6) Reinforcement shall be securely fixed in position within a dimensional tolerance of 20mm. In any direction parallel to a concrete face and within a tolerance of 5mm at right angles to a face, provided that the cover is not thereby decreased below the minimum shown on the drawings, or if not shown, shall be not less than 25mm or the diameter of the bar, whichever is the greater. Cover on distribution steel shall not be less than 15mm or the diameter of the bar, whichever is the greater.
- 7) Unless otherwise agreed by the Engineer, all intersecting bars shall either be tied together with 1.6mm diameter soft annealed iron wire and the ends of the wire turned into the body of the concrete, or shall be secured with a wire clip of a type agreed by the Engineer.
- 8) Spacer blocks shall be used for ensuring that the correct cover is maintained on the reinforcement. Blocks shall be as small as practicable and of a shape agreed by the Engineer. They shall be made of mortar mixed in the proportions of one part of cement to two parts of sand. Wires cast into the block for tying in to the reinforcement shall be .6mm diameter soft annealed iron.
- 9) Alternatively another type of spacer block may be used subject to the Engineer's agreement.
- 10) Reinforcement shall be rigidly fixed so that no movement can occur during concrete placing. Any fixings made to the formwork shall not be within the space to be occupied by the concrete being currently placed.
- 11) No splices shall be made in the reinforcement except where shown on the drawings or agreed by the Engineer. Splice lengths shall be as shown on the drawings.
- 12) Reinforcement shall not be welded except where required by the contract or agreed by the Engineer. If welding is employed, the procedures shall be as set out in BS 2640 for gas welding or BS 5135 for metal arc welding. Full strength butt welds shall only be used for steel complying with BS 4449, and if used on high yield deformed bars complying with BS 4449 the permissible stresses in the vicinity of the weld shall be reduced to those applicable to the plain bars complying with that specification.
- 13) Bars complying with BS 4461 or other high tensile bars shall not be bent after being placed in the works.
- 14) Before concrete is placed in any section of the works, which includes reinforcement, the reinforcement shall be completely clean and free from all contamination, including concrete, which may have been deposited on it from previous operations.
- 15) The Contractor shall ensure that reinforcement left exposed in the works shall not suffer distortion, displacement or other damage. When it is necessary to bend protruding reinforcement aside temporarily, the radius of the bend shall not be less than four times the bar diameter for mild steel bars of six times the bar diameter for high yield bars. Such bends shall be carefully straightened before placing concrete continues without leaving residual kinks or damaging the concrete round them. In no circumstances will heating and bending of high yield bars be permitted.
- 16) Reinforcement shall be measured in kilogrammes for each of the following ranges of diameters: (a) of diameter equal to or less than 16mm

- 17) Of diameter greater than 16mm
- 18) Steel fabric reinforcement shall be measured by the square metre and shall be the calculated area excluding for laps.
- 19) Steel plain and deformed bar reinforcement shall be measured by the Kg and shall be the calculated weight of the steel required splice lengths shown on the drawings. No allowance shall be made in the measurement for rolling margin or cutting waste. The density of steel shall be taken as 7850 kilogrammes per cubic metre.
- 20) The rates for reinforcement shall include for the cost of providing, cutting to length, splice lengths additional to those shown on the drawings, laps, bending, hooking, waste incurred by cutting, cleaning, spacer, blocks, provision and fixing of chairs or other types of supports, welding, fixing the reinforcement in position including the provision of wire or other materials for supporting and tying the reinforcement in place, bending reinforcement aside temporarily and straightening, placing and compacting concrete around reinforcement and for complying with the requirements of this clause.

1729

MEASUREMENT AND PAYMENT FOR CONCRETE

- a) Concrete shall be measured by the cubic metre of each class calculated from the dimensions given on the drawings or as instructed by the Engineer. No deduction shall be made in the measurement for:
- b) Bolt holes, pockets, box outs and cast in components provided that the volume of each is less than 0.10m^3
- c) Fillets, drips, rebates, recesses, grooves, chamfers and the like each less than 0.005 m^2 in cross-sectional area.
- d) The rate for concrete shall include for the cost of:
- e) Provision and transport of cement aggregates and water
- f) Admixtures and workability agents including submission of details unless Specified.
- g) Batching, mixing, transporting, placing, compacting and curing
- h) Laying to sloping surfaces not exceeding 15 degrees from the horizontal and to falls.
- i) Formwork to binding concrete
- j) Placing and compacting against excavated surfaces, where required, including any additional concrete to fill overbreak or working space.
- k) Complying with the requirements of this specification.
- l) Blinding concrete shall be measured by the square metre calculated as the product to the width of the foundation as shown on the drawings and the length of the foundation. No deduction shall be made for openings, provided that the area of each is less than 0.05m^2 .

SECTION IX (3)

MATERIALS SPECIFICATIONS (STEEL)

4652	1971	Metallic zinc rich priming paint(organic media).
4870	1974	Approval testing of welding procedures.
4871: Ptl	1974	Approval testing of welders working to approved welding procedures
4872: Ptl	1972	Approval testing of welders when not required procedure approval is
5135	1974	Metal-arc welding of carbon and carbon manganese steels.

3. Swedish Standards published by the Swedish Standard Commission, Stockholm (abbreviated in the text to SIS).

<u>SIS</u>	<u>Date</u>	<u>Title</u>
055900	1962	Rust Grades for steel surfaces and preparation grades prior to protective coating.

4. British Standard Codes of practice published by the British Standards Institution, London (abbreviated in the text to CP).

<u>CP</u>	<u>Date</u>	<u>Title</u>
Chapter 3V.Pt.2	1972	Wind Loads.
2008	1966	Protection of iron and steel structures from corrosion.

5. Should the Contractor wish to substitute any other standard or code of practice either in its entirety or in part, for any of those listed above he should submit details of such together with two complete copies to the Engineer for his approval. Generally approval will only be given where the Engineer considers the proposals to give at least an equivalent standard of finished work.

6. Materials and workmanship for all structural steelworks shall be in accordance with BS for building and general work and shall be in accordance with BS 153 for bridge works except where superseded by this specification.

1903 STRUCTURAL STEEL MATERIALS

1. Mild steel for Hot Rolled Sections

- a) Mild steel for hot rolled sections shall be to grade 43C of BS 4360 unless otherwise stated.
- b) The finished dimensions, forms weights and tolerances of all sections shall comply with BS 4P, 1 or Pt2as appropriate for sections or hollow sections.
- c) The Contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each steel batch relating to steel to be used in the works.

- d) Notwithstanding the manufacturer's certificate the Engineer may require that steel to be used in the works be sampled and tested in accordance with BS 18. Any batch of steel so tested which fails to comply with specification will be rejected.
- e) All steel for use in the works shall be stored whether on the site or fabrication works in clean conditions, in clearly identified batches and protected from damage and heavy rusting.

2. **Mild Steel for Cold Formed Sections:-**

- a. Mild steel for cold formed sections shall be to grade 43A of BS 4360 unless otherwise stated.
- b. The Contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each batch of steel to be used in the works.
- c. Notwithstanding the manufacturer's certificate the Engineer may require that any steel to be used in the works be sampled and tested in accordance with BS 18. Any batch of steel so tested which fails to comply with this specification will be rejected.
- d. All steel for use in the works shall be stored whether on the site or in fabrication works in clean conditions and in clearly identified batches protected from damage and heavy rusting.

3. **High Yield Steel**

- a) High yield ribbed steel shall be to grade 50 C of BS 4449-2005 unless otherwise stated.
- b) The Contractor shall obtain a manufacturer's certificate of test in accordance with the appropriate standard for each steel batch relating to steel to be used in the works.
- c) Notwithstanding the manufacturer's certificate the Engineer may require that any steel to be used in the works be sampled and tested in accordance with BS 18. Any batch of steel so tested which fails to comply with this specification will be rejected.
- d) All steel for use in the works shall be stored whether on the site or in clean conditions, and in clearly identified batches protected from damage and heavy rusting.

4. **Black Bolts, Nuts and Washers**

- a) Black bolts shall be to grade 4.6 of BS 4190 unless otherwise stated.
- b) Nuts shall be in accordance with BS 4190 unless otherwise stated.
- c) Washers shall be normal black metal washers to BS 4320 unless otherwise stated.
- d) Where necessary washers shall be tapered D-shaped washers of steel or malleable cast iron.

5. **Precision Bolts, Nut and Washers**

- a) Precision bolts and nuts shall comply with BS 3692.
- b) Washers shall be black metal washers to BS 4320 unless otherwise stated.

6. **High Strength Friction Grip Bolts**

High strength friction grip bolts and associated nuts and washers shall comply with BS 4395.

7. **Welding Electrodes**

- a) Welding electrodes shall be grade A to BS 639 of the best heavy coated type.
- b) Electrodes shall be of a type appropriate to the grade of steel being welded.
- c) The contractor shall obtain the manufacturer's certificate to show that each consignment complies with the specifications.
- d) Electrodes shall be kept in unbroken packets in a dry store to which the Engineer shall have reasonable access at all times to inspect and to reject electrodes that he considers unsuitable.

e) Electrode classification shall be BS 1719.

8. Priming Paints

Priming paints shall be one of the following types as further specified.

Red lead primer types B or C to BS 2523 Calcium plumbate primer to BS 3698 Metallic Zinc - rich primer to BS 4652.

1905 FABRICATION WORKS

1. Fabrication Tolerances

- a) The Sub-contractor shall fabricate all steelworks to give a finished product that is true to size and out of winding. Particular care shall be taken when welding to avoid distortion of hollow steel sections plates and angles.
- b) Where repetition or interchangeability of units is required the fabrication shall be carried out so that the critical dimensions of the unit when measured by a tape calibrated at 20 degrees comply with the tolerance given in table 51.1.
- c) The use of jigs is required for repetitive interchangeability or complicated work.

