



# KENYA RURAL ROADS AUTHORITY

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Barabara Plaza, Block B  
Mazao Road, Off Airport South Road,  
P. O. Box 48151-00100,  
Nairobi, KENYA

## FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY

TENDER No. KeRRA/RWC 936

### BID DOCUMENT:

- i. Instructions to Bidders
- ii. Tender Data Sheets
- iii. Evaluation and Qualification Criteria
- iv. Tendering Forms
- v. General Conditions of Contract (GCC)
- vi. Special Conditions of Contract (SCC)
- vii. Contract Forms (Form of Agreement, Performance Security and Advance Payment Guarantee)
- viii. Schedule of Prices
- ix. Employer's Requirements
- x. Drawings

RESERVED FOR CITIZEN CONTRACTORS

**FEBRUARY, 2026**

**DIRECTOR (ROADS DEVELOPMENT)  
KENYA RURAL ROADS AUTHORITY,  
P.O. BOX 48151 - 00100  
NAIROBI**

**DIRECTOR GENERAL  
KENYA RURAL ROADS AUTHORITY,  
P.O. BOX 48151 - 00100  
NAIROBI**

## INVITATION TO TENDER

**Kenya Rural Roads Authority**  
**P.O. Box 48151 – 00100,**  
**NAIROBI.**  
**Email: [dg@kerra.go.ke](mailto:dg@kerra.go.ke)**

**TENDER NAME: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

**TENDER No.: RWC 936**

1. The (*Kenya Rural Roads Authority*) invites sealed tenders from eligible candidates for the Tender for **FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**.
2. Tendering will be conducted under open competitive method using a standardized tender document. Tendering is open to all qualified and interested Citizen Tenderers. Tenders will be awarded on the basis of the Framework Agreement.
3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours [*0900 to 1600hours*] at the address given below.

**Kenya Rural Roads Authority,  
Block 'B', Barabara Plaza, Mazao Road, Airport South Road,  
Opposite KCAA along, JKIA, Nairobi.  
P.O. Box 48151 – 00100, Nairobi, Kenya.**

4. Tender documents may be obtained electronically from the Authority's website ([www.kerra.go.ke](http://www.kerra.go.ke)). Tender documents obtained electronically will be free of charge.
5. Tender documents may be viewed and downloaded for free from the website ([www.kerra.go.ke](http://www.kerra.go.ke)). Tenderers who download the tender document must forward their particulars immediately to ([procurementhq@kerra.go.ke](mailto:procurementhq@kerra.go.ke)) to facilitate any further clarification or addendum.
6. All Tenders must be accompanied by a **Kenya Shillings Five Hundred Thousand Only /KShs. 500,000.00/** Tender Security valid up to the 240 days from the date of opening.
7. The Framework Agreement shall be for a period of Three (3) years.
8. The rates provided by the bidder shall be fixed and valid for the duration of the framework agreement and shall include Public Procurement Capacity Building Levy (PPCBL) of 0.03%, VAT, and any other taxes.
9. The suppliers/ contractors to be engaged under the framework contract shall be upto a minimum of seven.
10. The Successful firms shall be engaged through call off contracts to as and when items will be required.

11. The panel of firms that constitute the framework agreement shall remain unchanged during the term of the framework agreement. There shall be no additional or replacement of firms.
12. The Tenders shall chronologically serialize all pages of the tender documents submitted.
13. Completed tenders must be delivered to the address below on or before **[24<sup>th</sup> February 2026 at 11.00AM]**. Electronic Tenders **will not** be permitted.
14. Tenders will be opened immediately after the deadline date and time specified above or any deadline 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.
15. Late Tenders will be rejected.
16. The addresses referred to above are:

**A. Address for Obtaining Further Information and for Purchasing Tender Documents**

Kenya Rural Roads Authority,  
Barabara Plaza, Block 'B',  
Off Airport South Road, Opposite KCAA along Mazao Road, JKIA, Nairobi.  
P.O Box 48151-00100, Nairobi, Kenya.

**The officer to be contacted:**

Deputy Director Supply Chain Management,  
Email : procurementhq@kerra.go.ke  
Tel : 020-7807600 (01-05) ; Mobile : +254 711 851103

**B. Address for Submission of Tenders. (Office or Tender Box)**

Physical Address for hand Courier Delivery to Office or Tender Box

The Director General,  
Kenya Rural Roads Authority,  
Barabara Plaza, Block 'B',  
3<sup>rd</sup> Floor, South Wing,  
Off Airport South Road, Opposite KCAA along Mazao Road, JKIA, Nairobi.  
P.O Box 48151-00100, Nairobi, Kenya.

**C. Address for Opening of Tenders**

Kenya Rural Roads Authority,  
Block 'B', Ground Floor, South Wing,  
Barabara Plaza, Block 'B',  
Off Airport South Road, Opposite KCAA along Mazao Road, JKIA, Nairobi.  
P.O Box 48151-00100, Nairobi, Kenya.

**Deputy Director – Supply Chain Management  
FOR. DIRECTOR GENERAL**

**PART I BIDDING PROCEDURES  
(Sections I to IV)**

**SECTION I**

**INSTRUCTIONS TO BIDDERS  
(ITB)**

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## **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, Tenderers 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 the 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 (spouses, 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 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](http://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](http://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](http://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.

6.4 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 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 15;
  - d) Authorization: written confirmation authorizing the signatory of the Tender to commit the Tenderer, in accordance with ITT 22.3.
  - e) Qualifications: documentary evidence in accordance with ITT 19 establishing the Tenderer's qualifications to perform the Contract if its Tender is accepted;
  - f) Conformity: a technical proposal in accordance with ITT 18;
  - g) 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 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 the 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 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:
  - a. If a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or
  - b. 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 initialled 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 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.

The evaluation and award of contracts will be based on Packages.

- 35.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, WOMEN 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:

- price adjustment due to discounts offered in accordance with ITT 16;
- converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT 39;
- price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITT 30.3; and
- 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 not 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 FRAMEWORK AGREEMENT.

50.2 Within fourteen (14) days of receipt of the FRAMEWORK 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.

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

## **SECTION II**

### **BID DATA SHEET (BDS)**

**Bid Data Sheet**

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	<b>A. General</b>
ITT 1.1	<p>The name of the contract is:  <b>Framework Agreement For the Manufacture, Supply, Installation And Launching Of Bailey Bridges Across the Country</b></p> <p>The reference number of the Contract is <b>RWC 936</b></p>
ITT 2.3	The Information made available on competing firms is as follows:
ITT 2.4	<p>The firms that provided consulting services for the contract being tendered for are:  NA</p> <p>_____</p> <p>_____</p>
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: Two <b>/2/</b> .
	<b>B. Contents of Tender Document</b>
8.1	There shall be a <b>Pre-Tender</b> conference on 17 <sup>th</sup> February 2026 at Barabara Plaza, Block B.
ITT 8.2	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than 18 <sup>th</sup> February, 2026.
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 <a href="https://www.kerra.go.ke">https://www.kerra.go.ke</a>
ITT 9.1	<p>For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is:</p> <p>(1) Name of Procuring Entity</p> <p>Kenya Rural Roads Authority,  Block 'B', Ground Floor, South Wing, Barabara Plaza, off Mombasa Road,  Opposite KCAA along Airport South Road, JKIA, Nairobi.  P.O Box 48151-00100, Nairobi, Kenya  <b>Email: <a href="mailto:procurementhq@kerra.go.ke">procurementhq@kerra.go.ke</a></b></p> <p>(2) Physical address for hand Courier Delivery to an office or Tender Box</p> <p>Kenya Rural Roads Authority,  3rd Floor, South Wing, Barabara Plaza Block B,  Airport South Road, Along Mazao Road, Opp KCAA Building, JKIA  P.O Box 48151 – 00100, Nairobi, Kenya.  Tel: 020-8013846, 2710451, 2710464  Email: <a href="mailto:procurementhq@kerra.go.Ke">procurementhq@kerra.go.Ke</a>;</p>
	<b>C. Preparation of Tenders</b>
ITP 13.1 (h)	The Tenderer shall submit the following additional documents in its Tender: <i>Detailed in Section III – Evaluation and Qualification Criteria.</i>
ITT 15.1	Alternative Tenders <b>shall not be</b> considered.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 15.2	Alternative times for completion <i>shall not be</i> permitted.
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 <i>fixed</i>
ITT 20.1	The Tender validity period shall be 210 days.
ITT 20.3 (a)	<p>(a) The delayed to exceeding _____ <i>N/A</i> _____ number of days.</p> <p>(b) The Tender price shall be adjusted by the following percentages of the tender price:</p> <p>(i) By _____ <i>N/A</i> _____ % of the local currency portion of the Contract price adjusted to reflect local inflation during the period of extension, and</p> <p>(ii) By _____ <i>N/A</i> _____ % the foreign currency portion of the Contract price adjusted to reflect the international inflation during the period of extension.</p>
ITT 21.1	<p>A Tender Security <u>SHALL BE</u> _____ required.</p> <p>A Tender-Securing Declaration <u>Shall not be</u> _____ required.</p> <p>If a Tender Security shall be required, the amount and currency of the Tender Security shall be <b>KSHS. FIVE HUNDRED THOUSAND (500,000)</b></p>
ITT 21.2 (d)	The other Tender Security shall be in form of a Demand Bank Guarantee or Insurance Guarantee
ITT 21.5	On the Performance Security, other documents required shall be Unconditional Demand Bank Guarantee as Performance Security and a filled and signed Beneficial Ownership Disclosure Form.
ITT 22.1	In addition to the original of the Tender, the number of copies is: <b>One (1)</b>
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: written power of attorney drawn by commissioner of oaths and signed by all the Directors providing the power of attorney.
<b>D. Submission and Opening of Tenders</b>	

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 24.1	<p>(A) For <u>Tender submission purposes</u> only, the Procuring Entity's address is:</p> <p>The Director General, Kenya Rural Roads Authority, 3rd Floor, South Wing, Barabara Plaza Block B, Airport South Road, Along Mazao Road, Opp KCAA Building, JKIA P.O Box 48151 – 00100, Nairobi, Kenya. Tel: 020-8013846, 2710451, 2710464 Email: procurementhq@kerra.go.Ke;</p> <p>(B) Date and time for submission of Tenders shall be <b>24<sup>th</sup> February, 2026 at 11.00am.</b></p> <p>(C) Tenderers <b>shall not submit</b> tenders electronically.</p>
ITT 27.1	<p>The Tender opening shall take place at the time and the address for Opening of Tenders provided below:</p> <p>(1) Name of Procuring Entity: <b>Kenya Rural Roads Authority (KeRRA)</b></p> <p>(2) Physical address for the location (City, Street, Building, Floor Number and Room)</p> <p>Kenya Rural Roads Authority, 3rd Floor, South Wing, Barabara Plaza Block B, Airport South Road, Along Mazao Road, Opp KCAA Building, JKIA P.O Box 48151 – 00100, Nairobi, Kenya. Tel: 020-8013846, 2710451, 2710464 Email: procurementhq@Kerra.go.Ke;</p> <p>(3) Date and time of tender opening. <b>24<sup>th</sup> February, 2026 at 11.00am.</b></p>
ITT 27.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures <b>N/A</b>
ITT 27.6	The number of representatives of the Procuring Entity to sign is All members of the opening committee.
<b>E. Evaluation, and Comparison of Tenders</b>	
ITT 32.3	The adjustment shall be based on the <i>Average</i> 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 35.2	The invitation to tender is extended to the following groups that qualify for Reservations <u>N/A</u>
ITT 36.1	The Procuring Entity <i>encourages</i> execution of certain specific parts of the Works by subcontractors selected in advance.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 36.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: <b>40% of the total contract amount</b> . 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:</p> <p style="text-align: center;"><u>N/A</u></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 as nominated by the Employer who is registered by the CIARB at an hourly fee of Shs. as provided by CIARB per day.
ITT 52.2	Other documents required are Form No. 9 Beneficial Ownership Disclosure Form.
ITT 54.1	<p>The procedures for making a Procurement-related Complaints are detailed in the "Regulations" available from the PPRA Website <a href="http://www.ppra.go.ke">www.ppra.go.ke</a> or email <a href="mailto:complaints@ppra.go.ke">complaints@ppra.go.ke</a>.</p> <p>If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to:</p> <p><b>For the attention: The Director General</b>  <b>Procuring Entity: Kenya Rural Roads Authority [KeRRA]</b>  <b>Email address: <a href="mailto:dg@kerra.go.ke">dg@kerra.go.ke</a> or <a href="mailto:procurementhq@kerra.go.ke">procurementhq@kerra.go.ke</a></b></p> <p>Email address: <a href="mailto:procurementhq@kerra.go.ke">procurementhq@kerra.go.ke</a></p> <p>In summary, a Procurement-related Complaint may challenge any of the following:</p> <p>(i) the terms of the Tender Documents; and</p> <p>(ii) the Procuring Entity's decision to award the contract.</p>

## **SECTION III**

### **EVALUATION AND QUALIFICATION CRITERIA**

## **Evaluation and Qualification Criteria**

This Section contains criteria that the Employer will use to qualify Bidders, evaluate Technical and Financial Offers. To demonstrate its qualifications and develop its Technical and Financial Offers, each Bidder shall provide all the information requested in the forms provided in Section IV, Bidding Forms.

### **A. Eligibility and Qualifications**

#### **1. General Information on Bidders**

The Technical Review Panel shall first establish that the Bidders meets the eligibility and qualification criteria in accordance with the eligibility and qualifications factors set out in part D of this Section III<sup>1</sup>:

1. **Eligibility**
2. **Historical Contractor's Performance**
3. **Financial Situation**
4. **Experience** -- general, similar and specific -- as it relates to both design and construction of similar projects.

#### **2. Personnel**

The Bidder must demonstrate that he has the personnel for the key positions that meet the following requirements:

<b>No.</b>	<b>Position</b>	<b>Minimum Qualifications Or its equivalent</b>	<b>Total Related Work Experience (years)</b>	<b>Experience in Similar Designs and/or Works (years)</b>
1.	Project Director	Bsc Civil & R. Eng	15	10
2.	Bridge Engineer	Bsc Civil & R. Eng	10	5
3.	Materials Engineer	Bsc Civil & R. Eng	10	5
4.	Roads Surveyor	Bsc. Survey & Photogrammetry	10	5
5.	Site Agent	Bsc Civil & R. Eng	10	5

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Bidding Forms.

The number of points to be assigned to each of the above Key Experts positions shall be determined considering the following three sub-criteria and relevant percentage weights:

(1) General qualifications (general education, training, and experience): [25 %]

(2) Adequacy for the Assignment (relevant education, training, experience in the sector or similar assignments): [65%]

(3) Relevant experience in Kenya (working level fluency in local language(s)/knowledge of local culture or administrative system, government organization, etc.): [10 %]

**Total weight:100%**

**The calculation for total score of the key experts shall follow the example set in the table below.**

EXAMPLE ON HOW TO SCORE KEY EXPERTS for a Tenderer				
Key Experts (both design and site agents)		Max (20-40)	Score	** 20
<b>Points for Qualification criteria for Key</b>				
(a) Position 1: Project Director-Team Leader			12 points	
(b) Position 2: Bridge Engineer			10 points	
(c) Position 3: Materials Engineer			8 points	
d) Position 4: Road Surveyor			5 points	
€ Position 5: Site Agent			5 points	
PERSONNEL	(max allocated score)	ENGINEER-Team Leader	SURVEYOR	TOTAL
SCORES (average scores by each evaluator)				
General qualifications	20	15	16	18
Adequacy for the Assignment	70	60	60	68
Relevant experience in the Kenya	10	4	6	7
<b>TOTAL</b>	<b>100</b>	<b>79</b>	<b>82</b>	<b>83</b>
Scores out of		14	12	10
Formula		79/100X14	82/100X12	83/100x10
Scores		11.06	9.84	8.3
				29.2 out of 36

### 3. Equipment

The Bidder must demonstrate that he owns the key equipment to be used in the project as listed hereafter:

No.	Equipment Type and Characteristics	Minimum Number required
1.	Concrete Batching plant and Mixer	1
2.	Generator 500KVA	1
3.	Hydraulic Excavator Cat 322 Or Equivalent with Rock Hammer	1
4.	Low Loader 30T Capacity	1
5.	Tip Truck 16-25T Gross Capacity	2
6.	Water Tanker 9000l Capacity	1
7.	Concrete Vibrators	2
8.	Wheel loader	1
9.	Crane 50T Capacity	2
10.	Dozer	1
11.	Motor graders(93-205kW)	2
12.	Excavator(7-16 T, 0.25-0.6 m <sup>3</sup> SAE Bucket	1
13.	Double Drum Vibrating Roller	1
14.	Single Drum Vibrating Roller	0
15.	Pneumatic Roller	0
16.	Hand sprayer	0
17.	Pavement/Floor Cutter	0
18.	4X4 pick-ups	4
19.	Hydraulic Jacks – 50tonne	4
20.	Heavy-duty Plain Rollers (conveyor rollers)	8

The Bidder shall include additional relevant equipment necessary to undertake the project.

The Bidder shall provide further details of proposed items of equipment using the relevant Forms in Section IV, Bidding Forms.

Submittals of Bidders found by the Technical Review Panel not to meet the eligibility requirements and the financial and technical capabilities qualifications criteria shall not be considered further.

#### B. Evaluation of Technical Offer

##### 1. Technical Offer

The Technical Offer shall be comprised of the Manufacturing and fabrication proposal for the Works and other forms as called for in Section IV, Bidding Forms. The Employer, with the assistance of the Technical Review Panel, shall then consider the Technical Offers of the Bidders who have been found qualified.

In so doing, they will examine and analyze the technical aspects of each Bid on the basis of the information supplied by Bidders, taking into account the completeness, consistency and level of detail provided. Consideration shall be given to the following:

S/No.	Requirement	Responsiveness
1.	Understanding the Employer's requirements	5
2.	Construction methodology and management.	10
3.	Work Program and Schedule.	10
4.	Cash flow projections.	5
5.	Plant and Construction equipment/ manufacturing capacity.	40
6.	Environmental & Social Impact requirements.	5
7.	Health & Safety Plan of the infrastructure.	5
8.	Project Management Structure.	5
9.	Key Experts	10
10.	Other aspects (list)	5
	<b>Total</b>	100

Each responsive proposal will be given a technical score. A proposal shall be rejected at this stage if it does not respond to important aspects of the Terms of Reference or if it fails to achieve a minimum technical score **60%**.

### C. Evaluation of Price Proposal

Submittals of Bidders found by the Technical Review Panel not to attain the minimum technical score of 60% shall not be considered further.

The Technical Review Panel shall first determine whether the financial submissions are complete and compliant with the Instructions to Bidders. Then, they shall examine the following:

1. Dully filled ad Signed Bills of Quantity. This should be filled for ALL Lots and for ALL Items.
2. The Bid Price, including VAT (16%), Public Procurement Capacity Building Training Levy (PPCBL of 0.03%) and Variation of prices, if any, for contingencies in the Summary Schedule of Prices.
3. Price adjustment due to discounts offered in accordance with ITB 14.4, if any.
4. Adjustment for nonconformities in accordance with ITB 30.3.

As provided in the Schedule of Prices, Bidders shall submit a Bill of Quantities for the Works, including manufacture, supply, construction of sub-structure, installation, LAUNCHING. Subject to any adjustments pursuant to the Instructions to Bidders and Conditions of Contract, the fixed price (rate per item) shall be the Accepted Contract Amount of the successful Bidder.

The Technical Review Panel shall shortlist Bidders that have been determined to be eligible, qualified, and substantially and technically responsive.

## D. Qualification

Factor	1. Eligibility						
Sub-Factor	Requirement	Criteria				Documentation Required	
		Single Entity	Bidder				
			All members combined (Existing or intended or other consortium)	Each member	At least one member		
1.1. Statutory Requirements	Limited Liability Company	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Certified Copy of Certificate of incorporation	
	CR12 Certificate	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Current Certified CR12 Certificate (dated within 6 Months before date of opening) from the Registrar of Companies. This should be provided with Identification Documents of Directors	
	Registration with the NCA 1,2 or 3 its equivalent in Class specified in invitation to tender. The registration certificate and practicing license issued is specific to the contract being undertaken	Must meet the requirement	Must meet requirement	NA	Must meet requirement	Certified Copy of the Registration Certificate and Valid License	
	Form of Tender	Must meet the requirement	Must meet requirement	NA	Must meet requirement	Properly and dully filled, signed and stamped form of bid and appendix to form of bid by the authorized person through the power of attorney. with a bid validity of two hundred and Ten (210) days, from the specified date of bid opening.	

Factor	1. Eligibility					
Sub-Factor	Requirement	Criteria			Documentation Required	
		Single Entity	Bidder			
			All members combined (Existing or intended or other consortium)	Each member	At least one member	
	Tax Compliance	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Copy of valid (1) Tax compliance certificate, (2) VAT compliance certificate and (3) PIN compliance certificate
	Tender Security	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Provide a Tender Security of Kshs. 500,000.00 in the required format. The tender guarantee (security) will remain in force up to and including Two hundred and Ten (210) days after the date of bid submission and including Thirty (30) days beyond the tender validity period of the Tender Sub-Clause 20.1 of Instructions to Bidder.
	Power of Attorney	Must meet requirement	Must meet requirement	Must meet requirement	N / A	written power of attorney authorizing the signatory of the bid to commit the Bidder Witnessed by a Commissioner of Oaths
	Trading License	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Certified copy of trading licence / single business permit.
<b>1.2. Nationality</b>	Nationality in accordance with ITB 4.2.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Bidder's Information Sheet and Joint Venture Information Sheet, with attachments
<b>1.3. Conflict of Interest</b>	No conflicts of interests per ITB 4.3.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid
<b>1.4. Ineligibility</b>	Not having been deemed ineligible based on any criteria set forth in ITB 4.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Bid

Factor	1. Eligibility							
Sub-Factor	Requirement	Criteria				Documentation Required		
		Single Entity	Bidder					
			Joint Venture or Other Consortium		All members combined (Existing or intended or other consortium)	Each member	At least one member	
<b>1.5. Government Owned Entity</b>	Compliance with conditions of ITB 4.4.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Bidder's Information Sheet and Joint Venture Information Sheet, with attachments		

Factor	2. Historical Contract Non-Performance							
Sub-Factor	Requirement	Criteria				Documentation Required		
		Single Entity	Bidder					
			Joint Venture or Other Consortium		All members combined	Each member	At least one member	
<b>2.1 History of Non-performing Contracts</b>	Non-performance of a contract did not occur within the last five (5) years prior to the deadline for Bid submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the dispute resolution mechanism under the respective contract, and where all appeal instances available to the Bidder have been exhausted.	Must meet requirement by itself	N / A	Must meet requirement by itself	N / A	Form: Contract Performance		
<b>2.2 Failure to Sign a Contract</b>	Failure to sign a contract after submitting a bid security has not occurred in the past	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form: Contract Performance		

Factor	2. Historical Contract Non-Performance						
Sub-Factor	Requirement	Criteria				Documentation Required	
		Bidder					
		Single Entity	Joint Venture or Other Consortium		All members combined	Each member	At least one member
	five (5) years. Any deviation should be explained in the enclosed Contract Non-Performance form.						
<b>2.3 Pending Litigation</b>	All pending litigation shall in total not represent more than thirty percent (30%) of the Bidder's net worth and shall be treated as resolved against the Bidder.	Must meet requirement by itself	N / A	Must meet requirement by itself	N / A	Form: Pending Litigation	

Factor	3. Financial Situation						
Sub-Factor	Requirement	Criteria			Documentation Required		
		Bidder					
		Single Entity	Joint Venture or Other Consortium	All members combined	Each member	At least one member	
<b>3.1 Historical Financial Performance</b>	<p>Submission of audited financial statements including balance sheets, income statements, and cash flow statements, or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last three (3) years to demonstrate the current soundness of the Applicant's financial position and its prospective longterm profitability.</p> <p>a.1 Average coefficient of Current ratio (Current Assets/Current Liabilities) <b>≥1.25</b></p> <p>a.2 Average coefficient of Debt ratio (Total Debt / Total Assets) <b>≤ 0.5</b></p>	Must meet requirement	N / A	Must meet requirement	N / A		Form: Financial Situation, with attachments

Factor	3. Financial Situation					
Sub-Factor	Requirement	Criteria				Documentation Required
		Bidder				
		Single Entity	Joint Venture or Other Consortium	All members combined	Each member	At least one member
<b>3.2 Average Annual Construction Turnover</b>	Minimum average annual construction turnover in KES 300 million or equivalent, calculated as total certified payments received for contracts in progress or completed, within last three (3) years.	Must meet requirement	Must meet requirement	Must meet twenty-five percent (25%) of the requirement	Must meet fifty-five percent (55%) of the requirement	Form: Average Annual Construction Turnover and audited financial accounts for the last 3 years (2024, 2023 and 2022)

<b>3.3 Financial Resources</b>	<p>Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet:</p> <ul style="list-style-type: none"> <li>(i) the following cash-flow requirement: cash flow amount of <b>KES 200 million</b> or equivalent; and</li> <li>(ii) the overall cash flow requirements for this Contract and its current commitments.</li> </ul>	<p>Must meet requirement</p>	<p>Must meet requirement</p>	<p>Must meet twenty-five percent (25%) of the requirement</p>	<p>Must meet fifty-five percent (55%) of the requirement</p>	<p>Forms: Financial Resources; Current Contract Commitments/Works in Progress</p>
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Factor	4. Experience					Documentation Required	
Sub-Factor	Requirement	Criteria			Bidder		
		Single Entity					
	Requirement	Joint Venture or Other Consortium	All members combined	Each member	At least one member		
<b>4.1 General Manufacturing/ Fabrication Experience</b>	Experience under contracts in the role of steel fabricator or bridge fabricator for at least the last five (5) years prior to Bid submission deadline, and with activity in at least nine (9) months each year.	Must meet requirement	N/A	Must meet requirement	N/A	Form: General Experience	
<b>4.2 Similar Experience</b>	Participation as a main manufacturer or sub-contractor in at least one (1) contract within the last five (5) years, with a value of at least in <b>KES 50 million</b> or equivalent, that has been successfully completed and that are similar to the proposed Works. Similarity shall be based on the physical size, complexity, methods, technology, or other characteristics as described in Section VIII, Employer's Requirements.	Must meet requirement	Must meet requirements for all characteristics	N / A	Must meet requirement for all characteristics	Form: Similar Experience, completion certificate	

4.3 Specific Experience in Key Activities	For the above or other contracts executed during the period stipulated in 4.2 above, experience in the following key activities: a. <b>Drainage Structures</b> b. <b>Hydrologic studies</b> c. <b>Steel fabrication</b>	Must meet requirements	Must meet requirements	N / A	Must meet requirements	Form: Specific Design Experience in Key Activities
<b>4.4 General Construction Experience</b>	Experience under contracts in the role of Contractor, subcontractor, or management Contractor for at least the last five (5) years prior to Bid submission deadline.	Must meet requirement	N/A	Must meet requirement	N/A	Form: General Construction Experience
<b>4.5 Similar Construction Experience</b>	Participation as Contractor, management Contractor, or subcontractor, in at least <b>1</b> contract within the last three (3) years, each with a value of at least in <b>KES 300</b> million or equivalent, that have been successfully and substantially completed and that are similar to the proposed Works. Similarity shall be based on the physical size, complexity, methods, technology, or other characteristics as described in	Must meet requirement	Must meet requirement	N / A	Must meet requirement	Form: Specific Construction Experience

	Section VIII, Employer's Requirements.					
<b>4.6 Specific Construction Experience in Key Activities</b>	For the above or other contracts executed during the period stipulated in 4.5 above, experience in the following key activities: a. Bridge construction b. Construction Management	Must meet requirements	Must meet requirements	N / A	Must meet the following requirements (can be specialist sub-Contractor): 55% of the requirements.	Form: Specific Construction Experience in Key Activities

## **SECTION IV**

### **TENDERING FORMS**

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## **A. Tender Submission Forms**

## 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 Representatives 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's Representative and Key Personnel**

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

## Resume and Declaration – Contractor's Representative and Key Personnel

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

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

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

## Declaration

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

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

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

I understand that any misrepresentation or omission in this Form may:  
be taken into consideration during Tender evaluation;  
result in my disqualification from participating in the Tender;  
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):

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.:** **RWC 936**

**Title:** **FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

Tenderer's name	
In case of Joint Venture (JV), name of each member:	
Tenderer's actual or intended country of registration: [indicate country of Constitution]	
Tenderer's actual or intended year of incorporation:	
Tenderer's legal address [in country of registration]:	
Tenderer's authorized representative information	
Name: _____	
Address: _____	
Telephone/Fax numbers: _____	
E-mail address: _____	
1. Attached are copies of original documents of	
<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:	
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 and a list of Board of Directors.	

#### **4.2 FORM ELI – 1.2**

Tenderer's JV Information Form

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

**Date:**

**ITT No.:** **RWC 936**

**Title:** **FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

Tenderer's JV name:

JV member's name:

JV member's country of registration:

JV member's year of constitution:

JV member's legal address in country of constitution:

JV member's authorized representative information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone/Fax numbers: \_\_\_\_\_

E-mail address: \_\_\_\_\_

1. Attached are copies of original documents of

Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITT 3.6.

In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and that they are not under the supervision of the Procuring Entity, in accordance with ITT 3.8.

2. Included are the organizational chart and a list of Board of Directors.

#### 4.3 FORM CON – 2

##### Historical Contact Non-Performance, Pending Litigation and Litigation History

Tenderer's Name:

**Date:**

**JV Member's Name:**

**ITT No.:** RWC 936

**Title:** FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY

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

No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4.

Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.

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

#### 4.4 FORM FIN – 3.1:

Financial Situation and Performance  
Tenderer's Name:

**Date:**

**JV Member's Name:**

**ITT No.:** **RWC 936**

**Title: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

##### 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)					
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 Income

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 to Section III, Evaluation and Qualifications Criteria, Sub-factor 3.1.

The financial statements shall:

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) be independently audited or certified in accordance with local legislation. be complete, including all notes to the financial statements.

correspond to accounting periods already completed and audited.

Attached are copies of financial statements<sup>3</sup> for the \_\_\_\_\_ years required above; and complying with the requirements

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<sup>3</sup> If the most recent set of financial statements if for a period earlier than 12 months form the date of the Tender, the reasons 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.:** RWC 936**Title: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

Annual turnover data (construction only)			
Year	Amount Currency	Exchange rate	Kenya equivalent Shilling
[indicate year]	[insert amount and indicate currency]		
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			
No.	Source of financing	Amount (Kenya equivalent)	Shilling
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

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

**4.8 FORM EXP – 4.1:****General Construction Experience****Tenderer's Name:****Date:****JV Member's Name:****ITT No.: RWC 936****Title: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

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.:** **RWC 936****Title: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

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's Name:****Sub-Contactor's Name<sup>4</sup> (as per ITT 34):****ITT No.:** RWC 936**Title: FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY**

All Sub-Contractor's 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.

