



**COAST WATER WORKS DEVELOPMENT
AGENCY (CWWDA)**

TENDER DOCUMENT

FOR

**WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING
UNITS IN KISAUNI CONSTITUENCY, MOMBASA COUNTY**

Tender No. CWWDA/T/MSA/W/004/2024-2025

Issued on: 25th February 2025

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INVITATION TO TENDER (ITT)

CONTRACT NAME AND DESCRIPTION: WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN KISAUNI CONSTITUENCY, MOMBASA COUNTY

TENDER No. CWWDA/T/MSA/W/004/2024-2025

The Coast Water Works Development Agency has received funds from the National Treasury and intends use part of the proceeds towards the Construction of **Water Supply to The Creek Village Affordable Housing Units in Kisauni Constituency, Mombasa County.**

The Agency invites sealed tenders for the construction of Water Supply to The Creek Village Affordable Housing Units in Kisauni Constituency, Mombasa County. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours **0900 to 1500** at the address given below.

Tender documents may be viewed and downloaded for free from the website: www.cwwda.go.ke. Tenderers who download the tender document must forward their particulars immediately to procurement@cwwda.go.ke, to facilitate any further clarification or addendum.

Tenders must be accompanied by a Tender Security in the form of an unconditional Bank Guarantee or from an Insurance Company registered by IRA and approved by PPRA of **Kshs. 1,000,000 (Kenya Shillings one million) valid for 30 days beyond the tender validity period.**

Completed tenders must be delivered to the address below on or before **10th March 2025 at 1100 hrs EAT**. Electronic Tenders will not be permitted.

Tenders will be opened immediately after the deadline date and time specified above or any dead line date and time specified later. Tenders will be publicly opened in the presence of the Tenderers' designated representatives who choose to attend at the address below.

Late tenders will be rejected.

Chief Executive Officer

Coast Water Works Development Agency

Mikindani Street Off-Nkrumah Road Mombasa

Attention: Head of Procurement Function, 041-2315230, info@cwwda.go.ke

PART 1 - TENDERING PROCEDURES

SECTION I: INSTRUCTIONS TO TENDERERS

A General Provisions

1. Scope of Tender

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

2. 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 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.

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 being tendered for. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

3. Eligible Tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.7 or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives (*wives, children, brothers, sisters and uncles and aunts*) are not eligible to participate in the tender. 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. 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; or
- b) Receives or has received any direct or indirect subsidy from another tenderer; or
- c) Has the same legal representative as another tenderer; or
- d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position?

to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process; or

- e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender; or
- f) any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as Engineer for the Contract implementation; or
- 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 or
- h) Has a close business or family relationship with a professional staff of the Procuring Entity who:
 - 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) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.

3.4 A tenderer shall not be involved in corrupt, coercive, obstructive, collusive or fraudulent practice. A tenderer that is proven to have been involved 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. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender. 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.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.8.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 subcontractors or sub-consultants for any part of the Contract including related Services.

3.7 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 Tenderers that are state-owned enterprises or institutions may be eligible to compete and be awarded a Contract(s) only if they are accredited by PPRA to be (i) a legal public entity of the state Government and/or public administration, (ii) financially autonomous and not receiving any significant subsidies or budget support from any public entity or Government, and (iii) operating under commercial law and vested with legal rights and liabilities similar to any commercial enterprise to enable it compete with firms in the private sector on an equal basis.

3.9 A Firms and individuals may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

3.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labour) from national 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 in for this purpose is be provided in “SECTION III - EVALUATION AND QUALIFICATION CRITERIA, Item 9”.

3.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan

Citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

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

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

3.14 A Kenyan tenderer shall provide evidence of having fulfilled his/her tax obligations by producing a valid tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority.

4. 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 eligible 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. 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 the Site of the Works and its surroundings, and obtain all information that may be necessary for preparing the tender and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the tenderer's own expense.

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 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. 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 8.

PART 1 Tendering Procedures

- i) Section I - Instructions to Tenderers (ITT)
- ii) Section II - Tender Data Sheet (TDS)
- iii) Section III - Evaluation and Qualification Criteria
- iv) Section IV - Tendering Forms

PART 2 Works Requirements

- i) Section V - Drawings
- ii) Section VI - Specifications
- iii) Section VII - Bills of Quantities

PART 3 Conditions of Contract and Contract Forms

- i) Section VIII - General Conditions of Contract (GCC)
- ii) Section IX - Special Conditions of Contract (SC)
- iii) Section X - Contract Forms

6.2 The Invitation to Tender Document (ITT) issued by the Procuring Entity is not part of the Contract documents.

6.3 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 the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 8. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

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. Site Visit

7.1 The Tenderer, at the Tenderer's own responsibility and risk, is encouraged to visit and examine and inspect the Site of the Required Services and its surroundings and obtain all information that may be necessary for preparing the Tender and entering into a contract for the Services. The costs of visiting the Site shall be at the Tenderer's own expense.

8. Pre-Tender Meeting

8.1 The Procuring Entity shall specify in the **TDS** if a pre-tender meeting will be held, when and where. The Procuring Entity shall also specify in the **TDS** if a pre-arranged pretender site visit will be held and when. The Tenderer's designated representative is invited to attend a pre-arranged pretender visit of the site of the works. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

8.2 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.

8.3 Minutes of the pre-Tender meeting and the pre-arranged pretender site visit of the site of the works, 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 in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.

8.4 The Procuring Entity shall also promptly publish anonym zed (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the works at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-tender meeting and the pre-arranged pretender site visit, 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. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9. Clarification and amendments of Tender Documents

9.1 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 and the pre-

arranged pretender visit of the site of the works if provided for in accordance with ITT 8.4. 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 6.3, including a description of the inquiry but without identifying its source. If 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 appropriately following the procedure under ITT 8.4.

10. Amendment of Tendering Document

- 10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.
- 10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.
- 10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 25.2 below.

C. Preparation of Tenders

11. Cost of Tendering

- 11.1 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.

12. Language of Tender

- 12.1 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.

13. Documents Comprising the Tender

- 13.1 The Tender shall comprise the following:
 - a) Form of Tender prepared in accordance with ITT 14;
 - b) Schedules including priced Bill of Quantities, completed in accordance with ITT 14 and ITT 16;
 - c) Tender Security or Tender-Securing Declaration, in accordance with ITT 21.1;
 - d) Alternative Tender, if permissible, in accordance with ITT 15;
 - e) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3;
 - f) Qualifications: documentary evidence in accordance with ITT 19 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
 - g) Conformity: a technical proposal in accordance with ITT 18;
 - h) Any other document required in the **TDS**.
- 13.2 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 Agreement. The Tenderer shall chronologically serialize pages of all tender documents submitted.

13.3 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.

14. Form of Tender and Schedules

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

15. Alternative Tenders

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

15.2 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.

15.3 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. 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.

16. Tender Prices and Discounts

16.1 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.

16.2 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.

16.3 The price to be quoted in the Form of Tender, in accordance with ITT 14.1, shall be the total price of the Tender, including any discounts offered.

16.4 The Tenderer shall quote any discounts and the methodology for their application in the Form of Tender, in accordance with ITT 14.1.

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

16.6 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 16.4, provided the Tenders for all lots (contracts) are opened at the same time.

16.7 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.

17. Currencies of Tender and Payment

17.1 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 Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya shall device own ways of getting foreign currency to meet those expenditures.

18. Documents Comprising the Technical Proposal

18.1 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, in sufficient detail to demonstrate the adequacy of the Tenderer's proposal to meet the work's requirements and the completion time.

19. Documents Establishing the Eligibility and Qualifications of the Tenderer

19.1 Tenderers shall complete the Form of Tender, included in Section IV, Tender Forms, to establish Tenderer's eligibility in accordance with ITT 4.

19.2 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.

19.3 A margin of preference will not be allowed. Preference and reservations will be allowed, individually or in joint ventures. Applying for eligibility for Preference and reservations shall supply all information required to satisfy the criteria for eligibility specified in accordance with ITT 33.1.

19.4 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 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.

19.5 The purpose of the information described in ITT 19.4 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.

19.6 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 6.3. 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.

19.7 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.

19.8 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.

19.9 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,
- iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

19.10 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 6.7 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.

20. Period of Validity of Tenders

20.1 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 24). A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 21.1, 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, except as provided in ITT 20.3.

20.3 If the award is delayed by a period exceeding the number of days to be specified in the **TDS** days beyond the expiry of the initial tender validity period, the Contract price shall be determined as follows:

- a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified in the **TDS**;
- b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

21. Tender Security

21.1 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.

21.2 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:

- a) an unconditional Bank Guarantee issued by reputable commercial bank); or
- b) an irrevocable letter of credit;
- c) a Banker's cheque issued by a reputable commercial bank; or
- d) another security specified **in the TDS**,

21.3 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 20.2.

21.4 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.

21.5 If a Tender Security is specified pursuant to ITT 21.1, 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 nonresponsive or a bidder declines to extend tender validity period.

21.6 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**.

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

- e) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or
- f) if the successful Tenderer fails to:
 - i) sign the Contract in accordance with ITT 50; or
 - ii) furnish a Performance Security and if required in the **TDS**, and any other documents required in the **TDS**.

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

21.9 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.

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

22. Format and Signing of Tender

22.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 13 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 15, 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.

22.2 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.

22.3 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 initialled by the person signing the Tender.

22.4 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 to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

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

D. Submission and Opening of Tenders

23. Sealing and Marking of Tenders

23.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. 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 an envelope or package or container marked “COPIES”, all required copies of the Tender; and
- c) if alternative Tenders are permitted in accordance with ITT 15, 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.

23.2 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 that are misplaced or opened prematurely will not be accepted.

24. Deadline for Submission of Tenders

24.1 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**.

24.2 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.

25. Late Tenders

25.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 24. 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.

26. Withdrawal, Substitution, and Modification of Tenders

26.1 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 22.3, (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 22 and ITT 23 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and
- b) received by the Procuring Entity prior to the deadline prescribed for submission of Tenders, in accordance with ITT 24.

26.2 Tenders requested to be withdrawn in accordance with ITT 26.1 shall be returned unopened to the Tenderers.

26.3 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.

27. Tender Opening

27.1 Except in the cases specified in ITT 23 and ITT 26.2, 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 24.1, shall be as specified in the **TDS**.

27.2 First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelopes with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal

and is read out at Tender opening.

- 27.3 Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.
- 27.4 Next, envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.
- 27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.
- 27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of the Procuring Entity to sign shall be specified in the **TDS**.
- 27.7 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 25.1).
- 27.8 The Procuring **Entity shall prepare minutes of the Tender Opening that shall include, as a minimum:**
- a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
 - b) the Tender Price, per lot (contract) if applicable, including any discounts;
 - c) any alternative Tenders;
 - d) the presence or absence of a Tender Security, if one was required.
 - e) number of pages of each tender document submitted.
- 27.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

E. Evaluation and Comparison of Tenders

28. Confidentiality

- 28.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 46.
- 28.2 Any effort by a Tenderer to influence the Procuring Entity in the evaluation of the Tenders or Contract award decisions may result in the rejection of its tender.
- 28.3 Notwithstanding ITT 28.2, 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.**

29. Clarification of Tenders

- 29.1 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 33.
- 29.2 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.

30. Deviations, Reservations, and Omissions

30.1 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.

31. Determination of Responsiveness

31.1 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 13.

31.2 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; or
- 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; or
- c) if rectified, would unfairly affect the competitive position of other tenderers presenting substantially responsive tenders.

31.3 The Procuring Entity shall examine the technical aspects of the tender submitted in accordance with ITT 18, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.

31.4 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.

32. Non-material non-conformities

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

32.2 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, to rectify nonmaterial 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.

32.3 Provided that a tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial 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**.

33. Arithmetical Errors

33.1 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.

33.2 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, and subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and
- c) if there is a discrepancy between words and figures, the amount in words shall prevail

33.3 Tenderers shall be notified of any error detected in their bid during the notification of a ward.

34. Currency provisions

34.1 Tenders will be priced in Kenya Shillings only. Tenderers quoting in currencies other than in Kenya shillings will be determined non-responsive and rejected.

35. Margin of Preference and Reservations

35.1 No margin of preference shall be allowed on contracts for small works.

35.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, youth and/or persons living with disability, 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/firms belonging to those specified groups are the only ones eligible to tender. Otherwise if no so stated, the invitation will be open to all tenderers.

36. Nominated Subcontractors

36.1 Unless otherwise stated in the **TDS**, the Procuring Entity does not intend to execute any specific elements of the Works by subcontractors selected in advance by the Procuring Entity.

36.2 Tenderers may propose subcontracting 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.

36.3 The 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 by the Procuring Entity in the **TDS** as can be met by subcontractors referred to hereafter as 'Specialized Subcontractors', in which case, the qualifications of the Specialized Subcontractors proposed by the Tenderer may be added to the qualifications of the Tenderer.

37. Evaluation of Tenders

37.1 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 Best Evaluated Tender in accordance with ITT 40.

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

- a) price adjustment due to discounts offered in accordance with ITT 16;
- b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 39;
- c) price adjustment due to quantifiable nonmaterial non-conformities in accordance with ITT 30.3; and
- d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

37.3 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.

37.4 In the case of multiple contracts or lots, Tenderers shall be allowed to tender for one or more lots and the methodology to determine the lowest evaluated cost of the lot (contract) combinations, including any discounts offered in the **Form of Tender, is specified in Section III, Evaluation and Qualification Criteria.**

38. Comparison of Tenders

38.1 The Procuring Entity shall compare the evaluated costs of all substantially responsive Tenders established in accordance with ITT 38.2 to determine the Tender that has the lowest evaluated cost.

39. Abnormally Low Tenders

39.1 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.

39.2 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.

39.3 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.

40. Abnormally High Tenders

40.1 An abnormally high 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.

40.2 In case of an abnormally high tender 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.

40.3 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.

41. Unbalanced and/or Front-Loaded Tenders

41.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, 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.

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

- a) accept the Tender; or
- 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; or
- c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works; or
- d) reject the Tender,

42. Qualifications of the Tenderer

42.1 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.

42.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 19. 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 Subcontractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

42.3 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.

42.4 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.

42.5 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.

42.6 After evaluation of the price analyses, if 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.

43. Best Evaluated Tender

43.1 Having compared the evaluated prices of Tenders, the Procuring Entity shall determine the Best Evaluated Tender. The Best 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.

44. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders.

44.1 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 thereby incurring any liability to Tenderers. In case of annulment, all Tenderers shall be notified with reasons and all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. Award of Contract

45. Award Criteria

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

46. Notice of Intention to enter into a Contract

46.1 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) instructions on how to request a debriefing and/or submit a complaint during the standstill period;

47. Standstill Period

47.1 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 apply.

47.2 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.**

48. Debriefing by the Procuring Entity

- 48.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 46, 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.
- 48.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending **such a debriefing meeting**.

49. Letter of Award

- 49.1 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 within 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.

50. Signing of Contract

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

51. Appointment of Adjudicator

- 51.1 The Procuring Entity proposes the person named in the **TDS** to be appointed as Adjudicator under the Contract, at the hourly fee specified in the **TDS**, plus reimbursable expenses. If the Tenderer disagrees with this proposal, the Tenderer should so state in his Tender. If, in the Letter of Acceptance, the Procuring Entity does not agree on the appointment of the Adjudicator, the Procuring Entity will request the Appointing Authority designated in the Special Conditions of Contract (SCC) pursuant to Clause 23.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

52. Performance Security

- 52.1 Within twenty-one (21) days of the receipt of the Letter of Acceptance 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 40.2 (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.
- 52.2 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.
- 52.3 Performance security shall not be required for contracts estimated to cost less than Kenya shillings five million shillings.

53. Publication of Procurement Contract

- 53.1 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 read out at Tender opening.

54. Procurement Related Complaints and Administrative Review

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

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

Section II - Tender Data Sheet (TDS)

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	A. General
ITT 1.1	The name of the contract is Water supply to The Creek Village Affordable Housing Units in Kisauni Constituency, Mombasa County. The reference number of the Contract is <u>CWWDA/T/MSA/W/004/2024-2025</u>
ITT 2.3	The information made available on competing firms is as follows: as indicated in ITT and Qualification Criteria
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: None
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: <i>N/A</i>
	B. Contents of Tender Document
8.1	Pre-Tender conference shall not take place
ITT 8.2	The Tenderer will submit any questions in writing to reach the procuring Entity not later than Seven (7) Days prior Submission date
ITT 8.4	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender site visit will be published is N/A
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is: (1) Name of Procuring Entity: Coast Water Works Development Agency (2) Physical address for hand Courier Delivery to an office or Tender Box (City, Street, Building, Floor Number and Room): Mikindani Street Off - Nkrumah Road, Tender Box next to Procurement Office. Postal Address: P.O. Box 90417, Mombasa E-mail address: info@cwvda.go.ke
	C. Preparation of Tenders
ITP 13.1 (h)	The Tenderer shall submit the following additional documents in its Tender: (i). Valid TCC Certificate (ii). Valid Business Permit (iii). Certificate of Incorporation /Registration (iv). Valid PIN Certificate
ITT 15.1	Alternative Tenders <i>"shall not be" considered.</i>
ITT 15.2	Alternative technical solutions shall be permitted for the following parts of the Works: <i>N/A</i>
ITT 15.4	Alternative technical solutions shall be permitted for the following parts of the Works: <i>N/A</i>
ITT 16.5	The prices quoted by the Tenderer shall be: "Fixed"
ITT 20.1	The Tender validity period shall be 91 days.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 20.3 (a)	Not Applicable
ITT 21.1	A Tender Security " <i>shall be</i> " required. A Tender-Securing Declaration " <i>shall not be</i> " required. If a Tender Security shall be required, the amount and currency of the Tender Security shall be Kshs. 1,000,000.00 from a reputable financial Institution or Insurance company approved by PPRA
ITT 21.2 (d)	The other Tender Security shall be: N/A
ITT 21.5	The Performance Security shall be 10% of the contract Price
ITT 22.1	In addition to the original of the Tender, the number of copies is: One
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: power of attorney signed by one of the directors and names and specimen signature of the authorized person
D. Submission and Opening of Tenders	
ITT 24.1	For <u>Tender submission purposes only</u> , the Procuring Entity's address is: Name of Procuring Entity: Coast Water Works Development Agency Physical address for hand Courier Delivery to an office or Tender Box: Mikindani Street off - Nkrumah Road, Mombasa, Tender Box Next to Procurement office. Date and time for submission of Tenders: 10th March 2025 at 11.00am Tenderers shall not submit tenders electronically.
ITT 27.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: Name of Procuring Entity: Coast Water Works Development Agency Physical address for hand Courier Delivery to an office or Tender Box: Mikindani Street off- Nkrumah Road, Mombasa, Tender Box Next to Procurement office Date and time for opening of Tenders: 10th March 2025 at 11.05am
ITT 27.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures specified below: N/A
ITT 27.6	The number of representatives of the Procuring Entity to sign is: Four (4)
E. Evaluation, and Comparison of Tenders	
ITT 32.3	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 Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 35.2	The invitation to tender is extended to the following groups that qualify for Reservations: None
ITT 36.1	At this time, the Procuring Entity " <i>does not intend</i> " to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 36.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: 25% 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.
ITT 36.3	<p>The parts of the Works for which the Procuring Entity permits Tenderers to propose Specialized Subcontractors are designated as follows: Not Applicable.</p> <p>For the above-designated parts of the Works that may require Specialized Subcontractors, the relevant qualifications of the proposed Specialized Subcontractors will be added to the qualifications of the Tenderer for the purpose of evaluation.</p>
ITT 37.2 (d)	Additional requirements apply. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 51.1	The person named to be appointed as Adjudicator is: Chairman of the Chartered Institute of Arbitrators, Kenyan Chapter of P.O. Box 50163-00200 Nairobi at an hourly fee of Shs. 2,000 .
ITT 52.2	Other documents required are: None
ITT 54.1	<p>The procedures for making Procurement-related Complaints are detailed in the "Regulations" available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke . If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to:</p> <p>For the attention: Eng. Martin Tsuma Title/position: Ag. Chief Executive Officer Procuring Entity: Coast Water Works Development Agency Email address: info@cwvda.go.ke</p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <p>(i) the terms of the Tender Documents; and the Procuring Entity's decision to award the contract.</p>

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1. General Provisions

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

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

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

Evaluation and contract award Criteria

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

2. Preliminary examination for Determination of Responsiveness

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

Preliminary examination for Determination of Responsiveness (mandatory)

Tenderers are required to meet the following **MANDATORY REQUIREMENTS** which will be used during Preliminary Examination to determine responsiveness

The tenderer shall either be responsive or non-responsive. Those that are responsive shall proceed to the next Technical Evaluation Stage.

<i>Item No.</i>	<i>Qualification Requirements</i>	<i>Instructions</i>	<i>Document to be completed / provided by tenderer</i>	<i>Qualification met or Not met</i>
	Certificates of registration/ Incorporation and principal place of business;	Attach Copy	Certificates of registration/ Incorporation	
	Attach a Valid Tax Compliance Certificate	Attach Copy	Tax Compliance Certificate	
	Form of Tender	The Form of Tender shall be on stationery with its letterhead clearly showing the Tenderer's complete name and business address and shall include the following Forms duly completed and signed by the Tenderer. (i). Tenderer's Eligibility-Confidential Business Questionnaire (ii). Certificate of Independent Tender	Form of Tender with its associated forms	

		Determination (iii). Self-Declaration of the Tenderer		
	Price Schedule	To be submit when duly completed, Signed & Stamped	Price schedule form	
	Self-Declaration that the Person/Tenderer will not engage in any Corrupt Or Fraudulent Practice	To be submit a dully completed, Signed & Stamped	Self-Declaration form	
	bidding document	To be submit a paginated or serialized	Serialized bidding document	
	Local Business Permit	Submit a Copy	Local Business Permit Certificate	
	Copies of PIN & VAT Certificate	Attach copy	PIN Certificate	
	Declaration and Commitment to the Code of Ethics	To be submit when duly completed, Signed & Stamped	Declaration and Commitment to the Code of Ethics form	
	Fraud and corruption	To be submit when duly completed, Signed & Stamped	Fraud and corruption form	
	Self-declaration that the person/tenderer is not debarred in the matter of the public procurement and asset disposal act 2015	To be submit when duly completed, Signed & Stamped	Self-declaration form	
	NCA 5 and above for Water Works Class 4 and above or Equivalent licensed Water Supply & Sewerage Contractor Registered with Ministry of Water, Sanitation and Irrigation All Financial alterations	Attach copy of Certificate of Registration and License Attach copy of Certificate of Registration and License If Any must be countersigned by the bidder	Certificate of Registration and License Certificate of Registration and License countersigned by the bidder	
	Audited financial accounts for the Last 3 years	Certified Audited Balance Sheet & Other Financial Statements	Certified Audited Balance Sheet & Other Financial Statements	
	Power of Attorney	Submit a written Power of Attorney on bidder's letter head for the Authorized person to sign the tender on behalf of the bidder	Certified Audited Balance Sheet & Other Financial Statements	

TECHNICAL EVALUATION CRITERIA

	History of Non Performing Contracts	<p>Non-performance of a contract did not occur as a result of contractor default for the last two (2) years. Non-performance shall be deemed to have occurred by evidence of:</p> <ul style="list-style-type: none"> • <i>Termination Letter</i> • <i>Liquidated Damages</i> 	<p><i>If a bidder fails to disclose, shall be disqualified Reference to be made to procuring Authority's records</i></p>	5 Marks
	Financial Capabilities	<p>1. Bidders shall provide audited balance sheets or, if not required by the laws of the Tenderer's country, other financial statements acceptable to the Procuring Entity, for the last 3 years shall be submitted and must demonstrate the current soundness of the Tenderer's financial position and indicate its prospective long-term profitability (as demonstrated by Financial Evaluation ratios</p> <p>2. (ii) 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 at a minimum of 10% of Engineer's Estimate for the subject contract(s) net of the Tenderer's other commitments. The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of finance to meet the cash</p>	<p>Attachments include:</p> <p><i>i. Audited accounts All pages must be initialed and stamped by both a practicing Auditor registered with ICPAK and one of the Directors. (4marks)</i></p> <p><i>ii. Auditor's practicing membership number from ICPAK must be indicated and a valid practicing license shall be provided. (2marks)</i></p> <p><i>iii. Financial ratio Form to be signed by the Auditor registered with ICPAK and one of the Directors (2marks)</i></p> <ul style="list-style-type: none"> • <i>Financial Ratios Computation shall be made for the following Ratios and marks awarded to each of the ratios:</i> - <i>Working Capital</i> - <i>Debt to Equity Ratio</i> - <i>Current ratio</i> - <i>Operating Cash Flow ratio</i> <ul style="list-style-type: none"> • <i>Line of Credit</i> • <i>Bank statements Etc.</i> 	<p>8 Marks</p> <p>5 marks</p> <p>7 marks</p>

		flow requirements on works currently in progress and for future contract commitments.		
	Average Annual Construction Turnover	Minimum average annual construction turnover of Kenya Shillings [100,000,000.00] , equivalent calculated as total certified payments received for contracts in progress and/or completed within the last 3 years divided by 3 years	<i>Attachments include total certified payments (payment certificates), Award Letters</i>	10 marks
	Ongoing Works	Value of outstanding works shall not be more than the Engineer`s Estimate	<i>If the outstanding Works is more than the Engineer`s Estimate of this bid, the bidder loses 2 Marks</i>	2 marks
	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor, substantially completed in the last [3years] prior to the applications submission deadline	<i>Attach Letters of Award and Completion Certificates</i>	10 marks
	Specific Construction & Contract Management Experience	Participation in at least one similar Contract of minimum cumulative value of [KSh 150,000,000.00] as filled in Form EXP 4.2(a) that have been satisfactorily and substantially completed by the bidder, as a prime contractor, joint venture member, management contractor or sub-contractor in the last [5 years] prior to the applications submission deadline. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics	<i>Provide Letters of Award and Completion Certificates for subcontracted works, the bidder should provide the following;</i> <ul style="list-style-type: none"> • <i>Award letter of the main contractor</i> • <i>Award letter of the subcontract.</i> • <i>Completion letter of the subcontract.</i> 	15 marks
	Contractor's Representative and Key Personnel	<i>Curriculum Vitae (CVs) of the Proposed Key Staff must be presented in the provided format and duly signed by the proposed individual. Copies of certificates and Annual Practicing Licenses (for Engineers) and Academic Certificates for all staff is mandatory;</i> <i>Key Personnel required shall be: -</i> <ul style="list-style-type: none"> • <i>Site Manager (Civil or water Engineer) with a minimum of 5 years' experience in civil work.</i> • <i>Inspector of works with a</i> 	<i>Schedule F (Form PER. 1 and PER. 2)</i>	10 marks

		<p><i>minimum of 5 years' experience in civil work.</i></p> <ul style="list-style-type: none"> • <i>Surveyor with a minimum of 3 years' experience in civil work.</i> • <i>Mason Grade I with minimum of 5 years' experience in Masonry Works.</i> • <i>Pipe fitter grade II or above with a minimum of 5years experience in pipe laying water projects.</i> 		
	Contractors key equipment	<ul style="list-style-type: none"> • Bidders shall declare they have possession/Ownership of various equipment as proposed to be used in the Project by providing Logbooks that demonstrate proof of ownership • For Bidders planning to hire, they shall provide an Active Lease Agreement in Place that can be used during the Project Life. The copy of logbooks of the lessor(s) shall also be provided. <p>Equipment required shall be: -</p> <ul style="list-style-type: none"> • <i>Excavators (3marks)</i> • <i>Concrete Mixer (2marks)</i> • <i>Poker Vibrator (1mark)</i> • <i>Assorted tools for excavation and pipe laying. (3marks)</i> • <i>At least one Tipper of 7 Ton (2marks)</i> • <i>Two pick-ups 4x4 (2marks)</i> • <i>Automatic HDPE Fusion Welding Machine (2marks)</i> 	Schedule D of Technical Proposal	15 marks
	Proposed methodology	Adequacy and quality of the proposed methodology	<p>a) <i>Technical approach and methodology:</i></p> <ul style="list-style-type: none"> • <i>Provided a detailed Work Methodology</i> • <i>Provided a Methodology on safety during the construction period</i> • <i>Provided a specific Quality management plan</i> <p>b) <i>Work plan/Program of Works (PoW)</i></p> <p>c) <i>Site Organization and staffing</i></p>	<p>3marks</p> <p>2 marks</p> <p>2 marks</p> <p>4 marks</p> <p>2 marks</p>

Maximum Score			100 Marks
<i>Tenderers who score less than the required pass (70%) will be automatically disqualified.</i>			
<i>Tenderers who pass the technical evaluation will be evaluated further.</i>			
FINANCIAL EVALUATION: The Lowest Evaluated Bidder may be subjected to Financial Evaluation which include but not limited to sensitivity analysis of the rates			
POST QUALIFICATION: shall be done on the tenderer that will have passed the minimum technical and has the lowest price.			