2. Surface Preparation

- a) All steelworks shall be prepared to the satisfaction of the Engineer by one of the following methods as further specified.
- b) Where blast cleaning of steel is specified it shall be carried out in accordance with BS 4232 to remove dirt mill scale and rust to quality of surface finish BS 21/2 SIS 055900. The maximum grade of abrasives shall not be used unless the operative is totally protected and is using breathing apparatus. The minimum amplitude (peak to trough) of the blast cleaned surface shall not exceed 0.1.
- c) A sample blast cleaned steel panel measuring not less than 150 x 150 x 6mm and adequately protected by sealed clean polythene wrapping shall be submitted to the Engineer for approval before any work is put in hand.
- d) All blast cleaned surfaces shall be protected as soon as possible but later than 4 hours after having been blast cleaned.
- e) Where pickling of steel is specified it shall be carried out by the footer process as defined to clause 102 of CP 2008. The first priming coat of paint shall be applied as soon as the steel has dried and is still warm.
- f) Where mechanical cleaning of steel is specified it shall be carried out by power driven tools such as carborundum grinding discs, chipping hammers or needle guns followed by steel wire brushing and dusting to remove all loosened parts.
- g) All mechanically cleaned steel shall be protected within 4 hours of having been cleaned.
- h) All oil, grease and paint on bare metal shall be removed by a suitable solvent.
- i) Any steel which is appreciably rusted or pitted before cleaning will be rejected.

3. Fabrication Tolerance

Fabrication Tolerances for repetitive or interchangeable units Table 51.1

Dimension measured Tolerance for Tolerance on overall dimensions of single element assembled system of more than one element.

Not exceeding 2,500m	+/- 1.5 mm	+/- 1.5 mm	Exceeding 2,500m
but not more than 5,000m.	+/- 3.0 mm	+/- 3.0 mm	Exceeding 5,000
but not exceeding 10,000m.	+/-5.0 mm	+/-6.0mm	Exceeding
10,000m but not exceeding 15,000m.	+/- 5.0 mm	+/-10.0 mm	Exceeding
15.00m.			

4. Prefabrication Priming

Where fabrication of steelworks is to be carried out after surface preparation the protection required shall be approved by means of an approved prefabrication primer which will not give noxious fumes whilst welding is in progress.

5. Cutting, Drilling, Punching and Forming

- a) All steelworks shall be cold sawn or machine gas cut and no manual gas cutting shall be used without approval.
- b) Where machine gas cutting is used or manual gas cutting permitted, the heat affected metal shall be ground off.
- c) All projecting corners of cleats, plates, etc., shall be neatly splayed and all burrs and rough edges shall be removed.
- d) All holes shall be drilled and no punching will be permitted.
- e) Where slotted holes are required they shall be formed by first drilling and then reaming out smooth to the size required.
- f) All members, plates, brackets, etc. shall be neatly and accurately sheared, sawn or profiled to the required shapes as shown on the drawings.
- g) Where steel is oxy-cut to shape, care shall be taken to preserve the finished sizes required if members or plates are bent or set, the bends or sets shall be correctly made to the radii or angles specified without leaving hammer marks. The material may be heated to permit this material that has been heated shall be annealed to approval.
- h) Holes for black bolts shall be drilled or punched 2 mm larger in diameter than the bolt used. Holes for high tensile friction grip bolts shall be drilled or sub-punched and reamed to 2 mm larger in diameter than the specified bolt sizes. All drilled holes shall be parallel sized and shall be drilled with axis of the holes perpendicular to the surface. Badly drilled holes shall either be reamed out to approval and larger bolts fitted or otherwise as directed. All rough edges shall be ground off when holes are drilled in one operation through two or more thicknesses of material, the parts shall be separated after drilling and all burrs removed before assembly. Holes for bolts shall not be formed by a gas cutting process.

1907 Welding

- 1) Welding shall be carried out in strict accordance with BS 5135 and electrodes shall comply with BS 639.
- 2) Welding plant, equipment and accessories shall comply with the requirements of BS 638.
- 3) Fusion faces shall be free from irregularities such as tears, fins, etc. which would interfere with the deposition of weld metal.
- 4) Fusion faces shall be smooth and uniform and shall be free from loose scales, slag, rust, grease, paint and/or other deleterious material.
- 5) All welds shall be of acceptable types, shall be of the finished sizes specified and shall be carried out in such sequence that minimum distortion of the parts welded results.
- 6) Preparation of edges for welding shall be carried out by planning or machine flame cutting. Manual flame cutting may be permitted in certain circumstances. Parts to be welded shall be maintained in their correct relative positions during welding, preferably by jigs. Multiple run welds shall be carried out with each run closely following the previous run but allowing sufficient time for the proper removal of slags.
- 7) The Contractor shall ensure that each run is inspected and any unsatisfactory weld cut out and remade to approval.
- 8) Welds in material 25mm or greater in thickness shall be made by the Argon arc or similar approved process, and special precautions shall be taken to prevent weld cracking.
- 9) Unless otherwise shown, the minimum size of fillets shall be 6mm.

- 10) On completion, welds shall present a smooth and regular finish. Weld metal should be solid throughout with complete fusion between weld metal and parent metal and between successive runs throughout the joint. Defects shall be cut and made good to approval in sound weld metal.
- 11) The external faces of butt weld are to be ground smooth on completion and to be to the approval of the Engineer.
- 12) Individual transformers or motor generators shall be fitted with current density control and shall be situated as close as possible to the welder that he may have at hand the means to adjust the current.
- 13) In order to show that current values are within the ranges specified by the manufacturer of the electrodes the transformers or motor generators shall be calibrated regularly by means of an ammeter.
- 14) Electrodes shall not be used in a damp condition and where necessary they shall be kept in heated quivers while in use.
- 15) Location or tack welds shall be of the same quality and size as the first run of the main weld which when completed shall fuse completely with the ends of the location weld and for a reasonably regular finished profile.
- 16) Before welding commences the Sub-Contractor shall satisfy the Engineer that all his proposed welders are able to deposit the appropriate weld type to the required standard. The qualifying tests will be to BS 4872 unless special welding procedures to BS 4870 are required when welder testing will be to BS 4871.
- 17) Notwithstanding any approval of welders or procedures the Engineer may require that complete welds are tested by gamma or X-ray radiography or ultrasonic methods. Any weld so tested and found to have slag inclusions or other unacceptable defects shall be cut out and the weld remade at the Contractor's expenses.

1908

BOLTING

1. **Bolted Connections**

- a. All bolts, nuts and washers shall be free from rust and dipped in linseed oil immediately before connection.
- b. When tightened at least one complete thread of the bolt shall be visible above the nut.
- c. Where nut or bolt head would bear on an inclined surface a beveled washer of the correct shape shall be interposed between the two surfaces.
- b) All bolted connections shall be made with the appropriate washers under the bolt head and nut.
- c) Where the surfaces under the nut or bolt head are not perpendicular to the axis of the bolt tapered washers shall be used.
- d) Undue force and drift pins shall not be used to align the holes for bolting and holes shall not be enlarged without prior approval.
- e) High strength friction grip bolts shall be used in compliance with BS 4604.
- f) All black bolts, nut and washers shall comply with the requirements of BS 916 or alternatively BS 4190, ISO metric black hexagonal bolts, screws and nuts. All high tensile steel bolts, nuts and washers used in joints shall comply with the requirements of BS 3139 and shall be used in accordance with BS 3294.

2.

Steel Bracings

- a) Bracings shall be carefully set out to the dimensions shown on the drawings.
- b) The bracing plate connecting plates shall be carefully set out to the dimensions shown on the drawings.
- c) Notwithstanding any dimensioned spacing, the Contractor shall ensure that the spacing is

satisfactory for the available stock lengths. However, the Engineer's approval must first be obtained before any alteration is made in spacing.

1909

TRANSPORTATION, HANDLING AND ERECTION

1. Shop Assembly

- a. Such assembly of units in the shop as is specified or necessary before transporting to the site will be inspected by the Engineer before painting. The work will be laid out in the shop or yard so that all parts are accessible for inspection and testing of the work.
- b. The Contractor shall furnish all facilities for inspection and testing of the work and he must notify the Engineer on each occasion when the material is ready for inspection.

2 Marking

All members of the structure to be site assembled shall be match marked in accordance with the shop details and marking plan submitted for approval.

3 Painting of Fabrication Works

- a) After fabrication of the steel work all surfaces not previously protected shall be painted with the specified primer except for surfaces to be encased in concrete or within 75mm of the interfaces of high strength friction grip bolted connections, which shall not be painted.
- b) The Contractor shall ensure that all voids are fully sealed before painting so that no possibility exists for moisture to reach surfaces that cannot be painted.
- c) All weld surfaces shall be thoroughly deslagged before painting.

3. Cast-in-Items

Grouting up of holding down bolts shall be carried out after the Engineer has approved the line and level of all the steelworks.

4. Transport and Erection

- a) The Contractor shall make whatever arrangements which are necessary for the transport of the steelworks from the fabrication yard to the site. All steelworks shall be carefully loaded stacked and unloaded to avoid damage of any description. Any damaged items shall be replaced unless the Engineer permits the rectification of the damage. Such replacement or rectification shall be at the Contractor's expenses.
- b) No erection shall commence before accurate Site Dimensions have been taken by the contractor, and no claim will be considered should final dimensions differ from those on the drawings.
- c) Any modifications to the structural steel required in order to comply with the Site Dimensions shall be made on the ground to the Engineer's approval before erection is commenced.
- d) All erection shall be carried out by competent and experienced workmen and the Contractor shall take every care to safeguard the public, workmen and adjoining properties.
- e) All gear used shall be of adequate strength and shall comply with all Regulations current at the time.
- f) The Contractor shall be held responsible for all damage caused to the structure, workmen and or adjoining property during erection.
- g) Steel shall be stored and handled and erected in such a manner that no member is subjected to excessive stresses which could have an adverse effect on the properties of the steel. If in the opinion of the Engineer, the steelworks has been subjected to such treatment, the Contractor shall remove this steel from the site and replace it at his own expense.
- h) No member or part of a member which has been bent or distorted shall be erected in that condition.
- i) All straightening shall be done on the ground.
- j) Rafters and open web joists shall be carefully handled, at all times when being erected and shall be lifted at such points and in such a manner as will preclude any possibility of damage from erection stresses.
- k) Immediately after erection, each rafter shall be made secure by purlins, bracing, or guys to

approval. Bracings shall be placed in position as soon as dependent works will permit.

- l) Before erection commences the Contractor shall allow the Engineer the opportunity to comment on his erection procedures.
- m) The Contractor shall be responsible for checking all the work prepared by others that may be incorporated into his work or the dimensions of any structure affecting his erection. If as a result of this check the Contractor shall find any discrepancies or shortfalls he shall report the situation to the Engineer immediately.
- n) All setting out shall be carried out with steel tapes and bands calibrated at 20 degrees C and used at the correct tension.
- o) All steelworks shall be leveled to a datum point and aligned to a base before erection. Both datum point and setting out lines shall be agreed before commencement.
- p) All steelworks shall be accurately and securely located to the correct profile and camber, if any, before assembly.
- q) The completed steelworks shall be dimensionally accurate to within the following tolerances:-
- r) Between the centre line

Principal members: +/- 6 mm up to 10 metres c/c.