Key Activity No. One: \_\_\_\_\_

Information					
Contract Identification					
Award date					
Completion date					
Role in Contract	Prime Contractor <input type="checkbox"/>	Member JV <input type="checkbox"/>	in 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 (i)	in 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:					

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<sup>2</sup> 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

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

### INSTRUCTIONS TO TENDERERS

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

- 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. *Tenderers are reminded that this is a mandatory requirement.*
- iii. *Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (s) below.*

<b>Date of This Tender Submission:</b>	<i>[insert date (as day, month and year) of Tender submission]</i>
<b>Tender Name and Identification:</b>	<i>[insert identification]</i>
<b>Alternative No.:</b>	<i>[insert identification No. if this is a tender for an alternative]</i>
<b>To:</b>	<i>[insert complete name of Procuring Entity]</i>

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 supply, 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] \_\_\_\_\_ N/A [words] \_\_\_\_\_ N/A .

*(To be read as per provided rates per item as given in the Bills of Quantity per Lot)*

The above rates shall be per Lot as per the Table below:

<b>Lots</b>	<b>Locations for Pricing &amp; Delivery</b>	<b>Contract Period</b>
Lot 1: Coast	1. Mombasa, 2. Kwale, 3. Kilifi, 4. Tana River, 5. Lamu, 6. Taita Taveta	Within the FA Period
Lot 2: Eastern	1. Machakos, 2. Makueni, 3. Kitui, 4. Embu, 5. Tharaka Nithi, 6. Meru, 7. Isiolo, 8. Marsabit	Within the FA Period
Lot 3: North	1. Garissa, 2. Wajir, 3. Mandera	Within the FA Period

<b>Lots</b>	<b>Locations for Pricing &amp; Delivery</b>	<b>Contract Period</b>
Eastern		
Lot 4: Central	1. Kiambu, 2. Murang'a, 3. Nyeri, 4. Kirinyaga, 5. Nyandarua, 6. Nairobi, 7. Kajiado	Within the FA Period
Lot 5: Rift Valley	1. Nakuru, 2. Uasin Gishu, 3. Elgeyo Marakwet, 4. Nandi, 5. Baringo, 6. Laikipia, 7. Narok, 8. Kericho, 9. Bomet, 10. West Pokot, 11. Samburu, 12. Turkana, 13. Trans Nzoia	Within the FA Period
Lot 6: Western	1. Kakamega, 2. Vihiga, 3. Bungoma, 4. Busia	Within the FA Period
Lot 7: Nyanza	1. Kisumu, 2. Siaya, 3. Homa Bay, 4. Migori, 5. Kisii, 6. Nyamira	Within the FA Period
Lot 8: Supply of Bailey Bridges	Nairobi Wilson Airport Yard	Within the FA Period

*The rates given by the Bidder should be inclusive of VAT (16%) and Public Procurement Capacity Building Levy (PPCBL) of 0.03%.*

2. We undertake, if our tender is accepted, to commence the Supplies, 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 N/A
  - vii. Option 2, in case of multiple lots:
    - a) *Price of each lot per item* [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]; N/A

viii. Discounts: The discounts offered and the methodology for their application are:

ix. The discounts offered are: [Specify in detail each discount offered.]

x. 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];

xi. 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;

xii. Performance Security: If our Tender is accepted, we commit to obtain a Performance Security in accordance with the Tendering document;

xiii. 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;

xiv. 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.

xv. 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];

xvi. 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.")*

xvii. 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;

xviii. 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;

xix. 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;

- xx. **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.
- xxi. 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.
- xxii. **Beneficial Ownership Information:** We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.
- xxiii. We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:
  - a) Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict 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.*

# TENDERER'S ELIGIBILITY – CONFIDENTIAL BUSINESS QUESTIONNAIRE

## Instruction to Tenderer

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

## Tenderer's Details

	<b>ITEM</b>	<b>DESCRIPTION</b>
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.	Country City Location Building Floor Postal Address  Name of contact person.  Email of contact person.  Telephone Number.
6	Current Trade License Registration Number and Expiring date	
7	Name, country and full address (postal and physical addresses, email, and telephone number) of Registering Body/Agency	
8	Description of Nature of Business	
9	Maximum value of business which the Tenderer handles.	
10	State if Tenders Company is listed in stock exchange, give name and full address (postal and physical addresses, email, and telephone number) of state which stock exchange	

## **General and Specific Details**

### **1. Sole Proprietor, provide the following details.**

Name in full \_\_\_\_\_ Age \_\_\_\_\_

Nationality \_\_\_\_\_

Country of Origin \_\_\_\_\_

Citizenship \_\_\_\_\_

### **2. Partnership, provide the following details.**

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

### **3. Registered Company, provide the following details.**

Private or Public Company \_\_\_\_\_

State the nominal and issued capital of the Company \_\_\_\_\_

Nominal Kenya Shillings (Equivalent) \_\_\_\_\_

Issued Kenya Shillings (Equivalent) \_\_\_\_\_

Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

### **4. DISCLOSURE OF INTEREST – Interest of the Firm in the Procuring Entity.**

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			

## **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.		

	Type of Conflict	Disclosure YES      OR NO	If YES provide details of the relationship with Tenderer
2	Tenderer receives or has received any direct or indirect subsidy from another tenderer.		
3	Tenderer has the same legal representative as another tenderer		
4	Tender has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process.		
5	Any of the Tenderer's affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender.		
6	Tenderer would be providing goods, works, non-consulting services or consulting services during implementation of the contract specified in this Tender Document.		
7	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract.		
8	Tenderer has a close business or family relationship with a professional staff of the Procuring Entity who would be involved in the implementation or supervision of the such Contract.		
9	Has the conflict stemming from such relationship stated in item 7 and 8 above been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.		

## 5. 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)

## 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 understood 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 in response to this request for tenders;
  - b. could potentially submit a tender in response to this request for tenders, based on their qualification, 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, sign and authorized agent of Tenderer and Date].*

## **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: -

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.

THAT the aforesaid Bidder, its Directors and subcontractors have not been debarred from participating in procurement proceeding under Part IV of the Act.

THAT what is deponed to herein above is true to the best of my knowledge, information and belief.

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

Bidder Official Stamp

## FORM SD2

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

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

THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ..... (Insert name of the Company) who is a Bidder in respect of Tender No. ..... for

..... (Insert tender title/description) for ..... (insert name of the Procuring entity) and duly authorized and competent to make this statement.

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

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

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

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

.....  
(Title)

.....  
(Signature)

.....  
(Date)

Bidder's Official Stamp

## **DECLARATION AND COMMITMENT TO THE CODE OF ETHICS**

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

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

Name of Authorized signatory.....

Sign.....

Position.....

Office.....

address..... Telephone.....

E-mail.....

Name of the Firm/Company.....

Date.....

**(Company Seal/ Rubber Stamp where applicable)**

Witness

Name .....

Sign.....

Date.....

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## APPENDIX 1 – FRAUD AND CORRUPTION

*(Appendix 1 shall not be modified)*

### 1. Purpose

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

### 2. Requirements

2.1 The Government of Kenya requires that all parties including Procuring Entities, Tenderers, (applicants/proposers), Consultants, Contractors and Suppliers; any Sub-contractors, Sub-consultants, Service providers or Suppliers; any Agents (whether declared or not); and any of their Personnel, involved and engaged in procurement under Kenya's Laws and Regulation, observe the highest standard of ethics during the procurement process, selection and contract execution of all contracts, and refrain from Fraud and Corruption and fully comply with Kenya's laws and Regulations as per paragraphs 1.1 above.

2.2 Kenya's public procurement and asset disposal act (no. 33 of 2015) under Section 66 describes rules to be followed and actions to be taken in dealing with Corrupt, Coercive, Obstructive, Collusive or Fraudulent practices, and Conflicts of Interest in procurement including consequences for offences committed. A few of the provisions noted below highlight Kenya's policy of no tolerance for such practices and behaviour: -

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.

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

- a. Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
  - i. "Corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
  - ii. "Fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
  - iii. "Collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
  - 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 award<sup>1</sup> 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 inspect<sup>2</sup> all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and
  - f. Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document

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

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*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.*

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**FORM OF TENDER SECURITY - [Option 1–Demand Bank Guarantee]****Beneficiary:**.....**Request for Tenders No:**.....**Date:**.....**TENDER GUARANTEE No.:**.....**Guarantor:**

We have been informed that.....(here in after called "*the Applicant*") has submitted or will submit to the Beneficiary its Tender (here in after called" the Tender") for the execution of.....under Request for Tenders No.....("the ITT").

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

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 thereto provided by the Applicant, (i) has failed to execute the FRAMEWORK AGREEMENT, or (ii) has failed to furnish the Performance.

This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the FRAMEWORK 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.

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

---

[signature(s)]

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

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**FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]****TENDER GUARANTEE NO.:**

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”).

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 \_\_\_\_.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Applicant:

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

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 FRAMEWORK 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.

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.

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

---

[Date]

---

[Signature of the Guarantor]

---

[Witness]

---

[Seal]

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

---

**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 processes]

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]

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

## **PROCURING ENTITY'S REQUIREMENTS**

**Method Statement**

Each Bidder shall set out details of the Method Statement for the Works to demonstrate how it will meet the Employer's objective and requirements. At a minimum, the Method Statement shall address the following:

- (a) Details of the arrangements and methods which the Bidder proposes to adopt for the manufacture and construction of the Works, in sufficient detail to demonstrate their adequacy to achieve the requirements of the Contract including completion within the Time for Completion as will be required.
- (b) Outline of the arrangements, which the Bidder proposes to adopt to manage coordination of Site access.
- (c) Commentary on the geotechnical and subsurface aspects of the Works including materials, material sources and any constraints.
- (d) Commentary on any offshore or waterfront aspects of the Works.
- (e) Commentary on logistics and traffic management
- (f) Outline of the arrangements, which the Bidder proposes to adopt to ensure compliance with the Employer's Requirements.
- (g) Outline of the arrangements, which the Bidder proposes for testing upon completion as called for in the Employer's Requirements.
- (h) Outline of arrangements, which the Bidder proposes for conducting training as specified in the Employer's Requirements.
- (i) Outline of arrangements for handover, including completion of as-built drawings, preparation of operation and maintenance manuals, and any additional matters.

**Program and Schedule**

Each Bidder shall set out a detailed Program and Schedule for design and construction of the Works to be undertaken, including estimated start and finish dates for individual components and identification of major milestones and critical path. The proposed Program and Schedule shall be developed according to Employer's Requirements and shall address the following:

- (a) Details of the proposed schedule for design of the Works, including the submission of design documents, review, and approval of the design by the Engineer.
- (b) Details of the proposed schedule for permitting processes that may be necessary in order to commence the Works, including the preparation of required studies, supporting information, and applications.
- (c) Details of the proposed timeline for carrying out the Works within the Time for Completion, in the form of a bar chart showing notably the critical path.
- (d) Details of the proposed timeline for the testing, LAUNCHING and handing over of the completed Works.

**Cash Flow Projection**

Each Bidder shall set out details of the Cash Flow Projection indicating quarterly projected expenditure throughout the duration of the Contract, both the percent of the Accepted Contract Amount and the cumulative percentage of the Accepted Contract Amount by quarter. The Cash Flow Projection shall address the following, taking into consideration payment of the Advance Payment, amortization of the Advance Payment, withholding of the Retention, and release of the Retention:

- (a) The periodic payments by milestones for the design and construction of the Works.
- (b) [The periodic payments based on measurement for the construction of the Works, as applicable.]<sup>4</sup>

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<sup>4</sup> Include (b) in the event that, in addition to the Schedule of Prices, there is one or more Bill(s) of Quantities and measurement of some or all of the quantities of the Works.

## **Construction Equipment**

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key plant and 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 Bidder.

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 Bidder.

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	

## **Project Management Organization**

The Bidder shall set out details of the Project Management Organization, together with identification and Curriculum Vitae (“CV”) for each key member for each component of the Project.

CVs are provided for the key personnel for the following positions, using the forms provided for that purpose:

No.	Position	Total Related Work Similar Experience (years)	Experience in Similar Designs and/or Works (years)
1			
2			
3			
4			
5			
6			
7			
8			

The Bidder shall provide the following information:

- (a) organizational chart showing lines of communications as well as communications plan for managing communications with key stakeholders;
- (b) plans for subcontracting any parts of the Works and the services to be carried out, or the Plant and Equipment to be provided by subcontractors;
- (c) quality management system, describing the basis and operation of the proposed quality management system, including management reviews, procedural audits, checking, procedures for monitoring, reporting and dealing with nonconformities, corrective actions, and feedback and
- (d) Data management plan in accordance with the Employer’s Requirements, describing the proposed system for storing, indexing, and accessing data such as correspondence, meeting minutes, reports, drawings, etc.

## **CVs of Key Personnel**

Name of Bidder		
Position		
Personnel information	Name	Date of birth
	Professional qualifications	
Present employment	Name of employer	
	Address of employer	
	Telephone	Contact (manager / personnel officer)
	Fax	E-mail
	Job title	Years with present employer

Summarize professional experience over the last 20 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

*[All CVs of Key Personnel must be signed and dated by them during the Bid preparation period.]*

**Environmental & Social Impact Documents**

The Bidder shall provide the documents below to show that it has in place sufficient environmental and social documents and awareness to be able to perform responsibilities in accordance with the Kenyan Environmental Guidelines and Laws.

The successful Bidder will be required to carry out the Works in accordance with Kenyan Environmental Guidelines, including social and resettlement guidance, Gender Policy, and environmental requirements of the Employer's Government as well as the Site-specific Environmental Management Plan ("EMP"), to be prepared by it following Contract award, and approved by the Engineer, on the basis of the Employer's EMP provided in Section IX. The Bidder shall demonstrate in a narrative section of its Technical Offer that it possesses a high level of Environmental and Social ("E&S") management expertise and can successfully manage the E&S risks associated with the implementation of the proposed Works, as follows:

- (a) Provide examples of Site-specific E&S management plans developed by the Bidder for similar work over the last five (5) years;
- (b) Provide examples of project-specific environmental management specifications developed by the bidder for similar work over the last five (5) years;
- (c) Demonstrate a successful record implementing effective E&S mitigation measures on similar projects over the last five (5) years;
- (d) Describe proposed E&S staffing, roles and responsibilities, and management structure;
- (e) Describe the proposed approach to managing E&S impacts during implementation of this project, including a description of the mitigation measures that will be used and international E&S standards that may be applicable; provide enough detail to demonstrate an understanding of the critical E&S issues related to the project; and
- (f) Provide two (2) references regarding the Bidder's development of Site-specific EMPs and successful implementation of E&S mitigation measures.

**Health & Safety Documents**

The Bidder shall provide the documents below to show that it has in place sufficient safety policy documents and safety awareness to be able to perform their responsibilities in a safe and competent manner.

The successful Bidder will be required to design and carry out the Works in accordance with the Site-specific Health and Safety Plan to be developed by it following Contract award, and approved by the Engineer, based on the Employer's Requirements provided in Section IX.

The Bidder shall demonstrate in a narrative section of its Technical Offer that it possesses a high level of Health and Safety ("H&S") management expertise and can successfully manage the H&S risks related to the implementation of the Works. To demonstrate, the Bidder shall provide the following:

- (a) Provide examples of H&S management plans developed by the Bidder for similar work over the last five (5) years;
- (b) Demonstrate a successful record implementing effective H&S mitigation measures on similar projects over the last five (5) years;
- (c) Describe proposed H&S staffing, roles and responsibilities, and management structure;
- (d) Describe the proposed approach to managing H&S impacts during implementation of the Works, including a summary of mitigation measures that will be used and international H&S standards that may be applicable; provide enough detail to demonstrate an understanding of the critical H&S issues related to the project; and
- (e) Provide two (2) references regarding the Bidder's development of H&S plans and successful implementation of H&S mitigation measures.

## **Part I**

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## **SECTION V**

### **GENERAL CONDITIONS OF CONTRACT**

**General Conditions of Contract**

**KENYA RURAL ROADS AUTHORITY**

**FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY,  
INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE  
COUNTRY**

**CONDITIONS OF CONTRACT**

**GENERAL CONDITIONS**

## 1. GENERAL PROVISIONS

### 1.1 Definitions-

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

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

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

**“Completion Date”** means the date of completion of the Works as certified by the Project Manager.

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

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

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

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

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

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

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

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

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

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

**“Day works”** means Work inputs subject to payment on a time basis for labor and the associated materials and plant.

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

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

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

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

**“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.

**“Procuring Entity”** means the Procuring Entity named as Procuring Entity in the Particular Conditions of Contract.

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

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

**“Project Manager”** means the person appointed by the Procuring Entity to act as the Project Manager for the purposes of the Contract and named in the Particular Conditions of Contract, or other person appointed from time to time by the Procuring Entity and notified to the Contractor.

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

**“Final Statement”** means the statement defined in Sub-Clause 14.11 [Application for Final Payment Certificate]. **“Force Majeure”** is defined in Clause 19 [Force Majeure].

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

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

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

**“Laws”** means all national (or state) legislation, statutes, ordinances and other laws, and regulations and by-laws of any legally constituted public authority.

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

**“Local Currency”** means the currency of Kenya.

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

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

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

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

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

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

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

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

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

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

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

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

**“Site Investigation Reports”** are those reports that may be included in the tendering documents which are factual and interpretative about the surface and subsurface conditions at the Site.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## 1.2 Interpretation

In the Contract, except where the context requires otherwise:

- a) Words indicating one gender include all genders;
- b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record; and
- e) The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

## 1.3 Communications

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

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

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

## 1.4 Law and Language

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

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

## 1.5 Priority of Documents

1.5.1 The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:

- a) The FRAMEWORK AGREEMENT,
- b) The Letter of Acceptance,
- c) The Form of Tender,
- d) The Particular Conditions—Part A,
- e) The Particular Conditions—Part B
- f) These General Conditions of Contract
- g) The Specifications
- h) the Drawings, and
- i) the Schedules and any other documents forming part of the Contract.

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

1.5.1 Prior to commencing construction works, the Contractor shall prepare and submit to the Procuring Entity for approval drawings and specifications (including Bills of Quantities, (if need be) which will guide on the contract works to be carried out. The Specifications shall be prepared taking the following Notes for preparing Specifications.

### **Specifications**

1. Specifications must be drafted to present a clear and precise statement of the required standards of materials, and workmanship to the requirements of the Procuring Entity. 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.
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 Contractor should provide a description of the selected parts of the Works with appropriate reference to Drawings, Specifications, Bills of Quantities, and Design or Performance criteria, stating that the alternative solutions shall be at least structurally and functionally equivalent to the basic design parameters and Specifications.
7. Such alternative solutions shall be accompanied by all information necessary for a complete evaluation by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, proposed construction methodology, and other relevant details. Technical alternatives permitted in this manner shall be considered by the Procuring Entity each on its own merits and independently of whether the contractor has priced the item as described in his design included with the contract documents.

## 1.6 FRAMEWORK AGREEMENT

1.6.1 The Parties shall enter into a FRAMEWORK AGREEMENT within 28 days after the Contractor receives the Letter of Acceptance, unless the Particular Conditions establish otherwise. The FRAMEWORK AGREEMENT shall be based upon the form annexed to the Particular Conditions. The costs of stamp duties and similar charges (if any) imposed by law in connection with entry into the FRAMEWORK AGREEMENT shall be borne by the Procuring Entity.

1.6.2 The Framework Agreement establishes the terms and conditions that will govern the contract awarded during the term of the Framework Agreement. The Framework Agreement establishes for the procurement works by package as and when required, over the specified period of time. The Framework Agreement does not commit a Procuring Entity to procure, nor a firm to supply. The Framework Agreement allows the Procuring Entity to call the Contractor to commence the works on a particular package in a specified location within the duration of the agreement.

1.6.3 This Framework Agreement does not guarantee the contractor of being called for a contract to start and no commitment is made with regard to possible number of packages to be carried out.

1.6.4 This Framework Agreement does not exclude the Procuring Entity from the right to procure the same Works from other firms.

1.6.5 This Framework Agreement does not stop the Procuring Entity from removing the contractor from the same Agreement.

1.6.6 FAs shall be established for a maximum period of three (3) years. The Procuring Entity may with the Consent of the Contractor extend this Agreement if the agreement period is less than three (3) years, if the initial engagement has been satisfactory.

1.6.7 **Call-off Contracts;** for work on a package to start, the Procuring Entity shall issue a notice of acceptance of a particular package requesting the contractor to furnish a Performance Security and to start the works thereafter, and providing the contractor with details of location where the works, are to be carried out. The call-off statement shall specify the objectives, tasks, deliverables, timeframes and price or price mechanism. The price for individual call-off contracts shall be based on the prices detailed in the Framework Agreement.

## 1.7 Assignment

Neither Party shall assign the whole or any part of the Contractor any benefit or interest in or under the Contract. However, either Party:

- a) May assign the whole or any part with the prior agreement of the other Party, at the sole discretion of such other Party, and
- b) may, as security in favor of a bank or financial institution, assign its right to any moneys due, or to become due, under the Contract.

## 1.8 Care and Supply of Documents

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

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

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

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

## 1.9 Delayed Instructions

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

## **1.10. Procuring Entity's Use of Contractor's Documents**

- 1.10.1 As between the Parties, the Contractor shall retain the copyright and other intellectual property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor.

1.10.2 The Contractor shall be deemed (by signing the Contract) to give to the Procuring Entity a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This license shall:

- a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by the Contract, including replacements of any computers supplied by the Contractor.

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

## **1.11. Contractor's Use of Procuring Entity's Documents**

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

## **1.12. Confidential Details**

1.12.1 The Contractor's and the Procuring Entity's Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify compliance with the Contract and allow its proper implementation.

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

## **1.13. Compliance with Laws**

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

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

## **1.14. Joint and Several Liability**

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

- a) These persons shall be deemed to be jointly and severally liable to the Procuring Entity for the performance of the Contract;

- b) these persons shall notify the Procuring Entity of their leader who shall have authority to bind the Contractor and each of these persons; and
- c) the Contractor shall not alter its composition or legal status without the prior consent of the Procuring Entity.

## 1.15 Inspections and Audit by the Procuring Entity

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

## 2. THE PROCURING ENTITY

### 2.1 Right of Access to the Site

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

- 2.5 After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.
- 2.6 However, if and to the extent that the Procuring Entity's failure was caused by any error or delay by the Contractor, including an error in, or delay in the submission of, any of the Contractor's Documents, the Contractor shall not be entitled to such extension of time, Cost or profit.

### 2.2. Permits, Licenses or Approvals

- 2.2.1 The Procuring Entity shall provide, at the request of the Contractor, such reasonable assistance as to allow the Contractor to obtain properly:
  - a) Copies of the Laws of Kenya which are relevant to the Contract but are not readily available, and
  - b) Any permits, licenses or approvals required by the Laws of Kenya:
    - i) Which the Contractor is required to obtain under Sub-Clause 1.13 [Compliance with Laws],
    - ii) For the delivery of Goods, including clearance through customs, and
    - iii) For the export of Contractor's Equipment when it is removed from the Site.

## **2.3 Procuring Entity's Personnel**

2.3.1 The Procuring Entity shall be responsible for ensuring that the Procuring Entity's Personnel and the Procuring Entity's other contractors on the Site:

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

## **2.4 Procuring Entity's Financial Arrangements**

The Procuring Entity shall submit, before the Commencement Date and thereafter within 28 days after receiving any request from the Contractor, reasonable evidence that financial arrangements have been made and are being maintained which will enable the Procuring Entity to pay the Contract Price punctually (as estimated at that time) in accordance with Clause 14 [Contract Price and Payment]. Before the Procuring Entity makes any material change to his financial arrangements, the Procuring Entity shall give notice to the Contractor with detailed particulars.

## **2.5 Procuring Entity's Claims**

2.5.1 If the Procuring Entity considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Procuring Entity or the Project Manager shall give notice and particulars to the Contractor. However, notice is not required for payments due under Sub-Clause 4.19 [Electricity, Water and Gas], under Sub-Clause 4.20 [Procuring Entity's Equipment and Free-Issue Materials], or for other services requested by the Contractor.

2.5.2 The notice shall be given as soon as practicable and no longer than 28 days after the Procuring Entity became aware, or should have become aware, of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

2.5.3 The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/ or extension to which the Procuring Entity considers himself to be entitled in connection with the Contract. The Project Manager shall then proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the amount (if any) which the Procuring Entity is entitled to be paid by the Contractor, and/ or (ii) the extension (if any) of the Defects Notification Period in accordance with Sub-Clause 11.3 [Extension of Defects Notification Period].

2.5.4 This amount may be included as a deduction in the Contract Price and Payment Certificates. The Procuring Entity shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim against the Contractor, in accordance with this Sub-Clause.

## **3. The Project Manager**

### **3.1 Project Manager's Duties and Authority**

3.1.1 The Procuring Entity shall appoint the Project Manager who shall carry out the duties assigned to him in the Contract. The Project Manager's staff shall include suitably qualified Assistants and other professionals who are competent to carry out these duties. The Project Manager's Name and Address shall be provided in the **Particular Conditions of Contract**.

3.1.2 The Project Manager shall have no authority to amend the Contract.

3.1.3 The Project Manager may exercise the authority attributable to the Project Manager as specified in or necessarily to be implied from the Contract. If the Project Manager is required to obtain the approval of the Procuring Entity before exercising a specified authority, the requirements shall be as stated in the Particular Conditions. The Procuring Entity shall promptly inform the Contractor of any change to the authority attributed to the Project Manager.

3.1.4 However, whenever the Project Manager exercises a specified authority for which the Procuring Entity's approval is required, then (for the purposes of the Contract) the Procuring Entity shall be deemed to have given approval.

3.1.5 Except as otherwise stated in these Conditions:

- a) Whenever carrying out duties or exercising authority, specified in or implied by the Contract, the Project Manager shall be deemed to act for the Procuring Entity;
- b) The Project Manager has no authority to relieve either Party of any duties, obligations or responsibilities under the Contract;
- c) Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Project Manager (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies and non-compliances; and
- d) any act by the Project Manager in response to a Contractor's request except as otherwise expressly specified shall be notified in writing to the Contractor within 28 days of receipt.

3.1.6 The following provisions shall apply:

The Project Manager shall obtain the specific approval of the Procuring Entity before acting under the following Sub-Clauses of these Conditions:

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

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

## 3.2 Delegation by the Project Manager

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

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

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

### **3.3 Instructions of the Project Manager**

3.3.1 The Project Manager may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Project Manager, or from an assistant to whom the appropriate authority has been delegated under this Clause. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

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

- d) Gives an oral instruction,
- e) receives a written confirmation of the instruction, from (or on behalf of) the Contractor, within two working days after giving the instruction, and
- f) does not reply by issuing a written rejection and/ or instruction within two working days after receiving the confirmation, then the confirmation shall constitute the written instruction of the Project Manager or delegated assistant (as the case may be).

### **3.4 Replacement of the Project Manager**

If the Procuring Entity intends to replace the Project Manager, the Procuring Entity shall, not less than 21 days before the intended date of replacement, give notice to the Contractor of the name, address and relevant experience of the intended replacement Project Manager. If the Contractor considers the intended replacement Project Manager to be unsuitable, he has the right to raise objection against him by notice to the Procuring Entity, with supporting particulars, and the Procuring Entity shall give full and fair consideration to this objection.

### **3.5 Determinations**

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

3.5.2 The Project Manager shall give notice to both Parties of each agreement or determination, with supporting particulars, within 28 days from the receipt of the corresponding claim or request except when otherwise specified. Each Party shall give effect to each agreement or determination unless and until revised under Clause 20 [Claims, Disputes and Arbitration].

## **4. The Contractor**

### **4.1 Contractor's General Obligations**

4.1 The Contractor shall design (to the extent specified in the Contract), execute and complete the Works in accordance with the Contract and with the Project Manager's instructions, and shall remedy any defects in the Works.

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

4.1.2 All equipment, material, and services to be incorporated in or required for the Works shall have their origin in any eligible source country.

4.1.3 The Contractor shall be responsible for the adequacy, stability and safety of all Site operations and of all methods of construction. Except to the extent specified in the Contract, the Contractor (I) shall be responsible for all Contractor's Documents, Temporary Works, and such design of each item of Plant and Materials as is required for the item to be in accordance with the Contract, and (ii) shall not otherwise be responsible for the design or specification of the Permanent Works.

4.1.4 The Contractor shall, whenever required by the Project Manager, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Project Manager.

4.1.5 If the Contract specifies that the Contractor shall design any part of the Permanent Works, then unless otherwise stated in the Particular Conditions:

- a) The Contractor shall submit to the Project Manager the Contractor's Documents for this part in accordance with the procedures specified in the Contract;
- b) These Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Sub-Clause 1.4 [Law and Language], and shall include additional information required by the Project Manager to add to the Drawings for co-ordination of each Party's designs;
- c) The Contractor shall be responsible for this part and it shall, when the Works are completed, befit for such purposes for which the part is intended as are specified in the Contract; and
- d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Project Manager the "as-built" documents and, if applicable, operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Procuring Entity to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works. Such part shall not be considered to be completed for the purposes of taking-over under Sub-Clause 10.1 [Taking Over of the Works and Sections] until these documents and manuals have been submitted to the Project Manager.

## 4.2 Performance Security

4.2.1 The Contractor shall obtain (at his cost) a Performance Security for proper performance, in the amount stated in the **Particular Conditions of Contract** and denominated in the currency (I e s) of the Contract or in a freely convertible currency acceptable to the Procuring Entity. If an amount is not stated in the Particular Conditions of Contract, this Sub-Clause shall not apply.

4.2.2 The Contractor shall deliver the Performance Security to the Procuring Entity within 28 days after receiving the Letter of Acceptance, and shall send a copy to the Project Manager. The Performance Security shall be issued by a reputable bank selected by the Contractor, and shall be in the form annexed to the Particular Conditions, as stipulated by the Procuring Entity in the Particular Conditions of Contract, or in another form approved by the Procuring Entity.

4.2.3 The Contractor shall ensure that the Performance Security is valid and enforceable until the Contractor has executed and completed the Works and remedied any defects. If the terms of the Performance Security specify its expiry date, and the Contract or has not become entitled to receive the Performance Certificate by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the Performance Security until the Works have been completed and any defects have been remedied.

4.2.4 The Procuring Entity shall not make a claim under the Performance Security, except for amounts to which the Procuring Entity is entitled under the Contract.

4.2.5 The Procuring Entity shall indemnify and hold the Contractor harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from a claim under the Performance Security to the extent to which the Procuring Entity was not entitled to make the claim.

4.2.6 The Procuring Entity shall return the Performance Security to the Contractor within 14 days after receiving a copy of the Taking-Over Certificate.

4.2.7 Without limitation to the provisions of the rest of this Sub-Clause, whenever the Project Manager determines an addition or a reduction to the Contract Price as a result of a change in cost and/ or legislation, or as a result of a Variation, amounting to more than 25 percent of the portion of the Contract Price payable in a specific currency, the Contractor shall at the Project Manager's request promptly increase, or may decrease, as the case may be, the value of the Performance Security in that currency by an equal percentage.