3. **Tender Evaluation (ITT 35) Price evaluation:** in addition to the criteria listed in ITT 35.2 (a) – (c) the following criteria shall apply:

- i) **Alternative Completion Times**, if permitted under ITT 13.2, will be evaluated as follows:
N/A
- ii) **Alternative Technical Solutions** for specified parts of the Works, if permitted under ITT 13.4, will be evaluated as follows: N/A
- iii) **Other Criteria;** if permitted under ITT 35.2(d): **None**

4. **Multiple Contracts – N/A**

5. **Alternative Tenders (ITT 13.1) – N/A**

6. **Margin of Preference** is not applicable

7. **Post qualification and Contract award (ITT 39), more specifically,**

- a) In case the tender was subject to post-qualification, the contract shall be awarded to the lowest evaluated tenderer, subject to confirmation of pre-qualification data, if so required.
- b) In case the tender was not subject to post-qualification, the tender that has been determined to be the lowest evaluated tenderer shall be considered for contract award, subject to meeting each of the following conditions.
 - i) The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow of **Kenya Shillings 100 million**.
 - ii) Minimum average annual construction turnover of **Kenya Shillings 100 million** equivalent calculated as total certified payments received for contracts in progress and/or completed within the last **Three (3) years**.
 - iii) At least **One** of contract(s) of a similar nature executed within Kenya, or the East African Community or abroad, that have been satisfactorily and substantially completed as a prime contractor, or joint venture member or sub-contractor each of minimum value **Kenya shillings 150 million** equivalents.
 - iv) Contractor's Representative and Key Personnel, which are specified in **SCC**
 - v) Contractors key equipment listed on the table “Contractor's Equipment” below and more specifically listed in **SCC**
 - vi) Other conditions depending on their seriousness.
 - a) **History of non-performing contracts:**
Tenderer and each member of JV in case the Tenderer is a JV, shall demonstrate that non-performance of a contract did not occur because of the default of the Tenderer, or the member of a JV in the last **2 years**. The required information shall be furnished in the appropriate form.

b) **Pending Litigation**

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

c) **Litigation History**

There shall be no consistent history of court/arbitral award decisions against the Tenderer, in the last **5years**. All parties to the contract shall furnish the information in the appropriate form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the years specified. A consistent history of awards against the Tenderer or any member of a JV may result in rejection of the tender.

8. QUALIFICATION FORM SUMMARY

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 the the Kenya Revenue Authority in accordance with ITT 3.14.	Form of Tender	
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 3.8	Form of Tender	
5	State- owned Enterprise	Meets conditions of ITT 3.7	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 [.....].	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 1st January 2018	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 100 Million equivalent for the subject contract(s) net of the Tenderer's other commitments. (ii) The Tenderers shall also demonstrate, to the satisfaction of the Procuring Entity, that it has adequate sources of	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>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 three (3) years from 2020 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 100 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 3 years , starting 1st January 2020	Form EXP – 4.1	
14	Specific Construction & Contract Management Experience	<p>A minimum number of 2 similar contracts specified below that have been satisfactorily and substantially completed as a prime contractor, joint venture member, management contractor or sub-contractor between 1st January 2020 and tender submission deadline i.e. 2 contracts, each of minimum value Kenya shillings 150Million equivalent. <i>[In case the Works are to be tender as individual contracts under multiple contract procedure, the minimum number of contracts required for purposes of evaluating qualification shall be selected from the options mentioned in ITT 35.4]</i></p> <p>The similarity of the contracts shall be based on the following:</p> <p>i) Minimum 200mm diameter water pipelines and minimum of 10km in length</p> <p>ii) RC Water Storage Tanks capacity 500m³</p> <p>iii) Concrete retaining walls minimum length 50m</p>	Form EXP 4.2(a)	

QUALIFICATION FORMS

1. FORM EQU: EQUIPMENT

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment <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	

2. 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: [insert title]	
	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. **FORM PER-2:**

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

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

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): _____

4. TENDERER’S QUALIFICATION WITHOUT PRE-QUALIFICATION

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.

4.1 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 •Establishing that the Tenderer is not under the supervision of the Procuring Entity
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.2 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 3.8.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

4.3 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 <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	Non- performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Procuring Entity: <i>[insert full name]</i> Address of Procuring Entity: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<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.			
<input type="checkbox"/> Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			

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

4.4 FORM FIN – 3.1:

Financial Situation and Performance

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

4.4.1. 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)					

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
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

*Refer to ITT 15 for the exchange rate

4.4.2 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		

4.4.3 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.

4.5 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.

4.6 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	
	Source of financing Amount (Kenya Shilling equivalent)
1	
2	
3	

4.7 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					
	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					

4.8 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: _____	

4.9 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:				

4.10 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	

4.11 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

5. FORM OF TENDER

INSTRUCTIONS TO TENDERERS

- i) *The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.*
- ii) *All italicized text is to help Tenderer in preparing this form.*
- iii) *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION OF THE TENDERER attached to this Form of Tender.*
- iv) *The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.*
 - *Tenderer's Eligibility- Confidential Business Questionnaire*
 - *Certificate of Independent Tender Determination*
 - *Self-Declaration of the Tenderer*

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 sum of Kenya Shillings *[Amount in figures]* _____ Kenya Shillings *[amount in words]* _____ .

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

The percentage or amount quoted above does not include provisional sums, and only allows not more than two foreign currencies.

2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the 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. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us. We further understand that you are not bound to accept the lowest or any tender you may receive.
5. We, the undersigned, 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, Project Manager, 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 thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;
- xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

- 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) We, the Tenderer, have completed fully and signed the following Forms as part of our Tender:
- a) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.
 - b) Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.
 - c) Self-Declaration of the Tenderer – to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.
 - d) Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal

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

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

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

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

Signature of the person named above: [insert signature of person whose name and capacity are shown above] **Date signed** [insert date of signing] day of [insert month], [insert year]

Date signed _____ day of _____, _____

Notes

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

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

A. TENDERER’S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

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

(a) Tenderer'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			

ii) **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.		

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

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

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

Bidder Official Stamp

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

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

Name of Authorized signatory..... Sign.....

Position.....

Office address..... Telephone.....

E-mail.....

Name of the Firm/Company.....

Date..... (Company Seal/ Rubber

Stamp where applicable)

Witness

Name Sign.....

Date.....

D. APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

2. 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.

3. Requirements

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.

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 asset 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 for the bidder to whom was awarded contract, or a member of the group of bidders 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.

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;
 - iv) “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;
 - v) “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 sanction or 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.

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

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

Beneficiary: _____

Invitation for Tender No:

Date: _____

TENDER GUARANTEE No.: _____

Guarantor: _____

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

[signature(s)]

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

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

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

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

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

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

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

[Date]

[Witness]

[Signature of the Guarantor]

[Seal]

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

TENDER-SECURING DECLARATION FORM

[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 _____	[To be entered by the Procuring Entity]

PART II - WORK REQUIREMENTS

I. SPECIFICATIONS

Notes for preparing Specifications

- 1.0 Specifications must be drafted to present a clear and precise statement of the required standards of materials and workmanship for tenderers to respond realistically and competitively to the requirements of the Employer and ensure responsiveness of tenders. The Specifications should require that all materials, plant, and other supplies to be permanently incorporated in the Works be new, unused, of the most recent or current models and incorporating all recent improvements in designs and materials unless provided otherwise in the Contract.
- 2.0 Specifications from previous similar projects are useful and it may not be necessary to rewrite specifications for every works contract.
- 3.0 Care must be taken in drafting Specifications to ensure they are not restrictive. In the specification of standards for materials, plant and workmanship existing Kenya Standards should be used as much as possible otherwise recognized international standards may also be used.

TECHNICAL SPECIFICATIONS

1. GENERAL SPECIFICATIONS

- 1.1 Introduction
- 1.2 Extent of Contract
- 1.3 Precedence of Contract Documents
- 1.4 Standards
- 1.5 Quality of Materials and Workmanship
- 1.6 Trade Names
- 1.7 Samples
- 1.8 Testing
- 1.9 Programme for Execution of works
- 1.10 Substantial (Practical Completion)
- 1.11 Nominated Sub-contractors and Nominated Suppliers
- 1.12 Entry upon Land, working site and adjoining lands
- 1.13 Preservation of survey beacons
- 1.14 Land for camp sites
- 1.15 Existing Services
- 1.16 Damage to services
- 1.17 Temporary Roads and traffic control
- 1.18 Road closure
- 1.19 Road & Railway crossing and traffic control
- 1.20 Protection from water
- 1.21 Weather Conditions
- 1.22 Protection from weather
- 1.23 Explosives and blasting
- 1.24 Liason with Police
- 1.25 Provision of water
- 1.26 Temporary lighting and power
- 1.27 Sanitation
- 1.28 Medical facilities
- 1.29 Signboards
- 1.30 Setting out and survey equipment
- 1.31 Backfilling of Holes and Trenches
- 1.32 Inspection of works
- 1.33 Testing of Water-Retaining structures
- 1.34 Testing of Roofs
- 1.35 Cleaning and sterilization of water-retaining structure
- 1.36 Contractor's Superintendence
- 1.37 Normal Working Hours

- 1.38 Compliance with statutes and Local Regulations
- 1.39 Accommodation for workmen
- 1.40 Storage Spaces and sheds
- 1.41 Office for Contractor
- 1.42 Office for Engineer's Representative
- 1.43 Telephone
- 1.44 Housing for Resident staff
- 1.45 Maintenance of Resident staff housing, furniture and Equipment
- 1.46 Attendance upon Resident Engineer and his staff
- 1.47 Insurance
- 1.48 Transport for Engineer's Representative
- 1.49 Removal of Camps
- 1.50 Site Meetings

2. SITE CLEARANCE

- 2.1 Clearance of Trees, Bushes
- 2.2 Damage to lands
- 2.3 Clearing the site on completion

3. EARTHWORKS

- 3.1 General
- 3.2 Classification of Excavations
- 3.3 Stripping of Top soil
- 3.4 Excavation in open cut
- 3.5 Borrow Pits
- 3.6 Hardcore Filling
- 3.7 Earth Filling
- 3.8 Grass Planting and Topsoil
- 3.9 Anti-Proofing

4. CONCRETE WORKS

- 4.1 General
- 4.2 Materials and tests
- 4.3 Pre-cast concrete units
- 4.4 Workmanship

5. BUILDERS WORK

- 5.1 Concrete Block walling
- 5.2 Plasterwork and other floor wall and ceiling finishes
- 5.3 Carpentry and joinery
- 5.4 Roofing
- 5.5 Steelwork
- 5.6 Ironmongery and other fittings
- 5.7 Glazing
- 5.8 Painting, Decorating and other surface treatment

6. PIPEWORK

- 6.1 Materials
- 6.2 Handling and storing materials
- 6.3 Excavation of trenches
- 6.4 Laying and jointing
- 6.5 Concrete manholes and plot chambers
- 6.6 Testing
- 6.7 Refilling of Trenches

7. PLUMBING AND DRAINAGE

- 7.1 General
- 7.2 Plumbing

8. ROAD WORKS AND FOOTPATHS

- 8.1 General
- 8.2 Roads and paved areas
- 8.3 Fencing

1 GENERAL SPECIFICATIONS

1.1 Introduction

These specifications cover the construction of the works as shown on the drawings and listed in the Bills of Quantities and shall be read in conjunction with the contract documents as listed in Section II, instructions to Tenderer.

All references given are intended solely for the convenience of those using the above clauses in the documents, which may, in the opinion of the Engineer have any bearing on the point in question.

1.1.1 Location

The location of the works is described in Section II.

1.1.2 Scope of Works

The scope of the works is described in Section V and in the specific drawings.

1.2 Extent of Contract

The works specified under this contract shall include all general works preparatory to the construction of the works and materials and work of any kind necessary

1.3 Precedence of Contract Documents

Should the provisions of any clauses of any or all of the Contract Document to be shown to be mutually at variance or exclusive, the following order of precedence shall be applied in order to establish which of the said provisions, mutually at variance or exclusive, shall be deemed to be true and correct intent of the contract entered into by Employer, and the contractor shall forthwith be absolved from any liability under the provisions not so proved to be the true and correct intent of the contract, provided that in the execution of the contract the contractor has, or shall have complied with such true and correct intent.

- i. Provision of the Standard or Special Specifications shall take precedence over those of the General Conditions of Contract.
- ii. (Provision of Section II shall take precedence over the standard specifications unless otherwise indicated.
- iii. Details shown or noted on the contract drawings shall take precedence over the requirements of both the standard and Section II.
- iv. (Detail drawing shall take precedence over General Drawings.
- v. Within the Standard Specifications, the provisions of any section particular to the provisions at variance shall take precedence over the general section, and within any section clauses particular to the provisions at variance shall take precedence over those not so particular. The foregoing order of precedence shall apply also to sections and clauses of the special specifications.
- vi. Where there is conflict in units of measurement quoted in standard specifications and units quoted in Bills of Quantities the units in latter will apply.

Notwithstanding any fore written provisions, should the application of the foregoing order of precedence fail to resolve any variance or mutual exclusions as to the true and correct intent of the contract to the satisfaction of the Engineer, the Engineer may exercise the right to arbitrarily give a ruling as to the true and correct intention of the contract, and the contractor shall have the right to claim additional payment for any additional expense incurred by him as a consequence of such variance or exclusion and arbitrary ruling.

1.4 Standards

In the specifications, Bills of Quantities, and Drawings reference has been made to relevant British Standard Specifications and Codes of Practice- to which the materials and workmanship should comply with. However, the materials and workmanship complying with equivalent Kenya Bureau of Standards (K.B.S) or International Standards Organization (I.S.O.) Standard for that particular material or workmanship will also be acceptable.

Mixture of different standards in one trade will not be allowed. For instance, if pipes are to be provided to I.S.O Standard, then all the pipes in the works are to be to I.S.O. Standard.

Where the dimension in one standard does not completely correspond to the dimensions of the other standard, which is being used for construction of works, ruling of the Engineer will be sought and any decision given by the Engineer will be final and binding upon the contractor.

1.5 Quality of Materials and Workmanship

The materials and workmanship shall be of the best of their respective kinds and shall be to the approval of the Engineer. In reading of these specifications, the words "to the approval of the Engineer" shall be deemed to be included in the description of all materials incorporated in the works, whether manufactured or natural, and in the description of all operations for the due execution of the works.

No materials of any description shall be used without prior approval by the Engineer and any condemned as unfit for use in the works shall be removed immediately from the site, and without recompense to, the contractor. All works or parts thereof shall be in accordance with the latest edition of either Kenya Bureau of Standards (K.B.S.) specification or British Standard(B.S.) specifications and British Codes of Practice(C.P.) as published by British Standards Institution.

All materials shall be of approved manufacture and origin and the best quality of their respective kind, equal to sample and delivered on to the site a sufficient period before they are required to be used in the works to enable the Engineer to take such samples as he may require for testing or approval, and the contractor shall furnish any information required by the Engineer as to the quality, weight, strength, description, etc. of the materials. No materials of any description shall be used without prior approval by the Engineer and any condemned as unfit for use in the works shall be removed immediately from the site by, and without recompense to, the contractor.

1.6 Trade Names

Trade Names and Catalogue Reference are given solely as the guide to the quality and alternative manufacturers of the materials or goods of equivalent quality will be accepted at the discretion of the Engineer.

1.7 Samples

Samples of all materials shall be deposited with the Engineer and approved prior to ordering or delivery to site. The Engineer reserves his right to test any sample to destruction and retain samples until the end of the maintenance period. No payment will be made for samples and the contractor must in the rates of prices allow for costs of samples. All materials delivered to site shall be equal or better in all respect than the samples delivered to the Engineer.

All sampling of materials on the site must be done by or in the presence of the Engineer. All other samples will be deemed not to be valid under the contract.

All materials delivered to the site or intended for the works not equal or better than the samples approved by the Engineer shall be removed and replaced at the contractor's expense.

1.8 Testing

As provided in clause 36 of the conditions of contract and in accordance with the specification quoted for any material used on works of this contract, tests may be called upon by the Engineer to be carried out at the place of manufacture or on the site. The contractor may assume that the tests will be required on soils, workmanship, and materials whether natural or manufactured to verify their compliance with the specifications. Samples of all such materials and manufactured articles together with all necessary labour, materials, plant and apparatus for sampling and for carrying out of the tests shall be supplied by the contractor at his own expense.

1.9 Programme for the Execution of Works

- i. In accordance with clause 14 of the conditions of contract, the contractor upon receiving Engineer's order to commence shall within 28 days draw up a working programme setting out order in which the works are to be carried out with appropriate dates thereof together with delivery dates for materials. The contractor shall together with his work programme supply an expenditure chart showing monthly anticipated expenditure.
- ii. The programme shall be deemed to have taken into account normal variations in climatic conditions to provide for completion of the works in the order and within the times specified therein.
- iii. The order in which it is proposed to execute the permanent works shall be subject to adjustment and approval by the Engineer, and contractor's price shall be held to include for any reasonable and necessary adjustment required by the Engineer during the course of the works.
- iv. The 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 in the prescribed order and by the prescribed completion date and he shall from time to time review his progress and make such amendments to his rate or executions of the works as may be necessary to fulfil these obligations.
- v. Once the proposed programme is approved by the Engineer, the contractor shall not depart from the programme without the written consent of the Engineer. In the event of unforeseen difficulties or disturbances arising, which forces the contractor to depart from the approved programme of works, he shall advise the Engineer in writing of such occurrences without delay and submit proposals for any necessary remedial measures, for which he shall obtain the Engineer's approval before putting such measures into effect.
- vi. (The contractor shall furnish the Engineer with a monthly statement of all works done on the contract and of all materials on site.

1.10 Substantial (Practical) Completion

Substantial or Practical Completion of works is to be understood as a state of completion, which leaves out only minor outstanding items that can be readily completed within a period of less than one month without interfering with the normal operation of the works.

The works will not be considered as substantially or practically completed without the works being capable of being used by the Employer in accordance with the purpose of the works. This means amongst other things, that all final tests have been carried out, the pumping stations and treatment plant fully operational to the required capacity, all storage tanks filled up, operation manuals provided, and clearance of the site upon completion of the works has been carried out, all to the satisfaction of the Engineer.

The contractor shall allow for a period of one month for the completion by others of as built drawings before the works are handed over to the Employer.

1.11 Nominated Sub-contractors and Nominated suppliers

The contractor shall be responsible for Nominated Sub-contractor in every respect. In particular, it shall be the Contractor's responsibility to ensure that each sub-contractor commences and completes the work in a manner so as to conform with the working programme, as specified above.

It is also the responsibility of the contractor to ensure a satisfactory progress of the works and to ensure that the works are completed to a standard satisfactory to the Engineer.

The contractor shall accept liability for and bear the cost of General and Specific Attendance on Nominated Sub-contractors which shall be deemed to include for:-

- i. Allowing the use of standing scaffolding, providing special scaffolding, maintenance and alteration of all scaffolding, retention of all scaffolding until such time as all relevant Sub-contractor's works are complete and removal of all scaffolding on completion.
- ii. Providing equipment and labour for unloading and hoisting sub-contractor's materials.

- iii. Providing space for office accommodation, and for storage of plant and materials; allowing use of sanitary accommodation; the supply of all necessary water, power, lighting and watching and clearing away all rubbish.

Cutting away for and making good after the work of sub-contractors as may be required will be measured and valued separately in the Bills of Quantities.

Before placing any orders with nominated sub-contractors or nominated suppliers, the contractor should enter into an agreement with the nominated sub-contractor/nominated suppliers to ensure that the conditions and delivery of materials to site comply with the conditions of contract and the working programme.

Particular clause should be inserted in the agreement with the nominated supplies ensuring the validity of the rates for the supply of materials as per the delivery schedule.

Nominated suppliers who are unable to meet the delivery schedule will not be given allowance for any increases in prices incurred after the delivery time agreed in the delivery schedule.

1.12 Entry upon Land, Working site and Adjoining Lands

The employer shall provide land, right of ways and leaves for the works specified in the contract.

If nothing else is mentioned, the contractor will be allotted for execution of the works only the actual area as necessary for the extent of the construction.

The contractor shall give notice to the Engineer at least 30 days before he wishes to enter onto the land required to carry out the contract.

The contractor shall not enter onto any land or commence any operations until such time as he receives formal confirmation from the Engineer that all necessary compensation formalities have been completed and that permission has been obtained from the landowner to enter the land and commence operations. Should the contractor enter onto land or commence operations without first obtaining this confirmation, he shall be liable in whole or in part, at the sole discretion of the Engineer, for all additional costs and/or legal charges which might arise therefore.

The contractor shall on his own accord obtain rights of admission, and rights of using all other areas which are necessary for storing and manufacturing, or for setting up site offices and resident engineer's office or whatsoever will be necessary.

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.

The contractor shall take care to prevent injury, damage and trespass on lands, fences and other properties near and adjacent to the works and must in this connection make all necessary arrangements with adjoining landowners, or into the case of Government property with officers appointed for this purpose, and ensure the workmen's observance of all Government rules and ordinances regarding game protection and other matters and provide, maintain and clear away on completion of the works, all temporary fencing which may be required for execution of the works.

Before completion of the works, the contractor must make good or compensate any such injury, damage or trespass on lands, fences and other properties which have not otherwise been provided for in the contract

1.13 Preservation of Survey Beacons

Ordinance Survey Beacons, Bench marks, etc., or around the site of the works shall not be disturbed unless permission has been obtained by the Engineer from the Survey of Kenya.

In the event of unauthorised disturbance of such beacons, bench marks, etc., in the course of the works being carried out, the contractor shall be responsible for reporting same to the Engineer and the Survey of Kenya, and for payment of any fees due to said Survey of Kenya for replacement of such disturbed beacons, bench marks, etc. The contractor shall not replace such disturbed beacons bench marks, etc. on his own accord.

1.14 Land for Camp Sites

The employer shall make available free of charge to the contractor all land on under or through which the works other than Temporary works are to be executed or carried out all as indicated onto the drawings or as detailed in the

specifications. Such land shall exclude land for Resident Engineer's offices and the land required by the contractor for his own camps, offices, houses, temporary works or any other purpose.

1.15 Existing Services

Drains, pipes, cables and similar services encountered in the course of the works shall be guarded from damage by the contractor at his own costs to safeguard a continued uninterrupted use to the satisfaction of the owners thereof, and the contractor shall not store materials otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

The contractor shall on the Engineer's direction arrange for the construction of permanent or temporary diversions of the said drains etc., together with their reinstatement in liason with the respective departments, bodies, corporations or authorities. No services may be tampered with by the contractor and all works in connection with any kind of services shall be carried out by their respective owners.

It is the responsibility of the contractor to inform the Engineer immediately any existing service is exposed.

1.16 Damage to Services

The contractor shall be held liable for all damage and interference to mains and pipes, to electric cables or lines of any kind either above or below ground caused by him or his sub-contractors in execution of the works, whether such services are located on the contract drawings or not. The contractor must make good or report to the appropriate authorities the same without delay and do any further work considered by the Engineer or owner. The contractor shall provide for these contingencies in his rates.

1.17 Temporary Roads and Traffic

The contractor shall provide and maintain all temporary roads, bridges and other work required for the construction of the works including access to quarries, borrow-pits, accommodation etc.

1.18 Road Closure

Where a road used by the contractor for delivery of any materials used in the works is closed under section 71 of the Traffic Ordinance Act 1962 or amendments thereto, the contractor shall obey such closure order and use alternative roads.

1.19 Road and Railway Crossing and Traffic Control

Wherever the pipeline is crossing the classified roads and railway line, the contractor will contact the relevant authorities in advance and obtain necessary permission to dig across the road and railway-line in accordance with requirements of the authorities concerned and shall pay any royalties connected with this work, and the contractor will provide temporary detour road together with any warning signs necessary. There will be no separate payment for this and cost of all expenses connected with road and railway crossing for which no separate items have been included in the Bills of Quantities.

1.20 Protection from Water

Unless otherwise mentioned, the contractor shall keep the whole of the works free from water and allow in his rates for all dams, coffer dams, pumping, pilling, shoring, temporary drains, slumps, etc., necessary for this purpose and shall make good at his own costs all damage caused thereby.

1.21 Weather Conditions

The contractor shall be deemed to take into account all possible weather conditions when preparing his tender and he shall not be entitled for extra payment by the reason of the occurrence or effect of high winds, excessive rainfall, temperature or any other meteorological phenomena.

1.22 Protection from Weather

All materials shall be stored on site in a manner approved by the Engineer's Representative and the contractor shall carefully protect from the weather all works and materials which may be affected thereby.