Over 10 metres c/:

The +/- 10 mm tolerances shall not be

accumulative.

In bow of any member: +/- 10mm in any 5.0m, unless specifically precambered or raiused

In twist of any member: +/- 10 mm in any 1.0m.

After transit and erection all damaged paintwork or coating shall be repaired to the Engineer's satisfaction.

- s) All bolts, nuts and washers shall be painted or protected after erection and final tightening up with two coats of the same primer or protective coating as the remainder of the steelworks.

5. **Rolled Sections - Shop and Field Connections**

- a) All shop connections shall be electric welded or bolted with high tensile friction grip bolts.
- b) No bolts used shall be less than 12mm diameter and no weld less than 40 mm in length. At least two bolts shall be used in connections transmitting loads unless otherwise indicated by the Engineer.
- c) No weld of length less than four times the nominal fillet size shall be deemed capable of carrying a load.
- d) Beam to column connections not detailed shall on "standard" top and bottom cleat connections with the load carried on the bottom cleat. "Standard" web connections shall be used for connecting beams to beams.
- e) Field connections shall be as detailed i.e. bolted with high tensile or black bolts in drilled holes. Black bolts in punched holes will only be permitted for connections carrying a designed load or for connections to timber members.

6. **Structural Hollow Sections - Circular and Rectangular Shop and Field Connections**

- a) Hollow sections shall be connected by electric welding unshown otherwise.
- b) The design of welds shall be in accordance with Clauses 53 and 54 and Appendix C of BS449.
- c) Butt welds shall be made with fusion surfaces of the ends of each member properly prepared and members properly aligned.
- d) In making connections, drifting of unfair holes will not be permitted and holes not matching properly shall either be reamed or drilled out and a larger bolt inserted or otherwise as directed.

- e) Holes formed or enlarged by oxy-cutting will be condemned and must be filled to approval by electric welding and re-drilled.

7. Tightening and Tensing of High Tensile Friction Grip Bolts

- a) Before assembly, the contact surfaces, including those adjacent to the washers shall be descaled or carry the normal tight mill scale. They shall be free from dirt, oil, loose scale, burrs (except priming paint) pits and other defects that would prevent solid seating on the parts.
- b) Bolts shall be assembled with approved hardened flat or tapered washers as required between the bolt head and nut and the softer mild steel.
- c) When bearing faces of the bolted parts have a slope of more than 1 in 20 with respect to a plane normal to the bolt axis, square smooth beveled washers shall be used to compensate for lack of parallelism.
- d) All bolts shall be tightened by the "Turn of NUT" method. This method shall generally be as approved by the Engineer to achieve in all bolts a minimum tension equal to the proof load.

8. Protective Scheme to BS 5493

For this contract the protective requirements for all the steelworks shall be as follows:-Metal coating - Nil

Primer - One coat of prefabrication primer

One coat of red lead types B or C to BS 2523.

Protective Coats - After erection one further coat of red lead.

Finishing Paint - Total finished paint film thickness not less than 100micron or gloss 08 C25.

9. Working and Fabrication Drawings

- a) The Contractor shall prepare working and fabrication drawings which are complete in such detail as may be necessary to enable the works to be fabricated and subsequently erected on site and to enable the Engineer to approve the Contractor's proposals and details for the execution of the works.
- b) Drawings shall be prepared on standard A1 size sheets correctly tilted, referenced and with the Contractor's name. Alternative size sheets may only be used with approval of the Engineer.
- c) Welding shall be shown on drawings using welding symbols to BS 499.
- d) All working and fabrication drawings must be submitted to the Engineer for approval and if not so submitted to the Contractor shall bear the cost of any rejected work that he has commenced or prepared. It is recommended in view of the following clause, that the Contractor allow at least three weeks plus delivery time and preferably eight weeks for submission before commencement of works.
- e) The Engineer requires three copies of all working and fabrication drawings and calculations to be submitted for approval. Usually one copy of these drawings will be returned to the Contractor within three weeks of receipt marked either:-

(i) Examined and Returned for Correction

(ii) Signature.....Date.....

For
Civil Engineer

NEMA

Or

(iii) Approved with Corrections indicated

Signature.....Date.....

Civil Engineer

NEMA

and

Approval of Contractor's drawings or documents shall not relieve the Contractor of any of his obligations under the Contract.

Should the Engineer fail to approve or otherwise inform the Contractor within the three weeks from the time he receives the drawings the Contractor may assume that the drawings have the Engineer's approval.

Such approved fabrication shall not be departed from without the approval of the Engineer.

Approval by the Engineer of working and fabrication drawings shall not relieve the Contractor of any of his obligations under the Contract nor relieve him of any responsibility for any subsequent errors found in the working and fabrication drawings or in other work on site or elsewhere.

Record Drawings

On completion of the erection the Contractor shall revise or redraw his fabrication drawings to show any agreed modifications made during the course of the Contract and shall submit one copy negative or velograph of each drawing to the Engineer for record purposes. Each drawing shall be of standard A1 size and revision marked.

1911 PAINT WORKS

1. Authoritative Standards and Codes of practice

The following authoritative Standards are referred to hereinafter:-

British Standard Specifications as published by the British Standards Institution London (abbreviated in the text to BS).

BS	DATE	TITLE
282.389	1963	Lead chromes and zinc chromes for paints
388	1972	Aluminium pigments
729	1971 steel articles.	Hot dip galvanized coatings on iron and
2521&2523	1966	Lead based priming paint.
2569 Pt 1	1964	Protection of iron and steel by aluminum and zinc against atmospheric corrosion.
3698	1964	Calcium plumbate for paints.
3761	1970	Non-flammable solvent based paint remove
3981	1966	Iron oxide pigment for paints

Should the Contractor wish to substitute any other standard either in its entirety or in part for any of those listed above he should submit details of such together with two complete copies of the Engineer for his approval. Generally approval will only be given when the Engineer considers the proposal to give at least an equivalent standard of finished work.

2 Metal Coatings

Hot dip galvanized coatings shall comply with the requirements of BS 729 part 1. Sheradised coatings shall comply with the requirements of BS 729 part 2.

Sprayed metal coatings shall comply with the requirements of BS 2569 Part 1.

3. Priming Paints

Lead base priming paints shall comply with the requirements of BS 2523. Calcium plumbate priming paints shall comply with the requirements of BS 3698.

4. **Undercoating and Finishing Paints**

Ready mixed oil based undercoating and finishing paints shall comply with the requirements of BS 2525 - 32.

5. **Red Oxides of Iron**

Natural red oxides of iron and manufactured red oxides of iron for paints excluding venetian red shall comply with the requirements of BS 3981.

6. **Lead Chromes and Zinc Chromes**

Lead chromes and zinc chromes for paints shall comply with the requirements of BS 282 and BS 389.

7. **Aluminium Flake Pigments**

Aluminium flake pigments (powder and paste) for paints shall comply with the requirements of BS 388.

8. **Calcium Plumbate**

Calcium plumbate for paints shall comply with the requirements of BS 3699.

9. **Paint Removers**

Water rinsable and solvent rinsable paint removers shall comply with the requirements of BS 3761.

10. **Storage of Paint**

Paint shall be stored in sealed containers in a lock-up store where it is not exposed to extreme temperatures. The temperature of the store shall be kept between 4 degrees C. Any special storage conditions recommended by the manufacturer shall be strictly adhered to.

Paint which has not been used within the shelf life period specified on the containers or within 12 months of the date of manufacture whichever is the lesser shall be discarded and replaced.

Paint from painter's kettles shall be returned to store at the end of each working period where it shall be kept in a sealed container. Before it is re-issued for use it shall be thoroughly mixed and no fresh paint or thinners shall be added.

11. **Application of Paint**

All paints shall be supplied from the store to the painters ready for application and the addition of thinners or of any other material shall be thereafter prohibited. Any instructions given by the paint manufacturer shall be strictly followed.

All painting shall be carried out by skilled painters under competent supervision.

Paint shall be applied to dry surfaces which have been prepared and cleaned as specified. The interval between the preparations of metal surfaces and the application of the first priming coat of paint shall be in accordance with the relevant requirements of the structural steelworks specification.

Paint shall not be applied under the following conditions:-When the ambient temperature falls below 4 degrees C or the relative humidity rises above 90 per cent.

- (a) During rain fog or mist.
- (b) When condensation has occurred or is likely to occur on the steel.

Two pack paints of the peroxide resin type shall not be applied when the temperature is below 5 degrees C or as required by the paint manufacturer nor shall it be applied when the temperature is likely to fall below the specified minimum during the curing period.

Unless otherwise agreed by the Engineer each coat of paint shall be applied by an approved method to produce a continuous film of paint of uniform and even thickness.

As soon as the first priming coat has dried an extra strip of paint shall be applied by brush to edges, corners, crevices, bolt heads and welds of steelworks using paint of contrasting shade. Successive coats shall have different shades for identification and each coat shall be thoroughly dry before the application of a further coat.

The total dry paint film thickness of the paint system for steelworks or bare steel surfaces and on metal coated surfaces shall be not less than 0.125mm or such greater thickness as may be further specified.

When required by the Engineer the dry paint film thickness shall be measured by Elcometer or other instruments approved by the Engineer.

In order to obtain the dry film thickness specified the Contractor shall ensure that the coverage rate given by the paint manufacture will enable this thickness to be attained.

Wet film thickness gauges may be used for checking but shall not be permitted as a means of predicting dry film thickness.

No paint shall be used after the expiration of the pot life stipulated by the manufacturer and paints of limited pot life shall not be mixed with fresh paint or have thinners added to them.

**PART III - THE CONDITIONS OF CONTRACT
AND CONTRACT**

SECTION VIII - GENERAL CONDITIONS OF CONTRACT (GCC)

NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY

DRILLING AND EQUIPING OF BOREHOLE AND CONSTRUCTION OF ACCOMPANYING STRUCTURES

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”**

meansthe date of completion of the Works ascertified by the Engineer.

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

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

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

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

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

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

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

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

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

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

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

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

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

“Defects Notification Period” means the period for notifying defects in the Works ora Section(asthecasemaybe) under Sub-Clause 11.1 [Completion of Outstanding Work and Remedying Defects], whichextendsoverthedaystated intheSpecialConditionsofContract.

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

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

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

[ApplicationforFinalPaymentCertificate]. **“Force Majeure”** is defined in Clause 19 [Force Majeure].