#### **4.3 Contractor's Representative**

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

#### **4.4 Subcontractors**

- 4.4.1 The Contractor shall not subcontract sublet the whole of the Works.
- 4.4.1 The Contractor shall be responsible for the acts or defaults of any Subcontractor, his agents or employees, as if they were the acts or defaults of the Contractor. Unless otherwise stated in the Particular Conditions:
  - e) The Contractor shall not be required to obtain consent to suppliers solely of Materials, or to a subcontract for which the Subcontractor is named in the Contract;
  - f) The prior consent of the Project Manager shall be obtained to other proposed Subcontractors;
  - g) the Contractor shall give the Project Manager not less than 28 days' notice of the intended date of the commencement of each Subcontractor's work, and of the commencement of such work on the Site; and
  - h) each subcontract shall include provisions which would entitle the Procuring Entity to require the subcontract to be assigned to the Procuring Entity under Sub-Clause 4.5 [Assignment of Benefit of Subcontract] (I for when applicable) or in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity].
- 4.4.3 The Contractor shall ensure that the requirements imposed on the Contractor by Sub-Clause 1.12 [Confidential Details] apply equally to each Subcontractor.
- 4.4.4 Where practicable, the Contractor shall give fair and reasonable opportunity for contractors from Kenya to be appointed as Subcontractors.

#### **4.5 Assignment of Benefit of Subcontract**

- 4.5.1 If a Subcontractor's obligations extend beyond the expiry date of the relevant Defects Notification Period and the Project Manager, prior to this date, instructs the Contractor to assign the benefit of such obligations to the

Procuring Entity, then the Contractor shall do so. Unless otherwise stated in the assignment, the Contractor shall have no liability to the Procuring Entity for the work carried out by the Subcontractor after the assignment takes effect.

#### **4.6 Co-operation**

- 4.6.1 The Contractor shall, as specified in the Contract or as instructed by the Project Manager, allow appropriate opportunities for carrying out work to:
  - i) The Procuring Entity's Personnel,
  - j) Any other contractors employed by the Procuring Entity, and
  - k) The personnel of any legally constituted public authorities, who may be employed in the execution on or near the Site of any work not included in the Contract.
- 4.6.2 Any such instruction shall constitute a Variation if and to the extent that it causes the Contractor to suffer delays and/or to incur Unforeseeable Cost. Services for these personnel and other contractors may include the use of Contractor's Equipment, Temporary Works or access arrangements which are the responsibility of the Contractor.
- 4.6.3 If, under the Contract, the Procuring Entity is required to give to the Contractor possession of any foundation, structure, plant or means of access in accordance with Contractor's Documents, the Contractor shall submit such documents to the Project Manager in the time and manner stated in the Specification.

#### **4.7 Setting Out**

- 4.7.1 The Contractor shall set out the Works in relation to original points, lines and levels of reference specified in the Contractor notified by the Project Manager. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.
- 4.7.2 The Procuring Entity shall be responsible for any errors in these specified or notified items of reference, but the Contractor shall use reasonable efforts to verify their accuracy before they are used.
- 4.7.3 If the Contractor suffers delay and/or incurs Cost from executing work which was necessitated by an error in these items of reference, and an experienced contractor could not reasonably have discovered such error and avoided this delay and/or Cost, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
  - l) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - m) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 4.7.4 After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent the error could not reasonably have been discovered, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this.

#### **4.8 Safety Procedures**

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

#### **4.9 Quality Assurance**

- 4.9.1 The Contractor shall institute a quality assurance system to demonstrate compliance with the requirements of the Contract. The system shall be in accordance with the details stated in the Contract. The Project Manager shall be entitled to audit any aspect of the system.
- 4.9.2 Details of all procedures and compliance documents shall be submitted to the Project Manager for information before each design and execution stage is commenced. When any document of a technical nature is issued to the Project Manager, evidence of the prior approval by the Contractor himself shall be apparent on the document itself.
- 4.9.3 Compliance with the quality assurance system shall not relieve the Contractor of any of his duties, obligations or responsibilities under the Contract.

#### **4.10 Site Data**

- 4.10.1 The Procuring Entity shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Procuring Entity's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Procuring Entity shall similarly make available to the Contractor all such data which come into the Procuring Entity's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.
- 4.10.1 To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):
  - n) The form and nature of the Site, including sub-surface conditions,
  - o) The hydrological and climatic conditions,
  - p) The extent and nature of the work and Goods necessary for the execution and completion of the Works and the remedying of any defects,
  - q) The Laws, procedures and labor practices of Kenya, and
  - r) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

#### **4.11 Sufficiency of the Accepted Contract Amount**

- 4.11.1 The Contractor shall be deemed to:
  - s) Have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and
  - t) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data].
- 4.11.2 Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper execution and completion of the Works and the remedying of any defects.

#### **4.12 Unforeseeable Physical Conditions**

- 4.12.1 In this Sub-Clause, "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants, which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.
- 4.12.2 If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable, the Contractor shall give notice to the Project Manager as soon as practicable.
- 4.12.3 This notice shall describe the physical conditions, so that they can be inspected by the Project Manager, and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works, using such proper and reasonable measures as are appropriate for the physical conditions,

and shall comply with any instructions which the Project Manager may give. If an instruction constitutes a Variation, Clause 13 [Variations and Adjustments] shall apply.

- 4.12.4 If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice, and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be titled subject to notice under Sub-Clause 20.1 [Contractor's Claims] to:
  - a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost, which shall be included in the Contract Price.
- 4.12.5 Upon receiving such notice and inspecting and/or investigating these physical conditions, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable, and (ii) the matters described in sub-paragraphs (a) and (b) above related to this extent.
- 4.12.6 However, before additional Cost is finally agreed or determined under sub-paragraph (ii), the Project Manager may also review whether other physical conditions in similar parts of the Works (if any) were more favorable than could reasonably have been foreseen when the Contractor submitted the Tender. If and to the extent that these more favorable conditions were encountered, the Project Manager may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine the reductions in Cost which were due to these conditions, which may be included (as deductions) in the Contract Price and Payment Certificates. However, the net effect of all adjustments under sub-paragraph (b) and all these reductions, for all the physical conditions encountered in similar parts of the Works, shall not result in a net reduction in the Contract Price.
- 4.12.7 The Project Manager shall take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender, which shall be made available by the Contractor, but shall not be bound by the Contractor's interpretation of any such evidence.

#### **4.13 Rights of Way and Facilities**

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

#### **4.14 Avoidance of Interference**

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

#### **4.15 Access Route**

- 4.15.5 The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's traffic or by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.
- 4.15.6 Except as otherwise stated in these Conditions:
  - a) The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
  - b) the Contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;

- c) the Procuring Entity shall not be responsible for any claims which may arise from the use or otherwise of any access route;
- d) the Procuring Entity does not guarantee the suitability or availability of particular access routes; and
- e) Costs due to non-suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

#### **4.16 Transport of Goods**

Unless otherwise stated in the Particular Conditions:

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

#### **4.17 Contractor's Equipment**

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

#### **4.18 Protection of the Environment**

- 4.18.5 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.
- 4.18.6 The Contractor shall ensure that missions, surface discharges and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

#### **4.19 Electricity, Water and Gas**

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

#### **4.20 Procuring Entity's Equipment and Free-Issue Materials**

- 4.20.5 The Procuring Entity shall make the Procuring Entity's Equipment (if any) available for the use of the Contractor in the execution of the Works in accordance with the details, arrangements and prices stated in the Specification. Unless otherwise stated in the Specification:
  - a) The Procuring Entity shall be responsible for the Procuring Entity's Equipment, except that
  - b) the Contractor shall be responsible for each item of Procuring Entity's Equipment whilst any of the Contractor's Personnel is operating it, driving it, directing it or in possession or control of it.
- 4.20.6 The appropriate quantities and the amounts due (at such stated prices) for the use of Procuring Entity's Equipment shall be agreed or determined by the Project Manager in accordance with Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations]. The Contractor shall pay these amounts to

the Procuring Entity.

- 4.20.7 The Procuring Entity shall supply, free of charge, the “free-issue materials” (if any) in accordance with the details stated in the Specification. The Procuring Entity shall, at his risk and cost, provide these materials at the time and place specified in the Contract. The Contractor shall then visually inspect them, and shall promptly give notice to the Project Manager of any shortage, defect or default in these materials. Unless otherwise agreed by both Parties, the Procuring Entity shall immediately rectify the notified shortage, defect or default.
- 4.20.8 After this visual inspection, the free-issue materials shall come under the care, custody and control of the Contractor. The Contractor's obligations of inspection, care, custody and control shall not relieve the Procuring Entity of liability for any shortage, defect or default not apparent from a visual inspection.

#### **4.21 Progress Reports**

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

#### **4.22 Security of the Site**

Unless otherwise stated in the Particular Conditions:

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

#### **4.23 Contractor's Operations on Site**

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

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

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

#### 4.24 Fossils

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

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

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

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

### 5 Nominated Subcontractors

#### 5.1 Definition of "nominated Subcontractor"

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

- a) Who is stated in the Contract as being a nominated Subcontractor, or
- b) whom the Project Manager, under Clause 13 [Variations and Adjustments], instructs the Contractor to employ as a Subcontractor subject to Sub-Clause 5.2 [Objection to Notification].

#### 5.2 Objection to Nomination

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

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

### **5.3 Payments to nominated Subcontractors**

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

### **5.4 Evidence of Payments**

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

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

## **6 Staff and Labour**

### **6.1 Engagement of Staff and Labour**

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

### **6.2 Rates of Wages and Conditions of Labour**

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

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

### **6.3 Persons in the Service of Procuring Entity**

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

### **6.4 Labour Laws**

6.4.1 The Contractor shall comply with all the relevant labour Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

6.4.2 The Contractor shall require his employees to obey all applicable Laws, including those concerning safety at work.

## 6.5 Working Hours

No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the **Particular Conditions of Contract**, unless:

- a) Otherwise stated in the Contract,
- b) The Project Manager gives consent, or
- c) The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Project Manager.

## 6.6 Facilities for Staff and Labour

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

## 6.7 Health and Safety

- 6.7.1 The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Procuring Entity's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- 6.7.2 The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the execution of the Works, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- 6.7.3 The Contractor shall send, to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as the Project Manager may reasonably require.
- 6.7.4 The Contractor shall conduct an awareness programme on HIV and other sexually transmitted diseases via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of these diseases between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

## 6.8 Contractor's Superintendence

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

## 6.9 Contractor's Personnel

- 6.9.1 The Contractor's Personnel shall be appropriately qualified, skilled and experienced in the irrespective trades or occupations. The Contractors Key personnel shall be named in the **Particular Conditions of Contract**. The Project Manager may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Contractor's Representative if applicable, who:
  - a) Persists in any misconduct or lack of care,
  - b) Carries out duties incompetently or negligently,

- c) Fails to conform with any provisions of the Contract,
- d) Persists in any conduct which is prejudicial to safety, health, or the protection of the environment, or
- e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works.

6.9.2 If appropriate, the Contractor shall then appoint (or cause to be appointed) a suitable replacement person.

**6.10 Records of Contractor's Personnel and Equipment**

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

**6.11 Disorderly Conduct**

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

**6.12 Foreign Personnel**

6.12.1 The Contractor may bring into Kenya any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Procuring Entity will, if requested by the Contractor, use his Lowest endeavours in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national or government permission required for bringing in the Contractor's personnel.

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

**6.13 Supply of Water**

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

**6.14 Measures against Insect and Pest Nuisance**

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

**6.15 Alcoholic Liquor or Drugs**

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

**6.16 Prohibition of Forced or Compulsory Labour**

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

**6.17 Prohibition of Harmful Child Labour**

The Contractor shall not employ children in a manner that is economically exploitative, or is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental,

spiritual, moral, or social development. Where the relevant labour laws of Kenya have provisions for employment of minors, the Contractor shall follow those laws applicable to the Contractor. Children below the age of 18 years shall not be employed in dangerous work.

#### **6.18 Employment Records of Workers**

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

#### **6.19 Workers' Organizations**

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

#### **6.20 Non-Discrimination and Equal Opportunity**

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

### **7 Plant, Materials and Workmanship**

#### **7.1 Manner of Execution**

The Contractor shall carryout the manufacture of Plant, the production and manufacture of Materials, and all other execution of the Works:

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

#### **7.2 Samples**

The Contractor shall submit the following samples of Materials, and relevant information, to the Project Manager for consent prior to using the Materials in or for the Works:

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

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

#### **7.3 Inspection**

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

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

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

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

#### 7.4 Testing

7.4.1 This Sub-Clause shall apply to all tests specified in the Contract, other than the Tests after Completion (if any).

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

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

7.4.4 The Project Manager shall give the Contractor not less than 24 hours' notice of the Project Manager's intention to attend the tests. If the Project Manager does not attend at the time and place agreed, the Contractor may proceed with the tests, unless otherwise instructed by the Project Manager, and the tests shall then be deemed to have been made in the Project Manager's presence.

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

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

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

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

#### 7.5 Rejection

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

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

#### 7.6 Remedial Work

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

- Remove from the Site and replace any Plant or Materials which is not in accordance with the Contract,
- remove and re-execute any other work which is not in accordance with the Contract, and

- c) execute any work which is urgently required for the safety of the Works, whether because of an accident, unforeseeable event or otherwise.

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

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

## 7.7 Ownership of Plant and Materials

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

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

## 7.8 Royalties

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

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

# 8 Commencement, Delays and Suspension

## 8.1 Commencement of Works

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

- a. Signature of the FRAMEWORK AGREEMENT by both Parties, and if required, approval of the Contract by relevant authorities of Kenya;
- b. Delivery to the Contractor of reasonable evidence of the Procuring Entity's financial arrangements (under Sub-Clause 2.4 [Procuring Entity's Financial Arrangements]);
- c. Except if otherwise specified in the Particular Conditions of Contract, effective access to and possession of the Site given to the Contractor together with such permission(s) under (a) of Sub-Clause 1.13 [Compliance with Laws] as required for the commencement of the Works
- d. Receipt by the Contractor of the Advance Payment under Sub-Clause 14.2 [Advance Payment] provided that the corresponding bank guarantee has been delivered by the Contractor.

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

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

## 8.2 Time for Completion

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

- a) Achieving the passing of the Tests on Completion, and

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

### **8.3 Programme**

- 8.3.1 The Contractor shall submit a detailed time programme to the Project Manager within 28 days after receiving the notice under Sub-Clause 8.1 [Commencement of Works]. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations. Each programme shall include:
  - a. The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage of design (if any), Contractor's Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing,
  - b. each of these stages for work by each nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]),
  - c. the sequence and timing of inspections and tests specified in the Contract, and
  - d. a supporting report which includes:
    - i. a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and
    - ii. details showing the Contractor's reasonable estimate of the number of each class of Contractor's Personnel and of each type of Contractor's Equipment, required on the Site for each major stage.
- 8.3.2 Unless the Project Manager, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Procuring Entity's Personnel shall be entitled to rely upon the programme when planning their activities.
- 8.3.3 The Contractor shall promptly give notice to the Project Manager of specific probable future events or circumstances which may adversely affect the work, increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to submit an estimate of the anticipated effect of the future event or circumstances, and/ or a proposal under Sub-Clause 13.3 [Variation Procedure].
- 8.3.4 If, at any time, the Project Manager gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor's stated intentions, the Contractor shall submit a revised programme to the Project Manager in accordance with this Sub-Clause.

### **8.4 Extension of Time for Completion**

- 8.4.1 The Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1 [Taking Over of the Works and Sections] is or will be delayed by any of the following causes:
  - a. a Variation (unless an adjustment to the Time for Completion has been agreed under Sub-Clause 13.3 [Variation Procedure]) or other substantial change in the quantity of an item of work included in the Contract,
  - b. a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,
  - c. exceptionally adverse climatic conditions,
  - d. Unforeseeable shortages in the availability of personnel or Goods caused by epidemic or governmental actions, or
  - e. any delay, impediment or prevention caused by or attributable to the Procuring Entity, the Procuring Entity's Personnel, or the Procuring Entity's other contractors.
- 8.4.2 If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Project Manager in accordance with Sub-Clause 20.1 [Contractor's Claims]. When determining each extension of time under Sub-Clause 20.1, the Project Manager shall review previous determinations and may increase, but shall not decrease, the total extension of time.

## 8.5 Delays Caused by Authorities

If the following conditions apply, namely:

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

## 8.6 Rate of Progress

8.6.1 If, at any time:

- a. Actual progress is too slow to complete within the Time for Completion, and/or
- b. Progress has fallen (or will fall) behind the current programme under Sub-Clause 8.3 [Programme], other than as a result of a cause listed in Sub-Clause 8.4 [Extension of Time for Completion], then the Project Manager may instruct the Contractor to submit, under Sub-Clause 8.3 [Programme], a revised programme and supporting report describing the revised methods which the Contractor proposes to adopt in order to expedite progress and complete within the Time for Completion.

8.6.2 Unless the Project Manager notifies otherwise, the Contractor shall adopt these revised methods, which may require increases in the working hours and/or in the numbers of Contractor's Personnel and/or Goods, at the risk and cost of the Contractor. If these revised methods cause the Procuring Entity to incur additional costs, the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay these costs to the Procuring Entity, in addition to delay damages (if any) under Sub-Clause 8.7 below.

8.6.3 Additional costs of revised methods including acceleration measures, instructed by the Project Manager to reduce delays resulting from causes listed under Sub-Clause 8.4 [Extension of Time for Completion] shall be paid by the Procuring Entity, without generating, however, any other additional payment benefit to the Contractor.

## 8.7 Delay Damages

8.7.1 If the Contractor fails to comply with Sub-Clause 8.2 [Time for Completion], the Contractor shall subject to notice under Sub-Clause 2.5 [Procuring Entity's Claims] pay delay damages to the Procuring Entity for this default. These delay damages shall be the sum stated in the **Particular Conditions of Contract**, which shall be paid for every day which shall elapse between the relevant Time for Completion and the date stated in the Taking-Over Certificate. However, the total amount due under this Sub-Clause shall not exceed the maximum amount of delay damages (if any) stated in the Particular Conditions of Contract.

8.7.2 These delay damages shall be the only damages due from the Contractor for such default, other than in the event of termination under Sub-Clause 15.2 [Termination by Procuring Entity] prior to completion of the Works. These damages shall not relieve the Contractor from his obligation to complete the Works, or from any other duties, obligations or responsibilities which he may have under the Contract.

## 8.8 Suspension of Work

8.8.1 The Project Manager may at any time instruct the Contractor to suspend progress of part or all of the Works. During such suspension, the Contractor shall protect, store and secure such part or the Works against any deterioration, loss or damage.

8.8.2 The Project Manager may also notify the cause for the suspension. If and to the extent that the cause is notified and is the responsibility of the Contractor, the following Sub-Clauses 8.9, 8.10 and 8.11 shall not apply.

## 8.9 Consequences of Suspension

8.9.1 If the Contractor suffers delay and/or incurs Cost from complying with the Project Manager's instructions under Sub-Clause 8.8 [Suspension of Work] and/or from resuming the work, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

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

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

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

## **8.10 Payment for Plant and Materials in Event of Suspension**

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

- a) The work on Plant or delivery of Plant and/or Materials has been suspended for more than 28 days, and
- b) the Contractor has marked the Plant and/or Materials as the Procuring Entity's property in accordance with the Project Manager's instructions.

## **8.11 Prolonged Suspension**

If the suspension under Sub-Clause 8.8 [Suspension of Work] has continued for more than 84 days, the Contractor may request the Project Manager's permission to proceed. If the Project Manager does not give permission within 28 days after being requested to do so, the Contractor may, by giving notice to the Project Manager, treat the suspension as an omission under Clause 13 [Variations and Adjustments] of the affected part of the Works. If the suspension affects the whole of the Works, the Contractor may give notice of termination under Sub-Clause 16.2 [Termination by Contractor].

## **8.12 Resumption of Work**

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

# **9 Tests on Completion**

## **9.1 Contractor's Obligations**

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

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

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

## **9.2 Delayed Tests**

9.2.1 If the Tests on Completion are being unduly delayed by the Procuring Entity, Sub-Clause 7.4 [Testing] (fifth paragraph) and/or Sub-Clause 10.3 [Interference with Tests on Completion] shall be applicable.

9.2.2 If the Tests on Completion are being unduly delayed by the Contractor, the Project Manager may by notice require the Contractor to carry out the Tests within 21 days after receiving the notice. The Contractor shall carry out the Tests on such day or days within that period as the Contractor may fix and of which he shall give notice to the Project Manager.

9.2.3 If the Contractor fails to carry out the Tests on Completion within the period of 21 days, the Procuring Entity's Personnel may proceed with the Tests at the risk and cost of the Contractor. The Tests on Completion shall then be deemed to have been carried out in the presence of the Contractor and the results of the Tests shall be accepted as accurate.

### 9.3 Retesting

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

### 9.4 Failure to Pass Tests on Completion

9.4.1 If the Works, or a Section, fail to pass the Tests on Completion repeated under Sub-Clause 9.3 [Retesting], the Project Manager shall be entitled to:

- Order further repetition of Tests on Completion under Sub-Clause 9.3;
- if the failure deprives the Procuring Entity of substantially the whole benefit of the Works or Section, reject the Works or Section (as the case may be), in which event the Procuring Entity shall have the same remedies as are provided in sub-paragraph (c) of Sub-Clause 11.4 [Failure to Remedy Defects]; or
- issue a Taking-Over Certificate, if the Procuring Entity so requests.

9.4.2 In the event of sub-paragraph (c), the Contractor shall proceed in accordance with all other obligations under the Contract, and the Contract Price shall be reduced by such amount as shall be appropriate to cover the reduced value to the Procuring Entity as a result of this failure. Unless the relevant reduction for this failure is stated (or its method of calculation is defined) in the Contract, the Procuring Entity may require the reduction to be (i) agreed by both Parties (in full satisfaction of this failure only) and paid before this Taking-Over Certificate is issued, or (ii) determined and paid under Sub-Clause 2.5 [Procuring Entity's Claims] and Sub-Clause 3.5 [Determinations].

## 10 Procuring Entity's Taking Over

### 10.1 Taking Over of the Works and Sections

10.1.1 Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works shall be taken over by the Procuring Entity when (i) the Works have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed in sub-paragraph (a) below, and (ii) a Taking-Over Certificate for the Works has been issued, or is deemed to have been issued in accordance with this Sub-Clause.

10.1.2 The Contractor may apply by notice to the Project Manager for a Taking-Over Certificate not earlier than 14 days before the Works will, in the Contractor's opinion, be complete and ready for taking over. If the Works are divided into Sections, the Contractor may similarly apply for a Taking-Over Certificate for each Section.

10.1.3 The Project Manager shall, within 28 days after receiving the Contractor's application:

- Issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract, except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied); or
- reject the application, giving reasons and specifying the work required to be done by the Contractor to enable the Taking-Over Certificate to be issued. The Contractor shall then complete this work before issuing a further notice under this Sub-Clause.

10.1.4 If the Project Manager fails either to issue the Taking-Over Certificate or to reject the Contractor's application within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, the Taking-Over Certificate shall be deemed to have been issued on the last day of that period.

## **10.2 Taking Over of Parts of the Works**

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

## **10.3 Interference with Tests on Completion**

- 10.3.1 If the Contractor is prevented, for more than 14 days, from carrying out the Tests on Completion by a cause for which the Procuring Entity is responsible, the Procuring Entity shall be deemed to have taken over the Works or Section (as the case may be) on the date when the Tests on Completion would otherwise have been completed.
- 10.3.2 The Project Manager shall then issue a Taking-Over Certificate accordingly, and the Contractor shall carry out the Tests on Completion as soon as practicable, before the expiry date of the Defects Notification Period. The Project Manager shall require the Tests on Completion to be carried out by giving 14 days' notice and in accordance with the relevant provisions of the Contract.
- 10.3.3 If the Contractor suffers delay and/or incurs Cost as a result of this delay in carrying out the Tests on Completion, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:
  - a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
  - b) payment of any such Cost-plus profit, which shall be included in the Contract Price.
- 10.3.4 After receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine these matters.

## 10.4 Surfaces Requiring Reinstatement

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

## 11. Defects Liability

### 11.1.1 Completion of Outstanding Work and Remedying Defects

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

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

11.1.3 If a defect appears or damage occurs, the Contractor shall be notified accordingly, by (or on behalf of) the Procuring Entity.

### 11.2 Cost of Remedying Defects

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

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

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

### 11.3 Extension of Defects Notification Period

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

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

### 11.4 Failure to Remedy Defects

11.4.1 If the Contractor fails to remedy any defect or damage within a reasonable time, a date may be

fixed by (or on behalf of) the Procuring Entity, on or by which the defect or damage is to be remedied. The Contractor shall be given reasonable notice of this date.

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

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

## 11.5 Removal of Defective Work

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

## 11.6 Further Tests

11.6.1 If the work of remedying of any defect or damage may affect the performance of the Works, the Project Manager may require the repetition of any of the tests described in the Contract. The requirement shall be made by notice within 28 days after the defect or damage is remedied.

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

## 11.7 Right of Access

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

## 11.8 Contractor to Search

The Contractor shall, if required by the Project Manager, search for the cause of any defect, under the direction of the Project Manager. Unless the defect is to be remedied at the cost of the Contractor under Sub-Clause 11.2 [Cost of Remedy Defects], the Cost of the search plus profit shall be agreed or determined by the Project Manager in accordance with Sub-Clause 3.5 [Determinations] and shall be included in the Contract Price.

## 11.9 Performance Certificate

11.9.1 Performance of the Contractor's obligations shall not be considered to have been completed

until the Project Manager has issued the Performance Certificate to the Contractor, stating the date on which the Contractor completed his obligations under the Contract.

- 11.9.2 The Project Manager shall issue the Performance Certificate within 28 days after the latest of the expiry dates of the Defects Notification Periods, or as soon thereafter as the Contractor has supplied all the Contractor's Documents and completed and tested all the Works, including remedying any defects. A copy of the Performance Certificate shall be issued to the Procuring Entity.
- 11.9.3 Only the Performance Certificate shall be deemed to constitute acceptance of the Works.

### **11.10 Unfulfilled Obligations**

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

### **11.11 Clearance of Site**

- 11.11.1 Upon receiving the Performance Certificate, the Contractor shall remove any remaining Contractor's Equipment, surplus material, wreckage, rubbish and Temporary Works from the Site.
- 11.11.2 If all these items have not been removed within 28 days after receipt by the Contractor of the Performance Certificate, the Procuring Entity may sell or otherwise dispose of any remaining items. The Procuring Entity shall be entitled to be paid the costs incurred in connection with, or attributable to, such sale or disposal and restoring the Site.
- 11.11.3 Any balance of the moneys from the sale shall be paid to the Contractor. If these moneys are less than the Procuring Entity's costs, the Contractor shall pay the outstanding balance to the Procuring Entity.

## **12 Measurement and Evaluation**

### **12.1 Works to be Measured**

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

accurate.

12.1.5 If the Contractor examines and disagrees with the records, and/or does not sign them as agreed, then the Contractor shall give notice to the Project Manager of the respects in which the records are asserted to be inaccurate. After receiving this notice, the Project Manager shall review the records and either confirm or vary them and certify the payment of the undisputed part. If the Contractor does not so give notice to the Project Manager within 14 days after being requested to examine the records, they shall be accepted as accurate.

## 12.2 Method of Measurement

Except as otherwise stated in the Contract and notwithstanding local practice:

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

## 12.3 Evaluation

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

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

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

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

- a)
  - i) the measured quantity of the item is changed by more than 25% from the quantity of this item in the Bill of Quantities or another Schedule,
    - ii) this change in quantity multiplied by such specified rate for this item exceeds 0.25% of the Accepted Contract Amount,
    - iii) this change in quantity directly changes the Cost per unit quantity of this item by more than 1%, and
    - iv) this item is not specified in the Contract as a “fixed rate item”; or
  - ii) the work is instructed under Clause 13 [Variations and Adjustments],
    - iii) no rate or price is specified in the Contract for this item, and
  - iii) no specified rate or price is appropriate because the item of work is not of similar character, or is not executed under similar conditions, as any item in the Contract.
- b) Each new rate or price shall be derived from any relevant rates or prices in the Contract, with reasonable adjustments to take account of the matters described in sub-paragraph (a) and/or (b), as applicable. If no rates or prices are relevant for the derivation of a new rate or price, it shall be derived from the reasonable Cost of executing the work, together with profit, taking account of any other relevant matters.

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

#### 12.4 Omissions

- d) Whenever the omission of any work forms part (or all) of a Variation, the value of which has not been agreed, if:
  - i) The Contractor will incur (or has incurred) cost which, if the work had not been omitted, would have been deemed to be covered by a sum forming part of the Accepted Contract Amount;
  - ii) The omission of the work will result (or has resulted) in this sum not forming part of the Contract Price; and
  - iii) This cost is not deemed to be included in the evaluation of any substituted work;

12.4.1 then the Contractor shall give notice to the Project Manager accordingly, with supporting particulars. Upon receiving this notice, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine this cost, which shall be included in the Contract Price.

### 13 Variations and Adjustments

#### 13.1 Right to Vary

- 13.1.1 Variations may be initiated by the Project Manager at any time prior to issuing the Taking-Over Certificate for the Works, either by an instruction or by a request for the Contractor to submit a proposal.
- 13.1.2 The Contractor shall execute and be bound by each Variation, unless the Contractor promptly gives notice to the Project Manager stating (with supporting particulars) that (i) the Contractor cannot readily obtain the Goods required for the Variation, or (ii) such Variation triggers a substantial change in the sequence or progress of the Works. Upon receiving this notice, the Project Manager shall cancel, confirm or vary the instruction.
- 13.1.3 Each Variation may include:
  - a. changes to the quantities of any item of work included in the Contract (however, such changes do not necessarily constitute a Variation),
  - b. changes to the quality and other characteristics of any item of work,
  - c. changes to the levels, positions and/or dimensions of any part of the Works,
  - d. omission of any work unless it is to be carried out by others,
  - e. any additional work, Plant, Materials or services necessary for the Permanent Works, including any associated Tests on Completion, bore holes and other testing and exploratory work, or
  - f. changes to the sequence or timing of the execution of the Works.
- 13.1.4 The Contractor shall not make any alteration and/or modification of the Permanent Works, unless and until the Project Manager instructs or approves a Variation.

#### 13.2 Value Project Managering

- 13.2.1 The Contractor may, at any time, submit to the Project Manager a written proposal which (in the Contractor's opinion) will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Procuring Entity of executing, maintaining or operating the Works, (iii) improve the efficiency

or value to the Procuring Entity of the completed Works, or (iv) otherwise be of benefit to the Procuring Entity.