No separate payment will be made for this and contractor will allow in his rates for this

1.24 Liason with Police, etc,

The contractor shall keep himself in close contact with the police, Labour Officers and other officials in the areas concerned regarding their requirements in the control of workmen, passage through townships, or other matters and shall provide all assistance and/or facilities which may be required by such officials in execution of their duties in connection with the works.

1.25 Provision of Water

The contractor shall provide water for use in the works. He shall supply all hydrants, hose, cocks, vessels and appliances necessary for the distribution there-of and shall provide pumps, tanks, carts, vessels and appliances, transport and labour when and where-ever it is necessary for water to be carted for use at the works. All water used in connection with the works shall if possible be obtained from a public water supply and the contractor shall make all necessary arrangements and pay all the charges for connections to mains and for water used.

1.26 Temporary Lighting and Power

The contractor shall provide all artificial lighting and power for use on the works, including all sub-contractors and Specialists' requirements and including all temporary connections, wiring, fittings, etc., and clear away on completion. The contractor shall pay all fees and charges and obtain all permits in connection therewith.

1.27 Sanitation

The site shall be kept in a clean and proper sanitary condition. No nuisance shall be committed on or around the work, and latrines for the workmen and staff shall be provided in accordance with the requirements of the Medical Officer or Sanitary Authorities. The contractor shall be responsible for the sanitary discipline of his labour.

1.28 Medical Facilities

The contractor's attention is drawn to Legal Notice No. 79 of 22nd September, 1978 by which it is mandatory that every contractor employing more than twenty people should appoint (in writing) a safety supervisor. A safety supervisor advises the management on all matters regarding safety, hygiene and welfare of the people affected by the Contractor's undertaking on the site. The safety officer may in addition carry out other duties.

The contractor shall provide adequate first aid equipment on the site, and ensure that at least two of his site staff are competently trained in first aid.

1.29 Signboards

The contractor shall erect signboards in prominent positions adjacent to the works to the satisfaction of the Engineer.

1.30 Setting out and Survey Equipment

The contractor must before commencing any construction works, make sure that levels shown on the drawings correspond with levels found on the site.

Should any discrepancy be discovered between the levels shown on the drawings and those found on the site, which may affect the levels and dimensions of any part of the works, the contractor shall notify the Engineer, who if necessary, will issue drawings showing the amended levels and dimensions.

The Contractor shall allow for in his rates, the cost of the necessary qualified and experienced staff to set out the works and during the continuance of the contract for the sole use of the Engineer.

The contractor shall clear the site and set out the works well in advance to enable the Engineer to inspect and approve the setting out prior to commencement of the works.

1.31 Backfilling of Holes and Trenches

The contractor shall immediately upon approval of any work at his own expense and to the satisfaction of the Engineer backfill all holes, trenches and temporary quarries which have been made.

1.32 Inspection of Works

The contractor must give due notice in writing to the Engineer's Representative when any part of the works are ready for inspection.

1.33 Testing of Water Retaining Structures

All water retaining structures shall on completion be tested for water tightness in the following manner:-

The structure shall be filled with portable water in stages and held at each stage for such time as the Engineer may require. Should any dampness or leakage occur at any stage, the water shall be drained off and the defects made good. The procedure shall be continued and finally the structure shall after a period allowed for absorption remain full for seven days. Within those seven days, the level of the structure of the water should be recorded and measurements made at intervals of 24 hours. The total leak must not exceed 0.3% of the total volume of water in the tested structure.

If the structure does not satisfy the conditions of the test, and the daily drop in water level is decreasing, the period of test may be extended for a further 7 days, and if the specified limit is then not exceeded, the structure may be considered as satisfactory.

1.34 Testing of Roofs

Where structures are used for the storage of portable water, adequate precautions should be taken to ensure that the roof is watertight in order to give protection against a potential source of pollution.

The roof should be tested by lagging the concrete slab to a minimum depth of 75mm for a period of 3 days, the roof slab should be regarded as satisfactory if no damp patches occur on the soffit. The roof screed should be completed immediately after testing.

1.35 Cleaning and Sterilizing Water Retaining Structures

The interior of all potable water retaining structures shall be thoroughly cleaned and washed after the water tightness test has been approved by the Engineer in order to remove all contaminations.

The structure shall then be filled to overflow level with clean water containing 50 parts per million of chlorine and left for a period of at least 24 hours. The chlorinated water shall then be drained away and the structures refilled with clean water from which samples shall be taken for bacteriological examination and for tests of residual chlorine. If any of the results of the tests are unsatisfactory when compared with those of the control sample of the supply water, the sterilizing process shall be repeated until the results of the tests are satisfactory.

1.36 Contractor's Superintendence

The contractor shall give or provide all necessary superintendence during the execution of the works and as long thereafter as the Engineer may consider necessary for proper fulfilling of the contractor's obligations under the contract.

1.37 Normal Working Hours

The contractor shall inform the Engineer in writing, at the time of submitting the work programme, the normal working hours. The contractor shall respect all public holidays. Where the contractor wishes to work outside these hours, he shall request the Engineer in writing at least 24 hours in advance for consideration.

1.38 Compliance with Statutes and Local Regulations

In addition to requirements of clause 26 of the general conditions of contract, the contractor shall be responsible for acquainting himself with all current valid statute ordinance or bye-laws or regulations which may affect the works and shall include these in the item provided in the Bills of Quantities. This applies to training levy and other similar taxes for which no claim on the part of the contractor other than the one inserted in the bills of quantities will be allowed.

1.39 Accommodation for Workmen

The contractor shall provide and maintain suitable shelters and mess facilities for his workmen and supervisory staff. The contractor shall throughout the contract provide an adequate supply of potable water for the workmen.

1.40 Storage Spaces and sheds

Suitable temporary stores and workshops shall be erected and later removed on completion of the works.

1.41 Office for Contractor

The Contractor shall erect an office near the works on a site to be approved by the Engineer. This office shall be kept open at all hours during which the work is in progress.

Any notice to be given to or served upon the Contractor shall be deemed and taken to be effectively given or served upon by the delivery there-of at such office on the site.

1.42 Attendance Upon Resident Engineer and his Staff

For the duration of the Contract:-

- i. The Contractor shall provide all assistance including labourers, chainmen, clerks and junior staff as and when required by the Resident Engineer for checking, setting out, surveying measuring or for testing of work. The Contractor shall also provide a full time in Resident Engineer's office.
- ii. The Contractor shall provide all tools and protective clothing, wooden pegs, iron pins and pickets, water cement and aggregate for concreting, transport for labourers and materials as may be required by the Resident Engineer and his staff for checking, setting out, surveying, measuring or testing of the work.

1.43 Removal of Camps

On the completion of the Contract, the Contractor shall if so requested take down and remove all structures connected with his camp, and shall take up all pipes, drains and culverts, backfill trenches, fill up all latrine pits, soak aways and other sewage disposal excavations and shall restore the site as far as practicable to its origin condition and leave it neat and tidy to the satisfaction of the Engineer.

1.44 Site Meetings

Site meetings will normally be held monthly, but will be called for whenever the progress of the works so require or when demanded by the Engineer.

The Contractor shall at all meetings be represented by a responsible representative other than the Site Agent, who has the powers to commit the contractor in all matters concerning the contract.

In the event, no responsible representative of the contractor is present at the meetings; any decision taken by the Engineer at the meeting will be binding upon the contractor.

2.0 SITE CLEARANCE

2.1 Clearance of Trees, Bushes, Scrub, Huts, etc.

The contractor shall unless otherwise directed cut down all trees, remove bushes, plantations, crops and other vegetable growth and grub up all roots, take down all huts, buildings, walls fence and any other obstruction except services mentioned in clause 2.13 and handle and transport salvaged usable materials, to a site approved by the Engineer. All salvaged and usable materials are the property of the respective owners. The clearing and demolition here-in described shall be carried out to a width of the minimum excavation plus 1.50m on either side.

With exception of the salvaged material fore-mentioned, the contractor shall destroy or otherwise remove the whole of the rubbish from the site to an approved tip or number of tips provided by him.

Trees shall be cut down to as near the ground level as possible and the rates entered in the Bills of Quantities shall include for cutting down, removing branches and foliage, cutting into suitable lengths, grubbing up stumps and roots, stacking up, burning or disposing of as directed.

Before commencing any site clearance, general clearance, clearance of pipelines etc, the contractor shall inform the Engineer's Representative of his intention. The Engineer's Representative will be visiting the section of works concerned, determine the extent of the clearance express required.

2.2 Damage to Lands, etc.

Except where necessary for the proper execution of the works, the contractor shall not interfere with any fence, hedge, trees, land or crop forming the boundary of the site, or elsewhere. In the event of any interference, the contractor shall make good any damage to such fence, hedges, tree, land or crop to the satisfaction of the Engineer and the owner thereof.

Where the work is to be executed in private land, the Employer will be responsible for negotiating and obtaining rights of way and the serving of all notices as may be required upon the owners and/or occupiers of the land and it shall be the obligation of the contractor to keep the Employer and the Engineer fully informed concerning the rate of progress and of his intention to enter and begin work within any way leave as provided for under the condition of contract and required by this specification.

2.3 Clearing the Site on Completion

On completion of the works, the contractor shall clear the site of all plant, building, spoils, dumps, rubbish, etc. and leave the site to the satisfaction of the Engineer.

Borrow pits and temporary quarries shall be made good and covered with vegetable soil. Dumps for waste material shall be covered with at least 0.5m of soil of which at least a 0.10m layer in top shall be vegetable soil.

3.0 EARTHWORKS

3.1 General

Excavation shall be made to such lengths, depths and inclinations as may be necessary for the construction of the works or as shown on the drawings or as the Engineer may direct.

3.2 Classification of Excavation

The Engineer or his Representative and the Contractor or his Representative shall be present during classification of materials.

Where the terms "rock excavation" and "common excavation" or "excavation" are used in these specifications, the following definitions shall apply.

3.2.1 Rock Excavation

Rock excavation includes all solid rock in place which cannot be removed until loosened by blasting, barring, wedging, and all boulders or detached pieces of solid rock more than 0.25 cubic metre in volume. Solid rock under this class, is defined as sound rock of such hardness and texture that it cannot be loosened or broken down by hand- drifting picks.

All materials containing more than 50% by volume of boulders exceeding 0.25 cubic metre in volume shall be classified as rock excavation.

3.2.2 Common Excavation

Common excavation includes all material other than rock excavation: including, but not restricted to earth, gravel, and also sush hard and compact material as hardpan, cemented gravel, and soft or disintegrated rock together with all boulders or detached pieces of solid rock not exceeding 0.5 cubic metre in volume.

3.3 Stripping of Topsoil

3.3.1 Stripping

Stripping shall consist of removing, transporting and disposing of topsoil, stumps, roots, buried logs, debris, humus and similar objectionable matter.

Areas to be stripped are all areas required for the permanent constructional works, borrow-pits and embankment fills.

The limits of stripping shall extend 2 metres beyond the limits of excavation or toes of fills.

The depth of stripping shall normally be 0.2m, but deeper stripping might be needed to remove stumps.

3.3.2 Disposal

Materials from stripping suitable as topsoil shall be spread in approved areas. All other non-combustible materials shall be buried in approved disposal area; covered with a minimum of 0.5m of excavation spoil. These disposal areas shall be left with neatly graded surfaces and stable slopes that assure drainage. Alternatively, the non-combustible material shall be removed from the area by the contractor.

3.4 Excavation in Open Cut

3.4.1 General

All open cut excavation shall be performed in accordance with this section to the lines, grades and dimensions shown on the drawings or as directed by the Engineer. The Engineer reserves his right to at any time during the progress of the work to vary the slopes or dimensions of the excavations from those previously specified.

Any damage to the works due to the contractor's operations, including shattering of the material beyond the required excavation lines, shall be repaired at the expense of and by the contractor. All excess excavations and over-excavation shall be filled with compacted concrete grade 10 furnished and placed at the expense of and by the contractor.

All excavation for structure foundations shall be performed in the dry.

If excavations are carried out in roads, footpaths, separators, or within 5m of buildings, the contractor is requested to execute the work in a way that will minimise damage and disturbances.

3.4.2 Mechanical Excavation

- a. A mechanical excavator shall be employed only if the sub-soil is suitable and will allow timbering of trenches or other excavations to be kept sufficiently closed up to ensure that no slips fall or disturbance of the ground takes place or there are no pipes, cables, mains or other services or property which may be disturbed or damaged by its use.
- b. When mechanical excavators are used, a sufficient depth of material shall be left over the bottom of the excavation to ensure that the ground at finished excavation level is not damaged or disturbed in any way. The excavations shall then be compacted by hand to the finished levels required.

3.4.3 Rock Excavation

The contractor shall trim all rock faces in cuttings according to the dimensions shown on the drawings and upon completion leave them safe from rock falls to the satisfaction of the Engineer.

3.4.4 Foundation for Structures

(a) Common Material

The bottom and side slopes of common material upon or against which concrete is to be placed shall be finished accurately to the established lines and grades, and loose materials on surfaces so prepared shall be moistened with water and tamped or rolled with suitable tools and equipment to form a firm foundation for the concrete structure. If, at any point, material is excavated beyond the established excavation lines, then the over-excavation resulting voids shall be filled with consolidated concrete grade 10 at the contractor's expense.

If the excavation is carried out in advance, a protective layer of 150mm thickness shall be left above the foundation level until immediately before the contractor is ready to pour the blinding concrete.

(b) Rock Materials

The bottom and side slopes of rock material upon or against which concrete is to be placed shall be excavated to the required dimensions as shown on the drawings or established by the Engineer. No material will be permitted to extend within the

neat lines of the structure. If at any point in the rock material, material is excavated beyond the limits required to receive the structure, the additional excavation shall be filled solidly with concrete grade 10.

All soft or loose materials shall be removed by the use of stiff, brooms, picks, hammer or jets and cavities backfilled with concrete grade 10, grout or compacted rockfill as directed.

(c) Levels and Dimensions of Foundations

Levels and dimensions of foundations shown on the drawing may be changed by the Engineer to suit actual site conditions.

The additional volume shall be measured net and paid according to the rates in the Bills of Quantities.

3.4.5 Trench Excavations for Pipe Laying

All surface material including top soil which differs in any nature whatsoever from the sub-strata, shall in every case be carefully set aside and stored separately from other excavated material. No extra claim will be allowed for setting aside surface matter or topsoil for later use.

Trench excavation shall be carried out with great care, true to line and gradient and as near as practicable to the size required for construction of the permanent work. Nowhere shall the external dimensions of the excavations be less than the dimensions of the permanent work shown on the drawings or as directed by the Engineer.

If the bottom of the excavation becomes weathered prior to pipe laying, due to fault of the contractor, the weathered soil shall be replaced with suitable compacted material to the original formation level at the contractor's expense. The pipe trench shall be excavated to a depth of 150mm below the invert level of the pipe and refilled with sand, gravel or other selected materials free from stones and well rammed in order to provide a smooth bed for the pipes.

Where concrete pipes are laid in concrete, the pipe trench shall be excavated to a depth of 150mm below the invert level of the pipe and the width shall be equal to the breadth of concrete bedding for the pipes plus 150mm on either side.

Excavation for pipe trenches shall be of sufficient depth to give a minimum cover of 600mm over the top of the pipe. Where pipes/sewers cross under roads, minimum cover shall be 900mm, or such cover as may be directed by the Road Authority.

Where the pipeline is required to be laid at depth, which does not satisfy the minimum cover conditions set out above, the ground surfaces shall be brought up to the required level by banking the backfill or as directed by the Engineer.

No pipes shall be laid and no excavation filled in or covered with concrete until the formation has been inspected and permission to proceed with the work obtained.

Where P.V.C. or Polythene pipes are being laid, the bottom of the trench must be completely free from stones, and a smooth bed of fine material must be provided. Where the bed of the trench for P.V.C. or Polythene pipes is excavated in rock, it must be excavated to a depth of not less than 100mm below the bottom of the pipe, and refilled with selected fine granular material to make a smooth bed for the pipe.

The width of the trench to be excavated will depend on the size and type of pipe being laid. Sufficient width must be excavated to allow the pipe to be correctly bedded and aligned, and to allow for the joints to be correctly made.

Any excavated material stored on site for backfilling or other purposes shall be deposited alongside the excavation at a minimum distance of 0.5m in such a manner that it will cause no damage and as little inconvenience as possible.

3.4.6 Timbering of Excavation

The contractor shall supply and fix outside the limits of the permanent works all the timber necessary for support of sides and bottoms of the excavations, for the security of adjacent structures and properties and for every other purpose for which it may be required, all to the satisfaction of the Engineer. The contractor shall maintain such supports until in the opinion of the Engineer, the works is sufficiently advanced to permit the withdrawal of the support. Such withdrawal shall be executed only under the personal supervision of a competent foreman.

The Engineer may order excavations to be timbered or to be close timbered or may order timbering to be driven ahead of the excavation, or may order the adoption of any other method of supporting the sides and bottoms of the excavations as may appear to be necessary, and the contractor shall adopt and shall make no charge for executing the adopted method.

The contractor shall be responsible for any injury to the work and any consequential damage caused by or arising out of the insufficiency of the support he provides for his excavations or caused by or arising out of the removal of that support, and any advice, permission, approval or instruction given by the Engineer relative to that support or removal thereof shall not relieve the contractor of his responsibility.

Any instruction given by the Engineer will be directed to the provision of stronger support than that proposed by the contractor, and will be given only when, in the opinion of the Engineer, the support proposed by the contractor is insufficient.

Where timber has been used in excavations any such timber left in position shall be at the expense of the contractor except where the Engineer has ordered the timber to be left in place or if any timber should be left in place with the prior approval of the Engineer. The timber approved or ordered to be left in place will be paid for at the rates entered in the Bills of Quantities.

For the purpose of this clause, the words "timber" and "timbering" shall be construed to include trench sheeting and steel or concrete sheet, piling or any other means adopted by the contractor for supporting excavations.

3.4.7 Refilling Excavations

The refilling of excavations shall be commenced as soon as practicable after the permanent works have been tested where so required and inspected and approved by the Engineer. In particular, the back filling of trenches shall be carried out expeditiously to reduce lengths of trenches open at any one time.

Backfilling shall be executed with selected materials in 150mm layers (300mm layers if a mechanical hammer is used) each layer being well rammed and watered to obtain the maximum compaction. Care shall be taken to ensure that no stone or other material, which could damage pipes or other work, is placed within 300mm of such work.

As soon as P.V.C. or Polythene pipes are laid and jointed in their final positions, they should be protected from possible damage by carefully backfilling of fine granular material brought up to about 150mm over the top of the pipe, for the full width of the trench, and well compacted.

Joints must be left open for inspection until the pressure test is completed.

Backfilling over steel pipes shall be generally as described above, except that the initial protective filling around the pipe is not necessary.

3.4.8 Reinstatement of Surfaces

Generally, all trenches and backfilled excavations shall be reinstated to equal surfaces as before excavation.

Trenches in any existing road shall be refilled to the level of natural soil below the road with sub-soil in 75mm layers, each layer being carefully tamped with rammers. The remaining top layer shall be filled to the road surface with materials equal in type, quantity and compaction to materials used for the existing road.

The trench shall then be left to settle for 30 days. At the expiration of this period, the surface shall be made up to level and tamped or rolled to the approval of the Engineer, who will decide on the particular surfacing employed in accordance with the existing surface of the road.

Before expiration of the maintenance period, the contractor shall make good any defaults in reinstatements.

3.4.9 Removal of Surplus Excavated Material

Excavated material, which is not needed either for backfilling trenches or other excavations or use in embankments or otherwise, shall be removed and disposed of to tipping places obtained by the contractor. All rubbish and waste material shall similarly be removed by the contractor. All surplus excavated material shall be spread and levelled in the tipping places in accordance with such directions as the Engineer may give, and the contractor's rates for disposal shall include for the costs of such operations.

The contractor shall take every practical precaution against causing any nuisance, damage, injury or inconvenience in the handling, stacking, carting or disposal of excavated materials or any other operation matter or thing in connection therewith.

No excavated material shall be placed in any position here it may be washed away or may be liable to fall or spread into any private property or across a road or footpath, should such occur, the contractor shall forthwith remove the same at his own costs.

Should the Engineer direct the contractor to tip certain surplus excavated materials in a particular place (other than the tipping places obtained by the contractor) the contractor shall abide by such instruction and shall make no charge in consequence thereof unless the place specified entails a longer haul than what would be incurred by tipping at the place obtained by the contractor.

In the case of bulk excavations, the contractor shall unless otherwise directed by the Engineer prior to the commencement of any excavation prepare grid plans of the various sites showing the existing ground levels at intervals of not more than 10m. For any particular part of excavation, the mean ground level shall be determined from the aforesaid grid plan and the depth shall be calculated from the above mean ground level

Rates for excavation shall also include for working in a manner that causes no interference with the stability of adjacent structures and properties; for the cost of all timber or other support left in place unless ordered or approved to be left in place by the Engineer: for ground stabilization by means of de-watering, chemical processes or other approved method whether affected by floods, storms or otherwise; for the provision and sealing of temporary channels, drains and dumps; for temporarily storing excavated materials required for backfill or other purposes; for temporarily supporting, protecting, diverting, maintaining utility services; for maintaining flows in sewers and water found necessary for the proper execution and safety of the works.

3.5 Borrow Pits

No borrow pits will be allowed to be opened on the site unless permission in writing has been obtained from the Engineer.

Before the excavation of an approved borrow area is commenced, the contractor shall clear the surface and strip the topsoil in accordance with clauses 3.

Borrow excavations shall be regular in width and shape and shall be properly graded and drained and finished with neatly trimmed slopes, and if so directed soiled and grassed.

3.6 Hardcore Filling

Hardcore fill shall consist of clean hard broken stone or rubble with measurements not below 200mm and not exceeding 500mm in any one direction with sufficient murrum added to fill the interstices. The hardcore shall be well packed, rammed and where possible rolled with a 5 ton roller. Where rolling is impossible, compaction shall be by hand or by mechanical tampers. Before any concrete is laid on hardcore, the hardcore shall be levelled and blinded with fine stone chipping, rolled and watered as necessary. Hardcore filling is measured after compaction.

3.7 Earth Filling

3.7.1 General

Earth not suitable to be used in filling may at any time be rejected by the Engineer. If there is a deficit of soil, the contractor shall from approved borrow pits supply selected material in the ordered amount.

Before earth filling, the sand or gravel bedding of the pipes, according to the drawings shall be made. Soil filled to 500mm over the top of pipes shall be free from stones and be filled in by hand with the utmost care to avoid replacement of pipes.

3.7.2 Compaction of Fill

The 500mm fill over the pipe shall be compacted carefully by hand. In other areas, after removal of topsoil as specified, fill material shall be spread in even layers over the full width of the area to be filled. Each layer shall not exceed 300mm in thickness after compaction.

The water content of the earth fill material prior to and during compaction shall be distributed uniformly throughout each layer of the material. The allowable ranges of placement water content are based on design considerations. In general, the average placement water content will be required to be maintained at the Proctor Laboratory Standard Optimum Condition. This standard optimum water content is defined as, "That water content which will result in a maximum dry unit weight of the soil when subjected to the standard Proctor Compaction Test".

Proctor compaction tests are to be carried out in accordance with BS 1377 and the contractor shall provide the Engineer with facilities to carry out such tests, or cover the cost of tests carried out elsewhere.

As far as practicable, the material shall be brought to the proper water content in the borrow pit before excavation. Supplementary water, if required, shall be added to the material by sprinkling on the earth fill and shall be mixed uniformly throughout the layer.

Compaction of fill shall be carried out to 95 per cent standard proctor if not otherwise indicated on the drawings.

In case of unsatisfactory compaction test results, the contractor shall re-compact or remove the fill to the satisfaction of the Engineer.

The number of tests to be made shall be agreed upon by the Engineer and the contractor at commencement of the work.

The machinery the contractor intends to use for compaction (pneumatic, vibrating, static or other rollers) must be approved by the Engineer before employment.

The contractor shall take care that each separate layer is formed with side slopes to ensure that water cannot gather on the surface, thus causing softening of the soil. Compaction shall start from the side of the embankment and continue towards the middle.

Earth fill shall be measured after compaction.

3.8 Grass Planting and Top Soil

Top soil shall be selected vegetable soil, well compacted and except where otherwise specified of 150mm thickness.

The contractor shall trim the faces of the side slopes to open channels and elsewhere where directed to the dimensions, inclinations and curves shown on the drawings, remove all excess material and make good all depressions with suitable material.

Where instructed by the Engineer, the contractor shall plant Kikuyu or other approved grass at the rate of 16 plants per m² corresponding to 250mm c/c. The Engineer shall satisfy himself that natural growth of grass will not take place within a reasonable time before instructing the contractor to grass specified areas.

The contractor shall be responsible for obtaining suitable grass plants and for making all necessary arrangements with the owners and/or occupiers of the land from which they are to be obtained. The contractor shall be responsible for the preparation of the embankment for planting, and for maintaining adequate grass cover and necessary watering during the Contract and Maintenance Period.

3.9 Ant-Proofing

Where an ant-proof course has been specified, it should be made by application of Rentokil Termite Soil Concentrate or equal diluted one part concentrate to forty parts water (by weight) at the rate of 5 litres solution to 1 square metre to the whole area of the building immediately before (36 hours maximum) the concrete is poured. Additionally to all critical areas, i.e. both sides of wall foundations, piers and porches the application should be 5 litres per running metre. Treatment should not be made when the soil is excessively wet. Precautions should be taken to prevent disturbance of the treated areas before they are covered.

4.0 CONCRETE WORKS

4.1 General

All materials and workmanship for concrete shall comply with BS 8110 and BS 8007 where applicable.

4.2 Materials and Tests

4.2.1 Cement

Cement shall be ordinary Portland Cement complying with BS 12. The cement shall be delivered in properly sealed, unbroken bags.

Rapid hardening Portland cement complying with BS 12 may be used with the approval of the Engineer.

Quantities in excess of one ton shall be stored in a water-proof shed with a raised floor. The cement shall be used in the order in which it has been received.

Quantities of less than one ton for early use may be stored on a raised floor and covered by a water-proof tarpaulin.

Any cement damaged by water or proving defective shall be removed from the site immediately.

4.2.2 Aggregates for Concrete

The aggregate shall comply in all respects with the requirements of BS 882.

The aggregate shall be free from dust, decomposed material, clay, earthy matter, foreign substance or friable, then or laminated material. The fine aggregate shall be of approved river sand.

Coarse and fine aggregate shall be stored on the sites in separate heaps so that no possibility of any intermixing of the two shall occur. Any materials, which have been intermixed, shall be removed by the Contractor forthwith.

A sample of all aggregates shall be delivered to the site for the approval of the Engineer, and it shall remain on the site until all concrete work is finished.

Should the Engineer so require, the Contractor shall furnish a certificate from an approved testing laboratory in connection with each source of fine and coarse aggregates showing that materials comply with the specification. All such testing shall be carried out at the Contractor's expense.