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

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

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

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

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

“Local Currency” means the currency of Kenya.

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

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

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

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

“Payment Certificate” means a payment certificate issued under Clause 14 [Contract Price and Payment]. **“Performance Certificate”** means the certificate issued under Sub-Clause 11.9 [Performance Certificate]. **“Performance Security”** means the security (or securities, if any) under Sub-Clause 4.2 [Performance Security]. **“Permanent Works”** means the permanent works to be executed by the Contractor under the Contract.

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

“Procuring Entity's Equipment” means the apparatus, machinery and vehicles (if any) made available by the

Procuring Entity for the use of the Contract or in the execution of the Works, as stated in the Specification; but does not include Plant which has not been taken over by the Procuring Entity.

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

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

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

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

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

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

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

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

“Site Investigation Reports” are those reports that may be included in the tendering documents which are a reflection and interpretative about the surface and sub-surface conditions at the Site.

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

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

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

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

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

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

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

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

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

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

“Tests on Completion” means the tests which are specified in the Contract 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 address or the recipient's communications as stated in the Special Conditions of Contract. However:
 - i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
 - ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued.

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 of the 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 form annexed to the Special Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the Contract Agreement shall be borne by the Procuring Entity.

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

1.8 Care and Supply of Documents

1.81 The Specifications and Drawings shall be in the custody and care of the Procuring Entity. Unless otherwise stated in the Contract, two copies of the Contract and of each subsequent Drawings and Bills of Quantities shall be supplied to the Contractor, who may make or request further copies at the cost of the Contractor.

1.82 Each of the Contractor's Documents shall be in the custody and care of the Contractor, unless and until taken over by the Procuring Entity. Unless otherwise stated in the Contract, the Contractor shall supply to the Architect two copies of each of the Contractor's Documents.

1.83 The Contractor shall keep, on the Site, a copy of the Contract, publications named in the Specification, the Contractor's Documents (if any), the Drawings and Variations and other communications given under the Contract. The Procuring Entity's Personnel shall have the right of access to all these documents at all reasonable times.

1.84 If a Party becomes aware of an error or defect in a document which was prepared for use in executing the Works, the Party shall promptly give notice to the other Party of such error or defect.

1.9 Timely provision of Drawings or Instructions

1.91 The Contractor shall give notice to the Architect whenever the Works are likely to be delayed or disrupted if any necessary drawing or instruction is not issued to the Contractor within a particular time, which shall be reasonable. The notice shall include details of the necessary drawing or instruction, details of why and by when it should be issued, and the nature and amount of the delay or disruption likely to be suffered if it is late.

1.92 If the Contractor suffers delay and/or incurs Cost as a result of a failure of the Architect to issue the notified drawing or instruction within a time which is reasonable and is specified in the notice with supporting details, the Contractor shall give a further notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

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

- b) payment of any other associated costs accrued, which shall be included in the Contract Price.

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

1.94 However, if and to the extent that the Architect failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, or costs accrued.

1.10 Procuring Entity's Use of Contractor's Documents

1.101 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.

1.102 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.

1.103 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

1.121 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.

1.122 The Contractor's and the Procuring Entity's Personnel shall also treat the details of the

Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available information, or information otherwise required to establish his qualifications to compete for other projects.

1.13 Compliance with Laws

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

- a) The Procuring Entity shall have obtained (or shall obtain) the planning, zoning, building permit or similar permission for the Permanent Works, and any other permissions described in the Specifications as having been (or to be) obtained by the Procuring Entity; and the Procuring Entity shall indemnify and hold the Contractor harmless against and from the consequences of any failure to do so; and
- b) the Contractor shall give all notices, pay all taxes, duties and fees, and obtain all permits, licenses and approvals, as required by the Laws in relation to the execution and completion of the Works and the remedying of any defects; and the Contractor shall indemnify and hold the Procuring Entity harmless against and from the consequences of any failure to do so, unless the Contractor is impeded to accomplish these actions and shows evidence of its diligence.

1.14 Joint and Several Liability

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

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

1.15 Inspections and Audit by the Procuring Entity

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

2 THE PROCURING ENTITY

2.1 Right of Access to the Site

- 2.1.1 The Procuring Entity shall give the Contractor right of access to, and possession of, all parts of the Site within the time (or times) stated in the **Special Conditions of Contract**. The right and possession may not be exclusive to the Contractor. If, under the Contract,

the Procuring Entity is required to give (to the Contractor) possession of any foundation, structure, plant or means of access, the Procuring Entity shall do so in the time and manner stated in the Specification. However, the Procuring Entity may withhold any such right or possession until the Performance Security has been received.

- 2.12 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].
- 2.13 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.
- 2.14 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 2.15 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

- 2.21 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 contractor son the Site:

- a) co-operate with the Contractor's efforts under Sub-Clause 4.6 [Co-operation], and
- b) take action ssimilar to those which the Contractor is required to take under subparagraphs (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 Clause 14 [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 Architect is required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the **Special Conditions of Contract**. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Engineer.
- 3.1.4 However, whenever the Architect exercises a specified authority for which the Procuring Entity's approval is required, then (for the purposes of the Contract) the contractor shall require the Architect to provide evidence of such approval before complying with the instruction.
- 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 shall be deemed to act for the Procuring Entity;
 - b) the Architect has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
 - c) any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Architect (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
 - d) any act by the Architect in response to a Contractor's request shall be notified in writing to the Contractor 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-Clause 13.4: Specifying the amount payable in each of the applicable three currencies.
- 3.1.7 Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to

do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forth with comply, despite the absence of approval of the Procuring Entity, with any such instruction of the Engineer. The Architect shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Procuring Entity.

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 be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Engineer, or from an assistant to whom the appropriate authority has been delegated under Clause 3.2.1.

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 Architect or a delegated assistant:

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

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

3.4 Replacement of the Engineer

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

3.5 Determinations

- 3.5.1 Whenever these Conditions provide that the Architect shall proceed in accordance with this Sub-Clause 3.5 to agree or determine any matter, the Architect shall consult with each Party in an endeavor to reach agreement. If agreement is not achieved, the Architect shall make a fair determination in accordance with the Contract, taking due regard of all relevant circumstances.
- 3.5.1 The Architect shall give notice to both Parties of each agreement or determination, with supporting particulars, within 30 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

4 THE CONTRACTOR

4.1 Contractor's General Obligations

- 4.1.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Architect instructions, and shall remedy any defects in the Works.
- 4.1.2 The Contractor shall provide the Plant and Contractor's Documents specified in the Contract, and all Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent nature, required in and for this design, execution, completion and remedying of defects.
- 4.1.3 All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country.
- 4.1.4 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 design or 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, be fit for such purposes for which the part is intended as are specified in the Contract; and
 - d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Architect the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Procuring Entity to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Engineer.

4.2 Performance Security

- 421 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.
- 422 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.
- 423 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contractor has not become entitled to receive the Performance Certificate by the date 30 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.
- 424 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.
- 425 The Procuring Entity shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Procuring Entity was not entitled to make the claim.
- 426 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.
- 427 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Architect determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Architect request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

4.3 Contractor's Representative

- 431 The Contractor shall appoint the Contractor's Representative and shall give him all authority necessary to act on the Contractor's behalf under the Contract. The Contractor's Representative's Name and Address shall be provided in the **Special Conditions of Contract**.
- 432 Unless the Contractor's Representative **is named in the Contract**, the Contractor shall, prior to the Commencement Date, submit to the Architect for consent the name and particulars of the person the Contractor proposes to appoint as Contractor's Representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.
- 433 The Contractor shall not, without the prior consent of the Engineer, revoke the appointment of the Contractor's Representative or appoint a replacement.
- 434 The whole time of the Contractor's Representative shall be given to directing the

Contractor's performance of the Contract. If the Contractor's Representative is to be temporarily absent from the Site during the execution of the Works, a suitable replacement person shall be appointed, subject to the Architect prior consent, and the Architect shall be notified accordingly.

435 The Contractor's Representative shall, on behalf of the Contractor, receive instructions under Sub-Clause 3.3 [Instructions of the Engineer].

436 The Contractor's Representative may delegate any powers, functions and authority to any competent person, and may at any time revoke the delegation. Any delegation or revocation shall not take effect until the Architect has received prior notice signed by the Contractor's Representative, naming the person and specifying the powers, functions and authority being delegated or revoked.

437 The Contractor's Representative shall be fluent in the language for communications defined in Sub-Clause 1.4 [Law and Language]. If the Contractor's Representative's delegates are not fluent in the said language, the Contractor shall make competent interpreter available during all working hours in a number deemed sufficient by the Engineer.

4.4 Sub-contractors

441 The Contractor shall not subcontract the whole of the Works. The contractor may however subcontract the works as provided in Clause 34.2.

442 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were acts or defaults of the Contractor. Unless otherwise stated in the Special Conditions:

- a) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
- b) The prior consent of the Procuring Entity shall be obtained to other proposed Subcontractors;
- c) the Contractor shall give the Procuring Entity not less than 14 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
- d) each subcontract shall include provisions which would entitle the Procuring Entity to require the subcontract to be assigned to the Procuring Entity under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (if or when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity].

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

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

4.5 Assignment of Benefit of Subcontract

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

4.6 Co-operation

461 The Contractor shall, as specified in the Contract or as instructed by the Engineer, allow

appropriate opportunities for carrying out work to:

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

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

4.63 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 Contract notified by the Engineer. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.

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

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

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

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

4.8 Safety Procedures

The Contractor shall:

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

49 Quality Assurance

- 49.1 The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Architect shall be entitled to audit any aspect of the system.
- 49.2 Details of all procedures and compliance documents shall be submitted to the Architect 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 The Contractor shall be deemed to:
- a) Have satisfied itself as to the correctness and sufficiency of the Accepted Contract Amount, and
 - b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].
- 4.11.2 Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

4.12 Unforeseeable Physical Conditions

- 4.12.1 In this Sub-Clause, “physical conditions” means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.
- 4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Architect as soon as practicable.
- 4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Architect and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions, and shall comply with any instructions which the Architect may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.
- 4.12.4 If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost, which shall be included in the Contract Price.
- 4.12.5 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
- 4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Architect may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.
- 4.12.7 The Architect shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

4.13 Rights of Way and Facilities

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

4.14 Avoidance of Interference

- 4.14.1 The Contractor shall not interfere unnecessarily or improperly with:
- a) The convenience of the public, or
 - b) The access to and use and occupation of all roads and foot paths, irrespective of whether they are public or in the possession of the Procuring Entity or of others.
- 4.14.2 The Contractor shall indemnify and hold the Procuring Entity harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

4.15 Access Route

- 4.15.1 The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.
- 4.15.2 Except as otherwise stated in these Conditions:
- a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
 - b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
 - c) the Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
 - d) the Procuring Entity does not guarantee the suitability or a availability of particular access routes; and
 - e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

4.16 Transport of Goods

Unless otherwise stated in the Special Conditions:

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

4.17 Contractor's Equipment

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

4.18 Protection of the Environment

- 4.18.1 The contractor shall comply with the applicable environmental laws, regulations and

policies.