- 13.2.2 The proposal shall be prepared at the cost of the Contractor and shall include the items listed in Sub-Clause 13.3 [Variation Procedure].
- 13.2.3 If a proposal, which is approved by the Project Manager, includes a change in the design of part of the Permanent Works, then unless otherwise agreed by both Parties:
  - a. The Contractor shall design this part,
  - b. sub-paragraphs (a) to (d) of Sub-Clause 4.1 [Contractor's General Obligations] shall apply, and
  - c. if this change results in a reduction in the contract value of this part, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine a fee, which shall be included in the Contract Price. This fee shall be half (50%) of the difference between the following amounts:
    - a. such reduction in contract value, resulting from the change, excluding adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost], and
    - b. the reduction (if any) in the value to the Procuring Entity of the varied works, taking account of any reductions in quality, anticipated life or operational efficiencies.
- 13.2.4 However, if amount (i) is less than amount (ii), there shall not be a fee.

### 13.3 Variation Procedure

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

### 13.4 Payment in Applicable Currencies

If the Contract provides for payment of the Contract Price in more than one currency, then whenever an adjustment is agreed, approved or determined as stated above, the amount payable in each of the applicable

currencies shall be specified. For this purpose, reference shall be made to the actual or expected currency proportions of the Cost of the varied work, and to the proportions of various currencies specified for payment of the Contract Price.

### 13.5 Provisional Sums

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

- a. Work to be executed (including Plant, Materials or services to be supplied) by the Contractor and valued under Sub-Clause 13.3 [Variation Procedure]; and/or
- b. Plant, Materials or services to be purchased by the Contractor, from a nominated Subcontractor (as defined in Clause 5 [Nominated Subcontractors]) or otherwise; and for which there shall be included in the Contract Price:
  - i. The actual amounts paid (or due to be paid) by the Contractor, and
  - ii. a sum for overhead charges and profit, calculated as a percentage of these actual amounts by applying the relevant percentage rate (if any) stated in the appropriate Schedule. If there is no such rate, the percentage rate stated in **the Particular Conditions of Contract** shall be applied.

13.5.2 The Contractor shall, when required by the Project Manager, produce quotations, invoices, vouchers and accounts or receipts in substantiation.

### 13.6 Day works

13.6.1 For work of a minor or incidental nature, the Project Manager may instruct that a Variation shall be executed on a day work basis. The work shall then be valued in accordance with the Day work Schedule included in the Contract, and the following procedure shall apply. If a Day work Schedule is not included in the Contract, this Sub-Clause shall not apply.

13.6.2 Before ordering Goods for the work, the Contractor shall submit quotations to the Project Manager. When applying for payment, the Contractor shall submit invoices, vouchers and accounts or receipts for any Goods.

13.6.3 Except for any items for which the Day work Schedule specifies that payment is not due, the Contractor shall deliver each day to the Project Manager accurate statements in duplicate which shall include the following details of the resources used in executing the previous day's work:

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

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

### 13.7 Adjustments for Changes in Legislation

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

13.7.2 If the Contractor suffers (or will suffer) delay and/or incurs (or will incur) additional Cost as a

result of these changes in the Laws or in such interpretations, made after the Base Date, the Contractor shall give notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

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

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

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

### 13.8 Adjustments for Changes in Cost

- 13.8.1 In this Sub-Clause, "table of adjustment data" means the completed table of adjustment data for local and foreign currencies included in the Schedules. If there is no such table of adjustment data, this Sub-Clause shall not apply.
- 13.8.2 If this Sub-Clause applies, the amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labor, Goods and other inputs to the Works, by the addition or deduction of the amounts determined by the formulae prescribed in this Sub-Clause. To the extent that full compensation for any rise or fall in Costs is not covered by the provisions of this or other Clauses, the Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of other rises and falls in costs.
- 13.8.3 The adjustment to be applied to the amount otherwise payable to the Contractor, as valued in accordance with the appropriate Schedule and certified in Payment Certificates, shall be determined from formulae for each of the currencies in which the Contract Price is payable. No adjustment is to be applied to work valued on the basis of Cost or current prices. The formulae shall be of the following general type:

#### Price Adjustment

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

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

where:

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

A and B are coefficients **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  $I_{o28}$  is the index prevailing 28 days before Tender opening for inputs payable.

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

components. The sum of the adjustments for each currency are added to the Contract Price.

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

## 14 Contract Price and Payment

### 14.1 The Contract Price

- 14.1.1 Unless otherwise stated in the Particular Conditions:
  - a. the Contract Price shall be agreed or determined under Sub-Clause 12.3 [Evaluation] and be subject to adjustments in accordance with the Contract;
  - b. the Contractor shall pay all taxes, duties and fees required to be paid by him under the Contract, and the Contract Price shall not be adjusted for any of these costs except as stated in Sub-Clause 13.7 [Adjustments for Changes in Legislation];
  - c. any quantities which may be set out in the Bill of Quantities or other Schedule are estimated quantities and are not to be taken as the actual and correct quantities:
    - i. of the Works which the Contractor is required to execute, or
    - ii. for the purposes of Clause 12 [Measurement and Evaluation]; and
  - d. the Contractor shall submit to the Project Manager, within 28 days after the Commencement Date, a proposed breakdown of each lump sum price in the Schedules. The Project Manager may take account of the breakdown when preparing Payment Certificates, but shall not be bound by it.
- 14.1.2 Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts there for, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation.

### 14.2 Advance Payment

- 14.2.1 The Procuring Entity may make an advance payment, as an interest-free loan for mobilization and cash flow support, when the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment, the number and timing of instalments (if more than one),

and the applicable currencies and proportions, shall be as stated in the **Particular Conditions of Contract**.

- 14.2.2 Unless and until the Procuring Entity receives this guarantee, or if the total advance payment is not stated in the Particular Conditions of Contract, this Sub-Clause shall not apply.
- 14.2.3 The Project Manager shall deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate for the advance payment or its first instalment after receiving a Statement (under Sub-Clause 14.3 [Application for Interim Payment Certificates]) and after the Procuring Entity receives (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by a reputable bank or financial institution selected by the Contractor and shall be in the form annexed to the Particular Conditions or in another form approved by the Procuring Entity.
- 14.2.4 The Contractor shall ensure that the guarantee is valid and enforceable until the advance payment has been repaid, but its amount shall be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates. If the terms of the guarantee specify its expiry date, and the advance payment has not been repaid by the date 28 days prior to the expiry date, the Contractor shall extend the validity of the guarantee until the advance payment has been repaid.
- 14.2.5 Unless stated otherwise in the **Particular Conditions of Contract**, the advance payment shall be repaid through percentage deductions from the interim payments determined by the Project Manager in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates], as follows:
  - a. Deductions shall commence in the next interim Payment Certificate following that in which the total of all certified interim payments (excluding the advance payment and deductions and repayments of retention) exceeds 30 percent (30%) of the Accepted Contract Amount Less Provisional Sums; and
  - b. Deductions shall be made at the amortization rate stated in the **Particular Conditions of Contract** of the amount of each Interim Payment Certificate (excluding the advance payment and deductions for its repayments as well as deductions for retention money) in the currencies and proportions of the advance payment until such time as the advance payment has been repaid; provided that the advance payment shall be completely repaid prior to the time when 90 percent (90%) of the Accepted Contract Amount Less Provisional Sums has been certified for payment.
- 14.2.6 If the advance payment has not been repaid prior to the issue of the Taking-Over Certificate for the Works or prior to termination under Clause 15 [Termination by Procuring Entity], Clause 16 [Suspension and Termination by Contractor] or Clause 19 [Force Majeure] (as the case may be), the whole of the balance then outstanding shall immediately become due and in case of termination under Clause 15 [Termination by Procuring Entity], except for Sub-Clause 15.5 [Procuring Entity's Entitlement to Termination for Convenience], payable by the Contractor to the Procuring Entity.

#### 14.3 Application for Interim Payment Certificates

- 14.3.1 The Contractor shall submit a Statement in six copies to the Project Manager after the end of each month, in a form approved by the Project Manager, showing in detail the amounts to which the Contractor considers himself to be entitled, together with supporting documents which shall include the report on the progress during this month in accordance with Sub-Clause 4.21 [Progress Reports].
- 14.3.2 The Statement shall include the following items, as applicable, which shall be expressed in the

various currencies in which the Contract Price is payable, in the sequence listed:

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

#### 14.4 Schedule of Payments

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

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

14.4.2 The Contract includes a schedule of payments, attached to this contract as Document

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14.4.3 The Contractor shall submit non-binding estimates of the payments which he expects to become due during each quarterly period. The first estimate shall be submitted within 42 days after the Commencement Date. Revised estimates shall be submitted at quarterly intervals, until the Taking-Over Certificate has been issued for the Works.

#### 14.5 Plant and Materials intended for the Works

14.5.1 If this Sub-Clause applies, Interim Payment Certificates shall include, under sub-paragraph (e) of Sub-Clause 14.3, (i) an amount for Plant and Materials which have been sent to the Site for incorporation in the Permanent Works, and (ii) a reduction when the contract value of such Plant and Materials is included as part of the Permanent Works under sub-paragraph (a) of Sub-Clause 14.3 [Application for Interim Payment Certificates].

14.5.2 If the lists referred to in sub-paragraphs (b) (i) or (c) (i) below are not included in the Schedules, this Sub-Clause shall not apply.

14.5.3 The Project Manager shall determine and certify each addition if the following conditions are satisfied:

a. The Contractor has:

- (i) Kept satisfactory records (including the orders, receipts, Costs and use of Plant and Materials) which are available for inspection, and
- (ii) submitted a statement of the Cost of acquiring and delivering the Plant and Materials to the Site, supported by satisfactory evidence;

and either:

b. the relevant Plant and Materials:

- (i) are those listed in the Schedules for payment when shipped,
- (ii) have been shipped to Kenya, enroute to the Site, in accordance with the Contract; and
- (iii) are described in a clean shipped bill of lading or other evidence of shipment, which has been submitted to the Project Manager together with evidence of payment of freight and insurance, any other documents reasonably required, and a bank guarantee in a form and issued by an entity approved by the Procuring Entity in amounts and currencies equal to the amount due under this Sub- Clause: this guarantee may be in a similar form to the form referred to in Sub-Clause 14.2 [Advance Payment] and shall be valid until the Plant and Materials are properly stored on Site and protected against loss, damage or deterioration; or

c. the relevant Plant and Materials:

- (i) are those listed in the Schedules for payment when delivered to the Site, and
- (ii) have been delivered to and are properly stored on the Site, are protected against loss, damage or deterioration, and appear to be in accordance with the Contract.

14.5.4 The additional amount to be certified shall be the equivalent of eighty percent (80%) of the Project Manager's determination of the cost of the Plant and Materials (including delivery to Site), taking account of the documents mentioned in this Sub-Clause and of the contract value of the Plant and Materials.

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

#### **14.6 Issue of Interim Payment Certificates**

14.6.1 No amount will be certified or paid until the Procuring Entity has received and approved the Performance Security. Thereafter, the Project Manager shall, within 28 days after receiving a Statement and supporting documents, deliver to the Procuring Entity and to the Contractor an Interim Payment Certificate which shall state the amount which the Project Manager fairly determines to be due, with all supporting particulars for any reduction or with holding made by the Project Manager on the Statement if any.

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

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

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

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

#### 14.7 Payment

14.7.1 The Procuring Entity shall pay to the Contractor:

- a) The first instalment of the advance payment within 42 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
- b) the amount certified in each Interim Payment Certificate within 45 days after the Project Manager receives the Statement and supporting documents; and
- c) the amount certified in the Final Payment Certificate within 45 days after the Procuring Entity receives this Payment Certificate; or after determination of any disputed amount shown in the Final Statement in accordance with Sub-Clause 16.2 [Termination by Contractor].

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

#### 14.8 Delayed Payment

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

14.8.2 Unless otherwise stated in **the Particular Conditions**, these financing charges shall be calculated at the annual rate of three percentage points above the discount rate of the central bank in Kenya of the currency of payment, or if not available, the interbank offered rate, and shall be paid in such currency.

14.8.3 The Contractor shall be entitled to this payment without formal notice or certification, and without prejudice 14.9 to any other right or remedy.

#### 14.9 Payment of Retention Money

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

14.9.3 Promptly after the latest of the expiry dates of the Defects Notification Periods, the outstanding balance of the Retention Money shall be certified by the Project Manager for payment to the Contractor. If a Taking-Over Certificate was issued for a Section, a proportion of the second half of the Retention Money shall be certified and paid promptly after the expiry date of the Defects Notification Period for the Section. This proportion shall behalf (50%) of the proportion calculated by dividing the estimated contract value of the Section by the estimated final Contract Price.

14.9.4 However, if any work remains to be executed under Clause 11 [Defects Liability], the Project Manager shall be entitled to withhold certification of the estimated cost of this work until it has been executed.

14.9.5 When calculating these proportions, no account shall be taken of any adjustments under Sub-Clause 13.7 [Adjustments for Changes in Legislation] and Sub-Clause 13.8 [Adjustments for Changes in Cost].

14.9.6 Unless otherwise stated in the Particular Conditions, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment by the Project Manager, the Contractor shall be entitled to substitute a Retention Money Security guarantee, in the form annexed to the particular Conditions or in another form approved by the Procuring Entity and issued by a reputable bank or financial institution selected by the Contractor, for the second half of the Retention Money.

14.9.5 The Procuring Entity shall return the Retention Money Security guarantee to the Contractor within 14 days after receiving a copy of the Performance Certificate.

#### **14.10 Statement at Completion**

14.10.1 Within 84 days after receiving the Taking-Over Certificate for the Works, the Contractor shall submit to the Project Manager six copies of a Statement at completion with supporting documents, in accordance with Sub-Clause 14.3 [Application for Interim Payment Certificates], showing:

- the value of all work done in accordance with the Contract up to the date stated in the Taking-Over Certificate for the Works,
- any further sums which the Contractor considers to be due, and
- an estimate of any other amounts which the Contractor considers will become due to him under the Contract. Estimated amounts shall be shown separately in this Statement at completion.

14.10.2 The Project Manager shall then certify in accordance with Sub-Clause 14.6 [Issue of Interim Payment Certificates].

#### **14.10 Application for Final Payment Certificate**

14.10.1 Within 56 days after receiving the Performance Certificate, the Contractor shall submit, to the Project Manager, six copies of a draft final statement with supporting documents showing in detail in a form approved by the Project Manager:

- The value of all work done in accordance with the Contract, and
- Any further sums which the Contractor considers to be due to him under the Contract or otherwise.

14.10.2 If the Project Manager disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Project Manager may reasonably require within 28 days from receipt of said draft and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Project

Manager the final statement as agreed. This agreed statement is referred to in these Conditions as the “Final Statement”.

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

#### **14.11 Discharge**

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

#### **14.12 Issue of Final Payment Certificate**

14.12.1 Within 28 days after receiving the Final Statement and discharge in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Project Manager shall deliver, to the Procuring Entity and to the Contractor, the Final Payment Certificate which shall state:

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

14.12.2 If the Contractor has not applied for a Final Payment Certificate in accordance with Sub-Clause 14.11 [Application for Final Payment Certificate] and Sub-Clause 14.12 [Discharge], the Project Manager shall request the Contractor to do so. If the Contractor fails to apply within a period of 28 days, the Project Manager shall issue the Final Payment Certificate for such amount as he fairly determines to be due.

#### **14.13 Cessation of Procuring Entity's Liability**

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

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

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

#### **14.14 Currencies of Payment**

14.14.1 The Contract Price shall be paid in the currency or currencies named in the Schedule of

Payment Currencies. If more than one currency is so named, payments shall be made as follows:

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

#### 14.13.1 Termination by Procuring Entity

##### 14.14.1 Notice to Correct

If the Contractor fails to carry out any obligation under the Contract, the Project Manager may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.

#### 14.15 Termination by Procuring Entity

14.15.1 The Procuring Entity shall be entitled to terminate the Contract if the Contractor:

- a. fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1 [Notice to Correct],
- b. abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,
- c. without reasonable excuse fails:
  - i. to proceed with the Works in accordance with Clause 8 [Commencement, Delays and Suspension], or
  - ii. to comply with a notice issued under Sub-Clause 7.5 [Rejection] or Sub-Clause 7.6 [Remedial Work], within 28 days after receiving it,
- d. subcontracts the major part or whole of the Works or assigns the Contract without the agreement with Procuring Entity,
- e. becomes bankrupt or insolvent, goes into liquidation, has a receiving or

administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events, or

- f. gives or offers to give (directly or indirectly) to any person any bribe, gift, gratuity, commission or other thing of value, as an inducement or reward:
  - i. for doing or for bearing to do any action in relation to the Contract, or
  - ii. for showing or for bearing to show favor or disfavor to any person in relation to the Contract, or
  - iii. if any of the Contractor's Personnel, agents or Subcontractors gives or offers to give (directly or indirectly) to any person any such inducement or reward as is described in this sub-paragraph (f).
- g. However, lawful inducements and rewards to Contractor's Personnel shall not entitle termination, or based on reasonable evidence, has engaged in Fraud and Corruption as defined in paragraph 2.2 of the Appendix B to these General Conditions, in competing for or in executing the Contract.

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

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

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

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

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

#### **14.16 Valuation at Date of Termination**

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

#### **14.17 Payment after Termination**

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

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

#### **14.18 Procuring Entity's Entitlement to Termination for Convenience**

The Procuring Entity shall be entitled to terminate the Contract, at any time for the Procuring Entity's convenience, by giving notice of such termination to the Contractor. The termination shall take effect 28 days after the later of the dates on which the Contractor receives this notice or the Procuring Entity returns the Performance Security. The Procuring Entity shall not terminate the Contract under this Sub-Clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor or to avoid a termination of the Contract by the Contractor under Clause 16.2 [Termination by Contractor].

After this termination, the Contractor shall proceed in accordance with Sub-Clause 16.3 [Cessation of Work and Removal of Contractor's Equipment] and shall be paid in accordance with Sub-Clause 16.4 [Payment on Termination].

#### **14.19 Fraud and Corruption**

The Procuring Entity requires compliance with the Kenya Government's Anti-Corruption Laws and its prevailing sanctions.

#### **14.20 Corrupt gifts and payments of commission**

##### **14.20.1 The Contractor shall not;**

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

15.7.1 Any breach of this Condition by the Contractor or by any one employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the provisions of the Public Procurement Regulations issued under The Exchequer and Audit Act Cap 412 of the Laws of Kenya.

#### **15 Suspension and Termination by Contractor**

##### **15.15 Contractor's Entitlement to Suspend Work**

15.15.1 If the Project Manager fails to certify in accordance with Sub-Clause 14.6 [Issue of Interim

Payment Certificates] or the Procuring Entity fails to comply with Sub-Clause 2.4 [Procuring Entity's Financial Arrangements] or Sub-Clause 14.7 [Payment], the Contractor may, after giving not less than 21 days' notice to the Procuring Entity, suspend work (or reduce the rate of work) unless and until the Contractor has received the Payment Certificate, reasonable evidence or payment, as the case may be and as described in the notice.

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

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

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

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

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

## **15.16 Termination by Contractor**

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

- a. the Contractor does not receive the reasonable evidence within 45 days after giving notice under Sub-Clause 16.1 [Contractor's Entitlement to Suspend Work] in respect of a failure to comply with Sub-Clause
- b. 2.4 [Procuring Entity's Financial Arrangements],
- c. the Project Manager fails, within 45 days after receiving a Statement and supporting documents, to issue the relevant Payment Certificate,
- d. the Contractor does not receive the amount due under an Interim Payment Certificate within 45 days after the expiry of the time stated in Sub-Clause 14.7 [Payment] within which payment is to be made (except for deductions in accordance with Sub-Clause 2.5 [Procuring Entity's Claims]),
- e. the Procuring Entity substantially fails to perform his obligations under the Contract in such manner as to materially and adversely affect the economic balance of the Contract and/ or the ability of the Contractor to perform the Contract,
- f. the Procuring Entity fails to comply with Sub-Clause 1.6 [FRAMEWORK AGREEMENT] or Sub-Clause 1.7 [Assignment],
- g. a prolonged suspension affects the whole of the Works as described in Sub-Clause 8.11 [Prolonged Suspension], or
- h. the Procuring Entity becomes bankrupt or insolvent, goes into liquidation, has a receiving or administration order made against him, compounds with his creditors, or carries on business under a receiver, trustee or manager for the benefit of his creditors, or if any act is done or event occurs which (under applicable Laws) has a similar effect to any of these acts or events.
- i. The Contractor does not receive the Project Manager's instruction recording the agreement of both Parties on the fulfilment of the conditions for the Commencement of Works under Sub-Clause 8.1 [Commencement of Works].

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

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

### **15.17 Cessation of Work and Removal of Contractor's Equipment**

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

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

### **15.18 Payment on Termination**

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

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

## **17. Risk and Responsibility**

### **17.1 Indemnities**

17.1.1 The Contractor shall indemnify and hold harmless the Procuring Entity, the Procuring Entity's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of:

- a. Bodily injury, sickness, disease or death, of any person whatsoever arising out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and
- b. Damage to or loss of any property, real or personal (other than the Works), to the extent that such damage or loss arises out of or in the course of or by reason of the Contractor's design (if any), the execution and completion of the Works and the remedying of any defects, unless and to the extent that any such damage or loss is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, their respective agents, or any one directly or indirectly employed by any of them.

17.1.2 The Procuring Entity shall indemnify and hold harmless the Contractor, the Contractor's Personnel, and their respective agents, against and from all claims, damages, losses and expenses (including legal fees and expenses) in respect of (1) bodily injury, sickness, disease

or death, which is attributable to any negligence, willful act or breach of the Contract by the Procuring Entity, the Procuring Entity's Personnel, or any of their respective agents, and (2) the matters for which liability may be excluded from insurance cover, as described in sub-paragraphs (d) (i), (ii) and (iii) of Sub-Clause 18.3 [Insurance Against Injury to Persons and Damage to Property].

## 17.2 Contractor's Care of the Works

17.2.1 The Contractor shall take full responsibility for the care of the Works and Goods from the Commencement Date until the Taking-Over Certificate is issued (or is deemed to be issued under Sub-Clause 10.1 [Taking Over of the Works and Sections]) for the Works, when responsibility for the care of the Works shall pass to the Procuring Entity. If a Taking-Over Certificate is issued (or is so deemed to be issued) for any Section or part of the Works, responsibility for the care of the Section or part shall then pass to the Procuring Entity.

17.2.2 After responsibility has accordingly passed to the Procuring Entity, the Contractor shall take responsibility for the care of any work which is outstanding on the date stated in a Taking-Over Certificate, until this outstanding work has been completed.

17.2.3 If any loss or damage happens to the Works, Goods or Contractor's Documents during the period when the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks], the Contractor shall rectify the loss or damage at the Contractor's risk and cost, so that the Works, Goods and Contractor's Documents conform with the Contract.

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

## 17.3 Procuring Entity's Risks

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

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

## 17.4 Consequences of Procuring Entity's Risks

17.4.1 If and to the extent that any of the risks listed in Sub-Clause 17.3 above results in loss or

damage to the Works, Goods or Contractor's Documents, the Contractor shall promptly give notice to the Project Manager and shall rectify this loss or damage to the extent required by the Project Manager.

17.4.2 If the Contractor suffers delay and/or incurs Cost from rectifying this loss or damage, the Contractor shall give a further notice to the Project Manager and shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

- (a) An extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 [Extension of Time for Completion], and
- (b) Payment of any such Cost, which shall be included in the Contract Price. In the case of sub-paragraphs (f) and
- (g) of Sub-Clause 17.3 [Procuring Entity's Risks], Cost plus profit shall be payable.

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

## 17.5 Intellectual and Industrial Property Rights

17.5.1 In this Sub-Clause, "infringement" means an infringement (or alleged infringement) of any patent, registered design, copyright, trademark, tradename, trade secret or other intellectual or industrial property right relating to the Works; and "claim" means a claim (or proceedings pursuing a claim) alleging an infringement.

17.5.2 Whenever a Party does not give notice to the other Party of any claim within 28 days of receiving the claim, the first Party shall be deemed to have waived any right to indemnity under this Sub-Clause.

17.5.3 The Procuring Entity shall indemnify and hold the Contractor harmless against and from any claim alleging an infringement which is or was:

- a) An unavoidable result of the Contractor's compliance with the Contract, or
- b) A result of any Works being used by the Procuring Entity:
  - i) For a purpose other than that indicated by, or reasonably to be inferred from, the Contract, or
  - ii) in conjunction with anything not supplied by the Contractor, unless such use was disclosed to the Contractor prior to the Base Date or is stated in the Contract.

17.5.4 The Contractor shall indemnify and hold the Procuring Entity harmless against and from any other claim which arises out of or in relation to (i) the manufacture, use, sale or import of any Goods, or (ii) any design for which the Contractor is responsible.

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

## 17.6 Limitation of Liability

17.6.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contractor for any indirect or consequential loss or damage which may be suffered by the

other Party in connection with the Contract, other than as specifically provided in Sub-Clause 8.7 [Delay Damages]; Sub-Clause 11.2 [Cost of Remedying Defects]; Sub-Clause 15.4 [Payment after Termination]; Sub-Clause 16.4 [Payment on Termination]; Sub-Clause 17.1 [Indemnities]; Sub-Clause 17.4(b) [Consequences of Procuring Entity's Risks] and Sub-Clause 17.5 [Intellectual and Industrial Property Rights].

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

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

## 17.7 Use of Procuring Entity's Accommodation/ Facilities

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

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

## 18 Insurance

### 18.1 General Requirements for Insurances

18.1.1 In this Clause, "insuring Party" means, for each type of insurance, the Party responsible for effecting and maintaining the insurance specified in the relevant Sub-Clause.

18.1.2 Wherever the Contractor is the insuring Party, each insurance shall be effected with insurers and in terms approved by the Procuring Entity. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

18.1.3 Wherever the Procuring Entity is the insuring Party, each insurance shall be effected with insurers and in terms acceptable to the Contractor. These terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause.

18.1.4 If a policy is required to indemnify joint insured, the cover shall apply separately to each insured as though a separate policy had been issued for each of the joint insured. If a policy indemnifies additional joint insured, namely in addition to the insured specified in this Clause, (i) the Contractor shall act under the policy on behalf of these additional joint insured except that the Procuring Entity shall act for Procuring Entity's Personnel, (ii) additional joint insured shall not be entitled to receive payments directly from the insurer or to have any other direct dealings with the insurer, and (iii) the insuring Party shall require all additional joint insured to comply with the conditions stipulated in the policy.

18.1.5 Each policy insuring against loss or damage shall provide for payments to be made in the

currencies required to rectify the loss or damage. Payments received from insurers shall be used for the rectification of the loss or damage.

- 18.1.6 The relevant insuring Party shall, within the respective periods stated in **the Particular Conditions of Contract** (calculated from the Commencement Date), submit to the other Party:
  - a. Evidence that the insurances described in this Clause have been effected, and
  - b. copies of the policies for the insurances described in Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment] and Sub-Clause 18.3 [Insurance against Injury to Persons and Damage to Property].
- 18.1.7 When each premium is paid, the insuring Party shall submit evidence of payment to the other Party. Whenever evidence or policies are submitted, the insuring Party shall also give notice to the Project Manager.
- 18.1.8 Each Party shall comply with the conditions stipulated in each of the insurance policies. The insuring Party shall keep the insurers informed of any relevant changes to the execution of the Works and ensure that insurance is maintained in accordance with this Clause.
- 18.1.9 Neither Party shall make any material alteration to the terms of any insurance without the prior approval of the other Party. If an insurer makes (or attempts to make) any alteration, the Party first notified by the insurer shall promptly give notice to the other Party.
- 18.1.10 If the insuring Party fails to effect and keep in force any of the insurances it is required to effect and maintain under the Contract, or fails to provide satisfactory evidence and copies of policies in accordance with this Sub- Clause, the other Party may (at its option and without prejudice to any other right or remedy) effect insurance for the relevant coverage and pay the premiums due. The insuring Party shall pay the amount of these premiums to the other Party, and the Contract Price shall be adjusted accordingly.
- 18.1.11 Nothing in this Clause limits the obligations, liabilities or responsibilities of the Contractor or the Procuring Entity, under the other terms of the Contract or otherwise. Any amounts not insured or not recovered from the insurers shall be borne by the Contractor and/or the Procuring Entity.
- 18.1.12 Procuring Entity in accordance with these obligations, liabilities or responsibilities. However, if the insuring Party fails to effect and keep in force an insurance which is available and which it is required to effect and maintain under the Contract, and the other Party neither approves the omission nor effects insurance for the coverage relevant to this default, any moneys which should have been recoverable under this insurance shall be paid by the insuring Party.
- 18.1.13 Payments by one Party to the other Party shall be subject to Sub-Clause 2.5 [Procuring Entity's Claims] or Sub- Clause 20.1[Contractor's Claims], as applicable.
- 18.1.14 The Contractor shall be entitled to place all insurance relating to the Contract (including, but not limited to the insurance referred to Clause 18) with insurers from any eligible source country.

## 18.2 Insurance for Works and Contractor's Equipment

- 18.2.1 The insuring Party shall insure the Works, Plant, Materials and Contractor's Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. This insurance shall be effective from the date by which the evidence is to be submitted under sub-paragraph (a) of Sub-Clause 18.1 [General Requirements for Insurances], until the date of issue of the Taking-Over Certificate for the

Works.

18.2.2 The insuring Party shall maintain this insurance to provide cover until the date of issue of the Performance Certificate, for loss or damage for which the Contractor is liable arising from a cause occurring prior to the issue of the Taking-Over Certificate, and for loss or damage caused by the Contractor in the course of any other operations (including those under Clause 11[Defects Liability]).

18.2.3 The insuring Party shall insure the Contractor's Equipment for not less than the full replacement value, including delivery to Site. For each item of Contractor's Equipment, the insurance shall be effective while it is being transported to the Site and until it is no longer required as Contractor's Equipment.

18.2.4 Unless otherwise stated in the Particular Conditions, insurances under this Sub-Clause:

- a. Shall be effected and maintained by the Contractor as insuring Party,
- b. shall be in the joint names of the Parties, who shall be jointly entitled to receive payments from the insurers, payments being held or allocated to the Party actually bearing the costs of rectifying the loss or damage,
- c. shall cover all loss and damage from any cause not listed in Sub-Clause 17.3 [Procuring Entity's Risks],
- d. shall also cover, to the extent specifically required in the tendering documents of the Contract, loss or damage to a part of the Works which is attributable to the use or occupation by the Procuring Entity of another part of the Works, and loss or damage from the risks listed in sub-paragraphs (c), (g) and (h) of Sub-Clause 17.3 [Procuring Entity's Risks], excluding (in each case) risks which are not insurable at commercially reasonable terms, with deductibles per occurrence of not more than the amount stated **in the Particular Conditions** of Contract (if an amount is not so stated, this sub-paragraph (d) shall not apply), and
- e. may however exclude loss of, damage to, and rein statement of:
  - a. a part of the Works which is in a defective condition due to a defect in its design, materials or workmanship (but cover shall include any other parts which are lost or damaged as a direct result of this defective condition and not as described in sub-paragraph (ii) below),
  - b. a part of the Works which is lost or damaged in order to reinstate any other part of the Works if this other part is in a defective condition due to a defect in its design, materials or workmanship,
  - c. a part of the Works which has been taken over by the Procuring Entity, except to the extent that the Contractor is liable for the loss or damage, and
  - d. Goods while they are not in Kenya, subject to Sub-Clause 14.5[Plant and Materials intended for the Works].