4.2.3 Water

All water to be used for concrete, mortar and curing shall be of good drinkable quality, free from humus acid, chemicals, salts or other matters that in any way whatsoever, may be harmful to the concrete, either by diminishing the strength or causing a discolouration of the concrete.

Generally, water from public mains shall be used, but if this is not possible, the Contractor shall obtain water from other sources approved by the Engineer. The Contractor may be requested to provide test analysis according to BS 3148 from an approved laboratory.

4.2.4 Admixture

Admixture of any kind of accelerating the setting of cement, plasticisers, water proofers, etc shall not be used except by written permission of the Engineer. The Contractor must by request supply all details of any admixture.

4.2.5 Concrete Mixes

Concrete shall be "Designed mixes" for reinforced concrete and "Nominal Mixes for Mass Concrete" to BS 8110 and used as shown on the drawings and in the Bills of Quantities. The concrete mixes, maximum aggregate sizes, maximum water/cement ratio and minimum cement content shall be in accordance with the following table.

Concrete Grade	Maximum size of Coarse Aggregate	Minimum Cement Content	Maximum water/cement Ratio
10	40mm	210 /kg/m ³	
15	40mm	250 kg/m ³	
20	20mm	320 kg/m ³	0.5
25	14mm	390 kg/m ³	0.5

4.2.6 Trial Mixes

The actual concrete shall be determined prior to starting of concrete works according to BS 8110

For each grade of concrete three separate batches shall be made using the actual aggregate.

The workability of each of the trial batches should be determined and two times three cubes made from each batch for test at 7 days and 28 days.

The average strength of the nine cubes shall exceed the following values:-

Concrete grade	Minimum average At 7 days	Strength of 9 cubes at 28 days
20	21 N/mm ²	31.5 N/mm ²
25	24.5 N/mm ²	36.5 N/mm ²

For all the trial mixes the mix proportion shall be as specified under clause 6.3 of BS 8110.

4.2.7 Testing of Concrete

Testing of concrete shall comply with BS 8110.

All test cubes shall be manufactured, cured and tested as detailed in BS 1881.

The Contractor shall provide at his own expense all the necessary labour, equipment, moulds, etc, required for manufacture of the test cubes. All test cubes requested by the Engineer shall be tested by Ministry of Works, materials Branch, and the Contractor shall allow in his rates for concrete for all costs in relation with test cubes.

Should the Contractor require independent tests, he shall make them at his own expenses, and the results of such tests shall not be valid unless test cubes are manufactured in the presence of the Engineer and tested by an approved agency and to the requirement in all details of the BS mentioned above.

Sufficient moulds and equipment shall be provided to enable a minimum of six test cubes to be prepared on each day when concrete is being mixed or such other number as the Engineer may direct. The Contractor shall be responsible for delivery of the cubes to the Ministry of Works, materials Branch, or other approved testing laboratory.

The precise location of the concrete, which the test cubes represent and the time of placing, shall be noted on the drawings or elsewhere.

Where the concrete in the work is compacted by mechanical vibration, the test cubes shall be compacted by mechanical vibration, and where the concrete in the work is compacted by hand, the test cubes shall also be compacted by hand as specified in BS 1881.

The Engineer may in the Laboratory make test cubes for any purpose from site materials, and the Contractor shall supply such materials required free of charge.

The test cubes shall be stored at the site of construction at a place free from vibration under damp sacks for 24 hours after which time they shall be removed from their moulds, marked and buried in damp sand or under water until the time for delivery to the testing laboratory.

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The cubes shall then be paced in damp sand or other suitable damp material and sent to the testing laboratory, where they shall be similarly stored until the date of test. Test cubes shall be kept on the site for as long as practicable but for at least three-fourths of the period before testing, except for tests at ages less en days.

4.2.8 Standards for Acceptance of Cubes Tests

The result of all cube tests shall be accepted by the Contractor and Engineer as true results of the crushing strength of the cubes. The cube strength shall be calculated from the maximum load sustained by the cube at failure.

The appropriate strength required may be considered to be satisfied if the requirements in BS 5328: Part 4, clause 3.16, are fulfilled.

If the tests fail to give the required strength, further testing of the concrete shall be carried out. If these tests fail to prove the strength of the concrete used, the Contractor shall at his own expense remove and replace all such concrete as directed by the Engineer.

4.2.9 Slump Tests

Concrete consistency shall be determined by a slump test carried out in accordance with BS 1881 and at the Contractor's expense.

Unless otherwise specified by the Engineer, the following are the slump for the particular class of work.

Compaction by vibrator or	Compaction by hand
Reinforced Concrete	30 to 60 mm
Mass Concrete	0 to 30 mm, 30 to 80 mm

Concrete having a slump test value exceeding the values here-in specified may be rejected by the Engineer.

4.2.10 Steel Reinforcement

Steel for reinforced concrete shall be stored under cover clear of the ground and shall comply with BS 4449, BS 4461 and BS 4483.

All steel reinforcement shall be supplied by an approved manufacturer, and the Contractor may be required to obtain a manufacturer's test certificate in respect of steel reinforcement supplied. In the absence of such a test certificate, the Contractor may be required to submit samples to be tested at the Contractor's expense in such a manner as the Engineer may determine.

4.3 Precast Concrete Units

Precast concrete shall be cast in properly made strong moulds true to the shapes required. For work described "Finished Fair" the moulds shall be lined with hardboard, sheet metal or other approved material.

The concrete shall be thoroughly tamped in the moulds and shall not be removed from them until 7 days after placing the concrete, but the sides may be removed after 3 days, provided the moulds are such that the sides are easily removable without damaging the concrete.

The precast work shall be cast under sheds and shall remain under same for 7 days in the moulds and a further 7 after removal from the moulds. During the whole of the period, the concrete shall be shielded by sacking or other approved material kept wet. It shall then be removed from the sheds and stacked in the open for at least 7 days to season.

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

4.4 Workmanship

4.4.1 Inspection of Reinforcement and Formwork

No concreting shall commence until the reinforcement and formwork have been inspected and approved by the Engineer. Reinforcement in walls and columns shall be inspected and approved before being enclosed in the formwork. Before concreting any part of the work, the Contractor shall give at least 24 hours' notice in writing to the Engineer and obtain his approval.

The concrete shall be placed in layers as directed by the Engineer over the whole area to be concreted and the second layer shall not be commenced until the first is completed. Sloping beds will not be allowed when placing concrete. Should any accidental segregation occur, the affected area shall be thoroughly turned over by hand until homogeneous mix has been obtained.

4.4.2 Mixing Concrete

Concrete for grade 20 and grade 25 shall be mixed by weight batching only, unless approval has been obtained from the Engineer for the concrete materials to be mixed by volume. Concrete for grade 10 and 15 can be mixed by volume.

The weight of coarse and fine aggregate in each batch shall be so computed that each batch contains one or more full 50 Kg bags of cement.

All concrete is to be mechanically mixed in a batch mixer of an approved type. The dry materials for concrete shall be mixed in the mixer until a uniform colour is obtained after which the gauged quantity of water shall be gradually added. After all the water has been added, the mixer shall continue to mix for a period of not less than two minutes.

The mixers shall be equipped with an adjustable device capable of supplying a predetermined amount of water.

On the completion of each mixed batch of concrete, the mixer drum shall be completely emptied before a fresh batch is placed therein. On the cessation of work, the mixer and all handling plant shall be washed out and shall always be left clean and free from hardened concrete.

Any mix considered to be unsatisfactory by the Engineer for any reason, will be discharged to waste at the Contractor's expense, as and where directed by the Engineer, well clear of all mixed and placing operations in such a manner as to avoid the risk of defective concrete being incorporated in the works.

The mixer shall be maintained in a first class condition throughout the contract and any mixer or plant, which is faulty in any respect, shall not be used. The drums of all mixers shall revolve at the speed recommended by the makers. A mixer which has been out of use for more than 20 minutes shall be thoroughly cleaned out before any fresh concrete is mixed.

The Contractor shall always have one spare mixer ready on the site to avoid interruption in the mixing and casting of concrete.

4.4.3 Transport and Placing of Concrete

Concrete shall be transported in a manner which shall avoid a segregation of the constituent material, and placing in the forms shall be completed before the concrete has taken its initial set. In no case shall concrete be placed more than 30 minutes after mixing. Concrete shall not be dropped through a height greater than 1.2m. Chutes may be used if they are constantly kept free from coatings or hardened concrete or other obstructions. Pumping of concrete through delivery pipes may be used, but only with the prior approval of the Engineer.

Concrete of any unit or section of the work shall be carried out in one continuous operation, and no interruption of the concreting will be allowed without the approval of the Engineer.

The concrete shall be placed in layers as directed by the Engineer over the whole area to be concreted and the second layer shall not be commenced until the first is completed. Sloping beds will not be allowed when placing concrete. Should any accidental segregation occur, the affected area shall be thoroughly turned over by hand until a homogeneous mix has been obtained.

When concreting walls and columns, the mix proportions of the first 250mm depth of concrete placed in contact with the horizontal joint should be adjusted by reducing the amount of coarse aggregate.

4.4.4 Compaction

After the concrete has been placed in a position it shall be compacted by vibration with a rigid poker type with internal vibrator approved by the Engineer. The concrete shall be worked well up against the form, joints and around the reinforcement and be free from voids and other imperfections. Under no circumstances shall the concrete be shifted or transported inside the form with vibrator.

The Contractor shall always have one spare vibrator ready on the site to avoid interruption in the mixing, casting and vibrating of concrete.

In the case of reinforced concrete, a competent steel fixer shall be in constant attendance during the placing of concrete to adjust and correct the position of the reinforcement, if so required, immediately before the concrete is placed. In no case shall the vibrators be attached to or be allowed to come into contact with the reinforcement.

Each freshly placed layer of concrete must be thoroughly compacted and worked into the preceding one but care shall be taken that no damage is done to previous work that has already set. Excessive compaction of concrete shall be avoided.

The upper surface of slabs shall be compacted by approved external vibrator.

4.4.5 Placing of Concrete under Water

Concrete shall only be placed under water with the prior approval of the Engineer who shall likewise approve the methods to be used and the precautions necessary to prevent loss of material. In no circumstances shall concrete be dropped or placed in water in a loose condition or be placed in flowing water. In all cases the cement content shall be increased by 25% for each class of concrete at the Contractors' Expense.

4.4.6 Placing of Concrete on Earth Surface

Earth surfaces on which concrete is to be placed shall be clean, firm and free from standing or flowing water. After the excavation has been completed to the approved lines, levels and dimensions it shall be kept as damp as practicable to reduce absorption of water from the concrete to a minimum. No concrete shall be placed until the prepared earth surface has been approved by the Engineer.

4.4.7 Construction and Expansion Joints

The position and arrangement of construction and expansion joints shall be as shown on the drawings. Where additional joints are requested, the positions must be approved by the Engineer.

All construction joints shall be rebated to form a key with subsequent work. Concreting of any unit or section of the work shall be carried out in one continuous operation up to construction joints and no interruption of the concreting will be allowed without approval.

Where shown on the drawings, construction and expansion joints shall be provided with water bars of P.V.C or other approved material. The widths and shapes of the water bars shall be as specified on the drawings and all joints shall be used. The trade mark of the water bars shall be approved by the Engineer before commencement of work, and fixing and jointing of water bars shall be approved by the Engineer before commencement of work, and fixing and jointing of water bars shall be approved by the Engineer before costing.

The fusing of water bars shall be performed in a way so as to secure that the two bars are joined over the entire width. The fused joint shall be able to withstand tension and shall be intact after 10 consecutive bendings. The Engineer may request that the fusing is carried out by specialists.

Where shown on the drawings, joints shall be provided with a joint sealing compound. The sealing compound shall be a two component polysulphide rubber sealing compound complying with BS 4254, and the trade mark shall be approved by the Engineer. The compound shall be placed in a chase made by a fillet strip in the formwork. The concrete shall be dry and a suitable primer shall be applied to the joint before applying the sealant. The procedure for the workmanship shall be approved by the Engineer before commencement of work, but the Contractor shall have the full responsibility for the watertightness of the joints.

It should be noted that the lower part of the concrete walls shall be cast together with the floor slab and no joint directly on the slab will be permitted.

Before depositing fresh concrete against which the already set, the face of the latter shall be roughened to expose the coarse aggregate, all cement latency removed whilst the concrete is still green and the surface thoroughly wetted with water and cleared of foreign matter. Cement mortar grout mixed in the proportion of one part of cement to two parts of sand shall be spread to a thickness of 5mm over the face of the set concrete before fresh concrete is deposited.

4.4.8 Curing and protection of Concrete

Curing shall be as soon as the surface of the concrete has hardened sufficiently. All exposed concrete surfaces shall be cured for a period of seven days by covering them with a layer of sand, hessian canvas or other approved material kept damp. Concrete shall be protected from sun, wind, heavy rains and flowing water for at least three days after placing.

4.4.9 Finishes of Horizontal Surfaces

Concrete surfaces for floor shall be true to level and falls as shown on the drawings. Water coming to the surface when vibrating shall be removed. After casting the surface shall be smoothed with a wooden flat. After some hours, when the surface has dried up, the surface shall be trowelled smooth with a steel trowel.

All other horizontal surfaces shall have the same surface finish except for the final trowelling with steel trowel.

4.4.10 Finishes of Vertical Surfaces

The shuttering for exposed concrete faces shall be so constructed that the latter shall be true to line and surface. The concrete shall be consolidated as specified against the shuttering to keep the face of the work free from honeycombing and other blemishes.

After removal of the shuttering, no concrete surfaces shall be treated in any way until they have been inspected by the Engineer.

If upon removal of the shuttering, the line of surface of the work is, in the opinion of the Engineer, unsightly and not in accordance with the requirements of the contract, the Contractor shall at his own expense cut out and make good such portions of the work as the Engineer directs.

Rendering over defective surfaces shall not be permitted. Areas of honeycombing shall with the approval of the Engineer be made good immediately upon removal of the shuttering, and isolated superficial air and water holes shall be filled. Care shall be taken not to leave mortar or cement on parts of the surface which have been cast smooth and without pores.

Unless otherwise instructed, the face of exposed concrete placed against shuttering shall after removal of the shuttering be rubbed down with a carborundum stone or in other approved manner to remove fins and other irregularities, and washed perfectly clean.

Concealed concrete faces shall be left as from the shuttering, except that surfaces with honeycombing shall be made good.

4.4.11 Accuracy of Finish

The arrangement of all formwork shall be made in such a way that all dimensions shall comply as exactly as possible with those given on the drawings. The following tolerance shall be respected.

Foundations	=	50 mm
Position of columns and Walls	=	5 mm
Thickness of walls	=	5 mm
Lateral dimensions of columns	=	5 mm
Level of slabs, beams	=	5 mm
Slab thickness	=	5 mm
Lateral dimensions of beams	=	5 mm
Plumb of columns and walls	=	3 mm in each storey (non/accumulative)
Window and door opening sizes	=	5 mm

Surfaces and edges must not show any noticeable warping. On a length of less than 10m the deviation may be 10mm at the most.

The Contractor shall be responsible for the cost of all corrective measures required by the Engineer to rectify work which is not constructed within the tolerance set out above.

4.4.12 Construction of Formwork

All formwork shall be substantially and rigidly constructed of timber or steel or pre-cast concrete or other approved materials and shall be true to the shape, line, level and dimensions shown on the drawings.

Timber shall be well seasoned, free from loose knots and or forkworm of exposed concrete faces be planned to thickness. Faces in contact with concrete shall be free from adhering grout, projecting nails, splits, or other defects that will mark the concrete surface. Formwork for foundations and other concealed work may be undresses or rough timber.

All joints shall be sufficiently tight to prevent leakage of cement grout and to avoid the formation of fins or other blemishes, and all faulty joints shall be caulked.

All formwork shall be thoroughly cleaned and coated with an approved type of oil before it is fixed in position. Immediately before concreting the formwork shall be watered thoroughly and washed out to remove sawdust, shavings, or other rubbish. Where the appearance of the concrete face is important, the position and direction of the joints shall be as directed.

Filet strips shall be fixed in the formwork to form a chamber 20mm by 20mm on all external corners of the concrete.

Openings for inspection of the inside of the formwork for walls, beams and similar work and for the escape of wash water shall be formed in such a way that they can be conveniently closed before starting to place the concrete.

Connections between formwork elements shall be constructed to allow for easy removal of the formwork, and shall be either nailed, screwed, bolted, clamped, braced or otherwise fixed securing a sufficient strength to retain the correct shape and line during compaction of the concrete.

Bracing members placed in the formwork to keep two sides of formwork in exact position shall be approved by the Engineer. Holes in the concrete after bracing arrangement shall be made good by plugging with approved material.

Top formwork shall be provided to concrete faces where the slope exceeds 1 vertical to 2 1/2 horizontal. Such formwork shall be counterweighed or otherwise anchored floating.

The formwork shall be so designed that the formwork for soffits of slabs and for sides of beams, columns and walls may be removed first leaving the formwork for the soffits of beams and their supports in position. Wedging or other suitable ways of adjustment shall be provided to allow accurate adjustments of the formwork and to allow a gradual removal of the same without jarring the concrete.

On demand the Contractor shall provide such drawings and calculations as necessary for determination of the structural strength of the formwork. The Engineer's approval of such drawings and calculations will not relieve the Contractor of his responsibilities under the contract.

Formwork shall be erected true to line and braced and shuttered to prevent deformation under the weight and pressure of the wet concrete, construction loads, wind pressure or other forces. Forming for beam soffits shall be erected with an upward camber as shown on the drawings or as directed by the Engineer or of 2mm for each 1m of horizontal span.

Re-propping of beams will not be approved except when props are re-instated to relieve the beams of loads in excess of the design load. Vertical; props shall be supported on folding wedges on sole-plates, or other measures shall be taken whereby the props can be gently lowered vertically when commencing to remove the formwork.

If, in the opinion of the Engineer, the formwork is faulty, inadequate or does not comply with the specifications, then the Contractor shall at his own cost modify the formwork until it meets the approval of the Engineer.

4.4.13 Mould Oil

All faces of formwork that will come in contact with wet concrete shall be treated with approved mould oil or other coating to prevent adherence to the concrete. Such coatings shall be insoluble in water, non-staining, nor injurious to the concrete, shall not become flaky and shall not be removable by rain or wash-water. Liquids that retard the setting of cement shall only be applied to the shuttering when approved. Mould oils and similar coatings shall be kept free from contact with the reinforcement.

4.4.14 Holes for Pipes, Cast-in Items etc., General

The Contractor shall be responsible for the co-ordination with the sub-contractors for the setting out and fixing of all pipes and holes, pockets and chases for pipes. Sleeves provided by the sub-contractors are to be accurately set out and cast in and cutting away in completed concrete work is to be minimized.

Details of all holes etc. required in a structural work for services must be submitted to the Engineer who will assess the necessity for extra trimming reinforcement.

No opening, holes, chases, etc, are to be formed in the concrete without the approval of the Engineer and details of fixtures or fixings to be cast in must be approved.

4.4.15 Pipes through Water Retaining Walls

Pipes passing through water retaining walls and floors shall, wherever possible, be built into the structure in-situ. Shuttering shall be formed closely to the outside of the pipe, and concrete shall be placed and compacted thoroughly round the pipe.

Pipes, bolts and other steel items cast into the concrete in water retaining structures must not in any way be in contact with the steel reinforcement.

When not possible to build in place, pipes shall pass through preformed holes. Holes shall be formed with formwork which shall be stripped cleanly and without shock to the concrete. As soon as the shuttering is tripped, the hole shall be thoroughly wire brushed to expose the aggregate. The hole shall be as neat as possible to allow the pipe to be passed through the wall, while the corners shall be chamfered or rounded.

The pipe shall be set and the hole filled up as soon as possible. Immediately before filling, the hole shall be continuously soaked so as to saturate the concrete, and the surface coated with a stiff mix of 1:1 sand grout. Shutters shall be fixed true to the faces of the wall, and stiff mix of concrete packed in until the hole is completely filled, particular care to be taken to ensure that the spaces beneath the invert of the pipes and beneath the slopping soffit of the hole are completely filled. Shuttering shall be stripped as soon as possible and filling rubbed smooth. The filling and the surrounding concrete shall be kept wet for 7 days after filling.

4.4.16 Removal of Formwork

Formwork shall be left in position until the concrete has attained sufficient strength to be self-supporting. The Contractor shall be responsible for the safe removal of the formwork without shock or vibration - which would damage the concrete.

Any work showing sign of damage through premature removal of formwork or through premature loading shall be entirely reconstructed at the contractor's expense. The Engineer may delay the time of removal of formwork if necessary. Subject to the above, the minimum period for removal of formwork shall generally be as follows:-

Slabs		Soffits (props left under)	7 days
		Props	21 days
Beams	Sides		3 days
		Soffits	21 days
Walls and Columns		(unloaded)	3 days

When formwork is removed after 3 days, it will be necessary to ensure that the exposed surfaces of the concrete are kept thoroughly wet for the period of curing.

4.4.17 Reinforcement

All bending, cutting and fixing to comply with BS 8110 and BS 4466. Normally bending schedules are incorporated into the Contract Drawings, but the Contractor shall satisfy himself about their accuracy and about their complete coverage of the work involved. Any omission, inaccuracy or other errors observed by the Contractor shall be reported to the Engineer before commencement of the work.

In case of errors in bending schedules, no extra payment will be approved, provided the reinforcement is shown correctly on the contract drawings.

Bars shall be of the shown lengths, and lapping, except where indicated on the drawings, is not permitted unless approved by the Engineer.

Spacing between bars shall not differ more than 5mm from the required spacing. Any inaccuracy in the total length of a bar as cut shall be compensated for in the end hooks or other approved parts of the bar.

The internal radius of a bend shall neither be less than allowed by BS 4466 nor less than the radius given in the Bending Schedule. The steel reinforcement shall be assembled and fixed in the form of a rigid case. To prevent displacement before or during concreting the bars shall be secured one to the other with approved binding wire at each intersection. In slabs and walls binding at every second intersection is sufficient.

Concrete cover blocks (mix 1:3) shall unless otherwise directed be used between the reinforcement, the bottoms and sides of the forms to ensure the specified concrete cover to the bars. Variations of cover shall be kept within plus/minus 3mm from the specified cover.

The minimum clear horizontal distance between adjacent bars shall be of 25mm or the diameter of the bar whichever is the biggest, and 25mm vertically. Space bars shall be inserted at such intervals that the bars do not perceptibly sag. Projecting bars shall be adequately protected against displacement both during and after concreting.

At the time of fixing and when concrete is being placed, all reinforcement shall be free from oil, painting, grease, dust and scale or any other coating which would destroy and bond with the concrete. The Contractor must obtain the Engineer's approval of the reinforcement when places, before any concreting is commenced.

5.0 MASONRY WORKS

5.1 Concrete Block walling

5.1.1 Precast Concrete Blocks

Concrete Blocks shall comply with BS 6073. The blocks shall be solid or hollow as specified on the drawings, with a minimum comprehensive strength of 3.5 N/mm², tested as described in BS 6073.

All blocks must be left with goods sharp edges. The standard face size of blocks for use in the works shall be 440mm x 190mmx190mm and this size of blocks shall be used whenever practicable.

The Contractor shall be responsible for making test blocks and experimenting with available materials to ascertain what mix will be necessary to attain the required strength. If suitable materials are not available locally, the Contractor shall obtain them from other approved sources.

Manufacture shall be carried out under shelter and after casting, the blocks shall be struck under shelter to protect them from sun and weather, and properly cured by covering with sand or sacks and sprayed daily for not less than 14 days.

5.1.2 Wall reinforcement

Reinforcement in walls made of solid blocks shall where so specified consist of a 25mm wide strip of "Exmet" or similar block reinforcement centrally in joints at a approximately 450mm centre (vertically) for the fullness of the walls, lapped and crumped 300mm at running joints and full width of walls at angles and intersections.

5.1.3 Sand

The sand for mortar shall be fine sand.

5.1.4 Mortar

The cement mortar shall consist of 1 part of Portland cement to 4 parts of sand by volume or as specified on the drawing.

5.1.5 Damp-Proof Coarse

All Damp-proof coarse shall be of bituminous felt to BS 743 weighing not less than 3 Kg/m² free from tears and holes, lapped 150mm at running joint and for full width of wall at angles and intersection and bended and including at 12mm levelled screed of cement mortar.

5.1.6 Workmanship

Blocks shall be laid in regular even courses and shall be bedded in cement mortar consisting of 1 part of cement to 3 parts of sand or as indicated on the drawing.

All bends and vertical joints shall be filled completely with mortar when the blocks are laid.

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

All other faces shall be cleaned down on completion with wire brush or as necessary and mortar dropping, smear marks, etc removed.

Where block work faces are to be left exposed, blocks shall be chosen for their uniformity, and unmarked faces and unbroken arises and shall be finished with a fair face and pointed with a neat joint recessed from the face pf the blocks.

5.1.7 Blockwork Tanks

The concrete blocks shall be solid, type A with a minimum comprehensive strength of 7N/mm², tested as described in BS 2028 for circular block work tanks, the blocks shall be manufactured as the required shape to fit the curvature of the tank, and all block shall be immersed in water for 24 hrs before being laid.

Internal plaster shall be of mix 1:2, made water proof by use of approved additive.

5.2 Plaster Work

5.2.1 Lime

The lime for plastering shall comply with BS 890 clause "A" for non-hydraulic lime and shall be as obtainable and to approved.

5.2.2 Composition of Plaster

A mix referred as 1:4 or other mixes as specified on the drawing shall be used.

5.2.3 Surfaces

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

5.2.4 Partially or wholly set materials

Partially or wholly set materials will not be allowed to be used or remixed. the plaster mixes etc. must be used within one hour of being combined with water.

5.2.5 Samples

The contractor shall prepare sample areas of the screed, pavings and plastering as directed until the quality, texture and finish required is obtained and approved by the Engineer, after which all work executed shall conform with the respective approved samples.

5.2.6 Finish Generally

All screed and pavings shall be finished smooth, even and truly level unless otherwise specified.

Rendering and plastering shall be finished plumb, square, smooth and even.

All surfaces to be plastered shall be thoroughly wetted before any plastering is commenced.

No plastering will be allowed to take place until all chases for services have been cut, services installed and chased made good.

On no account may finished plaster surface be chased and made good.

All work shall be to the approval of the Engineer and any work not complying with the above shall be hacked away and replaced at the Contractor's expense.

5.2.7 Arises and Angles

All arises and angles shall be clean and sharp or slightly rounded or thumb-covered as directed including neatly forming mitres.

5.2.8 Making Good

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

5.2.9 Cement Pavings, Screed etc.

Cement screed shall consist of cement and sand mix 1:2 laid in panels and finished with a steel trowel if not otherwise specified.