4.182 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.

4.183 The Contractors shall ensure that emissions, surfaced is charges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

4.19 Electricity, Water and Gas

4.19.1 The Contractor shall, except as stated below, be responsible for the provision of all power, water and other services he may require for his construction activities and to the extent defined in the Specifications, for the tests.

4.19.2 The Contractor shall be entitled to use for the purposes of the Works such supplies of electricity, water, gas and other services as may be available on the Site and of which details and prices are given in the Specifications. The Contractor shall, at his risk and cost, provide any apparatus necessary for his use of these services and for measuring the quantities consumed.

4.19.3 The quantities consumed and the amounts due (at these prices) for such services shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

4.20 Procuring Entity's Equipment and Free-Issue Materials

4.20.1 The Procuring Entity shall make the Procuring Entity's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:

- a) The Procuring Entity shall be responsible for the Procuring Entity's Equipment, except that
- b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.

4.20.1 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Architect in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to the Procuring Entity.

4.20.2 The Procuring Entity shall supply, free of charge, the "free-issue materials" (if any) in accordance with the details stated in the Specification. The Procuring Entity shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them and shall promptly give notice to the Architect of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defect or 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

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

4.22 Security of the Site

Unless otherwise stated in the Special Conditions:

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

4.23 Contractor's Operations on Site

- 423.1 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.
- 423.2 During the execution of the Works, the Contractor shall keep the Site free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment

or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required.

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

4.24 Fossils

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

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

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

5 NOMINATED SUBCONTRACTORS

5.1 Definition of "nominated Subcontractor"

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

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

5.2 Objection to Nomination

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

- a) there are reasons to believe that the Subcontractor does not have sufficient competence, resources or financial strength;
- b) the nominated Subcontractor does not accept to indemnify the Contractor against and from any negligence or misuse of Goods by the nominated Subcontractor, his agents and employees; or
- c) the nominated Subcontractor does not accept to enter into a subcontract which specifies that, for the subcontracted work (including design, if any), the nominated Subcontractor shall:
 - i) undertake to the Contractor such obligations and liabilities as will enable the Contractor to discharge his obligations and liabilities under the Contract;
 - ii) indemnify the Contractor against and from all obligations and liabilities arising

under or in connection with the Contract and from the consequences of any failure by the Subcontractor to perform these obligations or to fulfil these liabilities, and

- iii) be paid only if and when the Contractor has received from the Procuring Entity payments for sums due under the Subcontract referred to under Sub-Clause 5.3 [Payment to nominated Subcontractors].

5.3 Payments to nominated Subcontractors

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

5.4 Evidence of Payments

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

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

6 STAFF AND LABOR

6.1 Engagement of Staff and Labor

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

6.2 Rates of Wages and Conditions of Labor

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

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

of as may be imposed on him by such Laws.

6.3 Persons in the Service of Procuring Entity

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

6.4 Lab or Laws

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

6.5 Working Hours

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

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

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 local health 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 its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Architect may reasonably require.
- 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

6.81 Throughout the execution of the Works, and as long thereafter as is necessary to fulfil the Contractor's obligations, the Contractor shall provide all necessary superintendence to plan, arrange, direct, manage, inspect and test the work.

6.82 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

6.91 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in their respective trades or occupations. The Contractor's 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 a competent or negligently,
- c) fails to conform with any provisions of the Contract,
- d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
- e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.

6.92 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

6.121 The Contractor shall not employ foreign personnel unless the contractor demonstrates that there are no Kenyans with the required skills.

6.122 The Contractor shall be responsible for the return of any foreign personnel to the place where they were recruited or to their domicile. In the event of the death in Kenya of any of these personnel or members of their families, the Contractor shall similarly be responsible for making the appropriate arrangements for their return or burial.

6.13 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate

supply of drinking and other water for the use of the Contractor's Personnel.

6.14 Measures against Insect and Pest Nuisance

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

6.15 Alcoholic Liquor or Drugs

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

6.16 Prohibition of Forced or Compulsory Labour

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

6.17 Prohibition of Harmful Child Labor

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

6.18 Employment Records of Workers

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

6.19 Workers' Organizations

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

6.20 Non-Discrimination and Equal Opportunity

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

7. PLANT, MATERIALS AND WORKMANSHIP

7.1 Manner of Execution

The Contractor shall carry out the manufacture/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, notwithstanding other provisions of the Contract.

7.4.4 The Architect shall give the Contractor not less than 24 hours' notice of the Architect

intention to attend the tests. If the Architect does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Engineer, and the tests shall then be deemed to have been made in the Architect presence.

7.4.5 If the Contractor suffers delay and/ or incurs Cost from complying with these instructions or as a result of a delay for which the Procuring Entity is responsible, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

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

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

7.4.7 The Contractor shall promptly forward to the Architect duly certified reports of the tests. When the specified tests have been completed, the Architect shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Architect has not attended the tests, he shall be deemed to have accepted the readings as accurate.

7.5 Rejection

7.5.1 If, as a result of an examination, inspection, measurement or testing, any Plant, Materials or workmanship is found to be defective or otherwise not in accordance with the Contract, the Architect may reject the Plant, Materials or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the defect and ensure that the rejected item complies with the Contract.

7.5.2 If the Architect requires this Plant, Materials or workmanship to be retested, the tests shall be repeated under the same terms and conditions. If the rejection and retesting cause the Procuring Entity to incur additional costs, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity.

7.6 Remedial Work

7.6.1 Notwithstanding any previous test or certification, the Architect may instruct the Contractor to:

- a) Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- b) remove and re-execute any other work which is not in accordance with the Contract, and
- c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseen event or otherwise.

7.6.2 The Contractor shall comply with the instruction within a reasonable time, which shall be the time (if any) specified in the instruction, or immediately if urgency is specified under sub-paragraph (c).

7.6.3 If the Contractor fails to comply with the instruction, the Procuring Entity shall be entitled to employ and pay other persons to carry out the work. Except to the extent that the Contractor would have been entitled to payment for the work, the Contractor shall subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity all costs arising from this failure.

7.6.4 If the contractor repeatedly delivers defective work, the Procuring Entity may consider termination in accordance with Clause 15.

7.7 Ownership of Plant and Materials

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

- a) When it is incorporated in the Works;
- b) when the Contractor is paid the corresponding value of the Plant and Materials under Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension].

7.8 Royalties

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

- a) Natural materials obtained from outside the Site, and
- b) the disposal of material from demolitions and excavations and of other surplus material (whether natural or man-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 have all been fulfilled and the Architect notification recording the agreement of both Parties on such fulfilment and instructing to commence the Work is received by the Contractor:

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

8.1.2 If the said Architect instruction is not received by the Contractor within 180 days from his receipt of the Letter of Acceptance, the Contractor shall be entitled to terminate the Contract under Sub-Clause 16.2 [Termination by Contractor].

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

8.2 Time for Completion

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

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

8.3 Programme

8.3.1 The Contractor shall submit a detailed time programme to the Architect within 4 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The

Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:

- a) The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
- b) each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
- c) the sequence and timing of inspections and tests specified in the Contract, and
- d) a supporting report which includes:
 - i) a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
 - ii) details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.

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.

832 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.

833 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

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

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

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

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

861 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.

862 Unless the Architect notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Procuring Entity to incur additional costs, the Contractor shall 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.

863 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

871 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.

872 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

881 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.

882 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

891 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.

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

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

8.10 Payment for Plant and Materials in Event of Suspension

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

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

8.11 Prolonged Suspension

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

8.12 Resumption of Work

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

9 TESTS ON COMPLETION

9.1 Contractor's Obligations

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

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

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

9.2 Delayed Tests

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

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

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

10. PROCURING ENTITY'S TAKING OVER

10.1 Taking Over of the Works and Sections

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

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

10.2 Taking Over of Parts of the Works

1021 The Architect may, at the sole discretion of the Procuring Entity, issue a Taking-Over Certificate for any part of the Permanent Works.

1022 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.

1023 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.

1024 If the Contractor incurs Cost as a result of the Procuring Entity taking over and/or using a part of the Works, other than such use as is specified in the Contract agreed by the Contractor, the Contractor shall (i) give notice to the Architect and (ii) be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to payment of any such accrued costs, which shall be included in the Contract Price. After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this accrued cost.

1025 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

1031 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.

1032 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.

1033 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.

1034 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

10.4 Surfaces Requiring Reinstatement

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

11. DEFECTS LIABILITY

11.1 Completion of Outstanding Work and Remedying Defects

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

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

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

11.2 Cost of Remedying Defects

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

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

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

11.3 Extension of Defects Notification Period

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

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

11.4 Failure to Remedy Defects

11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be fixed by the Engineer, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

11.4.2 If the Contractor fails to remedy the defect or damage by this notified date and this remedial work was to be executed at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedying Defects], the Procuring Entity may (at his option):

- (a) Carry out the work itself or by others, in a reasonable manner and at the Contractor's cost, but the Contractor shall have no responsibility for this work; and the Contractor shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] pay to the Procuring Entity the costs reasonably incurred by the Procuring Entity in remedying the defect or damage;
- (b) Require the Architect to agree or determine a reasonable reduction in the Contract Price in accordance with Sub-Clause 3.5 [Determinations]; or
- (c) if the defect or damage deprives the Procuring Entity of substantially the whole benefit of the Works or any major part of the Works, terminate the Contract as a whole, or in respect of such major part which cannot be put to the intended use. Without prejudice to any other rights, under the Contract otherwise, the Procuring Entity shall then be entitled to recover all sums paid for the Works or for such part (as the case may be), plus financing costs and the cost of dismantling the same, clearing the Site and returning Plant and Materials to the Contractor.

11.5 Removal of Defective Work

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

11.6 Further Tests

11.6.1 If the work of remedying of any defect or damage may affect the performance of the Works, the Architect may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 14 days after the defect or damage is remedied.