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

### **18.3 Insurance against Injury to Persons and Damage to Property**

18.3.1 The insuring Party shall insure against each Party's liability for any loss, damage, death or

bodily injury which may occur to any physical property (except things insured under Sub-Clause 18.2 [Insurance for Works and Contractor's Equipment]) or to any person (except persons insured under Sub-Clause 18.4 [Insurance for Contractor's Personnel]), which may arise out of the Contractor's performance of the Contract and occurring before the issue of the Performance Certificate.

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

18.3.3 Unless otherwise stated in the Particular Conditions, the insurances specified in this Sub-Clause:

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

## 18.4 Insurance for Contractor's Personnel

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

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

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

## 19 Force Majeure

### 19.1 Definition of Force Majeure

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

- a. Which is beyond a Party's control,

- b. Which such Party could not reasonably have provided against before entering in to the Contract,
- c. which, having arisen, such Party could not reasonably have avoided or overcome, and
- d. which is not substantially attributable to the other Party.

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

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

## 19.2 Notice of Force Majeure

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

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

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

## 19.3 Duty to Minimize Delay

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

## 19.4 Consequences of Force Majeure

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

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

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

### 19.5 Force Majeure Affecting Subcontractor

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

### 19.6 Optional Termination, Payment and Release

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

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

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

### 19.7 Release from Performance

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

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

## 20 Settlement of Claims and Disputes

## 20.1 Contractor's Claims

- 20.1.1 If the Contractor considers himself 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 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.
- 20.1.2 If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub- Clause shall apply.
- 20.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
- 20.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at 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.
- 20.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the 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 28 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.
- 20.1.6 Within 42 days after receiving 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.
- 20.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.
- 20.1.8 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

20.1.9 If the Project Manager does not respond within the time frame 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 20.2 [Settlement of Claims and Disputes].

20.1.10 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause.

## 20.2 Amicable Settlement

Where a Notice of Dissatisfaction 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 Dissatisfaction in accordance with Sub-Clause 20.1 above should move to commence arbitration after the fifty-sixth day from the day on which a Notice of Dissatisfaction was given, even if no attempt at an amicable settlement has been made.

## 20.3 Matters that may be referred to arbitration

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

- a) 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.

## 20.4 Arbitration

20.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 20.3 shall be finally settled by arbitration. Arbitration shall be conducted as follows:

- a) If the contract is with foreign contractors, arbitration proceedings shall be administered by the arbitration institution designated in the Particular Conditions of Contract, and conducted under the rules of arbitration of such institution; or, if so specified in the Particular Conditions of Contract, international arbitration in accordance with the arbitration rules of the United Nations Commission on International Trade Law (UNCITRAL); or if neither an arbitration institution nor UNCITRAL arbitration rules are specified in the Particular Conditions of Contract, with proceedings administered by the International Chamber of Commerce (ICC) and conducted under the ICC Rules of Arbitration; by one or more arbitrators appointed in accordance with said arbitration rules;
- b) If the Contract is with national contractors, arbitration with proceedings conducted in accordance with the Arbitration Laws of Kenya.

20.4.2 The place of arbitration shall be the neutral location specified in the Particular Conditions of

Contract; and the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [Law and Language].

- 20.4.3 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.
- 20.4.4 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.
- 20.4.5 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.
- 20.4.6 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

## 20.5 National arbitration with proceedings

- 20.5.1 In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;
  - i) Architectural Association of Kenya
  - ii) Institute of Quantity Surveyors of Kenya
  - iii) Association of Consulting Engineers of Kenya
  - iv) Chartered Institute of Arbitrators (Kenya Branch)
  - v) Institution of Engineers of Kenya
- 20.5.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.
- 20.5.3 The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled to or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.
- 20.5.4 Provided that no arbitration proceedings shall be commenced on any claim or dispute where notice of a claim or dispute has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.
- 20.5.5 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

- 20.5.6 The Arbitrator shall, without prejudice to the generality of his powers, have powers to direct such measurements, computations, tests or valuations as may in his opinion be desirable in order to determine the rights of the parties and assess and award any sums which ought to have been the subject of or included in any certificate.
- 20.5.7 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.
- 20.5.8 The award of such Arbitrator shall be final and binding upon the parties.

## **20.6 Failure to Comply with Arbitrator's Decision**

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.

## SECTION IX - PARTICULAR CONDITIONS OF CONTRACT

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

### Part A – Contract Data

#### INTRODUCTION

The following Sub-Clauses in the General Conditions make direct reference to the Contract Data and require that specific information is provided.

The document assumes that all information in the Contract Data will be provided by the Employer and included in the tender documents. If the Employer requires tenderers to provide any of the information required in the Contract Data, this must be clearly stated in the tender documents.

The Conditions of Contract comprise, as a minimum, the General Conditions and the Particular Conditions Part A – Contract Data, and failure by the Employer to provide the information and details required in the Contract Data will mean that either the Contract Documents are incomplete with vital information missing, or that the fall-back provisions to be found in some of the Sub-Clauses in the General Conditions will automatically take effect.

#### Part A - Contract Data

Conditions	Sub-Clause	Data
Procuring Entity's name and address	1	Kenya Rural Roads Authority, P.O. Box 48151 – 00100, <b>NAIROBI, KENYA.</b>
Name and Reference No. of the Contract	Heading and 3.1.1	<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE, SUPPLY, INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>
Engineer's Name and address	Heading and 3.1.1	Director (Roads Development) Kenya Rural Roads Authority P.O. Box 48151 – 00100 <b>NAIROBI, KENYA</b>
Contractor's Representative's name	4.3.1	Delete entire Paragraph 1 to read:  <i>“The Contractor SHALL prior to the commencement date submit to the Project Manager for consent name and particulars of the person the Contractor proposes to appoint as the Contractor’s representative. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor’s Personnel], or if the appointed person fails to act as Contractor’s Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment.”</i>

Conditions	Sub-Clause	Data
Key Personnel names	6.9.1	<p>Delete entire Paragraph 1 to read:</p> <p><i>"The Contractor SHALL prior to the commencement date submit to the Project Manager for consent name and particulars of the person the Contractor proposes to appoint as the Contractor's Key personnel. If consent is withheld or subsequently revoked in terms of Sub-Clause 6.9 [Contractor's Personnel], or if the appointed person fails to act as Contractor's Representative, the Contractor shall similarly submit the name and particulars of another suitable person for such appointment."</i></p>
Duration of the Framework Agreement	1.1.	<b>Three (3) years</b>
Time for Completion	1.1.	<b>Site Specific</b>
Defects Notification Period	1.1	<b>365 days</b>
Sections	1.1	<b>N/A</b>
Electronic transmission systems	1.3	Not Allowed
Time for the Parties entering into a FRAMEWORK AGREEMENT	1.6	Within 28 days
Commencement Date	8.1.1	28 Days after Order to Commence and FRAMEWORK AGREEMENT is signed
Time for access to the Site	2.1	<p>Possession of Site within 28 days from the date the FRAMEWORK AGREEMENT is signed</p> <p>Add Paragraph 2 as follows:</p> <p><i>"The Engineer SHALL issue to the Contractor an Order to Commence Works within 28 Days"</i></p>
Project Manager's Duties and Authority	3.1.6 (b) (ii)	Any Variations resulting in an increase of the Accepted Contract shall require approval of the Procuring Entity.
Performance Security	4.2.1	<p>Delete and replace with:</p> <p><i>"The Contractor shall provide security in, respect of the value of the BID SUM, for his proper performance of the Contract within 28 days after receipt of the Letter of Acceptance. The Performance Security shall be in the form of a bank guarantee, as stipulated by the Employer in the Appendix to Bid. The performance security shall be denominated in the types and proportions of currencies in which the Contract Price is payable. The Contractor shall notify the Engineer when providing the Performance Security to the Employer". The security SHALL be 5% of Bid Sum (Call of Sum).</i></p> <p><i>"If the performance security is a bank guarantee, it shall be issued either</i></p> <p><i>(a)</i></p>

Conditions	Sub-Clause	Data
		<p><i>by a bank located in the country of the Employer or a foreign bank through a correspondent bank located in the country of the Employer, or (b)</i></p> <p><i>directly by the foreign bank that has been determined in advance to be acceptable to the Employer”</i></p> <p><i>“Without limitation to the provisions of the preceding paragraph, whenever the Engineer determines an addition to the Contract Price as a result of a change in cost, the Contractor, at the Engineer’s written request, shall promptly increase the value of the Performance Security by an equal percentage”</i></p>
	4.4.1	<p>Delete and replace with:</p> <p><i>“The Contractor may subcontract part or all of the works subject to the approval of the Employer.”</i></p>
	4.21.1	<p>Delete as follows:</p> <p><i>... “by the Contractor .....” Replace with ..... “by the Project Manager .....”</i></p>
Normal working hours	6.5	<p>The normal working hours are 8am to 5pm with 1 hour lunch break for Monday to Friday and 8am to 1pm for Saturdays.</p> <p>The Contractor shall allow in his programme for the following public holidays per calendar year during which the Contractor shall not be permitted to work:</p> <p>New Years Day (1st January)  Good Friday  Easter Monday  Labour Day (1st May)  Madaraka Day (1st June)  Idd Ul Fitr  Huduma Day (10th October)  Mashujaa Day (20th October)  Jamhuri Day (12th September)  Christmas Day (25th December)  Boxing Day (26th December)</p> <p>The Contractor shall also allow per calendar year for a further two unspecified public holidays which may be announced by the Government of Kenya with no prior notification upon which he shall not be permitted to work.</p>
Delay damages for the Works	8.7 & 14.15.1(b)	<p>0.01 % of the Contract Price per day.</p> <p><i>If Sections are to be used, refer to Table: Summary of Sections below</i></p>
Maximum amount of delay damages	8.7	5% of the final Contract Price.
Provisional Sums	13.5. (b)(ii)	<i>NONE</i>

Conditions	Sub-Clause	Data
	13.8.4	<p><i>Add as follows:</i></p> <p><i>The basic applicable indices shall be those prevailing indices available 28 days prior to last day of bid submission.</i></p> <p><i>The weightings for the indices shall be given in TABLE A.</i></p>
Adjustments for Changes in Cost	13.8.3	N/A
Total advance payment	14.2.1	<b>NA</b>
Repayment amortization rate of advance payment	14.2.5 (b)	N/A
	14.2.6	
Percentage of Retention	14.3.2 (c)	5%
Limit of Retention Money	14.3.2 (c)	10% of the Accepted Contract Amount
Plant and Materials	14.5.3(b)(i)	N/A
	14.5.3(c)(i)	N/A
Minimum Amount of Interim Payment Certificates	14.6.2	<p>Milestone-Based -</p> <ol style="list-style-type: none"> <li>1. Substructure</li> <li>2. Superstructure (Manufacturing and Supply)</li> <li>3. Installation</li> </ol>
Publishing source of commercial interest rates for financial charges in case of delayed payment	14.8.2	<p>Delete and replace with:</p> <p><i>"In the event of the failure of the Employer to make payment within the times stated, the Employer shall make payment to the Contractor of simple interest at a rate equal to two percentage points above the average bank lending rates obtained from Central Bank of Kenya."</i></p>
Currencies for payment of Contract Price	14.17	Payments shall be made in Kenya Shillings Only
Maximum total liability of the Contractor to the Procuring Entity	17.6.2	N/A
Periods for submission of insurance: a. evidence of insurance. b. relevant policies	18.1.6	21 days
Maximum amount of deductibles for insurance of the Procuring Entity's risks	18.2.4 (d)	Kenya Shillings Eight Hundred Thousand [KShs. 200,000.00]
Minimum amount of third-party insurance	18.3.2	Kenya Shillings Eight Hundred Thousand [KShs. 200,000.00]
	20.1.3	Amend the first "20.1.3" to read 20.1.3A and the second "20.1.3" to read 20.1.3B
	20.4.7	Amend the first "20.4.7" to read 20.4.7A and the second "20.4.7" to read 20.4.7B
	20.4	<p><b>Appointer of Arbitrator:</b></p> <p><u>Chartered Institute of Arbitrators of Kenya</u></p>
The place of arbitration	20.7.2	The place of arbitration shall be at The Chartered Institute of Arbitrators (Kenya)

**Table A: Approximate Weightings for Price Adjustment - N/A**

<i>Description of Index</i>	<i>Sources of Indices</i>	<i>% Range of Weighting</i>	<i>Base Indices – 28 days prior to the date of Bid Submission</i>	<i>Bidders Proposed Weighting</i>
Fixed (“A”)	KNBS	50		
Labour	KNBS	5 – 10		
Fuels	KNBS	5 – 8		
Oils and Lubricants	KNBS	1 – 5		
Cement	KNBS	10 – 15		
Reinforcement & Steel Products	KNBS	10 – 18		
Bitumen and Bituminous Products	KNBS	0		
Total				100%

## Particular Conditions

## Part B – PARTICULAR CONDITIONS

### **Sub-Clause 1.1.10**

“The words ‘Agreement’ and ‘Contract’ are used interchangeably.”

### **Sub-Clause 1.1.35**

Project Manager Whenever Referred to in the Contract Documents, the Words "The Engineer" shall also mean "Project Manager" as defined in the Contract.

### **Sub-Clause 1.1.49**

Letter of Tender The words ‘Letter of Tender’ is synonymous with the words ‘Letter of Bid’, and the words ‘Appendix to Tender’ with ‘Appendix to Bid,’ and the words ‘tender documents’ with ‘Bidding Documents.’

### **Sub-Clause 1.1.75**

“The word ‘tender’ is synonymous with the word ‘Bid,’

## **Sub-Clause 1.6**

FRAMEWORK  
AGREEMENT      Delete the phrase “unless the Particular Conditions establish otherwise” from the first paragraph.

The Parties shall enter into a FRAMEWORK AGREEMENT within 28 days after the Contractor receives the letter of Acceptance or upon receipt of the performance security whichever is later.

### **Sub-Clause 1.11**

Employer's use of Delete the last paragraph of this Sub-clause  
Contractor's Documents

### **Sub-Clause 1.13**

Confidential Details      “The Contractor’s and the Employer’s Personnel shall disclose all such confidential and other information as may be reasonably required in order to verify the Contractor’s compliance with the Contract and allow its proper implementation; provided that the requirements of this Sub-Clause 1.12 shall not apply to authorized representatives of the Government or any auditor identified in the Contract.

“Each of the Parties shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out their respective obligations under the Contract or to comply with applicable Laws. Each of them shall not publish or disclose any particulars of the design and of the Works prepared by the other Party without the previous agreement of the other Party. However, the Contractor shall be permitted to disclose any publicly available

information, or, with the prior consent of the Employer, information otherwise reasonably required to establish its qualifications to compete for other projects. If any dispute arises as to the necessity of any publication or disclosure of the details of the Contract, the same shall be referred to the Employer whose determination shall be final. The Contractor shall ensure that the requirements imposed on the Contractor by this Sub-Clause apply equally to each Sub-Contractor.”

### **Sub-Clause 3.1**

**Project Manager duties and Authority** Where used in the Contract the word ‘Engineer’ shall also refer to the Project Manager.

Amend Sub-Clause 3.1 by replacing the word “may” in the first sentence of the third paragraph with the word “shall”.

In addition, The following additional provisions shall also apply:

The Employer's Representative shall obtain the specific approval of the Employer before taking action under the following sub-clauses of these Conditions:

Add:

- consenting to subcontracting of any part of the Works under Sub-Clause 4.4
- issuing a Performance Certificate under Sub-Clauses 11.9
- issuing a Taking Over Certificate under Sub-Clause 10.1
- use of provisional sums and prime cost sums under clause 13.5
- Certifying payments for any additional costs determined under any clause of these Conditions.

Note: Performance Certificate shall only be issued after full compliance with regulations regarding rehabilitations and restoration of quarries and borrow pits

### **Sub-Clause 4.2**

**Performance Security**

Performance Security shall be in the form of a bank guarantee, it shall be issued either (a) by a bank located in the Country, or (b) directly by a foreign bank acceptable to the Employer.

### **Sub-Clause 4.9**

**Quality Assurance**

The Contractor shall prepare a Quality Assurance and Quality Control Plan to demonstrate compliance with the requirements of the Contract.

### **Sub-Clause 4.4**

**Subcontractors**

Amend Sub-para. (b) of Sub-Clause 4.4 by deleting the word “and” at the end.

Amend Sub-para. (c) of Sub-Clause 4.4 by replacing the period at the end with “; and”.

Amend Sub Clause 4.4 by adding the following at the end:

“(d) each subcontract shall include the provisions set forth in the Particular Conditions of the Contract.

### **Sub-Clause 4.8**

Safety Procedures

The Contractor shall notify the Engineer and Employer within 48 hours or as soon as reasonably possible after the occurrence of any accident which has resulted in damage or loss of property, disability or loss of human life, or which has or which could reasonably be foreseen to have a material impact on the environment and shall submit to the Engineer and Employer no later than 28 days after the occurrence of such an event, a summary report thereof.

### **Sub-Clause 4.12**

Unforeseeable Physical Delete sub-paragraph (b) of Sub-Clause 4.12 and substitute: Conditions

(b) payment for any such Cost, **Ten** percent (10%) of which shall be included in the Contract Price **ninety** percent (90%) of the Cost shall be borne by the Contractor

### **Sub-Clause 4.18**

Protection of the Environment

The Contractor shall apply the recommendations of the Environmental and Social Management & Monitoring Plan ('ESMMP') as detailed in the NEMA Licence and the ESIA Report in respect of this project as well as any others contained in the Employer's Requirements, in respect of safety, security and protection of the environment.

The Contractor shall request written confirmation from the Employer that actions requiring completion by the approved Resettlement Action Plan ('RAP') have been completed before construction is initiated on the Works or each Section (as the case may be). The Contractor shall also immediately notify the Engineer of any land acquisition or resettlement needs resulting from the design or Works that have not been addressed by the RAP. No work shall commence in any such newly identified area without the approval of the Employer's Representative.

The Contractor shall implement health and safety requirements of the approved EMPs and directives issued as a result of periodic inspections to be undertaken as part of the supervisory role required of the Employer's Representative, to ensure compliance with the requirements of the EMPs.

The Contractor shall be responsible for ensuring that all Subcontractor's and Contractor's Personnel understand and maintain in accordance with the principles and requirements of the environmental and social impacts provisions of this Sub-Clause and that the same standards apply to the Sub-Contractor's environmental and social impacts management systems and environmental and social impacts performance.

The Contractor's program shall demonstrate clearly the procedures and methods of working that the Contractor and its Sub-Contractors will adopt to comply with the environmental and social impacts requirements of this Sub-Clause.

The Contractor shall ensure the adequate disposal of construction and excavation wastes.

The Contractor shall restore the Site to original conditions or to a state as set out in the Employer's Requirements after the completion of the Works."

### **Sub-Clause 5.1**

General Obligations      Design      There are no Preliminary designs provided by the Employer.

### **Sub-Clause 6.5**

Working Hours

If the Contractor requests permission to work by night as well as by day, then if the Engineer shall grant such permission, the Contractor shall not be entitled to any additional payments for so doing. All such work at night shall be carried out without unreasonable noise or other disturbance and the Contractor shall indemnify the Employer from and against any liability for damages on account of noise or other disturbance created while or in carrying out night work and from and against all claims, demands, proceedings, costs, charges and expenses whatsoever in regard or in relation to such liability.

In addition the Contractor will be required to provide, for any work carried out at night or recognized days of rest, adequate lighting and other facilities so that the work is carried out safely and properly.

In the event of the Engineer granting permission to the Contractor to work double or rotary shifts or on Sundays, the Contractor shall be required to meet any additional costs to the Employer in the administration and supervision of the Contract arising from the granting of this permission.”

**Sub-Clause 6.7**

Health and Safety

The Contractor shall conduct an HIV-AIDS awareness program in the project areas as required by the approved ESMMP via an approved service provider, and shall undertake such other measures as are specified in the Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.”

**Sub-Clause 6.8**Contractor's  
Superintendence

Insert at the end of Sub-Clause 6.8:

A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of English

**Sub-Clause 6.9**

Contractor's Personnel

The Contractor may bring in to the Country any foreign personnel who are necessary for the execution of the Works to the extent allowed by the applicable Laws. The maximum number of foreign personnel shall not exceed ten percent of his personnel. The Contractor shall ensure that these personnel are provided with the required residence visas and work permits. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

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

The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development

**Sub-Clause 6.10**

Records of Contractor's Personnel and Equipment	The Personnel details/records shall include the names, ages, genders, hours worked and wages paid to all workers. These records, shall be available for inspection by Employer's Representatives and or auditors or parties authorized by the Employer during normal working hours.
<b>Commencement Date</b>	8.1 Replace the phrase "Contractor receives the Letter of Acceptance" with "signing of the Contract Document by the Employer and the Contractor."
<b>Delay Damages</b>	8.2
<b>Commencement of Design - Build</b>	9.1 As per clause 8.1 above
<b>Rate of progress</b>	9.5 "Additional costs of revised methods, including acceleration measures, instructed by the Engineer to reduce delays resulting from causes listed under Sub-Clause 8.4 [ <i>Extension of Time for Completion</i> ] shall be paid by the Employer, without generating, however, any other additional payment benefit to the Contractor."
<b>Commencement of Defects Liability Period</b>	10.2 Notwithstanding the issuance of the Taking Over Certificate, the Defects Liability Period will not commence until the Contractor receives written instruction to commence from the Employer's Representative. Such instruction shall be issued within 28 days.
<b>Right to Vary</b>	13.1 Amend Sub-Clause 13.1 by deleting the word "or" at the end of clause (iv) in the second paragraph and by inserting the following at the end of the first sentence of the second paragraph:  "or (v) such Variation triggers a substantial change in the sequence or progress of the Works."
<b>Provisional Sums</b>	13.5 Add the following at the end of Clause 13.6 by adding the following to the end of the first paragraph:  ", provided, that no such adjustment will be made on account of any change in the Laws of the Country related to taxes as such term is defined and used in Sub-Clause 21."

Add the following provision to the end of clause 13.6 :

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

**Adjustment in Changes in Costs** 13.8

Adjustments for Changes in Cost will be done as per Schedule of Adjustment Data provided in the Appendix to Tender.

**Payment** 14.8

Replace '21 days' as stated in Clause 14.8(a) with "42 days"

**Delayed Payments** 14.8.1

Replace 'compounded monthly' with 'compounded quarterly'

14.8.3

The Clause shall read, the Contractor shall be entitled to this payment with formal notice and certification, and without prejudice 14.9 to any other right or remedy.

**Application for Final Payment Certificate Design - Build** 14.11

Amend Sub-Clause 14.11 by inserting the following in the first sentence of the second paragraph after 'the Contractor shall **within 28 days** submit to .....'

**Termination for 14.15  
Contractor's Default**

Amend Sub-Clause 15.2 by adding the following immediately after the text of Subpara. (h)

- “(i) if the Contractor, in the judgment of the Employer, fails to perform its obligations relating to the use of funds set out in Annex A (Additional Provisions) attached to the Conditions of Particular Application of the Contract, or
- “(j) if the Contract expires, is suspended or terminates in whole or in part in accordance with the terms of the Contract.”

Amend Sub-Clause 14.15 by replacing the text of the second sentence of the second paragraph with the following:

“However, in the case of Sub-paragraph (d), (f), (g), (h),(i) and (j) the Employer may, by notice, terminate the Contract immediately. In the event of Employer termination of the Contract pursuant to Sub-paragraph (i), the Contractor shall be liable to repay any and all funds so misused. In the event of Employer termination of the Contract pursuant to Sub-paragraph (j), the Contractor shall be paid in accordance with Sub-Clause 18.5 [*Optional Termination, Payment and Release*] in accordance with the terms of the Contract and any related agreements.”

**Termination  
Contractor**      **by 16.2**

Add the following at the end Sub-clause 16.2(d):

in such manner as to materially and adversely affect the economic balance of the Contract and/or the ability of the Contractor to perform the Contract.

**Arbitration**

20.4

Amend Sub-Clause 20.4 by replacing the first paragraph with the following:

“Any dispute not settled amicably and in respect of which the DAB’s decision (if any) has not become final and binding shall be finally settled by arbitration. Unless otherwise agreed by both Parties:

- (a) For contracts with foreign Contractors,
  - (i) international arbitration shall be conducted with proceedings administered by the international arbitration institution appointed in the Appendix to Tender, in accordance with the rules of arbitration of the appointed institution, if any, or in accordance with UNCITRAL arbitration rules, at the choice of the appointed institution;
  - (ii) the place of arbitration shall be the city where the headquarters of the appointed arbitration institution is located or such other place selected in accordance with the applicable arbitration rules; and
  - (iii) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.4 [*Law and Language*], and
- (b) For contracts with domestic Contractors, arbitration shall be conducted with proceedings in accordance with the Laws of the Employer’s Country.”



## **SECTION IX**

## **CONTRACT FORMS**

## SECTION IX - CONTRACT FORMS

### Table of Forms

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD

FORM No. 2 – REQUEST FOR REVIEW

FORM No. 3 - LETTER OF AWARD

FORM No. 4 - FRAMEWORK AGREEMENT

FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank  
Guarantee] FORM No. 6- PERFORMANCE SECURITY [Option 2– Performance  
Bond]

FORM No. 7 - ADVANCE PAYMENTSECURITY

FORM No. 8- RETENTION MONYSECURITY

FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE

**FORMNo1: 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) ITT No: *[insert ITT reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender by submitting a Procurement-related Complaint in relation to the decision to award the contracts.

a) The successful tenderers

Package No.	Name of successful Tenderer	Address of the successful Tenderer	Contract price of the successful Tenderer
Package No.			

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.

Package No.	Name of Tenderer	Address of the Tenderer	Tender price	Evaluated price
Package No.				

Package No.				
Package No.				

(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 (5) Business Days of receipt of this Notification of Intention to Award.
- c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:
  - i) Attention: [insert full name of person, if applicable]
  - ii) Title/position: [insert title / position]
  - iii) Agency: [insert name of Procuring Entity]
  - iv) Email address: [insert email address]
- d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.
- e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.
- f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

- a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [insert date] (local time).
- b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:
  - i) Attention: [insert full name of person, if applicable]
  - ii) Title/position: [insert title / position]
  - iii) Agency: [insert name of Procuring Entity]
  - iv) Email address: [insert email address]
- c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.
- d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website [www.ppra.go.ke](http://www.ppra.go.ke).

You should read these documents before preparing and submitting your complaint.

- e) There are four essential requirements:
  - i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.
  - ii) The complaint can only challenge the decision to award the contract.
  - iii) You must submit the complaint within the period stated above.
  - iv) You must include, in your complaint, all of the information required to support your complaint.

**7. Standstill Period**

- i) DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).
- ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.
- iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

**Signature:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Title/position:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**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 of .....dated the...day of .....20.....in the matter of Tender No.....of .....20.... for ..... (Tender description).

**REQUEST FOR REVIEW**

I/We.....,the above named Applicant(s), of address: Physical address.....P. O. Box No..... Tel. No.....Email ....., hereby request the Public Procurement Administrative Review Board to review the whole/part of the above mentioned decision on the following grounds , namely:

1.

2.

By this memorandum, the Applicant requests the Board for an order/orders that:

1.

2.

SIGNED ..... (Applicant) Dated on.....day of ...../..20.....

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FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on.....day of .....20.....

**SIGNED****Board Secretary**

**FORM NO 3: LETTER OF AWARD**

*[letterhead paper of the Procuring*

*Entity] [date]*

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated.....*[date]* for execution of the.....*[name of the Contract and identification number, as given in the Contract Data for contract Package No... .... (amount.....), Packages No... .... (amount.....), Packages No... .... (amount.....). etc. are hereby accepted by ..... (name of Procuring Entity).*

You are requested to arrange to sign the Framework Agreement within 28 days in accordance with the Conditions of Contract. On being instructed to commence the contract on any of the packages you have won, by a call-off notification, you will be requested to furnish for the particular package a Performance Security within 28 days in accordance with the Conditions of Contract, and for that purpose, using 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: *FRAMEWORK AGREEMENT*: \_\_\_\_\_

## FORM NO 4: FRAMEWORK AGREEMENT

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, between \_\_\_\_\_ of \_\_\_\_\_ (hereinafter "the Procuring Entity"), of the one part, and \_\_\_\_\_ of \_\_\_\_\_ (hereinafter "the Contractor"), of the other part:

WHEREAS the Procuring Entity desires that the Works known as \_\_\_\_\_ should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects there in,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to the min 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 Particular 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 there in 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 \_\_\_\_\_ (herein after 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*),<sup>1</sup> 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 there in.
4. This guarantee shall expire, no later than the..... Day of.....,2.....<sup>2</sup>, 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 an extension of this guarantee, in response to the Applicant's written request for such extension for a period necessary for the completion of the contracted works subject to the concurrence of the Employer. Such request to be presented to the Guarantor not less than fourteen (14) days 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.*

<sup>1</sup> 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.

<sup>2</sup> 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 [Option2-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 there to, which to the extent here in provided for, are by reference made part here of and are here in after referred to as the Contract.
3. NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Procuring Entity to be, in default under the Contract, the Procuring Entity having performed the Procuring Entity's obligations there under, the Surety may promptly remedy the default, or shall promptly:
  - (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 here under, the amount set for thin 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 here in 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 \_\_\_\_\_ (herein after called "the Contractor") has entered in to Contract No. \_\_\_\_\_ dated \_\_\_\_\_ with the Beneficiary, for the execution of \_\_\_\_\_ (herein after 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*)<sup>1</sup> 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 \_\_\_\_\_.
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<sup>2</sup>, whichever is earlier. Consequently, a 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.

<sup>1</sup>The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.

<sup>2</sup>Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

**FORM NO. 8 - RETENTION MONEY SECURITY [Demand Bank Guarantee]**

[Guarantor letterhead]

**Beneficiary:** \_\_\_\_\_ [Insert name and

Address of Procuring Entity]

**Date:** \_\_\_\_\_ [Insert date of issue]

**Advance payment guarantee no.** [Insert guarantee reference number]

**Guarantor:** [Insert name and address of place of issue, unless indicated in the letterhead]

1. We have been informed that \_\_\_\_\_ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture] (herein after called "the Contractor") has entered in to 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 for thin 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 under take to pay the Beneficiary any sum or sums not exceeding in total an amount of [insert amount in figures] \_\_\_\_\_ ([insert amount in words \_\_\_\_\_ ]) 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 there in.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_ [insert name and address of Applicant's bank].
5. This guarantee shall expire no later than the..... Day of.....,2...<sup>2</sup>, 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.*

<sup>1</sup>The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.