Where specified as waterproof "pudlo" or similar waterproofing compound shall be added to the cement paving or screed strictly in accordance with the manufacturer's instructions.

Where practicable, screed are to be laid while the concrete is still green. When this is not practicable, the concrete is to be well washed and brushed perfectly clean with a steel wire brush, to remove laitance and to give a roughened face as a key and then kept wet for at least seven days before the screed is laid. On the day of laying the surface is to be only damp with all surplus water removed and has to be painted with cement and sand mix 1:1 grout immediately before commencing laying of the screed. The grout is to be applied continuously in front of the screed, and not in large areas that will dry out before the screed is applied.

Screed shall be protected during the first stage of hardening from harmful effects of sunshine, drying winds, rain or water. In exposed positions, the screed shall be covered with a well wetted layer of sawdust, hessian or other approved material, and this layer shall be damp for at least seven days, during which period no traffic is to be allowed over the screed.

5.2.10 Cement Rending

Cement rending shall consist of cement and sand mix 1:4 to not less than 15mm finished thickness and be furnished to a true and even surface.

5.3 Carpentry and Joinery

5.3.1 Timber Materials

All timber shall be in accordance with the latest approved grading rules issued by the Government of Kenya or other competent authority (legal notice No. 358).

The quality shall be as first (or prime) grade. All timber works to be carried out in accordance with BS 1186 and CP 112.

Any of the following timber may be used:

Standard Common Name Botanical Name

Podocarpus
CedarJuniperus Procera
African Mahogany(Munyama)Khaya anthotheca
MiningaPterocarpus Angloensis
MvuleChrophora Excelsa

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

All timber shall be seasoned to a moisture content of not more than 15%.

5.3.2 Boards and Sheets

Fibre board Shall be 12mm "Celotex" or other approved fibreboard complying with BS 1142, Part 3

Plywood Shall be laminated board faced on in both sides with 4mm plywood. Exposed edges shall be lipped with 20mm hardwood and rates shall include for leaping.

Plastic Sheeting Shall be 45mm thick, and shall be obtained from an approved manufacturer. The doors shall comply with BS 459, Part 2. External doors shall be framed, ledged and braced as shown on the drawings, and they shall comply with BS 459, Part 4.

5.3.3 Workmanship

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

No nails, screws or bolts are to be fixed in any split end. If splitting is likely, or is encountered in the course of the work, holes for nails must be bent at right angles to the grain.

All exposed surfaces of joinery work shall be wrought and all arises "eased off" by planning and sand papering to an approved finish suitable to the specified treatment.

Where intended to be in contact with stone, concrete blocks, cement or plaster, the backs and other faces of all doors, windows and other frames and linings, posts, architectural skirtings, fillets and fascias shall be treated with two coats of wood preservative before fixing.

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

Any fixed joinery which in the opinion of the Engineer is liable to become bruised or damaged in any way shall be completely cased and protected by the contractor until the completion of the works.

5.3.4 Inspection and Testing

The Engineer shall be given facilities for inspection of all works in progress whether in workshop or on site. Such tests will be carried out by the Forestry Department.

5.3.5 Clearing Up

The contractor is to clear out and destroy or remove all cut ends, shavings and other wood waste from all parts of the building and the site as the work progresses and at the conclusion of the work.

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

5.4 Roofing

5.4.2 Protection

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

5.5 Steelwork

5.5.1 Materials

All materials shall be the best of their respective kinds and free from defects. The materials in all stages of transportation handling and stacking shall be kept clean and injury from breaking, bending and distortion prevented.

All steel and steel sections shall comply with BS 4, BS 4360 and BS 4848.

All steel shall be of approved manufacture and the contractor shall on request deliver to the Engineer a manufacturers test certificate for all steel used.

All structural steel shall be of grade 43A according to BS 4360.

Steel for handrails, screens etc. can be of lower grade, but all steel shall be weldable and the grade shall be approved by the Engineer.

Electrodes shall be of a class appropriate to the steel. Bolts and nuts shall be according to BS 4190.

5.5.2 Workmanship

Workmanship for all steelwork shall generally follow the requirements in BS 449 and BS 5135.

The contractor shall prepare all the necessary workshop drawings, which shall be approved by the Engineer. The Engineer's approval shall not in any way relieve the contractor of his responsibility for the workshop drawings being in accordance with the contract drawings and specifications.

All welding of structural steel shall be carried out in the contractor's workshop and the whole structure or parts thereof shall be test assembled in the workshop before delivery to the site.

Should any doubt arise as to the quality of the steel or the welds, the Engineer may require testing carried out. If the results show insufficient quality of materials or workmanship, the contractor shall cover all expenses related to the tests and shall replace and rectify all materials and welds found unsatisfactory.

5.5.3 Ladders

Ladders and tanks etc shall be galvanized steel pipes in accordance with BS 1387 "Medium clause" and shall be made to the dimensions on the drawing.

5.6 Ironmongery and other Fittings

All ironmongery shall be approved by the Engineer. The approved samples shall be regarded as the standard for work.

5.6.1 Locks

All locks and ironmongery shall be with screws, etc. to match. Before the door etc. is painted, handles shall be removed, carefully stored and refixed after completion of painting. Locks shall be oiled and left in perfect working order.

25mm diameter rubber door stops shall be provided at all doors and securely plugged and screwed to floors or walls.

All external doors shall be provided with locks of cylinder type. All internal doors to be provided with approved latch locks and handles. All locks shall have two keys with attached labels with door references before being handed over to the Engineer.

5.6.2 Sanitary Fittings

All sanitary fittings shall be of approved manufacture and installed in accordance with the manufacturer's recommendation.

5.7 Glazing

5.7.1 Glass

All glass shall comply with BS 952 and be free from flaws, bubbles, specks and other imperfections.

Glass panes shall be cut to sizes to fit the opening with not more than 2mm play all round and where puttied shall be clipped to the frames.

Clear sheet glass shall be of ordinary glazing quality

5.7.2 Cleaning Etc

On completion, remove all broken, scratched or cracked panes and replace with new to the satisfaction of the Engineer. Clean inside and out with approved liquid cleaner. On no account shall windows be cleaned by scrapping with glass.

5.8 Painting, Decorating and other surface Treatment

5.8.1 Approved Specialist

An approved specialist must execute all work under this trade unless the Engineer agrees otherwise. The paint shall be of approved manufacture.

5.8.2 General

The contractor shall so arrange his programme of work that all other trades are completed and the workmen are away from the area to be painted, when painting begins. Before painting, the contractor must remove all concrete and mortar dropping and the like from all work to be decorated and remove all stains as to obtain uniform colour to work to be oiled and polished.

All plaster, metal, wood and other surfaces which are to receive finishes of paint, stain, distemper or paint work of any description are to be carefully inspected by the contractor before he allows any of his painters to commence work.

5.8.3 Painting Generally

All materials to be applied externally shall be of exterior quality and/or recommended by the manufacturers for external use, all in accordance with BS 4800 or similar.

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

Unless specially instructed or approved by the Engineer, no paints are to be thinned or otherwise adulterated, but are to be used as supplied by the manufacturers and direct from the tins.

The priming, undercoats and finishing coats shall each be of differing tints and the priming and undercoats shall be the correct brands and tints to suit the respective finishing coats in accordance with the manufacturer's instruction.

No painting is to be done in wet weather or on surfaces which are not thoroughly dry.

Each coat shall be properly dry and in the case of oil or enamel paints shall be well rubbed down with fine glass paper before the next coat is applied. The paint work shall be finished smooth and free from brush marks.

5.8.4 Preparation and priming of plaster etc. surfaces

Surfaces shall be perfectly smooth, free from defects and ready for decoration. All such surfaces shall be allowed to dry for a minimum period of six weeks, stopped with approved plaster compound stopping and rubbed down flush, as necessary, and then be thoroughly brushed down and left free from all efflorescence, dirt and dust immediately prior to decorating.

Plaster surfaces, which are to be finished with emulsion, oil or enamel paint, shall be primed with an alkali resisting primer complying with the particular paint manufacturer's specification and applied in accordance with their instructions.

Fibreboard or similar surfaces shall be lightly brushed down to remove all dirt, dust and loose particles and have all nail holes or other defects stopped with an approved plaster compound stopping rubbed down flush and left with a texture to match surrounding material.

5.8.5 Preparation and Priming of Metalwork

All surfaces shall be thoroughly brushed down with wire brushes and scraped where necessary to remove all scale, rust, etc. immediately prior to decorating. Where severe rust exists and if approved by the Engineer, a proprietary de-rusting solution may be used in accordance with the manufacturer's instructions.

Shop primed and unprimed surfaces shall be given one coat of metal chromate primer or lead oxide primer.

Galvanized surfaces shall be treated before priming with an approved proprietary mordant or de-greasing solution. The surfaces shall be thoroughly washed down with water, allowed to dry and primed at last.

Coated surfaces already treated with bituminous solution, shall be scraped to remove soft parts and then receive two isolating coats of aluminium primer or other approved anti-tar primer.

5.8.6 Preparation and Priming Woodwork

All woodwork shall be rubbed down, all knots, covered with a thick coat of good shellac or aluminium knotting; primed with one coat of approved ready-mixed proprietary wood primer and all cracks, nail holes, defects and uneven surfaces, etc., stopped and faced up with hard stopping rubbed down flush.

5.8.7 Wood Preservative

All woodwork in contact with walling or plaster shall be treated after cutting and preparation but before assembly or fixing with one coat of approved wood preservative. The solution is to be brushed on all faces of all timbers, unless exposed to view and painted.

5.8.8 Cement Paint

Shall be super snowcem or equal and approved. Two coats shall be applied after preparation as specified above.

5.8.9 Emulsion Paint

After preparation as specified above, a minimum of three coats shall be applied using a thinning medium or water only if and recommended by the manufacturer.

An approved plaster primer tinted to match may be substituted for the first coat.

5.8.10 Enamel Paint

Apply two undercoats and one finishing coat, after preparation and priming as specified above.

5.8.11 Lining of Chemical Tanks

The lining of chemical tanks with "EPOBOND" and "EPOFLOOR" shall be carried out by specialists approved for such work by the manufacturer or his agent

5.8.12 Cover Up

Cover all floors, fittings, etc. with dust sheets when executing all painting and decoration work.

5.8.13 Clean and Touch Up

Paint splashes, spots and stains shall be removed from floors, woodwork, etc., any damaged surfaces touched up and the whole of the work left clean and perfect upon completion and during the maintenance period.

6.0 PIPEWORK.

General

This specification applies in particular to water supply pipe work. Pipes, valves and fittings shall comply with the relevant Standard Specification as stated hereinafter.

Unplasticised PVC Pipes and Fittings

Pipes and fittings shall conform to SSRN 301 respectively. The use of rework material is not however allowable and the supplier shall provide certification to this effect. The classes referred to on the Schedule of Prices are for the following working heads and pressures and pipes are specified by their nominal internal diameter.

Class	Working Head Meters	Working Pressure Kg/cm²
B	60	6
C	90	9
D	120	12
E	150	15

Steel Pipes and Fittings

a) Standard Pipes and Fittings.

Steel pipes shall comply with SSRN 213 - steel pipes and tubes, while fittings will conform to SSRN 216. Flanges will be to SSRN 207.

Flexible joints shall be of flexible couplings of approved patterns.

Pipes for use with flexible couplings shall be true ended with pipe ends appropriately prepared for the method of jointing to be adopted.

b) Internal and External Works Protection.

Steel pipes shall be protected internally by a cement mortar lining in accordance with SSRN 211.

The external protection of steel pipes shall be provided by a coating of fusion bonded epoxy to SSRN 216.

c) Pipe Stacking and Storage.

Pipes shall be stacked at the pipe storage areas using one or all of the following methods.

The Supplier shall further describe in his Tender in full detail the method(s) of offloading including the lifting methods intended.

He shall further describe in his Tender in full detail the method(s) of stacking and storage and his Tender shall be deemed to have included charges for the transportation as described and for the provision of all the necessary facilities for off- loading, at the storage sites.

At the time of tendering the Tenderer shall state the approximate areas of land that he requires for the off-loading, and stacking of the pipes and for the storage of the fittings of any special protection/storage facilities needed for any particular item(s) of his goods.

As a guide, the following table indicates the maximum stacking heights allowable:-

Nominal pipe Dia meter in mm	Maximum number of layers in stack
Up to 100	16
150	14
200	12

d) Marking

Each pipe fitting or accessory shall bear the mark of the manufacturer and indication of its casting and be marked with its nominal diameter. As appropriate, each fitting shall bear indication of its main characteristics. When loading pipes into vehicles care shall be taken to avoid their coming into contact with any sharp corners such as cope irons, loose nail heads, etc. Whilst in transit, pipes shall be well secured over their entire length and not allowed to project unsecured over the tailboard of the lorry.

Pipes may be offloaded from Lorries by rolling them gently down timbers, care being taken to ensure that pipes do not fall one upon another nor onto any hard or uneven surfaces.

Pipes shall not however be rolled or dragged along the ground.

Joints for uPVC Pipes.

Joints for uPVC pipes shall be as follows:

For pipe of nominal dia. not exceeding 50 mm: Solvent cement joints to SSRN 301.

For pipes of nominal dia. greater than 50 mm shall be Push fit type complete with rubber rings.

Flanged Joints.

Where specifically called for or deemed appropriate flanged joints shall be utilized. They shall conform to SSRN 207, drilled to NP 10 with appropriate gaskets to SSRN 208. Bolts shall conform to SSRN 923 with protection to SSRN 922. Washers shall be similarly protected and shall conform to SSRN 925.

Other joints.

Where specifically called for or deemed appropriate separate galvanized, nylon coated or an epoxy spray to a layer 3 mm. thick to flexible couplings and flange adaptors shall be used. The exterior of special or joints shall be holiday-detected and holidays shall be repaired prior to the application of fiber glass mat and subsequent enamel and asbestos-felt wrapper to SSRN 221. Flexible couplings shall be of a mechanical type coupling consisting of a centre sleeve, two end ring flanges, two wedges shaped sealing rings or grade T Nitrile rubber, and galvanized nuts and bolts. The main components shall be made from malleable cast iron to SSRN 911 for larger diameters. If specifically called for, galvanized couplings shall be provided with a suitably sized screw plugged hole in the sleeve to allow for the introduction of epoxy coating for internal protection. The manufacturer shall then include the necessary removable internal backing-up rings of rubber composition and shall further include for all materials for in-situ jointing and protection both for remedial works and for internal and external protection at such joints.

6.1 VALVES

GENERAL

6.1.1 Sizes and Quantities

The Supplier shall supply all valves as specified herein in the sizes, quantities and normal pressure ratings shown in the Schedule of prices.

6.1.2 Markings

All valves shall have identification marking in raised characters on the body stating:-

- (i) The name of the manufacturer or his trade mark;
- (ii) The nominal diameter DN.
- (iii) The nominal pressure (PN or NP) as the case may be.

6.1.3 Information in Tender

Tenderer shall provide details of the valves offered, including but not limited to the materials of construction, dimensions, design parameters, applications, flow capacities, head loss characteristics and the like.

6.1.4 Closure

All hand operated valves shall be closed when the stem rotation is in a clockwise direction.

6.1.5 Flange Accessories

Valves shall be supplied complete with adequate numbers of flanged joint accessories as follows for installation of the valves:-

- (i) Bolts in accordance with SSRN 938 or equivalent;
- (ii) Nuts in accordance with SSRN 939 or equivalent;
- (iii) Washers in accordance with SSRN 808 or equivalent;
- (iv) Gaskets made of elastomeric rubber (EPDM (ethylene propylene diene monomer) or NBR (nitril butadiene rubber)) in accordance with SSRN 208 or equivalent and of minimum thickness of 3mm.

6.1.6 Operating Accessories

Gate or sluice valves and butterfly valves shall be supplied with the following accessories depending on the description in the schedule of prices.

- (i) A cap fixed on the operating stem for direct drive with T-key handle (in case of buried valve installation without extension spindle);
- (ii) A coupling fixed on the operating stem for remote drive with T-key handle (in case of buried valve installation with an extension spindle);
- (iii) A hand wheel for manual drive (in case of valve installation in a chamber or pipe gallery). All hand wheels shall have inscriptions in raised characters indicating directions of opening and closure with an arrow.

The valve or coupling caps shall be of suitable dimensions for the use of T-key handles to the dimensions of SSRN 501 (a)

6.2 GATE VALVES

6.2.1 General

General valves of nominal diameters up to and including DN 300 shall be made of epoxy coated cast ductile iron in accordance with SSRN 501 or other equivalent standards.

All valves shall be designed for a maximum permissible pressure of 16 bar. All valves shall close when the stem rotation is in a clockwise direction unless otherwise specified.

Gate valves shall be designed for a service pressure rating in accordance with the schedule of Prices.

Gate valves shall be double flanged unless otherwise specified in the Schedule of Prices.

NB: Tenderers are supposed to attach brochures of the products they quote for.

6.2.2 Face-to-Face Dimensions

The face-to-face dimension of double gate valves with flanged ends shall be in Accordance with the Standards of manufacture referred to Clause 4.2.1 above.

6.2.3 Flanged Ends

The flange dimensions shall comply with those given in SSRN 207 or equivalent.

6.2.4 Stem

Gate valves shall be of non-rising stem type.

The stem seal shall be of toroidal sealing rings (O- rings) type with at least two such seals. Seals shall be capable of being replaced with the valve under Pressure and in the fully open position.

6.2.5 Gate

The gate shall be made of either ductile iron fully rubber encapsulated. Tenderers shall provide full details of the type offered. The gate sealing in the body shall be ensured by the rubber compression, or by other means as stated by the Tenderer in its bid.

6.2.6 Coating

Where ductile Iron Gate valves are offered, the valves shall be works cleaned and shot-blasted in accordance with SSRN 933 or equivalent and coated internally and externally with fusion bonded powder epoxy or equivalent to a minimum thickness of 300 microns for aggressive soils.

6.2.7 Materials

For ductile Iron Gate valves, the body, the bonnet and gate shall be made of Ductile iron in accordance with SSRN 502. The gate shall be encapsulated with elastomeric EPDM, nitrile or equivalent. The operating stem shall be made of stainless steel minimum 13% Chromium at least equivalent to Z 20 C 13/NF A 35-574 or to 1.4021/DIN 17440 or SSRN 936/B for use in aggressive soils. The stem nut shall be made of high tensile brass at least equivalent to Cu Zn 39 Pb 2/NF A 51-101 or to 2.0380/DIN 17660. For cast iron valves, the body shall be made of high duty meehanite case iron as shall the hand wheel and stuffing box, gland thrust plate and yoke. The wedge shall be made of gunmetal as shall seals, faces and yoke sleeves.

The operating stem shall be made of stainless steel at least equivalent to SSRN 936/B for use in aggressive soils.

The stem nut shall normally be made of Aluminum bronze to SSRN 942 for use in aggressive soils.

Furthermore and in aggressive soils, outside bolts and nuts shall be made of stainless steel to SSRN 936/C.

Each valve shall be pressure tested at works in accordance with SSRN 517:-

- (i) Shell test at a minimum pressure of 1.5 times the maximum permissible pressure;
- (ii) Seat test at a minimum pressure of 1.1 times the maximum permissible pressure.

6.3 NON-RETURN VALVES.

These shall be made of bronze for ND. not greater than 40 mm and from Meehanite iron for ND greater than 50 mm. They shall be of the swing pattern and shall be rated for at least 10kg/cm² or greater as required. The ends shall be either screwed to SSRN 223 or flanged to SSRN 207 NP 10 as the installation demands.

6.4 PLUMBING FITTINGS

Stop valves and draw-off taps shall be to SSRN 826.

Small pipes and associated uPVC fittings shall comply with the requirements of SSRN 825.

Galvanizing for small diameter steel pipes and fittings shall be to the requirement of SSRN 903 (a).

6.5 PIPE WRENCHES

Pipe wrenches shall be in accordance with BS 3594

6.6 WATER METERS ACCESSORIES

Sealing wire and Gun

The preferred method of sealing wire is a corrosive resistant wire inserted through 2.5 mm diameter holes in the halves of the body, and secured by a circular sheet metal seal impressed by a device which provides a unique imprint on the seal.

Supplier shall provide details of the sealing wire type with proof of corrosive resistant and method proposed.

Valve Chambers

The contractor shall construct Valve chambers which have the following measurements; 1.5m by 1.5m .The chamber walls must be plastered both outside and inside. Top covers (Slab) must be removable made of concrete and be able to cover completely the top part of the chambers.

Marker posts.

The Contractor shall construct marker posts with the measurements of 1m long made of concrete. They will be installed/fixed as directed by the engineer's representative.

6.7 Refilling of Trenches

6.7.1 Refilling in common Excavation

The back filling of trenches shall be carried out expeditiously so as to reduce lengths of trenches open at any one time. The back filling to a depth of 250mm above the top of the construction shall be placed immediately the work is ready to receive it, in order to protect the construction from the sun.

Backfill to a depth of min. 300mm above the top of the pipe shall be suitable fine material with max. particle size 20mm, placed in layers of 50mm kept at the same level on each side of the pipe and rammed to a density of 90% modified AASHO.

Further back filling shall be executed with selected materials in 150mm layers (300mm layers if a mechanical rammer is used) each layer being well rammed and watered to obtain the maximum compaction. Care shall be taken to ensure that no stone or other material which could damage pipes or other work is placed within 500mm of such work.

If the original soil is not water bearing, the cohesion less material used for refilling should at intervals be interrupted by barriers of impermeable material in order to prevent a flow along the trench.

6.7.2 Refilling in Rock

The fill material in rock excavation shall consist of soil of friable nature not exceeding 20mm and approved by the Engineer. Rock fill must only be used when a layer of minimum 500mm sand, gravel or soil of friable nature has been carefully compacted by hand over the top of the pipe and then only when approved by the Engineer.

7.0 PLUMBING AND DRAINAGE

7.1 General

Testing, cleansing and sterilization are to be carried out as specified in section 6-Pipeworks.

All work shall comply with CP 310, CP 301 or CP 308.

7.2 Plumbing

The entire works must be carried out in strict accordance with the local Authorities. By-Laws and to the satisfaction of the Engineer.

7.2.1 Tubing

Galvanized mild steel tubing shall comply with BS 1387 'Medium' with screwed and socketed joints made in approved jointing compound.

Fittings for the same shall be galvanized malleable iron to BS 143. Pipes shall be cut by hacksaw or other method which does not reduce the diameter of the pipe or form a bead or feather, which might restrict the flow of water.

Copper tubing shall be light gauge, to conform to BS 2871, and the fittings shall be capillary or compression fittings of approved manufacture complying with BS 864: Part 2.

All brass work and fittings shall be in accordance with BS 1010 for draw of taps and stop valves and BS 1212 for ball valves.

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

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

Bends shall be formed with approved tools to an internal radius of not less than eight times the outside diameter of the pipe.

Bending of tubes shall only take place when suitable fittings are not available, and unions shall be incorporated in the system in order to facilitate easy repair or augmentation to the system.

7.2.3 Sanitary Fittings

Connections to sanitary fittings shall be made with a 450mm copper tubing bent to shape as required with copper to iron couplings at each end.

All waste fittings shall be provided with copper "S" or "P" traps, complying with BS 1184, minimum size 40mm. They shall be properly connected to tails of waste fittings with screwed or other approved joints, and be complete with openings for cleaning. Traps to sinks shall be unpolished, and those to lavatory basins shall have a chromium plated finish.

7.2.4 Cast Iron Soil and Ventilation Pipes

The soil, waste and vent pipes shall be coated cast iron spigot and socket pipes to BS 416 medium grade.

Pipes described as fixed to walls are to be secured at least 25mm clear of finished wall surface with strong cast iron holderbat clamps in two sections bolted together, one section to have lewised end for building into walls, fixed not more than 2 apart.

Pipes shall be jointed with asbestos yarn and caulked with molten lead or jointed with an approved special jointing compound.

Ventilation pipes shall normally be brought up above the roofs and shall be fitted with an approved galvanized wire grating.

Where a ventilating pipe passes through a roof, the contractor shall provide a 24 gauge galvanized sheet metal flashing of approved size to suit the roof dressed tightly against pipe and over and under roof finish-and sealed to the Engineer's approval.

7.2.5 Manholes

Manholes shall be constructed on sewer lines in the positions indicated, or wherever ordered by the Engineer.

The manholes shall be constructed in accordance with drawings of typical and special manholes.

Manholes on pipe sewers shall be constructed with an insitu base in concrete grade 15, which shall be raised to form the benching and invert of the manhole.

The benching and channels shall be carefully formed to shape according to the number, diameter and positions of the incoming and outgoing pipes. The channels shall have circular inverts. The benching shall be sloped towards the channels at a gradient of 1 in 6, or as otherwise detailed on the drawing.

Benching shall be carried out in concrete Grade 15 and rendered with 1:3 cement mortar. The ends of all pipes entering and leaving the manholes are to be carefully cut to shape to suit the internal dimensions of the manholes. All pipes entering and leaving manholes are to be as short as possible.

Manholes of precast concrete rings to be carried out as per BS 556.

Chambers of blockwork shall be carried out as specified on the drawings. The blockwork shall be rendered internally with cement mortar 1:3.

Ladders or steps irons as detailed on the drawings shall be provided in manholes deeper than 1.20m.

7.3 Drainage

7.3.1 Cast Iron Drain Pipes

Shall be coated cast iron spigot and socket pipes conforming with BS 437 in all respects, and with fittings to BS 1130. Pipes shall be jointed with asbestos yarn and caulked with molten lead or jointed with an approved special jointing compound.

7.3.2 Open Drains or Channels

Sight rails shall be fixed at intervals not exceeding 50m.

The excavation for the drains shall be neatly taken out to the required levels and gradients so as to avoid any unnecessary under-filling. Where underfilling is required, it shall be laid in 100mm layers of approved granular material, each layer being well rammed. The earth sides above the drains shall be neatly dressed off to such slope as the Engineer may direct.

The invert and sides of the drains shall, where specified, consist of precast concrete elements as specified in section 5 and on the drawings, jointed with cement mortar, the joints being neatly struck as the work proceeds.

1. SPECIFICATION FOR ELEVATED PRESSED STEEL TANK

1.1 DESCRIPTION

1.1.1 Scope of work:

The work to be performed under these specifications includes furnishing all labour, materials, tools and equipment necessary to design, fabricate, construct, inspect and test a pressed steel elevated water storage tank supported on a steel support tower, including the foundation and accessories as described and specified herein.

The work shall also include all labour, materials and equipment necessary to clean, paint and disinfect the water storage tank as specified herein.

1.1.2 Related work:

The work shall also include all labor, materials and equipment necessary to construct the site improvements and site piping as shown on the drawings and specified herein.