11.6.2 These tests shall be carried out in accordance with the terms applicable to the previous tests, except that they shall be carried out at the risk and cost of the Party liable, under Sub-Clause 11.2 [Cost of Remedying Defects], for the cost of the remedial work.

11.7 Right of Access

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

11.8 Contractor to Search

The Contractor shall, if required by the Engineer, search for the cause of any defect or

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

11.9 Completion Certificate

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

11.10 Unfulfilled Obligations

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

11.11 Clearance of Site

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

12 MEASUREMENT AND DEVALUATION

12.1 Works to be Measured

- 12.1.1 The Works shall be measured, and valued for payment, in accordance with this Clause. The Contractor shall show in each application under Sub-Clauses 14.3 [Application for Interim Payment Certificates], 14.10 [Statement on Completion] and 14.11 [Application for Final Payment Certificate] the quantities and other particulars detailing the amounts which he considers to be entitled under the Contract.
- 12.1.2 Whenever the Architect requires any part of the Works to be measured, reasonable notice shall be given to the Contractor's Representative, who shall:
- a) promptly either attend or send another qualified representative to assist the Architect in making the measurement, and
 - b) supply any particulars requested by the Engineer.
- 12.1.3 If the Contractor fails to attend or send a representative, the measurement made by the

Architect shall be accepted as accurate.

- 12.14 Except as otherwise stated in the Contract, wherever any Permanent Works are to be measured from records, these shall be prepared by the Engineer. The Contractor shall, as and when requested, attend to examine and agree her records with the Engineer, and shall sign the same when agreed. If the Contractor does not attend, the records shall be accepted as accurate.
- 12.15 If the Contractor examines and disagrees the records, and/ or does not sign them as agreed, then the Contractor shall give notice to the Architect of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Architect shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Architect within 14 days after being requested to examine the records, they shall be accepted as accurate.

12.2 Method of Measurement

Except as otherwise stated in the Contract:

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

12.3 Evaluation

- 12.3.1 Except as otherwise stated in the Contract, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of work 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 Contract, if there is no such item, specified for similar work.
- 12.3.3 Any item of work included in the Bill of Quantities for which no rate or price was specified shall be considered as included in other rates and prices in the Bill of Quantities and will not be paid for separately.
- 12.3.4 However, for a new item of work, a new rate or price shall be appropriate for such item of work if:
- a) The work is instructed under Clause 13 [Variations and Adjustments],
 - b) no rate or price is specified in the Contract for this item, and
 - c) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.
- 12.3.5 Each new rate or price shall be derived from any relevant rates or prices in the Contract. If no rates or prices are relevant for the new item of work, it shall be derived from the reasonable Cost of executing such work, prevailing market rates, together with profit, taking account of any other relevant matters.
- 12.3.6 Until such time as an appropriate rate or price is agreed or determined, the Architect shall determine a provisional rate or price for the purposes of Interim Payment Certificates as soon as the concerned work commences.
- 12.3.7 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (*which would be the tender price*), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the

Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price) / tender price X 100*.

12.4 Omissions

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

- a) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
- b) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
- c) this cost is not deemed to be included in the evaluation of any substituted work; then the Contractor shall give notice to the Architect accordingly, with supporting particulars. Upon receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

13 VARIATIONS AND ADJUSTMENTS

13.1 Right to Vary

13.1.1 Variations may be initiated by the Architect at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal. No Variation instructed by the Architect under this Clause shall in any way vitiate or invalidate the Contract.

13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Architect stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Architect shall cancel, confirm or vary the instruction.

13.1.3 Each Variation may include:

- a) changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
- b) changes to the quality and other characteristics of any item of work,
- c) changes to the levels, positions and/ or dimensions of any part of the Works,
- d) omission of any work unless it is to be carried out by others,
- e) any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, boreholes and other testing and exploratory work, or
- f) changes to the sequence or timing of the execution of the Works.

13.1.4 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Architect instructs after obtaining approval of the Procuring Entity.

13.2 Variation Order Procedure

13.2.1 Prior to any Variation Order under Sub-Clause 13.1.4 the Architect shall notify the Contractor of the nature and form of such variation. As soon as possible after having received such notice, the Contractor shall submit to the Engineer:

- a) A description of work, if any, to be performed and a programme for its execution, and
- b) the Contractor's proposals for any necessary modifications to the Programme according to Sub-Clause 8.3 or to any of the Contractor's obligations under the Contract, and

- c) the Contractor's proposals for adjustment to the Contract Price.

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

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

13.2.2 Disagreement on Adjustment of the Contract Price

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

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

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

13.2.3 Contractor to Proceed

On receipt of a Variation Order, the Contractor shall 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-Clause 31.3.

133 Value Engineering

- 13.3.1 The Contractor may, at anytime, submit to the Architect written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency or value to the Procuring Entity of the completed Works, or (iv) otherwise be of benefit to the Procuring Entity.
- 13.3.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].
- 13.3.3 If a proposal, which is approved by the Engineer, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:
 - a) The Contractor shall design this part,
 - b) sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and

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

13.3.4 However, if the amount established in item 13.2.3 (c) (i) is less than amount established in item 13.2.3 (c) (ii), there shall not be a fee. However, if the 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.

134 Variation Procedure for Value Engineering proposal

134.1 If the Architect requests a proposal, prior to instructing a Variation, the Contractor shall respond in writing as soon as practicable, either by giving reasons why he cannot comply (if this is the case) or by submitting:

- a) A description of the proposed work to be performed and a programme for its execution,
- b) the Contractor's proposal for any necessary modifications to the programme according to Sub-Clause 8.3 [Programme] and to the Time for Completion, and
- c) the Contractor's proposal for evaluation of the Variation.

134.2 The Architect shall, as soon as practicable after receiving such proposal (under Sub-Clause 13.2 [Value Project Engineering] or otherwise), respond with approval, disapproval or comments. The Contractor shall not delay any work whilst waiting a response.

134.3 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.

134.4 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.

135 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.

136 Provisional Sums

136.1 Each Provisional Sum shall only be used, in whole or in part, in accordance with the Architect instructions, and the Contract Price shall be adjusted accordingly. The total sum paid to the Contractor shall include only such amounts, for the work, supplies or services to which the Provisional Sum relates, as the Architect shall have instructed. For each Provisional Sum, the Architect May instruct:

- a) Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or

- b) Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
 - i) The actual amounts paid (or due to be paid) by the Contractor, and
 - ii) a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in **the Special Conditions of Contract** shall be applied.

13.6.2 The Contractor shall, when required by the Engineer, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

137 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 deliver each day to the Architect accurate statements induplicate which shall include the following details of the resources used in executing the previous day's work:

- a) The names, occupations and time of Contractor's Personnel,
- b) the identification, type and time of Contractor's Equipment and Temporary Works, and
- c) the quantities and types of Plant and Materials used.

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].

138 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 Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a

previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the table of adjustment data in accordance with the provisions of Sub-Clause 13.8 [Adjustments for Changes in Cost].

139 Adjustments for Changes in Cost

- 139.1 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.
- 139.2 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.
- 139.3 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:

$$P = A + B \text{ Im/Io}$$

where:

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

A and **B** are coefficients **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 **Ioc** 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.

- 1394 The cost indices or reference prices stated in the table of adjustment data shall be used. If their source is in doubt, it shall be determined by the Engineer. Forth is purpose, reference shall be made to the values of the indices at stated dates (quoted in the fourth and fifth columns respectively of the table) for the purposes of clarification of the source; although these dates (and thus these values) may not correspond to the base cost indices.
- 1395 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.
- 1396 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.
- 1397 If the Contractor fails to complete the Works within the Time for Completion, adjustment of prices there after shall be made using either (i) each index or price applicable on the date 49 days prior to the expiry of the Time for Completion of the Works, or (ii) the current index or price, whichever is more favorable to the Procuring Entity.
- 1398 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 Clause 12 [Measurement and Evaluation]; and
- d) the Contractor shall submit to the Engineer, within 30 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Architect may take account of the break down when preparing Payment Certificates but shall not be bound by it.

14.12 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

14.21 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**.

14.22 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.

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

14.24 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.

14.25 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 the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 14.2.7 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

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 a form approved by the Engineer, showing in detail the amounts to which the Contractor considers itself to be entitled, together with supporting documents which shall include thereon the progress during this month in accordance with Sub-Clause 4.2.1 [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 If the Contract includes a schedule of payments specifying the instalments in which the Contract Price will be paid, then unless otherwise stated in this schedule:
- a) The instalments quoted in this schedule of payments shall be the estimated contract values for the purposes of sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates];
 - b) Sub-Clause 14.5 [Plant and Materials intended for the Works] shall not apply; and
 - c) If these instalments are not defined by reference to the actual progress achieved in executing the Works, and if actual progress is found to be less or more than that on which this schedule of payments was based, then the Architect may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised instalments, which shall take account of the extent to which progress is less or more

than that on which the instalments were previously based.

1442 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

145.1 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].

1452 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.

1453 The Architect shall determine and certify each addition if the following conditions are satisfied:

- a) The Contractor has:
 - i) kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
 - ii) submitted statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;and either:
- b) the relevant Plant and Materials:
 - i) are those listed in the Schedules for payment when shipped,
 - ii) have been shipped to Kenya, enroute to the Site, in accordance with the Contract; and
 - iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Architect together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Procuring Entity in amounts and currencies equal to the amount due under this Sub-Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or
- c) the relevant Plant and Materials:
 - i) are those listed in the Schedules for payment when delivered to the Site, and
 - ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration and appear to be in accordance with the Contract.

1454 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.

1455 The currencies for this additional amount shall be the same as those in which payment will become due when the contract value is included under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates]. At that time, the Payment Certificate shall include the applicable reduction which shall be equivalent to, and in

the same currencies and proportions as, this additional amount for the relevant Plant and Materials.

14.6 Issue of Interim Payment Certificates

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

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], whichever 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 [Termination by 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 is issued.

- 14.82 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.
- 14.83 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 be half (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 be half (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 shall 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-Clause 13.8 [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 Contract otherwise.
- 14.11.2 If the Architect disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Architect may reasonably require within 30 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Architect the final statement as agreed. This agreed statement is referred to in these Conditions as the "Final Statement".
- 14.11.3 However, if, following discussions between the Architect and the Contractor and any changes to the draft final statement which are agreed, it becomes evident that a dispute exists, the Architect shall deliver to the Procuring Entity (with a copy to the Contractor) an Interim Payment Certificate for the agreed parts of the draft final statement. Thereafter, if the dispute is finally resolved under Sub-Clause 20.4 [Obtaining Dispute Board's Decision] or Sub-Clause 20.5 [Amicable Settlement], the Contractor shall then prepare and submit to the Procuring Entity (with a copy to the Engineer) a Final Statement.