<sup>2</sup>Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

**FORM NO. 9 BENEFICIAL OWNERSHIP DISCLOSURE FORM**  
**(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)**

**INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM**

*This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.*

*For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who*

Tender Reference No.:\_\_\_\_\_

[insert identification no] Name of the

Tender Title/Description:\_\_\_\_\_ [insert name of  
 the assignment] to:\_\_\_\_\_ [insert complete name of Procuring Entity]

In response to the requirement in your notification of award dated [insert date of notification of award] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

I) We hereby provide the following beneficial ownership information.

**Details of beneficial ownership**

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
	Full Name		Directly----- ----- % of shares	Directly..... .....% of voting rights	1. Having the right to appoint a majority of the board of the directors or an	1. Exercises significant influence or control over the Company
	National identity card number or Passport number					

	Details of all Beneficial Owners		% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
1.	Personal Identification Number (where applicable)		Indirectly-----% of shares	Indirectly-----% of voting rights	equivalent governing body of the Tenderer: Yes -----No----- 2. Is this right held directly or indirectly?: Direct..... ..... Indirect..... .....	body of the Company (tenderer) Yes -----No-- 2. Is this influence or control exercised directly or indirectly? Direct..... ..... Indirect..... ...
	Nationality					
	Date of birth [dd/mm/yyyy]					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
2.	Full Name		Directly-----% of shares Indirectly-----% of shares	Directly.....% of voting rights Indirectly-----% of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No----- 2. Is this right held directly or indirectly?: Direct..... ..... Indirect..... .....	1. Exercises significant influence or control over the Company body of the Company (tenderer) Yes -----No-- 2. Is this influence or control exercised directly or indirectly? Direct..... ..... Indirect..... ...
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth [dd/mm/yyyy]					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
3.						

	Details of all Beneficial Owners	% of shares a person holds in the company Directly or indirectly	% of voting rights a person holds in the company	Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer (Yes / No)	Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)
e.t. .c					

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

- (a) holds at least ten percent of the issued shares in the company either directly or indirectly;
- (b) exercises at least ten percent of the voting rights in the company either directly or indirectly;
- (c) holds a right, directly or indirectly, to appoint or remove a director of the company; or
- (d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

*Name of the Tenderer: .....\*[/insert complete name of the Tenderer]* \_\_\_\_\_

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

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

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

*Date this ..... [insert date of signing] day of ..... [Insert month], [insert year]*

Bidder Official Stamp

**SECTION VIII**

**PACKAGES INVOLVED IN THE FRAMEWORK  
AGREEMENT**

**BILLS OF QUANTITIES**

## PREAMBLE TO BILL OF QUANTITIES

1. The Bills of Quantities forms part of the Contract Documents and are to be read in conjunction with the Instructions to Bidders, Conditions of Contract Parts I and II, Specifications and Drawings.
2. The brief description of the items in the Bills of Quantities is purely for the purpose of identification, and in no way modifies or supersedes the detailed descriptions given in the conditions of Contract and Specifications for the full direction and description of work and materials.
3. The Quantities set forth in the Bills of Quantities are estimated, representing substantially the work to be carried out, and are given to provide a common basis for bidding and comparing of Bids. There is no guarantee to the Contractor that he will be required to carry out all the quantities of work indicated under any one particular item or group of items in the Bill of Quantities. The basis of payment shall be the Contractor's rates and the quantities of work actually done in fulfilment of his obligation under the Contract.
4. Payments will be made on completed milestones
5. Payments for emergency and/or instructed works will be paid as and when they occur using submitted rates and/or day works and shall require prior approval of the Employer.
6. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed, and the Engineer will only measure the whole of the works executed in accordance with this Contract.
7. A price or rate shall be entered in ink against every item in the Bills of Quantities with the exception of items that already have Provisional sums affixed thereto. The bidders are reminded that no "nil" or "included" rates or "lump-sum" discounts will be accepted. The rates for various items should include discounts if any. Bidders who fail to comply will be disqualified.
8. Provisional sums and Lumpsums (including Day-works) in the Bills of Quantities shall be expended in whole or in part at the discretion of the Engineer.
9. The price and rates entered in the Bills of Quantities shall, except in-so-far as it is otherwise provided under the Contract, include all Constructional plant to be used, labour, insurance, supervision, compliance testing, materials, erection, maintenance of works, overheads and profits, taxes, cess payments and duties together with all general risks, liabilities and obligations set out or implied in the Contract, transport, electricity and telephones, water, use and replenishment of all consumables, including those required under the contract by the Engineer and his staff.
10. Unless otherwise stated, all measurements shall be net taken on the finished work

carried out in accordance with the details shown on the drawings or instructed, with no allowance for extra cuts or fills, waste or additional thickness necessary to obtain the minimum finished thickness or dimensions required in this Contract. Any work performed in excess of the requirements of the plans and specifications will not be paid for, unless ordered in writing by the Engineer.

11. Unbalanced tenders and/or unrealistic rates shall lead to the tenderer being subjected to enhanced Performance Security requirements pursuant to Instruction to Tenderers section 38.2 (b) of Tender Data Sheets.
12. For this Bid, the works have been divided into Eight (8) lots. Lot 8 shall be **only for the Supply and Delivery of Bailey Bridges.**
13. The Bills of Quantities shall be prepared for **Each Lot Separately** and Bidders are required to provide rates for all the Lots.

*Any bidder who fails to complete the Bill of Quantities for all the lots shall be deemed non-responsive and disqualified from further evaluation.*

Lots	Locations	Period
Lot 1: Coast	1. Mombasa, 2. Kwale, 3. Kilifi, 4. Tana River, 5. Lamu, 6. Taita Taveta	Within the FA Period
Lot 2: Eastern	1. Machakos, 2. Makueni, 3. Kitui, 4. Embu, 5. Tharaka Nithi, 6. Meru, 7. Isiolo, 8. Marsabit	Within the FA Period
Lot 3: North Eastern	1. Garissa, 2. Wajir, 3. Mandera	Within the FA Period
Lot 4: Central	1. Kiambu, 2. Murang'a, 3. Nyeri, 4. Kirinyaga, 5. Nyandarua, 6. Nairobi, 7. Kajiado	Within the FA Period
Lot 5: Rift Valley	1. Nakuru, 2. Uasin Gishu, 3. Elgeyo Marakwet, 4. Nandi, 5. Baringo, 6. Laikipia, 7. Narok, 8. Kericho, 9. Bomet, 10. West Pokot, 11. Samburu, 12. Turkana, 13. Trans Nzoia	Within the FA Period
Lot 6: Western	1. Kakamega, 2. Vihiga, 3. Bungoma, 4. Busia	Within the FA Period
Lot 7: Nyanza	1. Kisumu, 2. Siaya, 3. Homa Bay, 4. Migori, 5. Kisii, 6. Nyamira	Within the FA Period
Lot 8: Supply of Bailey Bridges	Nairobi Wilson Airport Yard	Within the FA Period

14. The rates given by the Bidder should be inclusive of VAT (16%) and Public Procurement Capacity Building Levy (PPCBL) of 0.03%.

## **LOT 1 – COAST**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC/936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b><del>Bill No. 1 Total Carried Forward to Grand Summary</del></b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b><del>Bill No. 4 Total Carried Forward to Grand Summary</del></b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	
7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	

7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	$m^2$	1	
7.07	Rockfill to gabions	$m^3$	1	
7.08	Filter fabric behind gabion boxes and structures	$m^2$	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	$m^3$	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	$m^3$	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	$m^3$	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	$m^2$	1	
17.17	Provide formwork to achieve class F3 finish	$m^2$	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informatory signs	No.		
	d) Non standard informatory signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m <sup>3</sup>	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**~~Bill No. 21 Total Carried Forward to Grand Summary~~**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill a 600mm diameter pile in rock and socket at a depth of 3.0m, including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris, clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.03 but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-
	<b><del>Bill No. 23 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**~~Bill No. 25 Total Carried Forward to Grand Summary~~**

## **LOT 2 – EASTERN**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC/936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE (Kshs.)
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b><del>Bill No. 1 Total Carried Forward to Grand Summary</del></b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a Lump Sum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b><del>Bill No. 4 Total Carried Forward to Grand Summary</del></b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m <sup>3</sup>	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**Bill No. 21 Total Carried Forward to Grand Summary**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.01, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-

**Bill No. 23 Total Carried Forward to Grand Summary**

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**Bill No. 25 Total Carried Forward to Grand Summary**

## **LOT 3 – NORTH EASTERN**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC/936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b>Bill No. 1 Total Carried Forward to Grand Summary</b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b>Bill No. 4 Total Carried Forward to Grand Summary</b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m <sup>3</sup>	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**Bill No. 21 Total Carried Forward to Grand Summary**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.03, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-

**Bill No. 23 Total Carried Forward to Grand Summary**

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**Bill No. 25 Total Carried Forward to Grand Summary**

## **LOT 4 – CENTRAL**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC 936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b><del>Bill No. 1 Total Carried Forward to Grand Summary</del></b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b><del>Bill No. 4 Total Carried Forward to Grand Summary</del></b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m3	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**~~Bill No. 21 Total Carried Forward to Grand Summary~~**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.02, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-

**~~Bill No. 23 Total Carried Forward to Grand Summary~~**

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**~~Bill No. 25 Total Carried Forward to Grand Summary~~**

## **LOT 5 – RIFT VALLEY**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC 936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b>Bill No. 1 Total Carried Forward to Grand Summary</b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b>Bill No. 4 Total Carried Forward to Grand Summary</b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b>Bill No. 5 Total Carried Forward to Grand Summary</b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>				
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m3	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**Bill No. 21 Total Carried Forward to Grand Summary**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.03, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-

**Bill No. 23 Total Carried Forward to Grand Summary**

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**Bill No. 25 Total Carried Forward to Grand Summary**

## **LOT 6 – WESTERN**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO:</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	
	<b><del>Bill No. 1 Total Carried Forward to Grand Summary</del></b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	
	<b><del>Bill No. 4 Total Carried Forward to Grand Summary</del></b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m <sup>3</sup>	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**~~Bill No. 21 Total Carried Forward to Grand Summary~~**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.03, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-
	<b><del>Bill No. 23 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**~~Bill No. 25 Total Carried Forward to Grand Summary~~**

## **LOT 7 – NYANZA**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC 936</b>				
<b>BILLS OF QUANTITIES</b>				
<b>BILL NO. 1. PRELIMINARIES AND GENERAL ITEMS</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
1.01	Provide for Supervision Cost	LS	1	1,500,000
1.09	Provide, erect and maintain publicity signs as directed by the Engineer.	No	1	
1.11	Provide for a Lump Sum amount for Materials Testing	LS	1	500,000
	<b><del>Bill No. 1 Total Carried Forward to Grand Summary</del></b>			
<b>BILL NO. 4: SITE CLEARANCE AND TOP SOIL STRIPPING</b>				
ITEM	DESCRIPTION	UNIT	QTY	RATE
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
4.01	Clear site on road reserve including removal of all growths, bushes, hedges, trees, stumps, grub up roots, and other deleterious materials and back-fill and compact to 100% MDD(AASHTO T99) with approved material as directed by the Engineer.	Ha.	1	
4.02	Strip top soil upto 0.2m in thickness along alignment or material sites including removal of all grass and other vegetation, transport to spoil and spread or stock pile for re-use as directed by the Engineer.	m <sup>3</sup>	1	
4.03	Provide a LumpSum amount for the removal of structures and obstructions as instructed by the Engineer to be paid on dayworks basis	Prov. Sum	1	500,000
	<b><del>Bill No. 4 Total Carried Forward to Grand Summary</del></b>			

<b>BILL NO. 5: EARTHWORKS</b>				
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
5.01	Fill in soft material including benching of shoulders and embankments and compaction to 95% MDD (AASHTO T99) in layers not exceeding 150mm	m <sup>3</sup>	1	
5.02	Extra Over Item 5.01 for compaction to 100% MDD.	m <sup>3</sup>	1	
5.03	Ditto item 5.01 but in hard material	m <sup>3</sup>	1	
5.04	Cut to spoil in soft material	m <sup>3</sup>	1	
5.05	Ditto item 5.04 but in hard material	m <sup>3</sup>	1	
5.09	Top-soiling prior to planting grass as directed by the Engineer	m <sup>2</sup>	1	
5.10	Grassing as directed by the Engineer	m <sup>2</sup>	1	
5.11	Rockfill to selected swampy areas as instructed by the engineer	m <sup>3</sup>	1	
	<b><del>Bill No. 5 Total Carried Forward to Grand Summary</del></b>			

**BILL NO. 7: EXCAVATION AND FILLING OF STRUCTURES**

<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>
	<i>Note: No separate payments shall be made for gravel for blinding or hauling to spoil unsuitable excavation materials and the cost of such shall be included in the rates and prices</i>			
7.01	Excavate to spoil in soft materials.	m <sup>3</sup>	1	
7.02	As item 7.01 but in hard material.	m <sup>3</sup>	1	
7.03	Provide, place and compact rockfill below and around structures.	m <sup>3</sup>	1	
7.04	Provide and place 150mm thick stone pitching as directed by the Engineer including cement grouting	m <sup>2</sup>	1	

7.05	Excavate for gabions in soft material.	m <sup>3</sup>	1	
7.06	Provide and place gabion boxes and mattresses where directed by the Engineer.	m <sup>2</sup>	1	
7.07	Rockfill to gabions	m <sup>3</sup>	1	
7.08	Filter fabric behind gabion boxes and structures	m <sup>2</sup>	1	
7.09	Provide and backfill approved material around new structures, compact 100% MDD (AASHTO T99) in layers not exceeding 150mm.	m <sup>3</sup>	1	
7.10	Allow for protection of structures pursuant to Section 708 of the specifications	LS	1	1,000,000.00
	<b>Bill No. 7 Total Carried Forward to Grand Summary</b>			

**BILL NO. 17. CONCRETE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
	-			
17.01	Provide, place and compact Class 15(20) concrete blinding as instructed by the Engineer	m <sup>3</sup>	1	
17.02	Provide, place and compact concrete class 30(37) to aprons, wingwalls, abutments and piers, walls and slabs for the Box culverts and bridges as shown in drawings.	m <sup>3</sup>	1	
	<b><u>Reinforcement: Provide, cut, bend &amp; fix into position steel reinforcement as shown in the drawings or as instructed by the Engineer</u></b>	-	-	
17.04	High yield reinforcement steel bars to BS 4461 equal to or less than 16mm diameter bar size	Tonne	1	
17.05	High yield bond strength reinforcement steel to BS 4461 greater than 16mm diameter bar size	Tonne	1	
	<b><u>Formwork: Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer</u></b>	-	-	-
17.16	Provide & fix in place formwork to achieve class F1 finish	m <sup>2</sup>	1	
17.17	Provide formwork to achieve class F3 finish	m <sup>2</sup>	1	
	<b>Bill No. 17 Total Carried Forward to Grand Summary</b>			

	<b>BILL NO. 19: STRUCTURAL STEEL WORKS</b>			
19.01	Provide, Fabricate, transport, install, erect and galvanise structural steel. Allow for welding, splicing, bolting etc. Use High tensile steel grade 50 to BS 5400 or BS EN 10025	Tonnes	1	
19.05	Provide and Transport shear connectors 19mm diameter, 150mm height (Headed studs and shear connectors) to BS 5400-5 or EN1994:1-1	No	1	
19.06	Provide and Transport Grade 8.8 (High Strength) bolts to BS 4395 - 2 or EN 1993 - 1 - 8	No	1	
19.09	Provide steel Formwork for pier column	m <sup>2</sup>	1	
	<b>Bill No. 19 Total Carried Forward to Grand Summary</b>			

**BILL NO. 20: ROAD FURNITURE**

ITEM	DESCRIPTION	UNIT	QTY	RATE
20.04	Provide and erect permanent road signs where instructed by the Resident Engineer and in accordance with Special Specifications Clause 2004 as follows:		1	
	a) warning signs	No.		
	b) Priority prohibitory and mandatory signs	No.		
	c) Standard informative signs	No.		
	d) Non standard informative signs area			
	i) Less than 1.0m <sup>2</sup>	No.		
	ii) More than 1.0m <sup>2</sup> but less than 5m <sup>2</sup>	No.		
	<b>Bill No. 20 Total Carried Forward to Grand Summary</b>			

**BILL NO. 21: MISCELLANEOUS BRIDGE WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
21.02	Provide 100mm diameter weepholes and insert heavy duty PVC 100mm diameter on abutment or as instructed by Engineer	No	1	
21.06	Provide and place 0.5-1 m wide granular material of size 14/20 mm to structural concrete in contact with fill material	m <sup>3</sup>	1	

21.07	Provide and place as directed by the Engineer PVC pipes of diameter 75mm and length 300mm to form storm drain of bridge deck	No	1	
21.09	Provide and place into position elastomeric laminated rubber fixed bearing codes 3710443, size as shown in drawings or as shall instructed by the Engineer	No	1	

**~~Bill No. 21 Total Carried Forward to Grand Summary~~**

**BILL NO. 23. PILING WORKS**

ITEM	DESCRIPTION	UNIT	QTY	RATE
23.01	Drill 600mm diameter pile in rock and socket at depth of 3.0m including removal of rock material, casing and provide reinforcement cages and concrete as specified	m	1	
23.02	Ditto in 23.01, but 900mm	m	1	
23.03	Drill 600mm diameter piles in soft soil or hard soil or soft rock and remove all debris , clean and provide reinforced concrete class 35/20	m	1	
23.04	Ditto in 23.03, but 900mm	m	1	
23.05	Provide 6mm thick Steel Casing, 600mm clear diameter and leave around the pile shaft as well be directed by Engineer	Tonnes	1	
23.06	provide and place concrete class (35/20) with a tremie as Directed by Engineer	No	1	
23.07	Allow for trimming piles to level and bedding projecting reinforcement	No	1	
23.08	Allow for testing working piles 2No and a further 1No. Test to two and a half working load including all equipment and labour necessary	No	1	
	-	-	-	-

**~~Bill No. 23 Total Carried Forward to Grand Summary~~**

**BILL NO. 25: ENVIRONMENTAL AND CROSS – CUTTING ISSUES**

ITEM	DESCRIPTION	UNIT	QTY	RATE
25.01	Provision of Environmental & Social Mitigation Measures	PC sum	1	500,000
25.02	Health & Safety Measures on Site	LumpSum	1	500,000

**~~Bill No. 25 Total Carried Forward to Grand Summary~~**

## **LOT 8 – SUPPLY OF BAILEY BRIDGES**

<b>FRAMEWORK AGREEMENT FOR THE MANUFACTURE SUPPLY INSTALLATION AND LAUNCHING OF BAILEY BRIDGES ACROSS THE COUNTRY</b>				
<b>CONTRACT NO: RWC/936</b>				
<b>BILLS OF QUANTITIES (SUPPLY OF BAILEY BRIDGES)</b>				
S/NO..	CAPACITY (Tonnes)	LENGTH (m)	RATE (Kshs.)	
1	50	90		
2	20	90		
3	10	300		
4	Pedestrian	600		

**TERMS OF REFERENCE FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) STUDY.****SCOPE**

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**General**

The Team shall perform all work necessary as called for in these Terms of Reference. In carrying their work, they shall co-operate fully with the concerned agencies of the Government of Kenya, in particular the Kenya Rural Roads Authority, Roads Department of the Ministry of Transport & Infrastructure, National Environment Management Authority (NEMA), Ministry of Lands, Housing & Urban Development, Kenya Forest Service, Kenya Wildlife Service, Water Resources Management Authority (WARMA), Relevant County Governments, amongst others. The Consultant shall provide the necessary support services related to and necessary for the completion of the assignment. The work shall cover but not be limited to the aspects outlined in these Terms of Reference.

## Description

Broadly, the assignment consists of: -

- a) Identification and analysis of the anticipated impacts of the proposed works on the physical, biological, social-cultural and socio-economic environment.
- b) Review of the existing data on the proposed works including social and economic activities within the project areas.
- a) Production an Environmental and Social Impact Assessment (ESIA) Report for the proposed works and seeking the necessary approval for the issuance of a Licence by NEMA. This shall be in accordance with the general environmental impact assessment guidelines outlined in the Environmental (Impact Assessment and Audit) Regulations, 2003, and administrative procedures issued by NEMA. **The team should also note that they will be responsible for submission of the final report to NEMA in consultation with the Client.** Where any issues are raised by NEMA after submission of the final report, the Consultant will be required to address them expeditiously. Further, where NEMA recommends that a full study be undertaken, the Consultant will be required to carry out the same within the provisions of the existing contract.

## Detailed Scope

The team shall conduct analysis which shall detail the positive and negative effects of the development of the project on the environment, and prepare an EIA report recommending appropriate solutions to minimize any undesirable effects resulting from improvements of the road. The analyses shall include, but not limited to the following:-

### Description of the Baseline Environment

The team is required to identify, obtain/collect, collate and present baseline information/data on the Environmental and socio-economic characteristics of the existing situation along the proposed roads. This data will then be used to describe the status of the project sites before commencement of project implementation. This description involves:-

- a) Physical Environment (topography, geology, climate and meteorology, social-economic activities, air quality, hydrology etc.).
- b) Biological environment (Flora types and diversity, endangered species, sensitive habitats etc.).
- c) Social and cultural environment including present and projected, where appropriate (i.e. population, land use, planned development activities, community structure, employment and labour market, sources and distribution of income, cultural properties).

### **NOTE:**

The Consultant will be expected to take relevant measurements and carryout analysis where applicable to support the findings in (a), (b) & (c) above.

The baseline data will further be used to assess potential impacts on health, safety, the environment and the community.

### **Data Analysis and Evaluation of Alternatives**

The Consultant shall analyse the data using checklist, matrix, threshold limit, overlay or any other appropriate method. The analytical process will involve use of physical, socio-cultural, mathematical, and economic models including an evaluation of costs and benefits. The models will require expert judgment for accurate predictions. In evaluating alternatives, emphasis shall be on the project location,

design, technology, scale, or any other aspect that may be deemed significant.

## **Legislative and Regulatory Framework**

The Consultant shall identify and describe the pertinent regulations and standards governing the environmental quality, health and safety, protection of sensitive areas, land use control at the national and local levels and ecological and social – economic issues. In identifying these regulations, the Consultant will be expected to clearly show the relationship/relevance of these regulations & standards to the proposed works.

## **Determination of impacts of the project**

The Consultant will analyse and describe all significant changes brought about by the projects. This should encompass environmental, ecological and social impacts as a result of project. The Consultant will analyse effects on human and natural environments such as land tenure system, population, settlements, land use, cultural practices, forestry, agriculture, water, soils, fragile habitats, air/climate, hydrological conditions, roadside development, and disturbance on vegetation among others. The Consultant will make prioritization of all the concerns identified and differentiate between short-, medium- and long-term impacts.

## **Occupational Health and Safety Concerns**

The Consultant will analyse and describe all occupational Health and Safety Concerns brought about by the construction, site/work installations, operations and deLAUNCHING of the roads. The Consultant will also make recommendations on the corrective and remedial measures implemented under the environmental management plan.

## **Identification and Development of Management Plan to Mitigate Negative Impacts**

The Consultant will identify negative/positive impacts and develop comprehensive Environmental and Social Management Plans. The plans should recommend a set of *practical* and *project-specific* mitigation and institutional measures to eliminate, minimize or reduce to acceptable levels adverse environmental impacts and/or maximize social benefits. The Consultant should provide cost outlays for the proposed measures as well as their institutional and financial support. The Consultant shall consider varying environmental conditions that may affect the road works during construction, maintenance and use of the road project while proposing measures in mitigating the negative impacts.

## **Development of Monitoring Plan**

Based on the baseline data of the ESIA, the Consultant will be required to design comprehensive monitoring and evaluation plans which will act as measures of compliance during implementation and operation stages of the projects.

The Consultant is required to give specific descriptions and technical details of monitoring measures including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, and definition of thresholds that will signal the need for corrective actions as well as deliver monitoring and reporting procedures. The Consultant should provide a time frame and implementation mechanism, staffing requirements and cost outlays.

## **Identification of Procedures for Winding up of the Project**

The Consultant will identify appropriate procedures for disposal of waste/spoil materials, rehabilitation of borrow pits/quarries and any other activity that will be undertaken during the winding up phase of the project.

### **Identification of Benefits**

The Consultant will be required to identify any benefits that may accrue from the proposed projects. In view of the fact that some indirect economic and social benefits arising from the improvements in road conditions are intangible or difficult to quantify accurately, the Consultant shall undertake detailed qualitative analysis of these benefits. Only those benefits that can be firmly demonstrated in quantitative terms shall be included in the evaluation of the projects. The remaining qualitative benefits that have not been quantified may be used as secondary justification for project implementation.

### **Consultation and Public Participation**

The Consultant shall undertake a stakeholder analysis to identify persons/groups that may be affected by the projects. The Consultant shall work closely with identified stakeholders at different stages of the Assignment.

In seeking the views of the public, the Consultant shall in *liaison with KeRRA* hold public meetings with the affected parties and communities to explain the project and its effects, and to receive their oral or written comments. The Consultant shall also ensure that appropriate notices are sent out at least one week prior to the meetings and that the venue and times of the meetings are convenient and suitable for the affected communities and the other concerned parties. The Consultant will be required to furnish for the Client's approval, a detailed public participation plan clearly identifying the stakeholders as well as the proposed methodology of carrying out consultations.

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### **Reports**

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All reports shall be in the English language and prepared on A4 metric size paper. The following Reports shall be prepared and submitted for comments or approval by the Client:-

- (a) **Preliminary ESIA Report:** This report shall summarize the preliminary findings, analysis, results and recommendations - Original, 3 copies and a digital copy to Client.
- (b) **Draft Final ESIA Report:** This report shall summarize the findings, analysis, results and recommendations of the assessment including consultative public participation and shall contain all supporting material. The Report shall be presented to the stakeholders for review, inputs and contributions - Original, 3 copies and a digital copy to Client.
- (c) **Final ESIA Report:** This report shall incorporate all revisions and comments proposed by the Client following discussions and agreement between the Client and the Consultant. Comments of stakeholders shall be taken into account in the Final Report - Original, 5 copies and a digital copy to Client.

## **III) CONSTRUCTION GENERAL REQUIREMENTS**

### **STANDARD SPECIFICATION**

Works shall be carried out in accordance with the **Standard Specification for Road and Bridges Construction 1986 Edition**

Published by the Ministry of Transport and Communication.

This Document shall form part of the Contract

## **SPECIAL SPECIFICATIONS**

## TECHNICAL SPECIFICATIONS

### SECTION 1 GENERAL

#### 101 Location and Extent of Site

##### 101.1 Brief Description of Location and the Works

The proposed crossings are located across the country.

The site of the works shall be the area within the road reserve and any other places designated in the contract. Any other works shall be as directed by the Engineer

#### Extent of contract

1. Provision of project publicity signboards and facilitation of the supervising engineers
2. Manufacturing, supply, installation and LAUNCHING of Bailey Bridges.
3. Construction of 100m Approach Roads on each side of the Bridge.
4. Setting out the works
5. Maintenance of existing road during construction period.
6. Management and control of traffic during the construction works.
7. Construction of substructures and protection works
8. Any other works as may be instructed by the Engineer or as agreed between the Contractor and the Employer.

#### 104 Programme

The Contractor shall provide the Works Programme required under Clause 8.3 of the Conditions of Contract.

#### 107 Certificate of Completion

On completion of the Construction Works, the Taking Over Certificates shall be issued per bridge substantially completed.

Payments shall be made based on a milestone basis.

#### 108 Method of Construction

Add the following Sub-Clause:

The submission of the Works Programme, Order of Work and the General Description of the Works shall be consistent in presentation and content when handed over for the Engineer's approval, and in accordance with programmes and schedules as stated in Clause 8.3 of the Conditions of Contract.

Notwithstanding any contrary provision contained in the last paragraph of Clause 108 of the Standard Specification, the Engineer's normal working hours shall be defined as

8.00 a.m. to 5.00 p.m. on weekdays, excluding lunch hour, and 8.00 a.m. to 1.00 p.m. on Saturdays, with Sunday being set aside as a day of rest. If the Contractor wishes to execute permanent works outside these hours, he shall request for and obtain written permission from the Engineer at least one full working day in advance to enable the Engineer to make necessary provision for the supervision of such work. The Contractor shall meet any costs arising thereof.

## 117 Health, Safety and Accidents

Add the following Sub-Clauses

- (l) Compliance with the Occupational, Safety and Health Act (OSHA), 2007.
- (m): The Contractor shall take an active role in civic and public health education to his employees and the community in general. To this end the Contractor shall initiate and co-ordinate aHIV/AIDS awareness programme as detailed in section 25 of this specification.

## 119 Use of Explosives

Add the following Sub-clause

### 119.1 Explosive and Blasting

The following shall apply to all provision, handling, storage and use of explosives:

- (a) The Laws of Kenya governing explosives and other requirements and regulations of the Government of Kenya and other authorities shall be complied with.
- (b) No explosives of any kind shall be used without the prior written consent of the Engineer. Once this consent is granted, the Contractor shall be solely responsible for obtaining, handling, transporting, storing, accounting for using and disposal of surplus detonators, fuses, bulk explosives and any other thing associated with blasting, and for complying in all respects with the safety and any other regulations of the Government of Kenya for blasting and shall indemnify the Employer and the Engineer against all consequences whatsoever arising out of the consent so given by the Engineer.
- (c) The Contractor shall be solely responsible for the provision, supply, handling, storage and transportation of all explosive ancillary materials and stores and all other things of every kind whatsoever required for blasting operations and shall not delegate or sub-contract these activities without the approval of the Engineer.
- (d) Before issuing the Contracts completion Certificate, the Contractor shall remove all unused explosives from the site on completion of the works or which are ordered by the Engineer, and shall submit to the Engineer written confirmation of compliance with this instruction.

(e) The Contractor shall submit to the Engineer monthly returns detailing the quantity of explosive brought to site together with quantities used during the month and the location and quantity of rock blasted.

## 120 Protection of Existing Works and Services

### Add the following:

Any damage to, or interference with, existing utilities, caused by the Contractor's operations during the progress of the Works, shall be deemed to be the responsibility of the Contractor, who shall undertake to make good at his own expense any damage so caused to the existing underground utilities or other features. The Contractor shall be liable in respect of all claims arising from such damages or interference that may occur.

The Contractor shall be responsible for arranging in liaison with the relevant authorities as soon as the requirements are known for the moving of or alterations to services such as power and telephone lines, water mains, sewers and surface water drains which are affected by the works. The arrangements for such moving or alteration shall be subject to the agreement of the Engineer and the relevant authorities.

## 121 Diversion of services

The Contractor shall acquaint himself with the position of all existing services such as sewers, water pipes, underground drains, cables for

- a) electricity and telephone lines, telephone and lighting poles etc before commencing any excavation or other work likely to affect existing services. The cost of all plant, equipment and materials, labour, technical and professional staff, transport and the like necessary for determining such locations, including making good any damage caused to such services, all to the satisfaction of the Engineer, shall be included in the tender rates. No other payment will be made for the costs of such operations, or for making good of damage caused thereby to the existing services.
- b) The Contractor shall pay any charges arising from the moving of such services for which Provisional Sums have been included in the . Subject to the agreement of the Engineer and upon production of receipts, the Contractor shall be reimbursed in interim certificates the net cost of such moving or alteration plus the percentage inserted in the Schedule of Prices for all costs and profits in making the payments.
- c) The Contractor shall be entirely responsible for and shall repair at his own cost, any services that may be damaged by his plant, equipment or personnel for not following the laid down procedure of locating and shifting services, or damage that may occur subsequent to alteration of such services. The Contractor shall indemnify the Employer against claims arising from damages to existing services.