1.1.3 Description of the works:

1. Supply & assemble materials for 2No 50m³ elevated steel tank
2. Erect steel tower, 15 meters high to support tank on full load complete with ladder and walkway.
3. Construct concrete foundation footing to withstand all the design engineering forces for the above structure.
4. Provide 90mmØ G.I pipe for inlet and 90mm outlet with control valves & overflow; all terminating at ground level.
5. Provide gauge to monitor water level.

1.2 EVALUATION OF THE CONTRACTORS

Bids will only be accepted from experienced contractors who have successfully completed at least ten pressed steel elevated tanks of equal or greater capacity in the last five years. Each bidder shall provide a list of at least ten such projects stating location, completion date, contact names and telephone numbers.

The elevated tank design, the tower, reinforced concrete foundation construction and welded steel tank fabrication and construction shall be performed by the Contractor and shall not be subcontracted.

1.3 QUALITY ASSURANCE

1.3.1 Quality Management System

The Contractor shall operate a Quality System acceptable to the Employer.

1.3.2 Quality Plan

The Contractor shall provide a Quality Plan for all aspects of the work relating to this specification. The Plan shall include the identification of all responsibilities relating to interfaces with other works involved in the supply of the installed tank.

1.3.3 Design

The Quality Plan shall include a statement of the design methods to be used and the relevant Standards which are to be applied in the design of the structure. The checking procedures shall be identified.

1.3.4 Construction

The Quality Plan shall clearly define the procedures for all aspects of the construction work including:

- Preparation of the site.
- Construction of tank foundations;
- Fabrication of tank parts;
- Corrosion protection and coatings;
- Transportation, handling and delivery;
- Site storage;
- Assembly and erection;
- Connections between the tank or tower steelwork and the foundation;
- Connections between steelwork, tank and fittings;
- Inspection and testing.

The Quality Plan shall include method statements and procedures for certification, testing and acceptance.

1.4 EMPLOYERS SUPPLIED INFORMATION

Prior to design and construction of the tank, the Employer shall provide the following information to the Contractor:

- Description of the proposed tank site including all existing and proposed adjacent structures and those on nearby sites;
- Tank capacity;
- Any constraints on tank dimensions;
- Tank contents and range of PH and specific gravity of contents;
- Details of tank foundation;
- Site soils investigation data;
- Details of inlets/outlets (size; position; nozzle details; flow rate);
- Tank characteristics (number/size of compartments; operating pressure/ temperature; maximum working pressure; normal working level; overflow level; freeboard above overflow, *etc.*);
- Tank roofing requirements;
- Test pressure (where applicable);
- Details of provisions for equipment and other ancillaries (instrument tappings; sumps; access holes; manholes; ladders or stairways, *etc.*);
- Loading due to any equipment or fixtures;
- Requirements for venting of closed tanks (limits on overpressure and negative internal (vacuum) pressure during emptying, *etc.*);
- The required lifetime (or period to first inspection)of the coatings and/or corrosion protection system;
- Maximum and minimum temperatures for which the tank shall be designed;
- Details of test fillings (source of water; disposal arrangements; test requirements);
- Details of any constraints on design, construction sequence and programme;
- Disinfection requirements and responsibilities;
- Details of any adjacent structure or geography that could affect the wind loading or design of the tank.

Such details shall be provided on the contract documents issued by the Employer.

Appendix A gives a datasheet for typical Employers' requirements for a steel tank.

1.5 SUBMITTALS

1. Each Contractor shall submit with their proposal a sketch of the composite elevated tank showing major dimensions and plate thicknesses. A sketch of the foundation showing preliminary dimensions and approximate quantities of concrete and reinforcing steel shall also be provided with the proposal.

2. Prior to construction, the contractor shall furnish construction drawings of the tank, concrete support structure and foundation sealed by a Professional Engineer licensed by ERB and IEK.
3. A summary of the design for the foundation, supporting tower and the tank shall be provided prior to construction. Include the design basis, loading and results showing conformance with the specifications and the referenced codes and standards. The design shall be sealed by a Professional Engineer licensed by ERB and IEK
4. Provide an operating and maintenance manual containing operating instructions, maintenance instructions, as-built construction drawings, cleaning and painting instructions, a gage table and catalog cuts of equipment supplied.

2. PART 2: GENERAL DESIGN REQUIREMENTS

2.1 DESIGN BASIC

The tank, the tower and foundation shall be designed either on an Allowable Stress Design basis (ASD) in accordance with 2.1.1 or on a Limit State Design basis (LSD) in accordance with 2.1.2. Alternatively, the strength of components and connections may be determined by testing in accordance with 2.1.3. The choice of design basis shall be at the Contractor's discretion unless otherwise specified by the Employer.

Design shall be in accordance with relevant European Standards and British Standards or equivalent. It shall also be in accordance with additional or alternative requirements given in this Specification.

NOTE: The choice of design basis is left to the Contractor's designer because UK design standards are presently in the process of change from ASD to LSD. Appropriate LSD standards do not always exist, or have only been recently introduced. All new Standards issued by BSI and CEN (the European Committee for Standardisation) for structural design will be based on LSD. Eurocode 3 *Design of steel structures* Part 4.1 *Silos* and Part 4.2 *Tanks* are currently being drafted and adopt a LSD basis. They are due to be issued as ENVs (pre-standards) by CEN in 1999.

2.1.1 Allowable Stress Design (ASD)

All parts of the tank and its supporting structure shall be capable of sustaining the applied loads without the consequent stresses exceeding the allowable stresses given in BS 449 or, for welded cylindrical tanks, the allowable stresses given in BS 2654.

The applied loads shall be taken as the nominal loads given in 1.7.2 and 1.7.7 of this specification.

2.1.2 Limit State Design (LSD)

General

Limit State Design of structural steelwork shall be in accordance with BS 5950: Part 1, except as varied or supplemented by this Specification. In this Standard, two limit states are considered:

- i) Ultimate limit state; and
- ii) Serviceability limit state.

2.1.2.1 Ultimate limit state (ULS)

The strength and stability of the tank and its supporting structure shall be such that the design resistance (or load capacity) of each element and its connections is greater than the design loads. The design loads at ULS shall be taken as the nominal loads, as given in 2.2.2 to 2.2.7, multiplied by the relevant load factors given in 2.2.10. The design resistances shall be as given in 1.6.3.5.

2.1.2.2 Serviceability limit state (SLS)

The deflection of the structure or part thereof, under the design loads at the SLS, shall not impair the strength or efficiency of the structure, nor cause damage to the finishes. The design loads at SLS shall be taken as the nominal loads, as given in clauses 2.2.2 to 2.2.7, multiplied by a load factor of 1.0, as specified in BS 5950: Part 1.

2.1.3 Design strength of steel

The design strength of steel shall be taken as that given by BS 5950: Part 1 or BS 5950: Part 5, as appropriate, for the grade of steel material used for the structure.

2.1.3.1 Resistance of members and components

The design resistance of steel members and components shall be based on the design strength and the member properties (cross sectional area, effective length for buckling, *etc.*), in accordance with BS 5950: Part 1 or BS 5950: Part 5, as appropriate. The material factor on strength (γ_m) shall be taken as 1.0 for steel, in accordance with BS 5950: Part 1.

2.1.3.2 Strength determined by testing

As an alternative to calculation, the strength or resistance of steel components and connections may be determined by testing in accordance with either BS 449 or BS 5950: Part 1.

2.2 DESIGN LOADING

General

The nominal loads to be used in the design shall be those given in 2.2.2 to 2.2.7, as appropriate.

Loads shall be applied separately and in such realistic combinations as to cause the most critical effects on the elements and the structure as a whole.

2.2.1 Dead load

The dead load of all permanent construction and fittings shall be calculated from unit weights given in BS 648, or may be taken as actual measured weights.

2.2.2 Fluid load

The fluid load shall be the weight or hydrostatic pressure of the liquid contents of the tank, when filled to normal maximum working level, to the level of the overflow or to such other level specified by the Employer, as appropriate. The load shall be calculated on the basis of the maximum specific gravity of the contents given by the Employer.

In annular, compartmented or cellular tanks, where there may be a hydraulic pressure difference across internal walls, the loading shall be that due to wholly filled, partly filled or empty compartments, whichever produces the greatest effect on the elements of the structure.

2.2.3 Imposed roof load

The imposed roof load shall be taken to be that produced by environmental effects (other than wind) and by the use of the roof for access or maintenance. The minimum values given in BS 6399: Part 3 shall be used, unless otherwise specified by the Employer. In addition to this loading, any localized loads from lifting frames for equipment retrieval during maintenance shall be taken into account.

NOTE: This clause allows the application of the imposed load given by BS 6399, rather than that specified in BS 2654, unless otherwise specified by the Employer.

2.2.4 Wind load

For tanks above ground, wind loads shall be calculated in accordance with BS 6399: Part 2 or BS CP 3: Chapter V: Part 2 (until it is withdrawn by BSI), taking account of the locality and situation of the tank. The possible effects on the wind load of the proximity of other structures shall be taken into account. The Employer shall provide details of the local geography and of any adjacent structures which might affect the wind loads on the tank.

2.2.5 Internal pressure

For closed tanks, account shall be taken of the load due to internal pressure in the space above the fluid level. Such pressures shall include any possible overpressure, which may be limited by venting arrangements; or negative internal (vacuum) pressure, created during draw-down of fluid level during emptying. For sludge tanks, additional loading factors in accordance with BS 5502: Part 50 may be required but these should be viewed in conjunction with BS 5502: Part 22 which allows a reduction in partial factors in consideration of the building (usage) classification.

2.2.6 Ground pressure load

For tanks which are partly or wholly buried, pressure on the external walls shall be calculated on the basis of the characteristics of the soil or backfill, the level of the groundwater table and on the surcharge conditions upon the surrounding ground.

2.2.7 Thermal effects

The tank structure shall be designed to accommodate any expansion or contraction effects due to changes in temperature of the external environment in relation to the temperature of the contents. If the structure or parts are restrained in anyway, then the design shall allow for induced loading due to these thermal effects.

2.2.8 Loads due to equipment and fixtures

The loads due to any non-structural fixtures and any equipment either fixed to the tank or which may come into contact with the tank shall be taken into account. The Employer shall provide the Contractor with details of the loads due to any such items which are not part of the Contract.

2.2.9 Load factors at ultimate limit state (ULS)

Table 1 gives the relevant load factors for LSD at the ULS.

Loading	Factor, □□□	
	No wind	With wind
Dead load	1.4(1)	1.2(1)
Loads due to equipment and fixtures	1.6(1)	1.2(1)
Fluid load	1.4(2)	1.4(2)
Imposed roof load	1.6(2)	1.2(2)
Wind load on elements causing adverse effect	-	1.4(1)
-		
Internal pressure (positive or negative)	1.4(2)	1.2(2)
Loads due to restraint of thermal effects	1.2(2)	1.1(2)
Ground pressure	1.4(1)(3)	1.4(1)(3)

Notes:

- (1) These factors shall be reduced to 1.0 when the appropriate loads are relieving to the effect being considered (*e.g.* the dead load of the roof when designing the holding down bolts to resist internal pressure).
- (2) Any or all of these factors shall be taken as zero if by so doing the effect being considered is made more severe.
- (3) A factor of 1.4 shall be used for design ground pressures to the Civil Engineering Code of Practice No.2 (CECP2) or 1.2 for design ground pressures to BS 8002.

2.3 SPECIFIC DESIGN REQUIREMENTS (STRUCTURAL ELEMENTS)

2.3.1 Tank walls - general

The walls of the tank shall be designed to resist the greatest value of the fluid load, together with any other loads which may be coexistent.

Where the tank is closed, the fluid pressure shall be increased by an equivalent water gauge value of the overpressure. The overpressure shall be taken to act over the full height of the structure.

The tank walls shall also be designed to resist the design wind load when the tank is empty.

2.3.2 Pressed steel sectional rectangular tanks

Except as described below, pressed steel sectional rectangular tanks shall be designed to BS 1564, Type1, with bolted joints, mastic sealant and internal ties acting as wall panel support members. Such tanks shall not be used for wall heights greater than 4.88 m.

Pressed steel sectional rectangular tanks may alternatively be designed as above but with external supports, in place of internal ties. External supports shall be designed to resist the forces imposed on them by the panels and to transmit those forces either to other supporting members or to external supports. The design of the external supports shall be in accordance either with BS 449 or with BS 5950: Part 1. Elastic analysis shall be used.

As an alternative to the use of bolted joints and sealant, pressed steel sectional rectangular tanks may be designed with welded joints which also act as a watertight seal. The design of the welded connection shall be in accordance either with BS 449 or with BS 5950: Part 1. Pressed steel sectional rectangular tanks with external supports and welded joints may be designed with wall heights in excess of 4.88 m.

2.3.3 Attachment of walls to base

The connection between the tank wall and the tank base shall be designed to transmit to the foundation the vertical forces in the tank walls and horizontal shear forces due to wind loads, and forces due to fluid loads and internal pressure. The design forces shall include any forces acting upward as a result of overturning moment due to wind load or due to internal pressure. Fixing bolts cast into a reinforced concrete base shall be made from either plain or deformed bars or maybe a fixing of a proprietary nature. Such bolts shall be not less than 16 mm diameter.

2.3.4 Tank roof

2.3.4.1 Application of design loading

Inward and outward acting pressures on the roof shall be taken into account.

For outward pressures, the design pressure is the greater of the test pressure specified by the Employer or the working pressure combined with the maximum outward pressure due to wind loading. Dead load shall be applied in conjunction with this design outward pressure; for LSD, the partial factor on dead load for this loading condition shall be taken as 1.0.

For inward pressures, the roof shall be designed for the worst condition of imposed roof loading over part or all of the roof, combined with dead load and negative internal (vacuum) pressure.

The roof of the tank may be designed as either:

- i) Self-supporting steel plating, or
- ii) Steel plating or other covering, supported by a steel framework.

Self-supporting steel plating shall only be used on cylindrical tanks.

2.3.4.2 Roof plating

Roof plating of a cylindrical tank designed as self-supporting shall be in accordance with BS 2654.

Note: This is termed a “membrane roof” in BS 2654.

When roof plating is supported by a framework of structural members, it shall be designed to carry the wind loads and any other loads on the roof, spanning between the supporting members. Plastic analysis may be used.

2.3.4.3 Supporting framework

A supporting framework may span unaided between the walls of the tank or may be supported by the walls and by columns inside the tank. The supporting structure (framework and columns) shall be designed in accordance either with BS 449 or with BS 5950: Part 1. Where the tank is rectangular, the framework shall be designed to transmit the tying forces at the tops of the walls.

2.3.4.4. Other roof covering

As an alternative to steel plating, the roof covering may be of another material, subject to the agreement of the Employer. The Contractor shall be responsible for demonstrating the adequacy of such covering in terms of both strength and durability.

2.3.5 Tank bottom

2.3.5.1 General

The tank bottom may be formed either by steel plating (stiffened plating or pressed steel sectional panels) or may be formed by a reinforced concrete slab.

The provision of support to a steel bottom, or the design and construction of a reinforced concrete bottom, may not be part of the contract for the supply of the tank. Where such support or slab base is not part of the tank supply, the Contractor shall provide the Employer with details of loads on the supports or slab from the tank, and the Employer shall provide the Contractor with details of the supports or base slab.

Where the Contractor is responsible for the complete design and supply of the tank including supports or base slab, the Employer shall provide site soils investigation data, in accordance with BS 1377: Parts 1 to 9 as appropriate.

The supports or the top of the base slab shall be located accurately at the correct elevation.

Fixing bolts, when required, shall be designed and furnished by the Contractor to suit the connection to the base slab.

2.3.5.2 Site preparation

The Contractor shall provide details about how the ground around the foundations will be prepared.

Note: Normally the site should be regarded sufficiently to permit efficient tank erection and to prevent ponding of surface water in the foundation area.

2.3.5.3 Steel bottom

Where the bottom is of unstiffened welded plate, it shall generally be designed and constructed in accordance with BS 2654. For rectangular tanks, the geometrical disposition of the plates shall suit the size and shape of the tank and the plating shall be designed to transmit the horizontal tying forces at the base of the walls.

Where the bottom of the tank is of bolted steel plating, it shall be fully bolted along all the seams. The bolting of the bottom to the wall shall be continuous around its entire perimeter. The design shall not transfer vertical loads from the bottom into the wall. The bottom and its connection to the tank shell shall be fully waterproofed by the application of a sealant compatible with the contents of the tank.

Where the bottom is of unstiffened plating, the plating shall be supported over its full area by a suitable foundation. The transmission of the vertical hydraulic load from the tank contents to the foundations shall be taken to be uninterrupted by the bottom membrane.

Where the bottom is of stiffened plating or pressed steel sectional panels, support shall be provided to the stiffeners or along the seams of the pressed panels.

2.3.6 Foundations

Where the design of the foundations or base slab is part of the Contract, the Contractor shall design the foundation or slab in accordance with BS 8004 and the *Civil Engineering Specification for the Water Industry* (CESWI 5).

2.3.7 Ancillary items

2.3.7.1 Manholes

Hatches or manholes may be of circular, square or elliptical aspect, as specified by the Employer. Where a manhole is square, the corners of the manhole shall be radiused so as to avoid excessive stress concentration in the steel walls.

Where a manhole is provided in the wall of the tank, the cover and its connection to the wall shall be designed to AWWA D103 to withstand the fluid load (including any overpressure) at that location. Reinforcement to the tank wall shall also be designed to AWWA D103. See also clause 7.2.4.

2.3.7.2 Ladders and platforms

The design of stairways, ladders and platforms shall comply with BS 4211 or BS 5395, as appropriate.

The loads applied by ladders, platforms or walkways on the walls, roof or floor of the tank shall be taken into account in the design of the structure.

Stays and supports shall not cause deflection in the tank wall that would damage the coating or result in a total deflection that is greater than the allowable deflection for the tank design.

If stairways are preferred, the Employer shall state his requirements including the space allowed to accommodate them adjacent to the tank. Any requirement for platforms or walkways to be freestanding shall also be stated as part of the Employer's requirements to the Contractors in accordance with clause 1.4 herein.

2.3.7.3 Helically-wound corrugated tanks for use in buried applications

The structural design of helically wound corrugated steel tanks for stormwater storage or non-potable water shall be in accordance with the Highways Agency's Standard BD 12/95: *Design of Corrugated Steel Buried Structures* that is published as part of the *Design Manual for Roads and Bridges*.I

In addition, all helically wound corrugated tanks shall comply with the *Water Test for Non- Pressure Pipelines*, given in Section 6 of CESWI 5.

3 PART 3; QUALITY CONTROL REQUIREMENTS

All materials shall be new and shall comply with the requirements of this Specification.

3.1 Effect of materials on water quality

When used under the conditions for which they are designed, all materials in contact with, or likely to come into contact with, water for public supply shall be introduced in accordance with the requirements of Regulation 25 of the Water Supply (Water Quality) Regulations 1989. [Water Supply (Water Quality) (Scotland) Regulations 1990 in Scotland].

NOTE 1: The Committee, operated by the Drinking Water Inspectorate, undertakes toxicological assessments of products and may require leaching tests for substances of concern. A list of approved substances and products is published annually and is available from: The Drinking Water Inspectorate, Ashdown House, 123 Victoria Street, London, SW1E 6DE.

NOTE 2: Regulation 25 applies only to products used by water companies in the treatment and distribution of public water supplies; it does not apply to use of fixtures and fittings on consumers' own premises. Approval under the Water Regulations Advisory Scheme and listing in the Water Fittings and Materials Directory is desirable.

3.1.2 Protection against galvanic corrosion

Where dissimilar metals are used in a tank, suitable electrical insulation shall be provided between them to ensure that a corrosive 'cell' is not established.

3.1.3 Steel plate, sheet and strip

Appendix B lists the relevant current British, European and International material standards for steel plate, sheet and strip.

3.1.4 Bolts

Nuts, bolts and washers shall normally be to BS EN 24014, BS EN 24016, BS EN 24017, BS EN 24018, BS EN 24032, BS EN 24033 or BS EN 24034 as appropriate. Vitreous enamelled panel tanks utilise specially designed bolts to BS 1768.

NOTE: An unusually onerous operating condition may require the Contractor to consider the use of materials other than carbon steel for bolts.

3.1.5 Seals and gaskets

For tanks containing potable water, the materials for sealants and gaskets (and for any associated primers or adhesives) shall comply with clause 3.1.1. Gaskets shall be pre-punched to size.

NOTE: Some sealant materials require the use of a primer for maximum adhesion. Some of these primers contain a volatile solvent. After evaporation of the solvent, the primer shall comply with the requirements of the DWI regulations. Sealants and gaskets shall remain flexible when in continuous operation over the operational temperature range specified by the Employer. Sealants and gaskets shall be resistant to degradation by ozone, ultraviolet light and the effects of the tank contents and shall not be subject to shrinkage due to weathering.

3.2 COATINGS

3.2.1 Durability

Where a coating is required for corrosion protection, the Contractor shall select an appropriate type, subject to the Employer's agreement, that will be durable over the design life specified in the Contract. Where a design life in excess of the durability life of the coating is required, the coating shall be inspected to judge whether any maintenance is necessary.

In accordance with BS 5493 and clause 3.2.4 herein, the Contractor shall advise the Employer of full details of any maintenance that may be necessary during the durability life period to ensure that the required lifetime of the coating and the tank are achieved. The Contractor shall also state what level of inspection shall be carried out at defined intervals to check for any onset of coating breakdown in order to assist in identification before any more extensive breakdown develops. By such means it will be possible to extend the durability life of the coating to meet that required for the tank.

3.2.2 Coating system

The coating system shall be selected in accordance with BS 5493 or BS 7793: Part 2 (for vitreous enamel coatings).

3.2.3 Suitability for use

Coatings for helically corrugated steel storm water retention tanks as covered by a British Board of Agrément Certificate are deemed to comply with this Specification. Coatings for potable water applications shall comply with 3.11.

3.2.4 Maintenance

The Contractor shall provide the Employer with documentation describing the procedures for inspection, maintenance and repair of coatings.

3.3 FABRICATION AND INSTALLATION

3.3.1 General

The procedures for all aspects of construction shall be identified in the Quality Plan, in accordance with 1.3.4.

3.3.2 Foundations

Where the construction of the tank foundation or base slab is part of the Contract, the Contractor shall carry out the work in accordance with CESWI 5 and BS 8004.

3.3.3 Fabrication, transport and installation of steelwork

The fabrication, transport and installation of steelwork shall be in accordance with relevant nationally recognized specifications, such as BS 5950: Parts 2 or 7, the National Structural Steelwork Specification, BS 2654 or BS 1564. The relevant standards to be used, including those for bolting procedures, welding procedures, *etc.*, shall be identified in the Quality Plan.

The particular requirements for flange drilling and tapped sockets given in 3.3.3.1 and 3.3.3.2 shall be taken into account.

3.3.3.1 Flange drilling

Flange drilling shall comply with the requirements of BS 4504: Part 3.1 for steel flanges and BS EN 1092-2 for cast iron flanges unless otherwise specified by the Employer.

3.3.3.2 Tapped sockets

Tapped sockets shall comply with the requirements of BS 1387 unless otherwise specified by the Employer.

3.3.3.3 Sealing of bolted joints

Only recommended sealants shall be used for bolted joints and they shall be applied according to the tank manufacturer's instructions. The procedures for making bolted joints, particularly those in bolted cylindrical tanks, shall be such that there will be no significant slip under load which could lead to damage of the sealing at the joints (see clause 3.3.3.4).

3.3.3.4 Bolting

Bolts shall be torqued to the manufacturer's recommendations. For bolted cylindrical tanks, joints shall first be expanded fully before finally tightening the bolts. The bolted joint is stretched to the point where the bolts are fully in bearing with their holes so that the hoop load is taken up immediately when the tank is filled.

3.3.3.5 Accuracy of workmanship

The dimensional accuracy of the completed tank shall be consistent with the accuracy of construction assumed in the design of the tank.

3.4 TESTING AND STERILIZATION

1. Sufficient cure, per the manufacturer's recommendations, of the final coat on the interior wet surface shall be allowed before the elevated tank is sterilized and filled with water.
2. The tank shall be sterilized per the requirements of AWWA C652 Chlorination Method No. 2 or 3.
3. The Owner, free of charge to the Contractor, shall furnish and dispose of sufficient water for testing and sterilization. The water shall be at proper pressure to fill the tank to the maximum working level. Any leaks in the tank that are disclosed by this test shall be repaired by gouging out defective areas and re-welding. No repair work shall be done on any joint unless the water in the tank is at least 2 feet below the joint being repaired. Any paint damaged by repairs shall be properly restored.
4. Upon completion of the sterilization procedure, the Owner or his representative shall arrange and bear the cost of any bacteriological testing of water samples from the tank that may be required. The tank shall not be placed in service until safe test results are obtained.

3.5 GUARANTEE

The Contractor shall guarantee its work for a period of one year from the date of substantial completion. Substantial completion is defined as the date when the tank is placed, or available to be placed, into service. The Contractor will

repair any defects of which they are notified during that period which may appear because of faulty design, workmanship or materials furnished under the specifications. Defects caused by damaging service conditions such as electrolytic, chemical, abrasive or other damaging service conditions are not covered by this guarantee. All guarantees obtained by the Contractor from the manufacturer or installer of paint, equipment or accessories not manufactured by the Contractor shall be obtained for the benefit of the Owner.

4.0 PART 4: REFERENCES

This Specification incorporates undated references to the British and European Standards and other publications listed below.

Where reference is made to a Standard or other publication, it shall be taken to apply to the version, which is current at the date of the Contract, unless specifically stated otherwise.

British Standards

BS 449	Specification for the use of structural steel in building
BS 648	Schedule of weights of building materials
BS 1377	Methods of test for soils for civil engineering purposes
BS 1387	Specification for screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or for screwing to BS 21 pipe threads BS 1564 Specification for pressed steel sectional rectangular tanks.
BS 1768	Specification for unified precision hexagon bolts, screws and nuts (UNC and UNF threads). Normal series
BS 2654	Specification for manufacture of vertical steel welded non-refrigerated storage tanks with butt welded shells for the petroleum industry.
BS 4211	Specification for ladders for permanent access to chimneys, other high structures, silos and bins.
BS 4504	Circular flanges for pipes, valves and fittings (PN designated) Part 3.1: Specification for steel flanges
BS 5395	Stairs, ladders & walkways.
BS 5493	Code of practice for protective coating of iron and steel structures against corrosion.
BS 5502	Buildings and structures for agriculture Part 22: Code of practice for design, construction and loading
Part 50:	Code of practice for design, construction and use of storage tanks and reception pits for livestock slurry.
BS 5950	Structural use of steelwork in building Part 1: Code of practice for design in simple and continuous construction: hot rolled sections Part 2: Specification for materials, fabrication and erection: hot-rolled sections. Part 5: Code of practice for design of cold formed sections. Part 7: Specification for materials and workmanship: cold formed sections.
BS 6399	Loading for buildings Part 2: Code of practice for wind loads Part 3: Code of practice for imposed roof loads.
BS 6920	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water Part 1: Specification
BS 7793	Vitreous enamel coatings for use on bolted steel panels Part 2: Specification for coatings on bolted steel panels for use in industrial liquid storage tanks BS 8002 Code of practice for earth retaining structures

BS 8004 Code of practice for Foundations BS CP 3 Code of basic data for the design of buildings
Chapter V: Loading. Part 2: Wind loads

European Standards

BS EN 1092 Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated. Part 2: Cast iron flanges BS EN 24014 Hexagon head bolts – Product grades A and B

BS EN 24016 Hexagon head bolts – Product grade C

BS EN 24017 Hexagon head screws – Product grades A and B

BS EN 24018 Hexagon head screws –Product grade C

BS EN 24032 Hexagon nuts, style 1 – Product grades A and B

BS EN 24033 Hexagon nuts, style 2 – Product grades A and B

BS EN 24034 Hexagon nuts - Product grade C.