14.12 Discharge

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

14.13 Issue of Final Payment Certificate

- 14.13.1 Within 30 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall deliver, to the Procuring Entity and to the Contractor, the Final Payment Certificate which shall state:
- a) The amount which he fairly determines is finally due, and
 - b) After giving credit to the Procuring Entity for all amounts previously paid by the Procuring Entity and for all sums to which the Procuring Entity is entitled, the balance (if any) due from the Procuring Entity to the Contractor or from the Contractor to the Procuring Entity, as the case may be.
- 14.13.2 If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Architect shall request the Contractor to do so. If the Contractor fails to submit an application within a period of 30 days, the Architect shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

14.14 Cessation of Procuring Entity's Liability

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

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

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

14.15 Currencies of Payment

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

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

15 TERMINATION BY PROCURING ENTITY

15.1 Notice to correct any defects or failures

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

15.2 Termination by Procuring Entity

15.2.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor breaches the contract based on following circumstances which shall include but not limited to:

- a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
- b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,

- c) without reasonable excuse fails:
 - i) to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
 - ii) to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 30 days after receiving it,
- d) subcontracts the major part or whole of the Works or assigns the Contract without the consent of the Procuring Entity,
- e) becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or
- f) gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an induce mentor reward:
 - i) for doing or for bearing to do any action in relation to the Contract, or
 - ii) for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
 - iii) if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such induce mentor reward as is described in this sub-paragraph (f). However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or
- g) If the contract or repeatedly fails to remedy delivers defective work,
- h) based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, incompetently for or in executing the Contract.

15.22 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.

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

15.24 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.

15.25 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.

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

15.3 Valuation at Date of Termination

As soon as practicable after a notice of termination under Sub-Clause 15.2 [Termination by Procuring Entity] has taken effect, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the value of the Works, Goods

and Contractor's Documents, and any other sums due to the Contractor for work executed in accordance with the Contract.

15.4 Payment after Termination

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

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

15.5 Procuring Entity's Entitlement to Termination for Convenience

The Procuring Entity shall be entitled to terminate the Contract, at any time at the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 30 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the Contract under this Sub-Clause in order to execute the Works itself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor]. After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

15.6 Fraud and Corruption

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

15.7 Corrupt gifts and payments of commission

15.7.1 The Contractor shall not;

- a) Offer or give or agree to give to any person in the service of the Procuring Entity any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for borne to do any act in relation to the obtaining or execution of this or any other Contract for the Procuring Entity or for showing or for bearing to show favor or disfavor to any person in relation to this or any other contract for the Procuring Entity.
- b) Enter into this or any other contract with the Procuring Entity in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment there of have been disclosed in writing to the Procuring Entity.

15.7.2 Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement and Asset Disposal Act (2015) and the Anti-Corruption and Economic Crimes Act (2003) of the Laws of Kenya.

16 SUSPENSION AND TERMINATION BY CONTRACTOR

16.1 Contractor's Entitlement to Suspend Work

- 16.1.1 If the Architect fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates] or Sub-Clause 14.7 [Payment], or not receiving instructions that would enable the contractor to proceed with the works in accordance with the program, the Contractor may, after giving not less than 30 days' notice to the Procuring Entity, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.
- 16.1.2 The Contractor's action shall not prejudice his entitlements to financing charges under Sub-Clause 14.8 [Delayed Payment] and to termination under Sub-Clause 16.2 [Termination by Contractor].
- 16.1.3 If the Contractor subsequently receives such Payment Certificate, evidence or payment (as described in the relevant Sub-Clause and in the above notice) before giving a notice of termination, the Contractor shall resume normal working as soon as is reasonably practicable.
- 16.1.4 If the Contractor suffers delay and/or incurs Cost as a result of suspending work (or reducing the rate of work) in accordance with this Sub-Clause, the Contractor shall give notice to the Architect and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.

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

16.3 Termination by Contractor

- 16.3.1 The Contractor shall be entitled to terminate the Contract if:
- a) the Architect fails, within 60 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
 - b) the Contractor does not receive the amount due under an Interim Payment Certificate within 90 days after the expiry of the time stated in Sub-Clause 14.7 [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 8.1.1 [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.

1633 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 out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful 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 Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

17.2.4 The Contractor shall be liable for any loss or damage caused by any actions performed by the Contractor after a Taking-Over Certificate has been issued. The Contractor shall also be liable for any loss or damage which occurs after a Taking-Over Certificate has been issued and which arose from a previous event for which the Contractor was liable.

17.3 Procuring Entity's Risks

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

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

17.4 Consequences of Procuring Entity's Risks

17.4.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Architect and shall rectify this loss or damage to the extent required by the Engineer.

17.4.2 If the Contractor suffers delay and/ or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Architect and shall be entitled subject

to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (e) and (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Accrued Costs shall be payable.

1743 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

175.1 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.

1752 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.

1753 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- a) An unavoidable result of the Contractor's compliance with the Contract, or
- b) A result of any Works being used by the Procuring Entity:
 - i) for a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
 - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

1754 The Contractor shall indemnify and hold the Procuring Entity harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

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

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

17.6 Limitation of Liability

176.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any 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].

17.62 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.

17.63 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

17.71 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).

17.72 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.

- 18.15 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.
- 18.16 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].
- 18.17 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.
- 18.18 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.
- 18.19 Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.
- 18.1.10 If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract fails to provide satisfactory evidence and copies of policies in accordance with this Sub-Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
- 18.1.11 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contract otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.
- 18.1.12 Procuring Entity in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.
- 18.1.13 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub-Clause 20.1 [Contractor's Claims], as applicable.
- 18.1.14 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

18.2 Insurance for Works and Contractor's Equipment

- 18.2.1 The insuring Party shall insure the Works, Plant, Material and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal

of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the Works.

1822 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]).

1823 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.

1824 Unless otherwise stated in the Special Conditions, insurances under this Sub-Clause:

- a) Shall be effected and maintained by the Contractor as insuring Party,
- b) shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
- c) shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],
- d) shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Special Conditions** of Contract (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- e) may however exclude loss of, damage to, and reinstatement of:
 - i) a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
 - ii) a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
 - iii) a part of the Works which has been taken over by the Procuring Entity, except to the extent that the Contractor is liable for the loss or damage, and
 - iv) Goods while they are not in Kenya, subject to Sub-Clause 14.5 [Plant and Materials intended for the Works].

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

18.3 Insurance against Injury to Persons and Damage to Property

183.1 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 Contractor or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Procuring Entity or of the Procuring Entity's Personnel.
- 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 overcome, and
 - d) which is not substantially attributable to the other Party.

- 19.12 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:
- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
 - b) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
 - c) riot, commotion, disorder, strike or lock out by persons other than the Contractor's Personnel,
 - d) munitions of war, explosive materials, ionizing radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
 - e) natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

19.2 Notice of Force Majeure

- 19.21 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.
- 19.22 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.
- 19.23 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

19.3 Duty to Minimize Delay

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

19.4 Consequences of Force Majeure

- 19.41 If the Contractor is prevented from performing his substantial obligations under the Contract by Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], and suffers delay and/ or incurs Cost by reason of such Force Majeure, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
- a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
 - b) if the event or circumstance is of the kind described in sub-paragraphs (i) to (iv) of Sub-Clause 19.1 [Definition of Force Majeure] and, in sub-paragraphs (ii) to (iv), occurs in Kenya, payment of any such Cost, including the costs of rectifying or replacing the Works and/or Goods damaged or destroyed by Force Majeure, to the extent they are not indemnified through the insurance policy referred to in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment].
- 19.42 After receiving this notice, the Architect shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

19.5 Force Majeure Affecting Subcontractor

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

19.6 Optional Termination, Payment and Release

- 19.6.1 If the execution of substantially all the Works in progress is prevented for a continuous period of 84 days by reason of Force Majeure of which notice has been given under Sub-Clause 19.2 [Notice of Force Majeure], or for multiple periods which total more than 140 days due to the same notified Force Majeure, then either Party may give to the other Party a notice of termination of the Contract. In this event, the termination shall take effect 7 days after the notice is given, and the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment].
- 19.6.2 Upon such termination, the Architect shall determine the value of the work done and issue a Payment Certificate which shall include:
- a) the amount payable for any work carried out for which a price is stated in the Contract;
 - b) the Cost of Plant and Materials ordered for the Works which have been delivered to the Contractor, or of which the Contractor is liable to accept delivery: this Plant and Materials shall become the property of (and be at the risk of) the Procuring Entity when paid for by the Procuring Entity, and the Contractor shall place the same at the Procuring Entity's disposal;
 - c) other Cost or liabilities which in the circumstances were reasonably and necessarily incurred by the Contractor in the expectation of completing the Works;
 - d) the Cost of removal of Temporary Works and Contractor's Equipment from the Site and the return of these items to the Contractor's works in his country (or to any other destination at no greater cost); and
 - e) the Cost of repatriation of the Contractor's staff and lab or employed wholly in connection with the Works at the date of termination.

19.7 Release from Performance

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

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

20. SETTLEMENT OF CLAIMS AND DISPUTES

20.1 Contractor's Claims

- 20.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 20.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

- 20.14 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.
- 20.15 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Engineer, the Contractor shall send to the Architect fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/ or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:
- a) This fully detailed claim shall be considered as interim;
 - b) The Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/ or amount claimed, and such further particulars as the Architect may reasonably require; and
 - c) The Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Engineer.
- 20.16 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.
- 20.17 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.
- 20.18 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.
- 20.19 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

- 2021 If the Procuring Entity considers itself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Architect shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.
- 2022 The notice shall be given as soon as practicable and no longer than 30 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.
- 2023 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].
- 2024 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

20.3 Amicable Settlement

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

20.4 Matters that may be referred to arbitration

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

- a) Whether or not the issue of an instruction by the Architect is empowered by these Conditions.
- b) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- c) Any dispute arising in respect risks arising from matters referred to in Clause 17.3 and Clause 19.
- e) All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

20.5 Arbitration

- 205.1 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.

- 2052 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.
- 2053 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.
- 2054 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 2055 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.
- 2056 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.
- 2057 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.
- 2057 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.
- 2058 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

20.6 Arbitration with National Contractors

- 2061 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;
- i) Architectural Association of Kenya
 - ii) Institute of Quantity Surveyors of Kenya
 - iii) Association of Consulting Engineers of Kenya
 - iv) Chartered Institute of Arbitrators (Kenya Branch)
 - v) Institution of Engineers of Kenya
- 2062 The institution written to first by the aggrieved party shall take precedence over all other institutions.