## 123 Liaison with Government Officials and Police

### Add the following:

In addition to the requirements of maintaining liaison with Government Officials and Police, the Contractor shall be responsible for acquainting himself with all current and valid ordinances or regulations, which may affect the work.

The Contractor's attention is also drawn to his obligations with regard to inspection and examination of the Site as stipulated in Clause 11 of the General Conditions of Contract.

## 124 Provision of land

Notwithstanding the provisions of Clause 124 of the Standard Specification, all requirements of land for deviations, quarries, stockpiles, spoil areas and borrow pits when not in the road reserve but required for construction purposes shall be approved by the Engineer, but the Contractor will make necessary arrangements with the property owners concerned and pay all charges arising there from, on or before completion of the Contract.

The Contractor shall remove all temporary works and shall restore all such land to the condition in which it was immediately prior to the occupation thereof as far as is reasonable and practicable. No separate payment shall be made to the Contractor on account of these items and the Contractor shall make due allowance for them in his rates.

The Employer shall not provide land for the Engineer's houses.

Any encroachment of the road reserve, for example by kiosks, shall be brought to the Engineer's attention by the Contractor at the earliest opportunity.

## 125 Water Supply

Add the following:

There are some seasonal natural water courses, water pans and boreholes which could be used as water sources. In addition, there are privately owned boreholes whose use can only be through private arrangements between the owners and the Contractor.

The Contractor may create additional water sources by systematic harvesting and conservation of seasonal surface water runoff through various methods including development of river courses, diversion of runoff to borrow pits or other excavations he may have made. The Contractor may also opt to drill new boreholes. No separate payment will be made for such works except when the Contractor has received approval to sink boreholes in which case payment will be made at rates entered by the Contractor in the Schedule of Prices.

Before harvesting water from the natural watercourses, water pans and boreholes, the Contractor will have to seek the approval and obtain permits from the Ministry responsible for Water and Natural Resources.

Excavations, borrow pits or natural ponds purposely used for water harvesting shall be located, shaped, fenced or otherwise safeguarded to the satisfaction of the Engineer so as not to present a danger to the people or animals nor result into soil erosion.

In all cases and at all times the Contractor shall comply with the regulatory provisions of the National Environment Management Authority (NEMA). No separate payment will be made for complying with NEMA regulations.

## 127 Information from Exploratory Borings and Test Pits

Notwithstanding the provisions of clause 127 of the Standard Specification, the materials report if made available to bidders will not form part of the contract documents and will only be for information. The Engineer will not be responsible for the suitability of the borrow pits provided by him or shown on the drawings.

## 131 Signboards

Add the following Sub-Clause:

### 131.1 Provision of Signboards

At the commencement of the Contract, the Contractor shall provide and erect one signboard, at each proposed site and as instructed by the Engineer. The signboards shall comply with the requirements and details shown in the Book of Drawings. Any amendments to the details in the Book of Drawings, prior to the signboards being erected, shall be with the approval of the Engineer.

## 132 Housing accommodation for the Resident Engineer and his staff, office and laboratories for the Engineer with laboratory and survey equipment and furniture

### 132.1 HOUSING AND ACCOMMODATION FOR THE ENGINEER'S SENIOR STAFF

The contractor shall provide rent accommodation for the Engineer's site staff. This staff will generally comprise the following;

Designation	Number
Resident Engineer	1
Assistant Resident Engineer	2
Materials Engineer	1
Surveyor	2
Senior Inspector	2
Senior Lab. Technologist	2
Inspectors	6
Lab Technician	2
CAD Technician	1

Payment shall be as per the bills of quantities.

### 132.4 HOUSING ACCOMMODATION FOR ENGINEER'S JUNIOR STAFF

The Contractor shall provide rent for the Engineer's junior staff.

### 132.5 LIST OF FURNITURE FOR ENGINEER'S STAFF HOUSES

The contractor shall provide new furniture, equipment and fittings to the approval of the Engineer.

All the furniture mentioned below shall revert to the contractor after the completion of the contract.

New furniture to the approval of the Supervisor shall be provided in each staff house on the following scale:

<b><u>SCALE OF FURNITURE</u></b>	<b><u>TYPE I</u></b>
Double bed with mattress, pillows, sheets and blankets	1
Single bed with mattress, pillows, sheets and blankets	4
Dressing table with mirror	2
Stool (for dressing table	2
Chest of 5 No. drawers (with mirrors)	2
Wardrobe (built-in or movable)	4
Bedside cabinet	4
Bedside light	4
Stool (for bathroom)	1
Towel rail	4
Bedroom chair	4
Dining table	1
Dining chairs	6
Side board	1
Settee (7-seats)	1
Armchair with cushions	4
Coffee Table	1
Occasional tables	3
Bookcase	1
Standard lamp	2
Writing table with chair	1
Water filter	1
Refrigeration (400 litre capacity) incl. 1 deep freeze	
Compartment (100 litre capacity)	1
Lampshades	For all lights
Curtains with pelmets windows	On all
External security lights	4
Dustbins	2
Electric Cooker (with four rings, grill and oven)	1
or Gas Cooker (four burners, grill and oven, with two gas cylinders	1
Kitchen shelves (per sq.m)	2
Kitchen Table	1
Kitchen chairs	5
Electric Kettle	1

Glass ware, cutlery, crockery, kitchen utensils, etc. for 6 persons

<b><u>SCALE OF FURNITURE</u></b>	<b><u>TYPE II</u></b>
Double bed with mattress, pillows, sheets and blankets	1
Single bed with mattress, pillows, sheets and blankets	3
Dressing table with mirror	1
Stool (for dressing table)	2
Chest of 5 No. drawers (with mirrors)	2
Wardrobe (built-in or movable)	3
Bedside cabinet	3
Bedside light	3
Stool (for bathroom)	1
Towel rail	3
Bedroom chair	3
Dining table	1
Dining chairs	6
Side board	1
Settee (5-seats)	1
Armchair with cushions	3
Coffee Table	1
Occasional tables	2
Bookcase	1
Standard lamp	2
Writing table with chair	1
Water filter	1
Refrigeration (400 litre capacity) incl. a deep freeze	
Compartment (100 litre capacity)	1
Lampshades	For all lights
Curtains with pelmets windows	On all
External security lights	2
Dustbins	1
Electric Cooker (with four rings, grill and oven)	1
or Gas Cooker (four burners, grill and oven, with two gas cylinders	1
Kitchen shelves (per sq.m)	2
Kitchen Table	1
Kitchen chairs	4
Electric Kettle	1
Glass ware, cutlery, crockery, kitchen utensils, etc. for 6 persons	

<b><u>SCALE OF FURNITURE</u></b>	<b><u>TYPE III</u></b>
Single bed with mattress, pillows, sheets and blankets	3
Chest of drawers (with mirrors)	2

Bedside cabinet	3
Bedside light	3
Bedroom chair	2
Wardrobe (built-in or movable)	2
Towel rail	2
Dining table	1
Dining chairs	4
Side board	1
Settee (3-seats)	1
Coffee Table	1
Occasional tables	1
Bookcase	1
Standard lamp	2
Writing table	1
Kitchen Cabinet	1
Water filter	1
Refrigeration (300 litre capacity) incl. a deep freeze	
Compartment (100 litre capacity)	1
Lampshades	For all lights
Curtains with pelmets windows	On all
External security lights	2
Dustbins	1
Electric Stove (with four rings, grill and oven)	1
or Gas Stove (four burners, grill and oven, with two gas cylinders)	1
Glass ware, cutlery, crockery, kitchen utensils, etc. for 6 persons	

<b><u>SCALE OF FURNITURE</u></b>	<b><u>TYPE IV</u></b>
Single bed with mattress, pillows, sheets and blankets	2
Chest of drawers (with mirrors)	1
Bedside cabinet	2
Bedside light	2
Bedroom chair	2
Wardrobe (built-in or movable)	1
Towel rail	1
Dining table	1
Dining chairs	4
Side board	1
Standard lamp	2
Writing table with chair	1
Kitchen Cabinet	1
Water filter	1
Refrigeration (200 litre capacity)	1

Lampshades	For all lights
Curtains with pelmets windows	On all
External security lights	2
Dustbins	1
Electric Stove (with 3 rings)	1
or Gas Stove (two burners, with one gas cylinder	1
Glass ware, cutlery, crockery, kitchen utensils, etc. for 6 persons	

<b><u>SCALE OF FURNITURE</u></b>	<b><u>TYPE V</u></b>
Single bed with mattress, pillows, sheets and blankets	1
Chest of drawers (with mirrors)	1
Bedside light	2
Wardrobe (built-in or movable)	1
Towel rail	1
Dining table	1
Dining chairs	4
Side board	1
Standard lamp	2
Kitchen Cabinet	1
Water filter	1
Refrigeration (200 litre capacity)	1
Lampshades	For all lights
Curtains with pelmets windows	On all
External security lights	2
Dustbins	1
Electric Stove (with 3 rings)	1
or Gas Stove (two burners, with one gas cylinder	1

All furniture mentioned above shall revert to the contractor after the completion of the contract.

Payments shall be made under the relevant provisions in the Bills of Quantities.

### 132.2 Engineer's office

The Contractor shall provide, erect and maintain for the duration of the Contract, an office for the Engineer of weatherproof construction, with windows, and doors suitably insulated against heat and cold, all to the satisfaction of the Engineer in respect of the condition, design and siting. The office shall be partitioned as shown on the Drawings or as directed by the Engineer, with a clear inside height of 2.7 m. The floor shall be of steel floated concrete adequately damp and ant proofed. The walls shall be plastered,

if necessary, and painted with two coats of emulsion paint. The ceiling shall be soft board with 2 coats of paint. The layout requirement is shown on the Drawings.

The office of the Engineer shall be completely separate from that of the Contractor. The plot shall be not less than 2500 m<sup>2</sup> in area and shall be fenced with a 2 m high barbed wire fence and gate, with padlock and chain.

Two telephones shall be provided for the sole use of the Engineer and the offices shall be provided with electric lighting and wall sockets all to the satisfaction of the Engineer.

A potable water supply shall be provided and all latrines shall have a water-borne sewage disposal system. A standpipe with a lockable tap shall be provided outside the latrine.

The offices shall be wired for mains electricity and connected to a mains supply. In addition, a standby generator of approved type shall be provided, located to the satisfaction of the Engineer.

The Contractor shall provide an access road at least 5m wide to the Engineer's office and a 250 m<sup>2</sup> car parking area. The road and car parking shall be surfaced with a minimum of 150 mm consolidated thickness of gravel. In addition the Contractor shall provide carports to accommodate 6 of the Engineer's vehicles, which shall be located as directed by the Engineer.

Furniture and equipment for the Engineer's Office shall be as listed in the Schedule of Prices.

The Engineer's office, furniture and equipment and shall revert to the Contractor at the end of the contract.

### **132.5 Main Laboratory**

The contractor shall provide, erect and maintain for the duration of the Contract, a laboratory easily accessible to the Engineer as provided in the Contract Conditions of Contract.

### **132.6 Forward mobile office and laboratory**

#### **a) Mobile Toilets**

The Contractor shall provide adequate clean mobile toilets on the various construction sites.

### **132.7 Engineer's office and furniture**

Furniture and equipment for the Engineer's office shall be as listed in the attached schedules. It shall also be the Contractor's responsibility to replenish consumables,

when instructed by the Engineer. The Engineer's office and laboratory furniture will revert to the Contractor on completion of the contract.

### **132.8 Wireless Communication for the Engineer**

#### **(a) Radio communication equipment**

The Contractor shall, if so instructed by the Engineer provide, install, maintain and license as necessary a radio communications network for the duration of the contract and for the exclusive use of the Engineer. The communication network shall be complete and shall consist of one fixed base radio station complete with all accessories and complete trans-receiver stations for each of the Engineer's staff cars, mobile office and laboratory. The equipment provided shall have a range adequate for mobile units at extreme ends of the Site to communicate with each other and/or with the central control. The model and make of the radio communication system shall be approved by the Engineer.

The Contractor shall be responsible for obtaining all necessary permits and licenses needed for the operation of the radio call services. The Contractor shall maintain the equipment in good working condition, including charging of batteries for the mobile units.

Failure by the Contractor to provide or maintain the equipment shall make him responsible for all costs that may be incurred as a result of the Engineer's staff using alternative means of communication, including delays in supervision and approval of the works. Ownership of the radio equipment shall revert to the Employer on completion of the Contract.

Payment for complying with this requirement is included in the Schedule of Prices.

#### **(b) Mobile phones**

The Contractor shall, if so instructed by the Engineer, provide, connect and maintain mobile phones for the exclusive use by the Engineer and for the duration of the contract. The contractor shall provide airtime for these mobile phones as directed by the Engineer.

Details of the numbers of mobile phones to be provided are included in the Schedule of Prices. Payment for complying with these requirements is also included in the Bills of Quantities.

### **132.9 Time for erection of the Engineer's staff houses and offices.**

The time for completion of all housing for the Engineer's office, laboratory, senior and junior staff housing shall be as specified in the Standard Specification.

During the duration from the commencement of period of performance until taking over of the Engineer's houses and office, the Contractor shall provide suitable hotel or rented

accommodation and appropriately located temporary office space, all adequately furnished and equipped to the approval of the Engineer. The contractor shall be deemed to have allowed in his rates for the temporary accommodation of the Resident Engineer, Materials Engineer, Senior Surveyor and three support staff during this mobilization period and no separate payment will be made.

### 137 Attendance upon the Engineer and his Staff

The junior staff required for attendance to the Resident Engineer are as listed below.

The Contractor shall be responsible for providing all housing and other amenities for these staff within close proximity to the Engineer's office and laboratory.

Payment for these staff required for attendance to the Engineer shall be made for the entire period of the Contract.

#### 137.1 Staff employed by the Contractor at the Engineer's instructions

The Engineer may instruct the Contractor to employ staff listed in Table 1.3 below for attendance to the Resident Engineer and the Contractor shall pay the salaries, allowances and benefits and claim reimbursement under the Contract.

**Table 1.3: Staff for attendance upon the Engineer**

Staff description	Number required during Design –Build period
Resident Engineer	1
Assistant Resident Engineer	2
Senior Surveyor	1
Senior Road Inspector	2
Senior Lab. Technologist	2
Bridge Inspector	2
Survey Assistant/Leveler	2
Draughtsman	1
Secretary/Typist	1

#### 137.2 Staff and housing provided by Contractor for attendance upon the Engineer

The Contractor shall provide staff listed in Table 1.4 below for attendance upon the Resident Engineer and be responsible for paying the salaries, allowances and benefits at rates not lower than the current rates approved by the Kenya Building Construction and Engineering and Allied Trade Workers Union. In addition, the Contractor shall provide all housing and other amenities for these staff within close proximity to the Engineer's office and laboratory to the same standard as those provided under Clause 132.

No additional payment will be made for provision of the staff, including housing and remuneration as specified in this Sub-Clause, and the cost will be deemed to be included in the rates for other items in the Schedule of Prices.

#### 137.3 Garden and House Attendants

The Contractor shall provide garden attendants to the extent required for the Engineer's camp. The Contractor shall also provide one house attendant for each individual Type

I and Type II houses for the duration of the Contract. The cost for provision of these attendants shall be deemed to have been included in the rates for the buildings.

#### 137.4 Attendance upon the Engineer and his staff

The Contractor shall provide staff listed in Table 1.5

Staff description	Qualifications	Experience in No of years
Site Agent	BSC R.ENG.	10
Deputy Site Agent	BSC	8
Senior Surveyor	BSC	8
Senior Foreman	HND	7
Site Surveyor	HND	7
Foreman	Diploma	6
Materials Technologist	Diploma	2

#### 138 Provision of vehicles

The Contractor shall when instructed to do so provide, fuel and maintain in good working conditions, with drivers all the vehicles specified below.

All vehicles to be supplied by the Contractor shall be brand new, right hand drive, diesel powered and fitted with air-conditioner and power steering as described below. They shall also need to be approved by the Engineer to his specifications

2No. Type 1: Minimum 3.2 -litre 4-wheel drive, or equivalent approved, 5 door Sports Utility Vehicle or similar approved, fitted with air bags, mobile telephone hands-free headset and 2-way radio.

3 No. Type 2: Minimum 2.8 -litre 4-wheel drive, or equivalent approved, twin-cab pick-up, fitted with mobile telephone hands-free headset and 2-way radio.

3No. Type 3: Minimum 2.4 -litre 4-wheel drive, or equivalent approved, single cab pick-up (with canvas back and seat), fitted with mobile telephone hands-free headset and 2-way radio.

The Vehicles vehicle will be for the Employer's use on the project and will be supplied and maintained by the Contractor throughout the Defects Liability Period. Payment will be made as for the vehicles to be supplied during the Design-Build period.

The Contractor shall replace any vehicle by a similar new vehicle after it has completed 150,000Km.

The rate shall include any overtime the drivers might be due or any other allowances in addition to the normal working hours. Payment shall be made under appropriate items in the Bills of Quantities.

Ownership of these vehicles will revert to the Contractor upon completion of the Contract.

#### 142 Protection of the Environment

Further to the requirements of Clause 4.18 of the Conditions of Contract, the Contractor shall be responsible for the following measures to protect the environment:

- 1) Compliance with national and local statutes and regulations relating to protection of the environment

The Contractor will be responsible for familiarising himself with all existing national and local legislation in this regard.

- 2) All construction activities shall be carried out using the best possible means to reduce environmental pollution such as noise, dust and smoke. All vehicles and plant shall be regularly serviced in accordance with the manufacturer's recommendations to ensure that they maintain efficiently and without excessive noxious emissions. The Engineer will have the authority to instruct the Contractor to temporarily cease operations and/or remove from the site vehicles or plant which do not comply with this requirement, until such time that he is satisfied that best practicable means to reduce environmental pollution to a minimum are being used.

- 3) The Contractor shall at all times maintain all sites under his control in a clean and tidy condition and shall provide appropriate and adequate facilities for the temporary storage of all waste prior to disposal.

- 4) The Contractor shall be responsible for the safe transportation and disposal of all waste generated as a result of his activities in such a manner as will not give rise to environmental pollution in any form, or hazard to human or animal health. In the event of any third party being employed to dispose of waste, the Contractor shall be considered to have discharged his responsibilities under this clause from the time at which waste leaves sites under his control, providing that he has satisfied himself that the proposed transportation and disposal arrangements are such as will not give rise to pollution or health hazard.

- 5) The Contractor shall be responsible for the provision of adequate sanitary facilities for his workforce, and that of his sub-contractors, at all construction and ancillary sites. The Contractor shall not allow the discharge of any untreated sanitary waste to groundwater or any surface watercourse.

Prior to the mobilisation of the workforce the Contractor shall provide details of proposed sanitary arrangements to the Engineer for approval, such as will allow him to assess whether or not the proposed facilities are adequate and are unlikely to pollute water resources, and also that the facilities will be properly maintained and maintained.

- 6) All concrete and asphalt plants shall be maintained and maintained in accordance with the original manufacturer's specifications and manuals, and in such a manner as to minimise emissions of hydrocarbons and particulates. If, in the opinion of the Engineer, the operation of such plant is causing, or is likely to cause nuisance or health problems to site staff or the general public, the Contractor shall carry out such work as is necessary to reduce emissions to an acceptable level within a time-scale agreed with the Engineer.

- 7) The Contractor shall regularly douse with water all exposed dirt surfaces to reduce dust levels.
- 8) The Contractor shall take all reasonable measures, at all sites under his control, to prevent spillage and leakage of materials likely to cause pollution of water resources. Such measures shall include, but not be limited to the provision of bunds around fuel, oil and bitumen storage facilities, and provision of oil and grease traps for servicing and fuelling areas. Prior to construction of such facilities, the Contractor shall submit details of pollution prevention measures to the Engineer for his approval.
- 9) The Contractor shall be responsible for ensuring that exposed surfaces are re-vegetated as construction progresses, all to the satisfaction of the Engineer.
- 10) The removal of trees shall be kept to the minimum necessary to accommodate the Permanent Works.

Prior to the removal of any trees the Contractor shall inform the Engineer of the intended operation and obtain the permission of the Engineer for the removal of the trees. If any tree is removed without permission the Contractor shall replace it with an approved tree at no additional cost to the Employer.

- 11) The Contractor shall ensure that fires, except for controlled fires for burning rubbish, do not start within the Site or in the environs thereto as a result of the works or from the actions of his employees. The burning of waste, such as vehicle tyres causing noxious emissions is prohibited. The Contractor shall have available at all times trained fire-fighting personnel provided with adequate fire-fighting equipment to deal with all fires. The Contractor shall additionally at all times provide sufficient fire protection and fighting equipment locally to parts of the Works which constitute particular fire hazards.

No separate payment shall be made in respect of this Clause 142 and the Contractor shall be deemed to have allowed in his general rates and prices for the cost of complying with the requirements of this clause.

### **143 Off Road Environmental Measures**

In addition to the provisions of Clause 142 above and all other requirements of the Conditions of Contract, Standard and Special Specifications, the Employer and National Environmental Management Agency (NEMA), may order certain environmental measures to be carried out which are off the road and not specifically covered under these provisions. The Contractor shall carry out such works with equipment, labour and plant provided under the Contract or shall make such arrangements for specialized works to be carried out by a specialized subcontractor.

No separate payment shall be made in respect of this Clause 143 and the Contractor shall be deemed to have allowed in his general rates and prices for the cost of complying with the requirements of this clause.

## SECTION 2 TESTING OF MATERIALS AND WORKMANSHIP

### 205 Soils and gravels

Whenever in the Contract Documents, a minimum California Bearing Ratio (CBR) is specified, the CBR of the material shall be at the specified degree of compaction after four days of soaking in the case of virgin materials and after seven days curing plus seven days soak in the case of cement or lime improved materials.

### 211 Bituminous binders

#### (c) Requirements

##### (ii) Straight run bitumen

The ash content of penetration grade bitumen shall not exceed 0.5% by weight.

## SECTION 3 SETTING OUT, GEOMETRIC TOLERANCES AND RECTIFICATION

### 301 Setting out

#### (a) Detailed setting out

Reference pegs shall be 50mm x 50mm in section, 600mm long driven 400 mm firmly into ground and painted white above ground level. The offset from the centreline shall be indicated by a small nail 20-25mm long with its head driven flush with the top of the peg. Chainage, offset and reference elevation shall be clearly indicated on the sides of the peg to the satisfaction of the Engineer.

## SECTION 4 SITE CLEARANCE

### 401 Site clearance

Add the following as the last paragraph in Sub-clause (a):

The area within the road reserve including sides of existing embankments and cuttings shall be cleared as instructed by the Engineer. This operation shall also include the removal of selected trees as directed by the Engineer. The Contractor shall provide paint and all the assistance the Engineer may require to mark the trees which should not be removed during site clearance.

The Contractor shall take care not to uproot or damage trees which are within the road reserve but outside the construction width. After the Contractor has staked out the extent of the road, the Engineer, with the assistance of the Contractor, shall mark out the trees to be removed. After removal, the trunks and branches of these trees shall be cut up into pieces not more than 2.0 m in length, transported and neatly stored at the nearest Ministry of Roads and Works camp at a position to be indicated by the Engineer.

## SECTION 5 EARTH WORKS

### 502 General

Add the following sub-clause 502 (1) to clause 502 as follows:

#### 502 (1) Definitions for earthworks

Formation level is defined as the lower (bottom) level of sub base. Subgrade is the material within 300 mm, or such other thickness as may be shown on the drawings, below the formation level. Earthworks is defined as the works below the subgrade level.

### 504 Preparation of existing ground

To Clause 504 add sub-clauses 504 (1) and 504 (2) as follows:

#### 504 (1) Benching

Where shown on the drawings or instructed by the Engineer, the Contractor shall, where fill is required, excavate benches where the ground to receive the fill has a slope greater than 1 (vertical): 5 (horizontal).

Where benching is required, the existing ground, after removal of top soil in accordance with the requirements of Section 4 of the Specification, shall be benched by cutting steps such that the horizontal width between the cut face of the bench and the instructed final embankment slope is not less than 1.5 m. Each slope shall be graded to a slope of 1 in 40 from the centerline of the road so as to avoid the ponding of water. The minimum width of 1.5 m shall generally be required for each bench and the Contractor shall allow working in narrow widths.

#### 504 (2) Ground compaction

After top soil stripping in accordance with Section 4 of the Specification and benching in accordance with Clause 504 of the Specification, the existing ground (including benches) under embankments shall be compacted to a dry density of at least 95% MDD (AASHTO T99) to a depth of 150 mm below ground level unless otherwise directed by the Engineer.

### 505 Construction of embankments

Only material approved by the Engineer shall be used in embankments. Material with high swelling characteristics or high organic matter content and other undesirable material shall not be used, unless specifically authorized by the Engineer. Unsuitable material shall include:

- *Material containing more than 5% by weight of organic matter, such as topsoil, humus, material from swamps, mud, log stumps and perishable material.*
- *Material with a swell of more than 3%*
- *Clay with a liquid limit exceeding 50%*

- *Material having moisture content greater than 105% of optimum moisture content (standard compaction) in its naturally occurring state.*

Material for subgrade shall meet the following requirements:

- *CBR of not less than 15% measured after 4 day soak on a laboratory mix compacted to a dry density of 100% MDD(T99)*
- *Swell less than 1% on the laboratory mix sample*
- *Maximum dry Density (MDD) not less than 1500kg/m<sup>3</sup>*

**Add the following:**

In case the Contractor has in his possession heavy compaction equipment, he may opt to construct the subgrade in a single layer of 300 mm thickness, following compaction trials and upon Engineer's approval.

**508 Compaction of earthworks**

Fill above ground level around pipe culverts shall be compacted in layers not exceeding 150 mm in thickness to a field density of 95%MDD (AASHTO T99) up to the level of the top of the pipes or top of surround. The compaction shall extend for a width equal to the internal diameter of the pipe on either side of the pipe(s) or surround(s).

Adjacent to structures, all fill above ground level up to the underside of the subgrade shall be compacted in layers not exceeding 200 mm in thickness to a field density of 102% MDD (AASHTO T99). In case of fill around box culverts this shall be carried out for the full width of the fill and for a length bounded by the vertical plane passing through the ends of the wingwalls.

Where the formation in cut areas is formed of hard material, the Contractor shall remove the hard material to a depth of 200 mm or such other depth as may be directed by the Engineer. The void so formed shall be backfilled with subgrade quality material and compacted to the same standard and tolerances as for subgrade in fill.

Improved subgrade, where required as part the pavement construction shall be compacted and finished to the same standards and tolerances as those required for normal subgrade.

**509 Mass haul diagram**

No mass haul diagram has been provided with the contract documents. The Contractor shall locate suitable materials for constructing earthworks along the alignment and elsewhere.

**511 Borrow pits**

Delete the first paragraph and substitute with the following:

“Fill material which is required in addition to that provided by excavation shall be obtained from borrow pits to be located and provided by the Contractor but to the approval of the Engineer.”

**514 (a) Top soiling and grassing**

The embankments and cut faces referred to in Clause 514 are synonymous with fill slopes and cut slopes defined in Clause 110(c). Guiding dams referred to in Clause 514 are synonymous with guiding dams referred to in Clause 817.

**515 Drains**

Whenever excavation works in side drains constitutes a separate operation from the bulk earthworks, such excavation shall be classified as catchwater drains under Section 8 of the Specifications.

**SECTION 6 QUARRIES, BORROW PITS, STOCKPILES AND SPOIL AREAS**

**601 General**

The Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpile and spoil areas, except for those in the road reserves and specifically approved by him.

The Contractor will be entirely responsible for locating and proving suitable sources of materials complying with the Standard and Special specifications and for procurement, winning, haulage to site of these materials, rehabilitating the borrow pits, quarries, stockpile and spoil areas, and all costs involved therein. Similarly the Contractor will be responsible for provision of areas for stockpiling materials and disposal of spoil, as well as the costs thereof. Should there be suitable areas for spoil dumps or stockpiling within the road reserve, the Contractor may utilise them, subject to the approval of the Engineer.

No additional payment will be made to the Contractor to cover costs arising from the requirements of this clause. The Contractor shall include the costs of complying with this clause in the rates.

**SECTION 7 EXCAVATION AND FILLING FOR STRUCTURE**

**709 River Training**

Add the following:

“For culvert widening the Contractor shall inspect the structures to be widened and allow for any river training works he deems necessary in his rates for excavation.”

**710 Stone pitching**

Add the following to Clause 710

All stone for pitching shall be capable of withstanding a crushing stress of 20 N/mm<sup>2</sup> when soaked. The source of stone shall be free from overburden, mudstone, cracks, sand holes, veins, laminations or other imperfections as may be identified by the Engineer during the approval process.

## SECTION 8 CULVERT AND DRAINAGE WORKS

### 809 Bedding and laying of pipe culverts

Delete "round pipe culverts should normally be placed in the in situ material directly" , and replace with "Usually the round pipe culverts placed on the bottom of the ground not less than 100mm of macadam cushion" instead.

### 811 Backfilling over pipe culverts

In the Standard Specification make the following amendments: -

Delete paragraph 6 "For pipe culverts .....depth of 150 mm.", entirely

### 816 Minor drainage structures

Delete the following contents : "the second part of the last words:"Unformed surface should be a UF1, forming surface should be a F1"

#### a) Cast in situ chutes on side slopes

Cast in situ chutes on cut or fill slopes, together with their inlet and outlet structures, shall be constructed in accordance with the drawings. The chutes shall be cast out of concrete as shown on the drawings. The side slopes shall be cut and trimmed before laying the chutes, and where required by the Engineer, a concrete screed shall first be cast on excavations that cannot be accurately trimmed. The screed shall be accurately finished to the level of the underside of the chute floor slab and allowed to set before the floor slab is cast. Where the material being excavated cannot be accurately trimmed or where the chute sides have to extend above the surface of the cut slopes, the outer faces of the sides shall be cast against formwork.

### 817 Mitre drains, cut off drains, catch water drains, side drains

Add the following subclauses:

#### 817.1 Cleaning existing drains

Where instructed, the Contractor shall clear blocked side drains, mitre drains and /or outfall drains to a free flowing condition. The work shall consist of but not be limited to:

- *Stripping and removal of extraneous material including vegetation and roots to spoil*
- *Carting away and spreading any spoil to the satisfaction of the Engineer*
- *Reshaping the drains to a free flowing profile*

### **817.2 Cleaning of structures**

Where instructed by the Engineer, the Contractor shall clean existing structures by removing all undesirable material in the structures to ensure they are clean and free flowing. The Contractor shall dispose of all the silt and other undesirable material to spoil. After the cleaning out of structures, the Contractor shall be responsible for maintaining the structures in a clean condition for the duration of the contract.