Euro code 3: Design of Steel Structures, Part 4: Tanks, Silos and Pipelines

Other

CECP 2 Civil Engineering Code of Practice No.2: Earth retaining structures, Institution of Structural Engineers

BD 12/95 The Highways Agency Standard: Design of Corrugated Steel Buried Structures, published by The Stationery Office for the DETR NSSS National Structural Steelwork Specification for Building Construction, British Constructional Steelwork Association Ltd.

DIN 11622 Silage and Manure Liquid Containers. Parts 1 to 4

ANSI/AWWA D103 American Water Works Association Standard for Factory Coated Bolted Steel Tanks for Water Storage

CESWI 5 Civil Engineering Specification for the Water Industry, 5th Edition

SECTION V - DRAWINGS

A list of drawings should be inserted here. The actual drawings including Site plans should be annexed in a separate booklet.

SECTION VI - SPECIFICATIONS

Notes for preparing Specifications

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

SECTION VII- BILLS OF QUANTITIES

**WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN KISAUNI
CONSTITUENCY, MOMBASA COUNTY**

	<u>SUMMARY FOR ALL THE BILLS</u>	AMOUNT KES
1	PRELIMINARY AND GENERAL ITEMS	
2	TRANSMISSION PIPELINE	
3	REINFORCED CONCRETE WATER STORAGE TANK 500M3	
4	RC RETAINING WALL	
5	DAYWORKS	
	SUB-TOTAL	
	Allow 10% contingency sum	
	TOTAL	
	Add 16% VAT	
	GRAND TOTAL	

SECTION VII - BILLS OF QUANTITIES
BILL No. 1 - PRELIMINARY AND GENERAL ITEMS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
1	Contractual Requirements				
1.1	Allow for provision of Performance Security in accordance with Clause 50.1 of Section VII of the General Conditions, Bidding Document Volume I.	Item	L.S		
1.2	Allow for provision of Insurance of Works and Contractor's Equipment in accordance with Clause 13.1 of Section VII of the General Conditions, Bidding Document Volume I.	Item	L.S		
1.3	Allow for provision for Third Party Insurance's in accordance with the Conditions of Contract.	Item	L.S		
1.4	Allow for provision of Insurance against Accident to Workmen in accordance with Clause 13.1 of Section IV of the General Conditions, Bidding Document Volume I.	Item	L.S		
1.5	Allow a Prime Cost Sum Ksh. 3,000,000 for Land compensation, statutory dues etc	Item	1	3,000,000.00	3,000,000.00
1.6	% Adjustment to the provisional sum for contractor costs for items 1.5	Item			
2	SPECIAL REQUIREMENTS				
2.1	Contractor's Camp and Storage Yard: Allow for erection of the Contractor's Camp(s), Offices, Storage Yard and other facilities including mobilization, demobilization and movement of the works site on Completion. Include for all equipment, temporary measures, machines, tools, materials, facilities for workers, water and electricity supply etc. all as specified for execution of the Works, for the entire Contract Period. The Employer has no available land to offer for Contractor's Camp, storage of materials and preparation of concrete etc. Identification and procurement of suitable area of land for Contractor's Camp whether rented or purchased is the responsibility of the Contractor. <u>Details of proposed camp / stores. location of land where the Contractor will establish his camp(s) to be submitted with the Bid.</u>	Item	L.S		
2.2	Allow a P.C. Sum of Kshs.500,000 for training of Employer's Staff during Construction, Testing and Commissioning of the Works as specified in Clause 137 of Section I, General and Particular Specifications of Bidding Document Volume II	Item	P.C		500,000.00
2.3	Add% for profit, administration, attendance upon, overheads, etc. for Item 2.2 above	%			
PAGE 1 TOTAL CARRIED FORWARD TO BILL NO. 1 COLLECTION SHEET					

2.4	Test Running of the Scheme: Allow for Test Running all the Project Components for a period of 4 weeks upon completion and official commissioning of the Works. Test Running to be carried out in close liaison with the Water Services Provider's Staff. Contractor to allow for 'on job' training of Operation and Maintenance Staff, Tools, etc, and ensure that the operations are carried out full time on a 24 hour basis, all in accordance with Clause 137 Section 1 - General and Particular Specifications of the Bidding Document Volume II	Item	L.S		
2.5	Allow for provision of Operation and Maintenance (O&M) Manuals in accordance with Clause 139 - General and Particular Specifications of Bidding Document Volume II	Item	L.S		
2.6	Allow for provision of As-Built Drawings in accordance with Clause 147 - General and Particular Specifications of Bidding Document Volume II	Item	L.S		
3	SPECIFIED REQUIREMENTS				
	Sign Boards				
3.1	Allow for provision, erection and maintenance of Project Sign Boards at the sites indicated by the Engineer's Representative, within the Project Area, Steel fabricated size 3x2 m. Design to be approved by the Resident Engineer. The rate quoted by the Contractor to include for payment of all statutory charges to the relevant Authority and removal after completion of the Project.	Nr	2.00		
	Setting Out & Survey Work				
3.2	Allow for establishment of Level Datum Survey, Setting Out of the Works. This shall include pegging of pipeline Routes and preparation of Setting Out Survey Report to the Engineer for approval.	Item	L.S		
3	Attendance Upon Engineer's staff				
	Staff provided should have qualifications approved				
3.1	Driver	month	12	25,000.00	300,000.00
3.2	Chainmen	month	12	35,000.00	420,000.00
3.3	Engineering/survey technician	month	12	45,000.00	540,000.00
3.4	Enviromentalist/sociologist	month	12	45,000.00	540,000.00
3.5	Inspector of Works Earthworks & Pipeline	month	12	50,000.00	600,000.00
3.6	Allow a Provisional Sum for material testing and exploratory works as directed by Engineer	Sum	1		
PAGE 2 TOTAL CARRIED FORWARD TO BILL NO. 1 COLLECTION SHEET					

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
3.7	% Adjustment to the provisional sum for contractor's on costs for items 3.1 to 3.6	%			
3.8	Allow a PC Sum of 2,000,000.00 for design review for Transmission Pipelines by Consultant approved by the Employer	Item	PC		
4	Temporary Works				
4.1	Allow for diversions and pumping whilst the intake works are carried out	Sum	PC		
4.2	Traffic diversion during road crossing works	Sum	PC		
5	Other Provisional Sums				
5.1	Allow a provisional sum to be spent in whole or part, for community sensitization/ public participation and mobilisation activities to be spent as directed by the Engineer	Sum	PC		
5.2	Provisional Sum of Kshs 1,500,000 for any payment for services by roads authorities KeNHA, KURA, County Government, etc and any other that have any statutory jurisdiction over the works. Rate to include sourcing road cutting permits and reinstatement to standard, permits to work on road verges and tree cutting permits as may be required	Sum	PC	1,500,000.00	1,500,000.00
5.3	Allow sum for EIA report and NEMA licence acquisition, Compensation, RAP and related activities	Sum	PC		
5.4	KPLC Charges for power supply to sites				
5.5	Percentage adjustment to provisional sum in item 5.1 to 5.4	%			
5.6	Allow the Provisional Sum of KShs. 2,500,000 to cover supervision costs of Engineers assigned on the project from the Employer's head office to be expended as directed by the Project Manager.	PC	1	2,500,000.00	2,500,000.00
5.7	Percentage Adjustment to the provisional sum for Item 5.6	%			
5.8	Allow Provisional Sum of Ksh, 5,000,000 for project branding and communication	Sum	PC	5,000,000.00	5,000,000.00
PAGE 3 TOTAL CARRIED FORWARD TO BILL NO. 1 COLLECTION SHEET					

BILL No. 1 : COLLECTION SHEET					
<u>DESCRIPTION</u>					AMOUNT
					KShs
Brought forward from page 1					
Brought forward from page 2					
Brought forward from page 3					
BILL No. 1 PRELIMINARY & GENERAL ITEMS TOTAL CARRIED FORWARD TO COST					
SUMMARY PAGE					

SECTION VII - BILLS OF QUANTITIES

WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN KISAUNI CONSTITUENCY,
MOMBASA COUNTY

BILL No. 2 - TRANSMISSION PIPELINE

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
	BILL No. 2 - TRANSMISSION PIPELINE				
1	General Items				
1.1	Field Pressure Testing, Cleansing and Sterilization of Pipelines DN 63mm,110mm, 200mm	m	8,500		
1.2	General clearance; width n.e.3 meter on either side of center line for laying of pipelines.	m	4,500		
1.3	Cutting of trees, removal of stumps with holes backfilled with excavated material tree grith 100 - 200mm	nr	20		
1.4	Excavation in Rock depth not exceeding 1000mm	m ³	50		
2.1	Tee -Take off on Existing DN700 Nguu Tatu tank - Kisauni mains				
	Steel Fittings shall be coated internally and externally in fusion bonded expoxy to AWWA C213 to a thickness of 300 – 400 microns, • Bolts, nuts and washers will be hot dipped galvanized to BS 729 with minimum coating weight of 305 gms/m ² .(Rate to include supply and fixing of Associated Fittings i.e. Mechanical Couplings,hdpe adaptors, bolts and nuts, etc.)				
2.11	Allow sum for Cutting of existing 700mm steel pipe bore 200mm and install Single flanged steel pipe Spigot 200mm x1.5m, PN25 by arc weld onto 700mm mains to act Tee-take off.	Item	1		
2.12	DN200, PN25 SV all flanged, AVK Type or equivalent	nr	1		
2.13	DN200, PN25 Flanged adaptor	nr	1		
2.14	200mm HDPE-Steel joining fitting spigot single flanged (stub end joint)	nr	1		
2.15	Offtake Valve Chamber, rc Concrete sluice valve chamber 1.5x1.5x1.5m with cover as specified in drawings	nr	1		
PAGE 1 TOTAL CARRIED FORWARD TO BILL NO. 2 COLLECTION SHEET					

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
2.2	Pipework - pipes & fittings				
	Supply and Transport to site. Transport from site store, lay and joint pipes in trench, include for excavation, preparation of surfaces, disposal of excavate material, shoring sides of excavation and backfilling. Note:- Trench width and minimum cover to pipes is as per the Specification. The cost shall include for strutting, shuttering, stabilizing the earth faces of trenches and keeping the trenches free of water from whatever source by pumping or other means and cost of use of selected soil from the excavated material for compaction in bed and surround to backfilling of trenches, all as specified				
	HDPE pipes PN 12.5 including provision for Butt-Fusion/ Electrofusion Welded Jointing				
	<u>Konkodia Offtake to The Creek Village AHU</u>				
2.21	OD 200mm in trenches, depth range 1.5 - 2.0m	m	3,500		
	<u>Parallel water distribution mains Konkodia to The Creek Village AHU,</u>				
2.22	OD 110mm in trenches, depth range 1.0 - 1.5m	m	3,500		
	<u>Extension to Ngombeni settlements</u>				
2.23	OD 110mm in trenches, depth range 1.0 - 1.5m	m	1,200		
2.3	<u>Hdpe Bends/ elbows</u>				
	HDPE pipe horizontal and Vertical Plain Ended Bends (Rate to include supply and fixing inclusive of Associated Fittings i.e. Mechanical Couplings, bolts and nuts etc.) PN 12.5 nominal bore n.e.200mm				
2.31	200mm HDPE elbow fitting butt fusion 90 degree	nr	5		
2.32	200mm HDPE elbow fitting butt fusion 45 degree	nr	6		
2.4	<u>HDPE Reducers and Tees</u>				
	Supply, handle, deliver to site, fix in place and test inclusive of all fittings to details. Include for necessary HDPE-Steel joining fittings. (rate to exclude gate valves or sluice valves and construction of chambers but include for all other joining materials and fittings)(includes gate valve, handwheel, stub end, flange, bolts, nuts, gasket)				
2.41	HDPE 200x110mmTee	nr	3		
2.42	HDPE 110x63mmTee	nr	10		

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
2.8	Water meters				
2.81	Electromagnetic master meter				
	Specifications -Meter shall be suitable for hdpe pipe size 200mm hdpe pn12.5 · Delivering highly accurate measurement for water distribution and raw water pipelines. · it is robust and it has no moving parts, this allows to be reliable and suitable to measure a wide Application · To measure volume of raw bulk water supplied Installation · Compact with converter MC608A/B/R · Compact Vertical with MC406 · Separate (remote)with MC608A/B/R and MC406 with cables supply from factory (up to 30mt) Equipment: · 1" ball valve zinc plated brass · "Hot tap" installation · Head of the unit in POM 22mm · Valve connection (female-female) · Probe 12mm · Pressure up to 20 bar · Input connection for pressure gauge · Handle grips with flow directions · Body in AISI304 · 2 Electrodes in AISI316L				
2.811	Supply and Installation of water master meter electromagnetic insertion flowmeter at Kongodia offtake Kisauni	nr	1		
2.812	Meter Chamber for electromagnetic insertion flowmeter	nr	1		
2.82	Volumetric Flow Water Meters				
	Supply and install. Include fittings				
2.821	DN 50, PN 16 Water Meter flanged, woltman type	nr	3		
2.83	DN 100, PN 16 Water Meter flanged , woltman type	nr	3		

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
2.9	Chambers and Manholes				
	Masonry chambers; cost to include excavation, construction and backfilling				
2.91	Air Valve chamber; depth 1.0 - 1.5m, plan area n.e 2.5 m ²	nr	4		
2.92	Washout Gate valve chamber; depth 1.0 - 1.5m plan area n.e 2.5 m ²	nr	4		
2.93	Gate Valve chamber; depth 1.5 - 2.0 m; plan area n.e 2.5 m ²	nr	4		
2.94	Bulk meter chamber; depth 1.0 - 1.5 m; plan area n.e 4 m ²	nr	3		
2.10	Micro-tunnelling Nguu Tatu Tarmac Road				
	Seek Approval and Micro tunnel Tarmac Road Konkodia to install a 300mm Duct and provide a 300mm sleeve to lay a DN 200mm HDPE water line (the approval should also include authority for installation of assorted diameters water distribution pipes along existing road reserves from various stakeholders i.e. MCG, KURA, KENHA, KERRA)				
2.101	Allow Sum for micro tunneling across tarmac road 20 m length for 200mm hdpe water pipe	Item	1		
	<u>Road Crossing</u>				
2.102	Install 250mm pvc casing with mass concrete class 20/20 surround across cabro/ murrum roads	m	200		
2.11	Mass concrete class 20/20 in thrust blocks				
	<u>Thrust blocks for bends.</u>				
2.111	Nominal bore n.e 200mm; volume n.e 0.5 m ³	nr	10		
2.112	<u>Mass concrete class 20/20 in stools or valves</u>	nr	10		
2.112	Supply and install pcc marker posts as specified as drawings	nr	50		
3	<u>Water distribution pipes/ extensions</u>				
	HDPE pipes PN 12.5 including provision for Butt-Fusion/ Electrofusion Welded Jointing				
3.1	<u>63mm HDPE pipes PN 12.5</u>	m	500		
3.2	Allow sum for supply 63mm hdpe pipefittings for item 3.1 water connections	sum	1		
3.2	<u>20mm Smart meters</u>				
	supply and delivery of 20mm consumer meter of Volumetric (Mechanical with AMR enabled * [Smart]); *Automatic Meter Reading or Smart Water Meter	nr	50		
PAGE 5 TOTAL CARRIED FORWARD TO BILL NO. 2 COLLECTION SHEET					

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY		
	CLASS X: MISCELLANEOUS WORK				
	Setting Out & Survey Work				
X6.1	Allow for engineering survey works of transmission pipelines including preparation of updated plan and profile, approximate length 9 km	Item	L.S		
PAGE 6 TOTAL CARRIED FORWARD TO BILL NO. 2 COLLECTION SHEET					
	BILL 2 COLLECTION SHEET				
					KShs
	Brought forward from page 1				
	Brought forward from page 2				
	Brought forward from page 3				
	Brought forward from page 4				
	Brought forward from page 5				
	Brought forward from page 6				
	BILL No. 2 TRANSMISSION PIPEINE TOTAL CARRIED FORWARD TO COST SUMMARY PAGE				

SECTION VII - BILLS OF QUANTITIES

WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN KISAUNI CONSTITUENCY,
MOMBASA COUNTY

REINFORCED CONCRETE WATER STORAGE TANK 500M3					
ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE Kshs	AMOUNT Kshs
1	GENERAL ITEMS				
1.1	Allow for testing, cleaning and sterilisation of Reservoir in accordance with specifications.	Item	1.00		
1.2	Allow for pressure testing, cleaning and sterilisation of Pipework in accordance with specifications.	Item	1.00		
1.3	Allow a P.C. Sum of Kshs.30,000 for ground investigation below the formation surface.	Sum	1.00		
2	EARTHWORKS				
	The rates shall include for all strutting, shuttering, stabilising the excavation faces, and keeping the excavation free of water by pumping, bailing or other means.				
	Bulk excavations and top soil stripping for all structures are measured under Bill No. 3.13 (Site & Ancillary Works).				
	Excavate below stripped level to formation level in common material, part backfill after construction and remainder, cart away to tips or use as fill on site, all as directed by the Engineer.				
2.1	Maximum depth n.e. 1.0 m	m ³	400.00		
2.2	-Ditto- but maximum depth 1.0 m to 2.0 m	m ³	400.00		
2.3	-Ditto- but maximum depth 2.0 m to 3.0 m	m ³	400.00		
2.4	-Ditto- but maximum depth 3.0 m to 4.0 m	m ³	400.00		
2.5	-Ditto- but maximum depth exceeding 4.0 m	m ³	150.00		
2.6	Transport approved excavated material from site and use as fill and compact in 200 mm layers as specified on site as and where directed by the Engineer. Compaction tests to be done and rates to include for this.	m ³	950.00		
2.7	Provide approved hardcore material and compact in layers of 200 mm, blinded with final material 75 mm thick.	m ³	100.00		
2.8	Extra over Items 2.1 to 2.5 for excavation in rock Class 'A', blasting not permitted (Provisional).	m ³	200.00		
2.9	-Ditto- for excavation in rock Class 'B', blasting not permitted (Provisional)	m ³	200.00		
2.10	-Ditto- for excavation in rock Class 'C', blasting not permitted (Provisional)	m ³	75.00		
PAGE 1 TOTAL CARRIED TO BILL COLLECTION PAGE					

3	<u>IN SITU CONCRETE</u>				
	Provision of Concrete				
	CONCRETE WORKS				
	<u>Provide, mix and place concrete as directed</u>				
	Mass Concrete; Class 15/20				
3.1	Blinding under Column bases	m ³	1.00		
3.2	Blinding under wall bases	m ³	18.00		
3.3	Blinding under base slab; thickness 75mm	m ³	24.00		
	Reinforced Concrete; Class 25/20				
	<u>Bases, Footings, Pipe Caps, and Ground Slabs; >150 Thickness <300mm</u>				
3.4	External wall base including key and splay	m ³	70.00		
3.5	Base slab laid to slopes	m ³	60.00		
3.6	Bases to columns	m ³	1.50		
3.7	Bases to internal baffle walls	m ³	12.00		
3.8	Base to overflow chamber	m ³	2.50		
	Suspended Slabs; Thickness >150 <300mm				
3.9	Top slab including all upstands	m ³	65.00		
	Walls; Thickness >150 <300mm				
3.10	Main external walls, 300mm thick	m ³	40.00		
3.11	Baffle walls	m ³	10.00		
3.12	Walls - washout sump	m ³	1.00		
3.13	Walls - overflow chamber	m ³	1.00		
	Walls; Thickness >300 <500mm				
3.14	Main external walls, 500mm thick	m ³	35.00		
	Columns; Cross-Sectional Area >0.03 <0.1m²				
3.15	Columns excluding top flared heads	m ³	1.00		
	Other Concrete Forms				
3.16	Top flared heads of columns	m ³	1.00		
PAGE 2 TOTAL CARRIED TO BILL COLLECTION PAGE					

	Formwork: Fair Finish; For Voids				
	Formwork: Fair Finish; Concrete Components of Constant Cross-section				
	Columns				
4.15	Sides of columns; 300mm x 300mm - 2 No. columns	m ²	8.00		
	Other Members				
4.16	Sides of column bases; 1500mm x 1500mm - 4 No. bases	m ²	5.00		
4.17	50mm x 50mm rebates for Access Manhole cover	m	6.00		
4.18	-Ditto but for overflow chamber cover	m	4.00		
4.19	12mm dia. half round fillet for drip mould round soffit of roof slab overhang	m	40.00		
4.20	Fillet to form 25mm x 25mm chamfer for all roof slab upstands & manhole upstands	m	60.00		
4.21	Boxing out 600mm x 600mm holes in concrete wall of tank for inlet pipe	Nr	1.00		
4.22	Boxing out 250mm dia. hole in concrete wall of sump in tank & making good after installation of pipework.	Nr	1.00		
4.23	-Ditto - but size 400mm dia. hole in base of overflow chamber	Nr	1.00		
4.24	-Ditto - but size 1020mm x 1020mm hole in roof slab of tank	Nr	1.00		
	<u>Reinforcement: Deformed High Yield Steel Bars to BS4449</u>				
	Rate to include for cutting, bending, supporting, trying and securing reinforcement.				
4.25	Diameter ranging from 8 mm to 25mm.	Kg	40,000.00		
4.26	Steel fabric to BS4483: A252 square mesh; nominal mass 3 - 4 kg/m ²	m ²	300.00		
	Construction Joints				
	Provide and install the following waterstops in construction joints including all surface treatment, formwork, forming of rebate and sealing of rebate with polysulphide sealant, all as per drawings and specification.				
4.27	Open surface with filler; average width n.e. 0.5m	m ²	66.00		
4.28	Formed surface with filler; average width n.e. 0.5m	m ²	37.00		
4.29	Plastic horizontal waterstops; rear guard type, width 200mm	m	150.00		

4.30	Plastic vertical waterstops, width 200mm	m	150.00		
4.31	Sealed 20mm x 20mm rebates with polysuphide joint sealant	m	70.00		
	Miscellaneous Work (including provision and laying)				
4.32	500 gauge polythene sheeting on blinding below base slab	m ²	250.00		
4.33	Average 100mm thick layer of pumice on roof slab	m ²	250.00		
4.44	80mm dia ferrous roof drain pipe (Cut to suit on site)	m	6.00		
5	PIPEWORK - FITTINGS AND VALVES				
	<u>Supply, Transport to Site & Store in Secure Place Including Jointing Material, Bolts, Gaskets, Packing, Jointing Glues, etc., As Applicable</u>				
	All Diameters are Nominal				
	<u>Approved Lined Ferrous Pipes Fittings to NP 16</u>				
	Inlet Ferrous Pipes Fittings & Valves				
5.1	200mm dia. all flanged pipe, 1950mm long, with Puddle flanged at 750mm from one end (Mark a)	Nr	1.00		
5.2	200mm dia. flanged spigot pipe, 1200mm long (Mark b)	Nr	1.00		
5.3	200mm dia. V.J coupling (Mark c)	Nr	1.00		
	<u>Outlet (Delivery) Ferrous Pipes Fittings & Valves</u>				
5.4	200mm dia. Special Flanged Bellmouth, 600mm length, with Puddle Flange 350mm from the Bellmouth end (Mark A)	Nr	1.00		
5.5	200mm dia. 90° Double Flanged Bends (Mark B)	Nr	1.00		
5.6	200mm dia. Double Flanged Pipe, length 7050mm with Puddle Flange 5440mm from one end (Mark C)	Nr	1.00		
5.7	200mm dia. Double Flanged Gate Valve, to BS 5163 - Hand Operated, EURO Series 20, Type 23, Saint GOBAIN or approved equivalent (In chamber) with extended spindle, 3.8m long (Mark D)	Nr	1.00		
5.8	200mm dia Flange Adaptor (Mark E)	Nr	2.00		
5.9	200mm dia plain ended Pipe, length 1200mm (Mark F)	Nr	1.00		
5.10	200mm Dia. V.J Coupling (Mark G)	Nr	3.00		
5.11	200mm dia. Flanged spigot Pipe, length 1400mm long with Puddle Flange 1000mm from flanged end (Mark H)	Nr	1.00		