20.7 Arbitration with Foreign Contractors

207.1 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.

207.2 The place of arbitration shall be a location specified in the **SCC**; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

20.8 Alternative Arbitration Proceedings

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

20.9 Failure to Comply with Arbitrator's Decision

209.1 The award of such Arbitrator shall be final and binding up on the parties.

209.2 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

20.10 Contract operations to continue

Notwithstanding any reference to arbitration herein,

1.1.1 the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

1.1.2 the Procuring Entity shall pay the Contractor any monies due the Contractor.

Section IX - Special Conditions of Contract

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

Conditions	Sub-Clause	Data
Part A - Contract Data		
Procuring Entity's name and address	Heading	NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY
Name and Reference No. of the Contract	Heading and 1.1	<i>Drilling and Equipping of Boreholes and construction of accompanying structures</i>
Engineers Name and address	Heading and 3.1.1	<i>Senior Civil Engineer -NEMA</i>
Key Personnel names	16.9.1	<i>[insert the name of each Key Personnel agreed by the Procuring Entity prior to Contract signature]</i>
Time for Completion	1.1.	<u>120</u> days
Defects Notification Period	1.1	90 days
Sections	1.1	<i>If Sections are to be used, refer to Table: Summary of Sections below: N/A</i>
Electronic transmission systems	1.3	Electronic written communication allowed
Time for the Parties entering into a Contract Agreement	1.6	Within 21 days days after notification of award.
Commencement Date	8.1.1	As letter of commencement
Time for access to the Site	2.1.1	No later than the Commencement Date, and not later than 7 days after Commencement Date.
Engineers Duties and Authority	3.1.6 (b) (ii)	Variations resulting in an increase of the Accepted Contract Amount in excess of _____% shall require approval of the Procuring Entity. <u>N/A</u>
Performance Security	4.2.1	The performance security will be in the form of a "performance bond"] 5% percent of the Accepted Contract Amount and in the same currency(ies) of the Accepted Contract Amount.
Normal working hours	6.5	Monday to Friday 8:00am to 5:00pm except on gazette public holidays
Delay damages for the Works	8.7 & 14.15(b)	_____ % of the Contract Price per day. <i>If Sections are to be used, refer to Table: Summary of Sections below N/A</i>
Maximum amount of delay damages	8.7.1	_____ % of the final Contract Price. N/A
Provisional Sums	13.6. (b)(ii)	<i>[If there are Provisional Sums, insert a percentage for adjustment of Provisional Sums]</i> _____ % N/A

Conditions	Sub- Clause	Data
Adjustments for Changes in Cost	13.9	Period "n" applicable to the adjustment multiplier "Pn": N/A
Total advance payment	14.2.1	20 % Percentage of the Accepted Contract Amount payable in the currencies and proportions in which the Accepted Contract Amount is payable Subject to submission of bank guarantee of similar amount.
Repayment amortization rate of advance payment	14.2.5 (b)	As per formular in GCC
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	14.5.3(b) (i)	If Sub-Clause 14.5 applies: Plant and Materials for payment Free on Board: N/A
	14.5.3(c) (i)	Plant and Materials for payment when delivered to the Site: N/A
Minimum Amount of Interim Payment Certificates	14.6.2	_____ % of the Accepted Contract Amount. N/A
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8	Interest as per current central Bank CBR rate per month of delayed payment.
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	<i>[Select one of the two options below as appropriate]</i> The product of _____ <i>[insert a multiplier less or greater than one]</i> times the Accepted Contract Amount, <i>or</i> N/A
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1.6	<i>[Insert period for submission of evidence of insurance and policy. Period may be from 14 days to 30days.]</i> 14 days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	N/A
Minimum amount of third-party insurance	18.3.2	10 Millions third-party insurance
The place of arbitration	20.7.2	Nairobi Kenya

SECTION X - CONTRACT FORMS

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM NO. 2 – REQUEST FOR REVIEW

FORM No. 3-LETTEROF AWARD

FORM No. 4 - CONTRACT AGREEMENT

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

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

Bond] FORM No. 7 - ADVANCE PAYMENT SECURITY

FORM No. 8 - RETENTION MONEY SECURITY

FORM No 1: NOTIFICATION OF INTENTION TOAWARD 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 receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) **Period:** Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [*insert date*] (*local time*).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - i) Attention: [*insert full name of person, if applicable*]
 - ii) Title/position: [*insert title/ position*]
 - iii) Agency: [*insert name of Procuring Entity*]
 - iv) Email address: [*insert email address*]
- c) At this point in the procurement process, you may submit a Procurement-related

Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website www.ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

- e) There are four essential requirements:
- i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process and is the recipient of a Notification of Intention to Award.
 - ii) The complaint can only challenge the decision to award the contract.
 - iii) You must submit the complaint within the period stated above.
 - iv) You must include, in your complaint, all of the information required to support your complaint.

7. **Standstill Period**

- i) **DEADLINE:** The Standstill Period is due to end at midnight on [*insert date*] (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5(d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature: _____

Name: _____

Title/position: _____

Telephone: _____

FORM 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 ofdated the...day of20.....in the matter of Tender No.....of20..... 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 of20.....

SIGNED

Board Secretary

FORM NO 3: LETTER OF AWARD

letterhead paper of the Procuring Entity]

[date]

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is here by accepted by..... *(name of Procuring Entity)*.

You are requested to furnish the Performance Security within in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:

Name and Title of Signatory:
.....

Name of Procuring Entity:
.....

Attachment: Contract Agreement:
.....

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the day of..... 20.....,
between.....
.....of..... (hereinafter “the
Procuring
Entity”), of the one part, and _____ of
_____ (hereinafter “the Contractor”),
of the other part:

WHEREAS the Procuring Entity desires that the Works known as _____ should
be executed by the Contractor, and has accepted a Tender by the Contractor for the execution
and completion of these Works and the remedying of any defects there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - a) the Notification of Award
 - b) the Form of Tender
 - c) the addenda Nos ____ (if any)
 - d) the Special Conditions of Contract
 - e) the General Conditions of Contract;
 - f) the Specifications
 - g) the Drawings; and
 - h) the completed Schedules and any other documents forming part of the contract.
3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor here by covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring Entity here by covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects there in, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS where of the parties here to have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by _____ (for the Procuring Entity)

Signed and sealed by _____ (for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: *[insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with *(name of Procuring Entity)* _____ (the Procuring Entity as the Beneficiary), for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *(in words)* ¹, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.
4. This guarantee shall expire, no later than the.....Day of....., 2.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
.....

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹*The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.*

²*Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM No. 6- PERFORMANCE SECURITY

[Option 2- Performance Bond]

[Note: Procuring Entities are advised to use Performance Security – Unconditional Demand Bank Guarantee in stead of Performance Bond due to difficulties involved in calling Bond holder to action]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary:

[insert name and Address of Procuring Entity]

Date: _____ *[Insert date of issue]*

PERFORMANCE BOND No.: _____

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. By this Bond _____ as 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 available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Procuring Entity to Contractor under the Contract, less the amount properly paid by Procuring Entity to Contractor; or
 - c) Pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions upto a total not exceeding the amount of this Bond.

4. The Surety shall not be liable for a greater sum than the specified penalty of this Bond.
5. Any suit under this Bond must be instituted before the expiration of one year from the date of the issuing of the Taking-Over Certificate. No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Procuring Entity named here in or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.
6. In testimony whereof, the Contractor has here unto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly at tested by the signature of his legal representative, this day ____ of ____ 20 ____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

FORM NO. 7 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of*

Procuring Entity] **Date:** _____ *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. dated _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (in words _____) is to be made against an advance payment guarantee.
3. At the request of the Contractor, we as Guarantor, here by irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (in words _____)¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
 - a) Has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
 - b) Has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number ___ at ___.
5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of _____, 2 _____, ² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹*The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.*

²*Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 8 – RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys upto the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[insert the second half of the Retention Money]* is to be made against a Retention Money guarantee.
3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* _____ *([insert amount in words _____])*¹ upon receipt by us of the Beneficiary's complying demands upported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number _____ at _____ *[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the Day of², 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.*

¹The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.

²Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM

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

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.

Tender Reference No.: _____ [insert identification

no] Name of the Tender Title/Description: _____ [insert name of the

assignment] to: _____ [insert complete name of Procuring Entity]

In response to the requirement in your notification of award dated _____ [insert date of notification of award] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

I) We here by provide the following beneficial ownership information.

Details of Beneficial ownership

Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
1.	Full Name	Directly-- ----- % of shares Indirectly----- % of shares	Directly.....% of voting rights Indirectly---- -----% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes ----No---- 2. Is this right held directly or indirectly?: Direct..... Indirect.....	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes ----No---- 2. Is this influence or control exercised directly or indirectly? Direct..... . Indirect..... ...
	National identity card number or Passport number				
	Personal Identification Number (where applicable)				
	Nationality				
	Date of birth [dd/mm/yyyy]				
	Postal address				
	Residential address				
	Telephone number				
	Email address				
	Occupation or profession				
2.	Full Name	Directly-- ----- % of shares	Directly.....% of voting rights	1. Having the right to appoint a majority of the board of the	1. Exercise s significant influence or control over
	National identity card number or				

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)
Passport number		Indirectly-----% of shares	Indirectly-----% of voting rights	directors or an equivalent governing body of the Tenderer: Yes -----No----- 2. Is this right held directly or indirectly?: Direct..... Indirect.....	the Company body of the Company (tenderer) Yes -----No----- 2. Is this influence or control exercised directly or indirectly? Direct..... . Indirect..... ...
Personal Identification Number (where applicable)					
Nationality(ies)					
Date of birth [dd/mm/yyyy]					
Postal address					
Residential address					
Telephone number					
Email address					
Occupation or profession					
3. e. t. c					

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line

with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

- (a) holds at least ten percent of the issued shares in the company either directly or indirectly;
- (b) exercises at least ten percent of the voting rights in the company either directly or indirectly;
- (c) holds a right, directly or indirectly, to appoint or remove a director of the company; or
- (d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer:[insert complete name of the Tenderer].*

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

Designation of the person signing the Tender: [insert complete title of the person signing the Tender]

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

Date this [insert date of signing] day of..... [Insert month], [insert year]

Bidder Official Stamp