5.12	200mm dia. Plain ended Pipe, length 1400mm with Puddle Flange 1000mm from flanged end (Mark H1)	Nr	2.00		
5.13	200mm dia All Flanged Volumetric Water Meter (Kent or Approved Equivalent) (Mark I)	Nr	1.00		
5.14	200mm dia. plain ended pipe 5260mm long (Mark J)	Nr	1.00		
	Overflow Ferrous Pipe Fittings				
5.15	150mm dia. Flanged Spigot Pipe 1715mm length, with Puddle Flange at 100mm from Spigot End (Mark 1)	Nr	1.00		
5.16	150mm dia. 60° Double Flanged Bend (Mark 2)	Nr	1.00		
5.17	150mm dia. Flanged Spigot Pipe 2150mm length, with end bevelled (Length cut to suit on site). (Mark 3)	Nr	1.00		
	Washout Ferrous Pipe Fittings				
5.18	100mm dia. Double Flanged Gate Valve, Hand Operated to BS 5163, EURO 20 Series Type 23 (short face to face) or approved equivalent, with extended spindle 4.0m long (Mark 5)	Nr	1.00		
5.19	100mm dia. Flanged Spigot Pipe 6000mm length, with Puddle Flange at 100mm from Spigot End (Mark 4)	Nr	1.00		
5.20	100mm dia. Single Flanged 90° bend (Cut to suit on site) (Mark 6)	Nr	1.00		
	<u>Transport From Site Store, Install, Test & Commission. Include for Excavation & Backfilling of Pipe Trenches Where Applicable.</u>				
	Inlet Ferrous Pipes Fittings & Valves				
5.21	200mm dia. all flanged pipe, 1950mm long, with Puddle flanged at 750mm from one end (Mark a)	Nr	1.00		
5.22	200mm dia. flanged spigot pipe, 1200mm long (Mark b)	Nr	1.00		
5.23	200mm dia. V.J coupling (Mark c)	Nr	1.00		
	<u>Outlet (Delivery) Ferrous Pipes Fittings & Valves</u>				
5.24	200mm dia. Special Flanged Bellmouth, 600mm length, with Puddle Flange 350mm from the Bellmouth end (Mark A)	Nr	1.00		
5.25	200mm dia. 90° Double Flanged Bends (Mark B)	Nr	1.00		
5.26	200mm dia. Double Flanged Pipe, length 7050mm with Puddle Flange 5440mm from one end (Mark C)	Nr	1.00		
5.27	200mm dia. Double Flanged Gate Valve, to BS 5163 - Hand Operated, EURO Series 20, Type 23, Saint GOBAIN or approved equivalent (In chamber) with extended spindle 3.8m long (Mark D)	Nr	1.00		
5.28	200mm dia. Flange Adaptor (Mark E)	Nr	2.00		
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5.29	200mm dia. plain ended Pipe, length 1200mm (Mark F)	Nr	1.00		
5.3	200mm dia. V.J Coupling (Mark G)	Nr	3.00		
5.31	200mm dia. Plain ended pipe, length 1400mm with Puddle Flange 1000mm from one end (Mark H)	Nr	1.00		
5.32	200mm dia. Flanged spigot pipe, length 1400mm with Puddle Flange at 1000mm from flanged end (Mark H1)	Nr	1.00		
5.33	200mm dia All Flanged Volumetric Water Meter (Kent or Approved Equivalent) (Mark I)	Nr	1.00		
5.34	200mm dia. plain ended pipe 5260mm long (Mark J)	Nr	1.00		
	<u>Overflow Ferrous Pipe Fittings</u>				
5.35	150mm dia. Flanged Spigot Pipe 1715mm length, with Puddle Flange at 100mm from Spigot End (Mark 1)	Nr	1.00		
5.36	150mm dia. 60° Double Flanged Bend (Mark 2)	Nr	1.00		
5.37	150mm dia. Flanged Spigot Pipe 2150mm length, with end bevelled (Length cut to suit on site). (Mark 3)	Nr	1.00		
	<u>Washout Ferrous Pipe Fittings</u>				
5.38	100mm dia. Double Flanged Gate Valve, Hand Operated to BS 5163, EURO 20 Series Type 23 (short face to face) or approved equivalent with extended spindle 4.0m long (Mark 5)	Nr	1.00		
5.39	100mm dia. Flanged Spigot Pipe 6000mm length, with Puddle Flange at 100mm from Spigot End (Mark 4)	Nr	1.00		
5.40	100mm dia. Single Flanged 90° bend (Cut to suit on site) (Mark 6)	Nr	1.00		
6	<u>PIPEWORK - SUPPORTS AND PROTECTION. ANCILLARIES TO LAYING AND EXCAVATION</u>				
	Provide and place:				
6.1	Mass Concrete Class 15/20 surround to washout pipe diameter 200mm to pipes; pipe nominal bore 250mm -450mm	m	3.00		
6.2	-Dito - but outlet pipe, diameter 400mm	m	3.00		
	<u>Concrete Class 20/20 in Stools and Thrust blocks</u>				
6.3	Nominal bore 200 - 40mm; volume n.e. 0.1m ³	Nr	3.00		
7	MISCELLANEOUS METALWORK				
	Rate to include supply and fixing, inclusive of foundations where applicable				
7.1	Galvanised mild steel internal ladders with stringers returned to form handrails.	m	4.00		
7.2	Lockable mild steel checkered plate covers for access manholes overflow chambers.	Nr	4.00		
PAGE 7 TOTAL CARRIED TO BILL COLLECTION PAGE					
8	MISCELLANEOUS WORK				
8.1	Provide and fix GI vent pipes	Nr	6.00		

8.2	Provide & lay 300mm wide x 12mm thick rubberoid layer between wall & roof slab.	m	50.00		
8.3	Provide all materials and construct a 1500x1500x3500mm deep Reinforced Concrete Scour and Overflow Chamber.	Nr	1.00		
8.4	Provide all materials and construct a 2400x2400x3500mm deep Reinforced Concrete Outlet Valve Chamber.	Nr	1.00		
8.5	Provide all materials and construct a 2400x2400x3500mm deep Reinforced Concrete Meter Chamber.	Nr	1.00		
8.6	Supply and install water sampling pipes & fittings.	Nr	1.00		
PAGE 8 TOTAL CARRIED TO BILL COLLECTION PAGE					

SUMMARY PAGE

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Bill No. 3.5 Total Exclusive of VAT Carried to Section 3 Summary Sheet					

SECTION VII - BILLS OF QUANTITIES

WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN MOMBASA COUNTY

BILL No. 4 RC RETAINING WALL

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
4.1	SITE CLEARANCE AND TOPSOIL STRIPPING				
4.11	Light bush clearance	m ²	1500		
4.12	Clearing obstructions and other condemned concrete structures	m ³	50		
4.13	Remove to spoil top soil to maximum depth of 1000mm as directed by the Engineer	m ³	300		
4.2	EARTHWORKS				
	No separate payments shall be made for the overhaul of material and the cost of such haulage shall be included in the rates/ prices				
4.21	Cut to spoil in soft material	m ³	450		
4.22	Cut to spoil in Hard material	m ³	200		
4.23	Provide and fill in approved soft material and compact to 100% MDD (AASHTO T99) as directed by the Engineer.	m ³	5400		
4.24	Scarify, process and compact existing ground to at least 100%MDD to a depth of 150mm below cuts.	m ³	155		
4.25	Allow for keeping excavations free of ground water	Day	60		
4.3	CONCRETE WORKS				
	Base & Stem				
4.31	Provide materials and cast in place concrete Class 15/20 as retaining wall for foundation works. Rate to include formwork for sides	m ³	55		
4.32	Provide materials and cast in place concrete Class 25/20 as foundation bases and stems	m ³	700		
	Provide reinforcement bars for item 5.32 above, as follows. Rate to include transport, cutting, bending and placement				
4.33	i) D8 Rebars	kg	12000		
4.34	i) D10 Rebars	kg	12000		
4.35	ii) D12 Rebars	kg	49000		
4.36	ii) D16 Rebars	kg	24000		
4.4	Provide materials for fair formwork for item 4.4	m ²	5000		
4.5	Provide weep holes	No	1000		
	BILL 5 RC RETAINING WALL TOTAL Carried Forward to Summary Page				

SECTION VII - BILLS OF QUANTITIES

WATER SUPPLY TO THE CREEK VILLAGE AFFORDABLE HOUSING UNITS IN KISAUNI CONSTITUENCY, MOMBASA COUNTY

BILL No. 5 - DAYWORKS

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE (Kshs)	AMOUNT (Kshs)
	Labour: The rates inserted herein should include for all costs such as insurance, travelling time, accommodation and use and maintenance of small tools of trade. Only time engaged upon works will be paid for;				
5.1	Unskilled Labourer	hr	50		
5.2	Foreman	hr	20		
5.3	Driver	hr	20		
5.4	Mason	hr	20		
5.5	Carpenter	hr	20		
5.6	Plumber	hr	20		
5.7	Electrician	hr	20		
5.8	Plant Operator	hr	20		
5.7	Surveyor	hr	2400		
5.8	Pipelayer	hr	20		
5.9	Concretor	hr	20		
5.10	Painter	hr	150		
5.11	Watchman	hr	320		
5.12	Add % adjustment to the provisional sum for contractor's for daywork labour	%			
	Materials				
5.13	Ordinary portland cement	t	1.0		
5.14	150mm thick building stone/concrete blocks	m ²	50		
5.15	225mm thick building stone/concrete blocks	m ²	50		
5.16	Concrete Class 20/20	m ³	5		
5.17	Concrete Class 25/20	m ³	5		
5.18	8mm and under mild steel round bars	kg	100		
5.19	10mm and under mild steel round bars	kg	200		
5.20	12mm and over mild steel round bars kg 400	kg	200		
PAGE 3 TOTAL CARRIED FORWARD TO BILL NO. 1 COLLECTION SHEET					

ITEM No.	ITEM DESCRIPTION	UNIT	QUANTITY	RATE Kes	AMOUNT Kes
	Day works - Plant				
5.21	7 tonne lorry (tipper)	h	10		
5.22	10 tonne lorry (tipper)	h	10		
5.23	Hydraulic excavator/shovel (1.0m3)	h	10		
5.24	Wheel loader	h	10		
5.25	Concrete mixer 1.0m3	h	8		
5.26	Concrete vibrator (petrol or diesel) with drive, flex and 40mm poker	h	8		
5.27	Concrete mixer 1.0m3	h	8		
5.28	Concrete vibrator (petrol or diesel) with drive, flex and 40mm poker				
5.29	Portable dewatering pump	h	100		
5.3	Vibrating plate compactor	h	10		
5.31	Air compressor machine (5000 l/min)	h	10		
5.32	Generator (15kVA)	h	10		
5.33	Electric welding set including electrodes	h	8		
5.34	Cutting and welding set including oxygen and acetylene	h	8		
5.35	Add % Adjustment to provisional sums for Day works Plant	%	0		
PAGE 4 TOTAL CARRIED FORWARD TO BILL NO. 1 COLLECTION SHEET					
BILL No. 1 : COLLECTION SHEET					
DESCRIPTION					AMOUNT
					KShs
Brought forward from page 1					
Brought forward from page 2					
BILL No. 5 DAYWORKS TOTAL CARRIED FORWARD TO COST SUMMARY PAGE					

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

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

These General Conditions of Contract (GCC), read in conjunction with the Special Conditions of Contract (SCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

General Conditions of Contract

A. General

1. Definitions

1.1 Bold face type is used to identify defined terms.

- a) **The 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.
- b) **The Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
- c) **The Adjudicator** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.
- d) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- e) **Compensation Events** are those defined in GCC Clause 42 hereunder.
- f) **The Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.
- g) **The Contract** is the Contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.
- h) **The Contractor** is the party whose Bid to carry out the Works has been accepted by the Procuring Entity.
- i) **The Contractor's Bid** is the completed bidding document submitted by the Contractor to the Procuring Entity.
- j) **The Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.
- k) **Days** are calendar days; months are calendar months.
- l) **Day works** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- m) **A Defect** is any part of the Works not completed in accordance with the Contract.
- n) **The Defects Liability Certificate** is the certificate issued by Project Manager upon correction of defects by the Contractor.
- o) **The Defects Liability Period** is the period **named in the SCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.
- p) **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, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- q) **The Procuring Entity** is the party who employs the Contractor to carry out the Works, **as specified in the SCC**, who is also the Procuring Entity.
- r) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

- s) **“In writing” or “written”** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- t) The Initial Contract Price is the Contract Price listed in the Procuring Entity's Letter of Acceptance.
- u) **The Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the SCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- v) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- w) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- x) **The Project Manager** is the person **named in the SCC** (or any other competent person appointed by the Procuring Entity and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- y) **SCC** means Special Conditions of Contract.
- z) **The Site** is the area of the works as **defined as such in the SCC**.
- aa) **Site Investigation Reports** are those that were included in the bidding document and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- bb) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- cc) **The Start Date** is **given in the SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- dd) **A Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- ee) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- ff) **A Variation** is an instruction given by the Project Manager which varies the Works.
- gg) **The Works** are what the Contract requires the Contractor to construct, install, and turn over to the Procuring Entity, **as defined in the SCC**.

2. Interpretation

- 2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is specified in the SCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - a) Agreement,
 - b) Letter of Acceptance,
 - c) Contractor's Bid,
 - d) Special Conditions of Contract,
 - e) General Conditions of Contract, including Appendices,
 - f) Specifications,
 - g) Drawings,
 - h) Bill of Quantities⁶, and
 - i) any other document **listed in the SCC** as forming part of the Contract.

⁶In lump sum contracts, delete “Bill of Quantities” and replace with “Activity Schedule.”

3. Language and Law

3.1 The language of the Contract is English Language and the law governing the Contract are the Laws of Kenya.

3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Procuring Entity's Country when

- a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country; or
- b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

4. Project Manager's Decisions

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

5. Delegation

5.1 Otherwise **specified in the SCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Procuring Entity in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the Schedule of Other Contractors, as **referred to in the SCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Procuring Entity may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel and Equipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Procuring Entity, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in Fraud and Corruption during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Procuring Entity's and Contractor's Risks

10.1 The Procuring Entity carries the risks which this Contract states are Procuring Entity's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Procuring Entity's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Procuring Entity's risks:

- a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed by or contracted to him except the Contractor.
- b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is a Procuring Entity's risk except loss or damage due to

- aa) a Defect which existed on the Completion Date,
- bb) an event occurring before the Completion Date, which was not itself a Procuring Entity's risk, or
- cc) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Procuring Entity's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Procuring Entity and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the Contractor's risks:

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

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

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

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

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

19. Discoveries

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

20. Possession of the Site

20.1 The Procuring Entity shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the SCC**, the Procuring Entity shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

21.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Procuring Entity and/or persons appointed by the Public Procurement Regulatory Authority 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 Public Procurement Regulatory Authority. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Public Procurement Regulatory Authority's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Public Procurement Regulatory Authority's prevailing sanctions procedures).

23. Appointment of the Adjudicator

- 23.1 The Adjudicator shall be appointed jointly by the Procuring Entity and the Contractor, at the time of the Procuring Entity's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Procuring Entity does not agree on the appointment of the Adjudicator, the Procuring Entity will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 14 days of receipt of such request.
- 23.2 Should the Adjudicator resign or die, or should the Procuring Entity and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Procuring Entity and the Contractor. In case of disagreement between the Procuring Entity and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the SCC at the request of either party, within 14 days of receipt of such request.

24. Settlement of Claims and Disputes

24.1 Contractor's Claims

- 24.1.1 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 Project Manager, 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.
- 24.1.2 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.
- 24.1.3 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.
- 24.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Procuring Entity's liability, the Project Manager 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 Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.
- 24.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a 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 Project Manager 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 Project Manager.
- 24.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager 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.
- 24.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause
- 24.1.8 [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.

24.1.9 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.

24.1.10 If the Project Manager does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer to Arbitration in accordance with Sub-Clause 24.4 [Arbitration].

24.1.11 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 24.3.

24.2 Amicable Settlement

24.2.1 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 24.1 above should move to commence arbitration after the fifty-sixth day from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

24.3 Matters that may be referred to arbitration

24.3.1 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) The appointment of a replacement Project Manager upon the said person ceasing to act.
- b) Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
- c) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
- e) Any dispute arising in respect of war risks or war damage.
- f) 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.

24.4 Arbitration

24.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 24.3 shall be finally settled by arbitration.

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

24.4.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

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

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

24.4.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

24.4.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

24.4.8 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Project Manager shall not be altered by reason of any arbitration being conducted during the progress of the Works.

24.4.9 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.

24.5 Arbitration with National Contractors

24.5.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the Arbitration Laws of Kenya. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

- i) Architectural Association of Kenya
- ii) Institute of Quantity Surveyors of Kenya
- iii) Association of Consulting Engineers of Kenya
- iv) Chartered Institute of Arbitrators (Kenya Branch)
- v) Institution of Engineers of Kenya

24.5.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.

24.6 Alternative Arbitration Proceedings

24.6.1 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.

24.7 Failure to Comply with Arbitrator's Decision

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

24.7.2 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.

24.8 Contract operations to continue

24.8.1 Notwithstanding any reference to arbitration herein,

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

25. Fraud and Corruption

25.1 The Government requires compliance with the country's Anti-Corruption laws and its prevailing sanctions policies and procedures as set forth in the Constitution of Kenya and its Statutes.

25.2 The Procuring Entity requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time stated in the SCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC from the next payment certificate and

continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

27.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.

28.2 If the Contractor's priced proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the Project Manager

29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

30. Management Meetings

30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

31. Early Warning

31.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

31.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

32. Identifying Defects

32.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

33. Tests

33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

34.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price⁷

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price⁸

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Procuring Entity.

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

38. Variations

38.1 All Variations shall be included in updated Programs⁹ produced by the Contractor.

38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

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

⁷In lump sum contracts, replace GCC Sub-Clauses 36.1 as follows:

36.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. The Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for materials on site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

⁸In lump sum contracts, replace entire GCC Clause 37 with new GCC Sub-Clause 37.1, as follows: The Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

⁹In lump sum contracts, add "and Activity Schedules" after "Programs." ¹⁰In lump sum contracts, delete this paragraph.

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

38.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work

38.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

- a) the proposed change(s), and a description of the difference to the existing contract requirements;
- b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Procuring Entity may incur in implementing the value engineering proposal; and
- c) a description of any effect(s) of the change on performance/functionality.

38.8 The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that:

- a) accelerate the contract completion period; or
- b) reduce the Contract Price or the life cycle costs to the Procuring Entity; or
- c) improve the quality, efficiency, safety or sustainability of the Facilities; or
- d) yield any other benefits to the Procuring Entity, without compromising the functionality of the Works.

38.9 If the value engineering proposal is approved by the Procuring Entity and results in:

- a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the SCC** of the reduction in the Contract Price; or
- b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39. Cash Flow Forecasts

39.1 When the Program¹¹, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

40. Payment Certificates

40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

40.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

40.3 The value of work executed shall be determined by the Project Manager.

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed¹².

40.5 The value of work executed shall include the valuation of Variations and Compensation Events.

40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

40.7 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: $(\text{corrected tender price} - \text{tender price}) / \text{tender price} \times 100$.

41. Payments

- 41.1 Payments shall be adjusted for deductions for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Procuring Entity makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.
- 41.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.
- 41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.
- 41.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Procuring Entity and shall be deemed covered by other rates and prices in the Contract.

42. Compensation Events

42.1 The following shall be Compensation Events:

- d) The Procuring Entity does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.
- e) The Procuring Entity modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- f) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- g) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- h) The Project Manager unreasonably does not approve a subcontract to be let.
- i) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- j) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Procuring Entity, or additional work required for safety or other reasons.
- k) Other contractors, public authorities, utilities, or the Procuring Entity does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- l) The advance payment is delayed.
- m) The effects on the Contractor of any of the Procuring Entity's Risks.
- n) The Project Manager unreasonably delays issuing a Certificate of Completion.

42.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

42.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

¹¹*In lump sum contracts, add "or Activity Schedule" after "Program."*

¹²*In lump sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."*

42.4 The Contractor shall not be entitled to compensation to the extent that the Procuring Entity's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

43. Tax

43.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currency of Payment

44.1 All payments under the contract shall be made in Kenya Shillings

45. Price Adjustment

45.1 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:

$$P = A + B I_m/I_o$$

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

A and B are coefficients¹³ **specified in the SCC**, representing the non-adjustable and adjustable portions, respectively, of the Contract Price payable and I_m is the index prevailing at the end of the month being invoiced and I_o is the index prevailing 30 days before Bid opening for inputs payable.

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 The Procuring Entity shall retain from each payment due to the Contractor the proportion stated in the **SCC** until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" Bank guarantee.

47. Liquidated Damages

47.1 The Contractor shall pay liquidated damages to the Procuring Entity at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **SCC**. The Procuring Entity may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

49. Advance Payment

49.1 The Procuring Entity shall make advance payment to the Contractor of the amounts stated in the SCC by the date stated in the SCC, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Procuring Entity in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

49.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

50. Securities

50.1 The Performance Security shall be provided to the Procuring Entity no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the SCC**, by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 day from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

51. Dayworks

51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

51.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

51.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

52. Cost of Repairs

52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 The Procuring Entity shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

¹³*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 non-adjustable components. The sum of the adjustments for each currency are added to the Contract Price.*

56. Operating and Maintenance Manuals

56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

57.1 The Procuring Entity or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
- c) the Procuring Entity or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- d) a payment certified by the Project Manager is not paid by the Procuring Entity to the Contractor within 84 days of the date of the Project Manager's certificate;
- e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- f) the Contractor does not maintain a Security, which is required;
- g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or
- h) if the Contractor, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Procuring Entity may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

57.3 Notwithstanding the above, the Procuring Entity may terminate the Contract for convenience.

57.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

57.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

58. Payment upon Termination

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

58.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

59. Property

59.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Procuring Entity if the Contract is terminated because of the Contractor's default.

60. Release from Performance

60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Procuring Entity or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
A. General	
GCC 1.1 (q)	The Procuring Entity is: Coast Water Works Development Agency
GCC 1.1 (u)	The Intended Completion date for the whole works shall be: Twelve (12) months after contract signing.
GCC 1.1 (x)	The Project Manager is: Chief Executive Officer CWWDA
GCC 1.1 (z)	The Site is Located at: Junda Location, Mombasa County
GCC 1.1 (cc)	The start date shall 14 days after contract signing
GCC 1.1 (gg)	<p>The Works consist of but not limited to:</p> <ol style="list-style-type: none"> 1. Laying of 3.5km DN200 HDPE Pipes PN 12.5 2. Laying of 4.7km 110 HDPE extension pipes PN 12.5 3. Laying of 0.5km 63mm HDPE Distribution pipes PN 12.5 4. Installation of Water Pipe Valves, Meters and construction of chambers 5. Water pipe Micro Tunneling 1nr and 10no. Cabro Road crossing 6. Construction of Reinforced Concrete Water Tank capacity 500m³ 7. Construction of 50m Reinforced Concrete Retaining Wall
GCC 2.2	Section Completion date shall not be allowed.
GCC 5.1	The project manager may delegate any of his duties and responsibilities
GCC 8.1	Schedule of other contractors ; N/A
GCC 13.1	<p>The minimum insurance amounts and deductibles shall be:</p> <ol style="list-style-type: none"> (i). loss of or damage to the Works, Plant, and Materials Contract Price; (ii). Loss of or damage to Equipment Kshs. 50,000; (iii). Loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract Kshs. 50,000; and (iv). Personal injury or death kshs.50, 000.
GCC 14.1	Site Data are: None, Tenderers are advised to make their own arrangements to make site visits and collect necessary data
GCC 20.1	The Site Possession Date(s) shall be: 14 days after contract signature
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: Chartered Institute of Arbitrators, Kenya Chapter
B. Time Control	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: Kshs. 2,000/-
GCC 26.1	The Contractor shall submit for approval a Program for the Works within 28 days from the date of the Letter of Acceptance.
GCC 26.3	<p>The period between Program updates is 60 days.</p> <p>The amount to be withheld for late submission of an updated Program is kshs.50,000/-</p>
C. Quality Control	
GCC 34.1	The Defects Liability Period is: 12 calendar Months.

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
D. Cost Control	
GCC 38.9	If the value engineering proposal is approved by the Procuring Entity the amount to be paid to the Contractor shall be: N/A
GCC 44.1	The currency of the Procuring Entity's Country is: Kenya Shillings Procuring Entity's Country – Kenya
GCC 45.1	The Contract " <i>is not</i> " subject to price adjustment in accordance with GCC Clause 45,
GCC 46.1	The proportion of payments retained is: 10%
GCC 47.1	The liquidated damages for the whole of the Works are 0.05% per day . The maximum amount of liquidated damages for the whole of the Works is 5% of the final Contract Price
GCC 48.1	The Bonus for the whole of the Works is : N/A
GCC 49.1	The Advance Payments shall be: 10% of the contract price and shall be paid to the Contractor no later than 30 days after approval by the project manager
GCC 50.1	The Performance Security amount is: 10% of the contract price Performance Security - Performance Bond: in the amount(s) of 10% percent of the Accepted Contract Amount and in the same currency (ies) of the Accepted Contract Amount.
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is 60 days after completion
GCC 56.2	The date by which "as built" drawings are required is 28 days after Completion The amount to be withheld for failing to produce "as built" drawings and /or operating and maintenance manuals by the date required in GCC 58.1 is: Kshs. 500,000/-
GCC 57.2 (g)	The maximum number of days is: 100 days
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Procuring Entity's additional cost for completing the Works, is: 10% of the contract amount

FORM No 1: NOTIFICATION OF INTENTION TO AWARD

This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender. 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 Intention to Award

- i) Procuring Entity: *[insert the name of the Procuring Entity]*
- ii) Project: *[insert name of project]*
- iii) Contract title: *[insert the name of the contract]*
- iv) Country: *[insert country where ITT is issued]*
- v) ITT No: *[insert ITT reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender

Submit a Procurement-related Complaint in relation to the decision to award the contract.

a) The successful tenderer

i) Name of successful Tender _____

ii) Address of the successful Tender _____

iii) Contract price of the successful Tender Kenya Shillings _____ (in words _____)

b) Other Tenderers

Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out. For Tenders not evaluated, give one main reason the Tender was unsuccessful.

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 deadline 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 (3) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
 - i) Attention: [insert full name of person, if applicable]
 - ii) Title/position: [insert title/position]
 - iii) Agency: [insert name of Procuring Entity]
 - iv) Email address: [insert email address]
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
 - i) Attention: [insert full name of person, if applicable]
 - ii) Title/position: [insert title/position]
 - iii) Agency: [insert name of Procuring Entity]
 - iv) Email address: [insert email address]
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@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:** _____ **Email:** _____

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 hereby accepted by (*name of Procuring Entity*).

You are requested to furnish the Performance Security within 30 days 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 therein,

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 Letter of Acceptance
 - b) the Letter 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 hereby 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 hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto 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, hereby 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 instead 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 thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter 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 thereunder, the Surety may promptly remedy the default, or shall promptly:
 - 1) complete the Contract in accordance with its terms and conditions; or
 - 2) 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
 - 3) pay the Procuring Entity the amount required by Procuring Entity to complete the Contract in accordance with its terms and conditions up to 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 herein or the heirs, executors, administrators, successors, and assigns of the Procuring Entity.
6. In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested 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, hereby 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, demand for payment under this guarantee must be received by us at this office on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]**[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

¹The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.

²Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

FORM NO. 8 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of Procuring Entity]*

Date: _____ *[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Beneficiary, for the execution of _____ *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to 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 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 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 therein.
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 a c c o u n t number at *[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the Day of, 2.....², and any demand for payment under it must be received by us at the office indicated above on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* *[one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

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

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. 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 Tenderer by meeting one or more of the following conditions:

- *Directly or indirectly holding 25% or more of the shares.*
- *Directly or in directly holding 25% or more of the voting rights.*
- *Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.*

Tender Reference No.: _____ [insert identification no]

Name of the Assignment: _____ [insert name of the assignment] to:
 _____ [insert complete name of Procuring Entity]

In response to your notification of award dated _____ [insert date of notification of award] to furnish [select additional information on beneficial ownership: _____ 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

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer (Yes / No)
<i>[include full name (last, middle, first), nationality, country of residence]</i>			

OR

ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions: directly or indirectly holding 25% or more of the shares. Directly or indirectly holding 25% or more of the voting rights. Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer.*

OR

We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Tenderer shall provide explanation on why it is unable to identify any Beneficial Owner]

Directly or indirectly holding 25% or more of the shares. Directly or indirectly holding 25% or more of the voting rights.

Directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Tenderer]”

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]*

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]