### **817.3 Removal of existing pipes, inlet and outlet structures**

The Contractor shall remove existing concrete pipes where instructed by the Engineer including bedding, surround, inlet and outlet structures. Concrete shall be disposed of as directed by the Engineer. Masonry, where in a good condition shall be preserved for reuse as may be directed by the Engineer. Additional material shall be added to the void left after removal of these pipes and structures and shall be carefully compacted to 100% MDD (T99). The void shall then be preserved for placement of any new pipes or construction of new structures.

## **822 Cement mortared stone masonry walls**

Masonry walling shall be constructed with sound clean stone with a minimum width of 200mm. The stones shall have a fair finish. The stones shall be individually placed to break joint and to provide a minimum of voids. The stones shall be wetted and jointed in a 3:1 (sand: cement) mortar. Exposed stones on the wall faces shall be cleaned of mortar by washing or wire brushing. The mortar shall be flush pointed to the approval of the Engineer.

Weep holes shall be provided as instructed and shall be cleaned of mortar and any other clogging material that may have entered during construction.

The walling shall be protected from the weather and kept moist for a minimum of four days after completion.

## **823 Subsoil filter drains**

The Contractor shall lay subsoil filter drains where shown on the drawings or instructed by the Engineer. The drain shall extend to the underside of the subgrade or sub base and shall consist of a perforated pipe wrapped in geotextile fabric as specified in the Standard Specifications and shown in the drawings. The pipe and fabric shall be laid on and backfilled with granular filter material. The granular material shall comply with the following specifications:

<b>BS Sieve Size (mm)</b>	<b>Percentage by Mass Passing Sieve</b>
37.5	100
20	85-100
10	50-100

5	35-90
1.18	15-50
600 Microns	5-35
150 Microns	0-5

**824 Gulley pots and chambers**

Existing roadside gulleys and gulley pots shall be repaired before laying final wearing course such that there are no depressions around manholes, gulleys or chambers. The beds, frames and haunches shall be adjusted with Class 20/20 concrete, true to line and level and to the satisfaction of the Engineer.

**SECTION 9 PASSAGE OF TRAFFIC****903 Maintenance of existing road**

The Employer shall hand-over the existing road to the Contractor, in sections, at the commencement of the Contract for construction purpose. However the Contractor shall be responsible for all repairs and maintenance of the road for the duration of the Contract. The Contractor shall maintain the existing road to motorable standards at all times. The Contractor shall regularly inspect the road and carry out such repairs and maintenance to the satisfaction of the Engineer. If at any time, the Engineer draws the Contractor's attention to a road section, which requires maintenance, the Contractor shall promptly repair the section. The Contractor shall be legally responsible for any accident or damage attributable to his failure to maintain the road.

**904 Length of deviations**

The Contractor shall program his works in such a way that traffic shall not be required to pass over more than 5km continuous at any one time, and the total deviation shall not be more than 20km at any time in the Contract, unless otherwise approved by the Engineer.

**906 Passage of traffic through the works**

The Contractor shall be deemed to have inspected the site and satisfied himself as to the adequacy of his bid for these works and no additional payments will be made for any expenditure on traffic control. Should the contractor propose any other method of passage of traffic e.g. construction of traffic deviations, use of existing roads etc, the Contractor shall investigate the alternatives, construct and maintain them to the satisfaction of the Engineer. No traffic shall be diverted without the express authority of the Engineer. The Employer shall not be liable for investigations or costs arising from the alternative methods of traffic control proposed by the Contractor. Deviations or other measures for traffic control where proposed by the Contractor shall meet the requirements of the Specifications and drawings and be approved by the Engineer.

The Contractor shall ensure that the workforce and site supervisory staff at all times wear high visibility garments when work is carried out on or adjacent to a section of the road open to traffic. The Contractor shall ensure that the supervisor or person in

charge of the workforce is readily recognised from the rest of the workforce. In addition, the Contractor shall provide a full time traffic safety officer to co-ordinate aspects of road safety for the whole site.

The Contractor shall be deemed to have included all costs related to employing the traffic safety officer and for all the duties performed by him, in his rate for passage of traffic.

## **SECTION 11 SHOULDERS AND FOOTPATHS**

### **1103 Construction of Shoulders**

The Shoulders to pavement shall be constructed to the same standard as the pavement.

## **SECTION 13 SUB-BASE AND BASE**

### **1303 Material requirements**

Gravel soil sub-base materials by adding cement modified shall meet the requirements of the SB2 table, the material for graded crushed stone subbase shall comply with the requirements for subbase stone class B, 0/30 After compaction, the graded crushed stone subbase material shall have a maximum of 8% of particles smaller than 0.075 mm.

### **1306 Laying and compacting graded crushed stone sub-base and base**

With the cement improved gravel soil should focus on white , be laid by a paving machine, the compaction should meet the requirements specification .Graded crushed stone shall be laid by a paving machine, the compaction should meet the requirements specification

## **SECTION 14 CEMENT TREATED MATERIALS**

### **1403 Cement treatment**

Cement for improvement shall be Ordinary Portland Cement complying with Clause 207 of the Standard Specification. The cement content of the improved natural material and graded crushed stone material will be determined on site and after laboratory and site trials.

## **SECTION 14A LEAN CONCRETE**

### **14A/04 MIX REQUIREMENTS**

#### **14A/04 (i) Proportions**

The ratio of cement to aggregate shall be 2% by weight (including any absorbed moisture but excluding free water in the aggregate).

#### **14A/05 (vi) Lean Concrete Curing**

The lean concrete shall be protected from injurious action by sun, rain, flowing water, frost, or mechanical injury. At completion of finishing and at the time the concrete surface has hardened enough to prevent the surface being marred by the curing material. It shall be cured by one or more of the following methods:

(a) **Moist Curing:** Wet the concrete surface with a fine spray of water and cover with waterproof paper, polyethylene-coated burlap, or polyethylene sheeting. Thoroughly saturate polyethylene-coated burlap with water before placing. Select size of sheets that are at least 300 mm longer than necessary to cover the entire width and edges of base. Place sheets with light-colored side up. Overlap adjacent sheets not less than 300 mm with the lapped edges securely weighted down or the sheets lapped 150 mm and cemented or tapered to form a continuous cover and a closed joint. Weight cover down to prevent displacement or billowing from winds. Fold coverings down over the exposed edges and secure with a continuous bank of earth or other approved means. Use covers in good condition when placed and immediately repair tears and holes they occur during the 7-day curing period.

(b) **Liquid Membrane-Forming Compound Curing:** Apply compound immediately after surface loses its water sheen and has a dull appearance. The curing membrane method should conform to AASHTO M 148. Mechanically agitate curing compound during use. Apply at a maximum rate of 5.0 square meters per liter of compound. If compound lacks uniform continuous, coherent films, or exhibits checks, cracks, peels, or pinholes, apply an additional coat of compound to areas where film is defective.

Have readily available impervious sheet curing for use to protect freshly placed concrete in the event conditions occur to prevent correct application of compound at the proper time. Re-spray surfaces with curing compound after rainfall. Apply at same rate required above.

The concrete surfaces shall be protected from foot and vehicular traffic and other sources of abrasion for a minimum of 72 hours. The curing method adopted shall be maintained for the entire curing period.

### **SECTION 15 BITUMINOUS SURFACE TREATMENTS AND SURFACE DRESSING**

#### **1502B Materials for prime coat**

i) The binder for prime coat shall be MC30 and shall be applied over the full width of the surface of the course and the hard shoulder.

#### **1504B Spraying of prime coat**

i) The rate of application of prime coat shall be 0.8 to 1.2 litres/m<sup>2</sup>. The exact quantity to be applied may be varied within these limits to suit field conditions and will be determined from trials by the Engineer. The rate of spray of prime coat refers to the gross volume of cutback bitumen, that is the volume of bitumen plus dilutant.

## 1502C Materials for surface dressing

### (a) Binder

Binder shall be 80/100 pen. bitumen.

### (b) Chippings

#### **Hardness, soundness, shape and cleanliness**

Stone for surface dressing on the carriageway and shoulders shall be Class 1. Should it be necessary, in the Engineer's opinion, to clean chippings before laying, the Contractor will wash the chippings to the satisfaction of the Engineer and no extra payment will be made for this operation.

## 1503C Rate of application of binder and chippings

Rates of spray of bituminous binder and spread rates for chippings shall be as indicated in the relevant items in the Schedule of Prices or as instructed by the Engineer. The exact rates to be applied may be varied to suit field conditions and will be proposed by the Contractor for the agreement of the Engineer.

Should any change occur in the nature of source of chippings or binder, the Contractor shall advise the Engineer accordingly who will then decide if new field trials are necessary and if any revisions are required to the spray and spread rates.

Payment for binder and chippings will be based on instructed rates.

## 1505C Precoated chippings

Where shown on the drawings or instructed by the Engineer, chippings used for surface dressing shall be precoated. The bituminous binder used for precoating shall be A3 anionic bitumen emulsion.

The chippings shall be completely coated with the binder at a nominal rate of 0.8% by dry weight of chippings. The actual rate of application shall be as instructed by the Engineer following Contractor's field trials.

Mixing plant shall comply with the requirements of Clause 1603A, sub-clause (a) and (b) of the Specification.

The binder shall be heated so that it can be distributed uniformly and care shall be taken not to overheat it. The temperature shall at no time exceed 35°C.

The chippings shall be washed (if necessary), dried and heated so that they are mixed at a temperature of between 20°C and 35°C. The binder shall be introduced in the mixer in the amount specified and the materials mixed until a complete and uniform coating of the chippings is obtained.

Should any change occur in the nature of source of chippings or binder, the Contractor shall advise the Engineer accordingly who will then decide if new field trials are necessary and if any revisions are required to the spray and spread rates.

## **1508C Application of surface dressing**

At the joint between the shoulder and carriageway, each layer of surface dressing on the carriageway shall be extended 100 mm into the shoulder. In like manner each layer of surface dressing on the shoulder shall also be extended 100 mm into the carriageway. The Contractor shall allow in his rates for this overlap. No additional payment will be made for either the binder or the chippings.

## **1509C Aftercare and control of traffic**

Surface dressing shall not be trafficked for at least seven days. Where the surface dressing is to be applied to new asphaltic concrete, a period of minimum 28 days must elapse before commencing the surface dressing.

# **SECTION 16 BITUMINOUS MIX BASES, BINDER COURSES AND WEARING COURSES**

## **PART A – GENERAL**

### **1603A Construction Plant**

#### **(d) Compaction plant**

To achieve specified densities it is expected that vibrating rollers will be required. To achieve satisfactory results it is essential that thorough preconstruction trials be carried out to ensure that the vibrating rollers are set up at the optimum amplitude and frequency for the material being laid, that they do not break down aggregate particles and that the optimum compaction temperatures are established to allow compaction without creating ripple effects or other distortions of the surfacing.

### **1606A Site trials**

#### **Delete the second paragraph and insert the following:**

“ The trials shall be carried out to: -

- a) Test materials designed in the laboratory so that a workable mix, which satisfies the specification requirements, can be selected.
- b) To enable the Contractor to demonstrate the suitability of his mixing and compaction equipment to provide and compact the material to the specified density and to confirm that the other specified requirements of the completed asphalt pavement layer can be achieved.”

### **1607A Mixing of aggregates and bitumen**

#### **Delete the second and third paragraphs, then add the following:**

The aggregates, minus the filler, prepared as specified above, shall be accurately weighed and conveyed into the mixer in proportionate amounts of each aggregate size required to meet the Job-Mix Formula. The required amount of bitumen for each batch shall be introduced into the mixer. In batch mixing, the bitumen shall be added after

the aggregates have been introduced into the mixer and mixed for 5 to 10 seconds. The filler shall be added after the bitumen and mixing shall continue after addition of the filler for at least the time recommended by the plant manufacturer, or as much extra time as is necessary to obtain a homogeneous mixture, but for no longer.

Aggregate and bitumen shall each be heated to enter the mixing chamber at temperatures selected within the range 150 to 170°C. The temperature of the stone at entry to the mixing chamber shall not be more than 15°C higher than that of the bitumen; the temperature of the bitumen shall be such that on entry to the mixer its kinematic viscosity is in the range 150 – 300 centistokes. The temperature of the aggregate and bitumen at entry into the mixing chamber shall be chosen within the above limits and having regard to the prevailing air temperature and haulage distance to ensure that the temperature of the mix is between 135°C and 165°C when it is laid and not less than 120°C when rolling is commenced. If excessive displacement occurs under the roller the minimum rolling temperature may be reduced at the sole discretion of the Engineer.

The volume of the aggregate and bitumen shall not be so great as to extend above the tips of the mixer blades when the blades are in vertical position. All overheated and carbonised mixtures, which foam or show indication of moisture, will be rejected. When moisture is detected in the finished mixture, all aggregates in the bins shall be removed and returned to the stockpiles.

## **1611A Finishing, joints and edges**

### **Add the following:**

Construction joints in the various pavement layers shall be staggered by at least the following distances:

- (a) Joints in binder course relative to joints in wearing course: 500mm
- (b) Joints in DBM base relative to joints in wearing course: 400mm

The Contractor shall produce a plan showing the position of all pavement construction joints for approval by the Engineer before pavement construction commences.

Transverse joints in DBM base, binder and wearing course shall be staggered by at least 500mm. The roller shall pass over the unprotected end of the freshly laid mixture only when laying of the surfacing is to be discontinued for such length of time as to permit the mixture to become cold. Otherwise 500mm at the end of the lane shall be left uncompacted.

Cold transverse joints shall be cut back to expose an even, vertical surface for the full compacted thickness of the course and painted with medium curing cutback bitumen as specified above. The fresh mixture shall be raked uniformly against the joint, and carefully compacted to ensure a good bond with the cold material.

The Contractor shall adjust any kerbs, gully pots and chambers in accordance with final finished road level before laying the final wearing course.

## 1614A Tolerances

**Add the following at the end of the second paragraph:**

Passing sieves between 1.0 mm and 0.075 mm sieves	$\pm 3\%$ (by total weight of dry aggregate including mineral filler)
Passing 0.075 mm sieve	$\pm 2\%$ (by total weight of dry aggregate including mineral filler)

## 1615A Road Reinforcement Grid

Where shown on the drawings or where directed by the Engineer, asphalt reinforcement in form of geotextile shall be used to reduce reflective cracking and/or to act as water barrier.

Paving geotextile reinforcement composite shall consist of 'ARMAPAL' reinforcement geosynthetic or similar approved. It shall meet the following physical requirements.

Property	Units	Requirements	Test method
Tensile strength	KN/m	50	SABS 02210 - 88
Elongation at break	%	<7	SABS 02210 - 88
Melting point	°c	260	ASTM D276
Bitumen Retention	l/m <sup>2</sup>	1.2	

Where the use of reinforcing for asphalt has been specified, the Contractor shall, at least three months before the material is to be used, submit samples of the type he/she intends to use, together with complete specifications of the material, load-strain relationship of the material, as well as the manufacturer's instructions for use, to the Engineer for approval. Where the material does not carry the mark of an acknowledged standards authority, the Engineer may instruct the Contractor to have the material tested by an approved laboratory and to submit the results.

## PART B – ASPHALTIC CONCRETE FOR SURFACING

### 1601B Definition

The asphalt concrete shall be SHRP SUPERPAVE. The design of the hot mixes shall be in accordance with the procedures detailed in Overseas Road Note 19 (ORN19) *'A guide to the design of hot mix asphalt in tropical and subtropical countries'*. The contractor shall be deemed to possess a copy of this publication and shall provide at least two copies on site, one for the Engineer and the other for the Contractor. The salient points of the publications, with reference to Standard Specification are summarised below.

**1602B Materials for asphaltic concrete****(a) Penetration grade bitumen****Delete sub-section (a) and replace with:**

Bitumen shall be penetration grade, and shall meet the requirements of Table 4.3 in ORN 19 as summarised below:

**Minimum requirements for penetration grade bitumen (ORN19 Table 4.3)**

Test	Test method (ASTM)	Penetration grade		
		40/50	60/70	80/100
Based on original bitumen				
Penetration at 25°C	D 5	40-50	60-70	80-100
Softening point (°C)	D 36	49-59	46-56	42-51
Flash point (°C)	Min D 92	232	232	219
Solubility in trichloroethylene (%)	Min D 2042	99	99	99
TFOT heating for 5h at 163 °C				
a. Loss by mass (%)	Ma x	-	0.5	0.5
b. Penetration (% of original)	Min D 5	58	54	50
c. Ductility at 25°C	Min D 113	-	50	75

The bitumen for asphalt concrete works shall 80/100 grade.

**(b) Aggregate**

- (i) In the standard specification rename Table **16-1 as 16-1(a)**.
- (ii) **Add the following:**

The coarse aggregate shall be entirely crushed rock from a source known to give high values of stability (>9 kN) in the Marshall test. Crushed river gravel shall not be used. Aggregate shall be Class 'a' meeting the requirements given in Table 16B-1(b) below.

**Table 16B-1(b) Requirements for coarse aggregate (retained on 6.3-mm sieve)**

Property	Test	Property
Cleanliness	Sand equivalent: <sup>1</sup> for <4.75 mm fraction (Material passing 0.425 sieve) Plasticity Index <sup>2</sup> Linear Shrinkage	>40 <4 <2
Particle shape	Flakiness Index (FI) <sup>3</sup>	<25
Strength	Aggregate Crushing Value (ACV) <sup>4</sup> Aggregate Impact Value (AIV) <sup>4</sup>	<25 <25

	10%FACT (dry) kN <sup>4</sup> Los Angeles Abrasion (LAA) <sup>5</sup>	>160 <30
Abrasion	Aggregate Abrasion Value <sup>4</sup>	<12
Soundness <sup>7</sup> (5 cycles, % loss)	Sodium Sulphate Soundness (SSS):  Coarse aggregate Fine aggregate Magnesium Sulphate Soundness (MSS): Coarse aggregate Fine aggregate	<10 <16 <15 <20
Polishing	Polished Stone Value	>60
Water absorption	Water Absorption <sup>6</sup>	<2
Bitumen affinity	Immersion Mechanical test: index of retained Marshall stability <sup>8</sup> Static Immersion Test <sup>9</sup>  Retained Indirect Tensile strength <sup>10</sup>	>75  >95% coating retained >79% (at 7% VIM)

<sup>1</sup> AASHTO T176<sup>2</sup> British Standard 1377: Part 2<sup>3</sup> British Standard 812: Part 105<sup>4</sup> British Standard 812: Parts 110 to 114<sup>5</sup> ASTM C131 and C535<sup>6</sup> British Standard 812: Part 2<sup>7</sup> AASHTO T104<sup>8</sup> D Whiteoak (1990) (*Shell Bitumen Handbook*)<sup>9</sup> AASHTO T182<sup>10</sup> AASHTO T283

Aggregates for bituminous mixes shall be stored in single sizes in separate bins or in areas covered with tightly laid wood planks, sheet metal, hard compact gravel, concrete or other hard and clean surfaces. The surfaces shall be self-draining, and in such a manner that will preclude the inclusion of foreign material. Aggregates of different grades and sizes and from different sources shall be stored in separate piles, and if these piles are close together they shall be separated by bulkheads.

## 1603B Grading requirements

The grading mixture of coarse and fine aggregate shall be within and approximately parallel to the grading envelopes as given in Table 16B-1(a) for 0/20 binder course. In addition, the material shall comply with the requirements below.

The Contractor shall investigate a number of gradings so that a workable mix, which also retains a minimum of 3% voids in mix (VIM) at refusal density, is identified. As guidance towards identifying a suitable grading, recommendations are provided in Tables 16B-1(c) and (d).

**Table 16B-1(c) Super pave aggregate grading control point**

<b>Nominal Maximum Size (mm) –(Note 1 below)</b>	<b>Sieve size (mm)</b>	<b>Control point (%passing)</b>	
37.5	0.075	0	6
	2.36	15	41
	25.0	-	90
	37.5	90	100
	50	100	-
25.0	0.075	1	7
	2.36	19	45
	19.0	-	90
	25.0	90	100
	37.5	100	-
19.0	0.075	2	8
	2.36	23	49
	12.5	-	90
	19.0	90	100
	25.0	100	-
12.5	0.075	2	10
	2.36	28	58
	9.5	-	90
	12.5	90	100
	19.0	100	-

**Table 16B-1(d) Super-pave boundaries of aggregate restricted zone**

Sieve size within restricted zone	Minimum and maximum boundaries of sieve size for nominal maximum aggregate size (Minimum/Maximum % Passing)			
	37.5	25.0	19.0	12.5
4.75	34.7-34.7	39.5-39.5	-	-
2.35	23.3-27.3	26.8-30.8	34.6-34.6	39.1-39.1
1.18	15.5-21.5	18.1-24.1	22.3-28.3	25.6-31.6
0.6	11.7-15.7	13.6-17.6	16.7-20.7	19.1-23.1
0.3	10.0-10.0	11.4-11.4	13.7-13.7	15.5-15.5

*Note (1)- The definition of Nominal Maximum Size of aggregate is one sieve larger than the first sieve to retain more than ten per cent of the aggregate. It is also recommended that where possible the largest particle size should not be more than 25 mm so that the requirements of the Marshall test can be complied with.*

Mixes identified for compaction trials shall be manufactured to the laboratory design bitumen content and two other bitumen contents of + 0.5% and + 1.0% additional bitumen. Cores will be cut to determine the density of compacted material. The core will then be reheated to  $145 \pm 5^\circ\text{C}$  in the appropriate mould and compacted to refusal in the vibrating hammer test. The cores cut from the compaction trial must have a density equivalent to 95% refusal density.

The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% Voids in Mix (VIM) at refusal density.

## 1604B Requirements for asphalt concrete

The nominal binder content shall be 5.5%. In addition to the requirements given in Table 16B-2, the maximum Marshall Stability for 2x75 blows shall be 18 kN, and at compaction to refusal shall have 3% VIM.

In order to determine the suitability of a coarse aggregate source, a Marshall test programme shall be carried out. It will be advantageous to use a crushed rock which is known from past experience to give good results in this test procedure. A grading conforming to the Type I Binder course detailed in Table 16B-1(a) 0/20 of the Standard Specification should be tested (but with 100% passing the 25-mm sieve) and it shall meet the requirements of Table 16B-2 of this Specification.

Having established the suitability of the aggregate source, several gradings shall be tested in the laboratory, including that used for the Marshall test, to establish relationships between bitumen content and VIM at refusal density. For each mix, samples will be made up to a range of bitumen contents and compacted to refusal using a gyratory compactor and a vibratory hammer in accordance with BS 598 (Part 104:1989) with the following revision:

*“It should first be confirmed that compaction on one face of the sample gives the same refusal density as when the compaction cycle is applied to both faces of the same sample. The procedure which gives the highest result shall be used.”*

From the bitumen content-VIM relationship a bitumen content which corresponds to a VIM of 3% shall be identified. Compaction trials shall be undertaken, to confirm the workability of the mix. At least two or more gradings will be required for compaction trials. The compaction trials will identify a workable mix which can be made to a bitumen content which gives 3% Voids in Mix (VIM) at refusal density.

## SECTION 17 : CONCRETE WORKS

### 1703 CONCRETE WORKS (CLASS 25/20) FOR CULVERT WALLS AND SLABS AND CLASS (30/20) FOR BRIDGEWORKS

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of box culverts and bridgeworks in accordance with these Specifications and in conformity with the requirements shown on the Drawings.

Concrete class 25/20 shall be used for culvert walls and slabs, while concrete class (30/20) shall be used for bridge works.

#### (a) Concrete Materials

(i) **Cement:** Cement shall be of Portland type cem 42.5N/mm<sup>2</sup> and shall conform to the requirements of BS 12 or equivalent.

The contractor shall select only one type or brand of cement. Changing of type or brand of cement will not be permitted without a new mix design approved by the Engineer. All cement is subject to the Engineer's approval; however, approval of cement by the Engineer shall not relieve the Contractor of the responsibility to furnish concrete of the specified compressive strength.

Conveyance of cement by jute bags shall not be permitted. Storage in the Contractor's silo or store house shall not exceed more than two (2) months requirements and age of cement after manufacture at mill shall not exceed more than four (4) months. The contractor shall submit to the Engineer for his approval the results of quality certificate testing carried out by the manufacturer.

Whenever it is found out that cement has been stored too long, moist, or caked, the cement shall be rejected and removed from the project.

#### (b) Aggregates

Fine and coarse aggregates must be clean, hard, strong and durable, and free from absorbed chemicals, clay coating, or materials in amounts that could affect hydration, bonding, strength and durability of concrete.

Grading of aggregates shall conform to the following requirements:

##### (i) Grading of fine Aggregates

Sieve Size	Percentage by Weight Passing
10 mm	100
5 mm	89 – 100

2.5 mm	60 – 100
1.2 mm	30 – 100
0.6 mm	15 – 54
0.3 mm	5 – 40
0.15 mm	0 - 15

**(ii) Grading of Coarse Aggregates**

Size of Coarse Aggregate	Amounts finer than each standard sieve percentage by weight							
	40	30	25	20	15	10	5	2.5
	100	-	-	90 – 100	-	30 – 69	0 – 10	-

Other requirements for aggregates are as follows:

**(iii) Fine Aggregates**

Fitness Modulus:	AASHTO M-6 2.3 – 3.1
Sodium Sulphate Soundness:	AASHTO T104 Max. 10% loss
Content of Friable Particles:	AASHTO 112: Max. 1% by weight
Sand Equivalent:	AASHTO T176: Min. 75

**(iv) Coarse Aggregate**

Abrasion:	AASHTO T96: Max. 40% loss
Soft Fragment and shale:	AASHTO M80: Max. 5% by weight
Thin and elongated Pieces:	AASHTO M80: Max. 15%

**(v) Water**

All sources of water to be used in concrete production shall be approved by the Engineer. Water shall be free from injurious quantities of oil, alkali, vegetable matter and salts as determined by the Engineer.

**(vi) Admixture**

Only admixtures, which have been tested and approved in the site laboratory through trial mixing for design proportions shall be used.

Before selection of admixture, the Contractor shall submit to the Engineer the specific information or guarantees prepared by the admixture manufacturer. The contractor shall not exclude the admixture from concrete proportions.

**Concrete class 25/20 and concrete class 30/20**

Concrete class 25/20 shall be used for box culvert walls and slabs and concrete class 30/20 shall be used for bridge works.

The requirements of concrete class 25/20 and concrete class 30/20 are provided as follows unless otherwise specified by the Engineer who will designate any alteration.

Design compressive strength (28 days): 25N/mm<sup>2</sup>

Maximum Nominal size coarse aggregates: 20mm

Maximum water/cement ratio of 45% with slump of 50mm

Concrete class 30/20 shall be used for bridgeworks.

Design compressive strength (28 days): 30N/mm<sup>2</sup>

Maximum Nominal size coarse aggregates: 20mm

Maximum water/cement ratio of 45% with slump of 50mm

**(c) Proportioning Concrete**

The Contractor shall consult with the Engineer as to mix proportions at least thirty (30) days prior to beginning the concrete work. The actual mix proportions of cement, aggregates, water and admixture shall be determined by the Contractor under supervision of the Engineer in the site laboratory.

The Contractor shall prepare the design mix proportions which have target strength based on the formula: target strength = 1.64xstandard deviation.

A standard deviation of 5 shall be used unless directed otherwise by the engineer. No class of concrete shall be prepared or placed until its deign-mix proportions have been approved by the Engineer.

**(d) Concrete Work**

**(i) Batching**

Batching shall be done by weight with accuracy of:

Cement: ½ percent

Aggregate ½ percent

Water Admixture: 1 percent

Equipment shall be capable of measuring quantities within these tolerances for the smallest batch regularly used, as well as for larger batches.

The accuracy of batching equipment shall be checked every month in the presence of the Engineer and adjusted when necessary. The cost of such checking shall be borne by the contractor.

**(ii). Mixing and delivery**

Slump of mixed concrete shall be checked and approved at an accuracy of +25mm against designated slump in these specifications.

**(iii) Concrete in hot weather**

No concrete shall be placed when the ambient air temperature is expected to exceed thirty three degrees Celsius (33°C) during placement operations).

**(iv). Concreting at night**

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an adequate approved artificial lighting system is operated; such night work shall be subject to approval by the Engineer

**(v) Placing**

In preparation of the placing of concrete, the interior space of forms shall be cleaned and approved by the Engineer prior to placing concrete. All temporary members except tie bars to support forms shall be removed entirely from the forms and not buried in the concrete. The use of open and vertical chute shall not be permitted unless otherwise directed by the engineer.

The Contractor shall provide a sufficient number of vibrators to properly compact each batch immediately after it is placed in the forms.

**(e) Measurement and Payment**

Measurements for the Concrete of class 30/20 for bridge works shall be made in cubic metres for the structure actually constructed, measured from the dimensions shown on the Drawings or instructed by the Engineer.

Payment for class 25/20 concrete for culvert walls and slabs and class 30/20 for bridgeworks shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing and curing the concrete, equipment and tools, labour and other incidentals necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

**1742 Concrete to truck parking, bus stops and lay-bys**

**a) Bus stops and lay-bys**

Where shown on the drawings or instructed by the Engineer, bus stops and lay-bys shall be constructed from Class 25/20 concrete. The lay-by shall be constructed as specified in Section 17. In addition, the concrete for lay-bys and bus-stops shall be finished with a special texture.

The texturing shall be applied by metal tine grooving device not less than 450 mm wide. The tines shall be made from flat spring steel approximately 0.6 mm in thickness and 3 mm in width, 125 mm in length and spaced at 25 mm in an approved manner.

The grooves shall be applied at right angles to the longitudinal axis of the bus bays. In order to ensure straight grooves, the brush shall be maintained against a straight edge.

**SECTION 19 STRUCTURAL STEELWORK**

**1901 GENERAL**

The fabrication and erection of all structural steelwork shall be under the constant supervision of competent and experienced personnel. All workmanship shall be in accordance with the best modern workshop practice and only skilled workers trained and experienced in steel fabrication and erection shall be employed.

**1902 APPLICABLE STANDARDS**

The supply, fabrication and erection of structural steelwork shall be in accordance with the provisions of the relevant clauses of the following British Standards: -

BS 4 Structural steel sections.

BS 4848 Hot rolled structural steel sections.

BS 153 Steel girder bridges, Part 1 - Materials and workmanship and Part 2 -Weighing, shipping and erection.

BS 4360 Weldable structural steels.

BS 4395 High strength friction grip bolts and associated Parts 1&2 nuts and washers for structural engineering (metric series).

BS 4604 The use of high strength friction grip bolts in structural steelwork.

BS 2708 Unified black square and hexagon bolts, screws and nuts (UNC and UNF threads).

BS 4190 ISO metric black hexagon bolts screws and nuts.

BS 3692 I.S.O. metric precision hexagon bolt screws and nuts.

BS 4320 Metal washers for general engineering purposes.

BS 5135: Metal arc welding of carbon and manganese steels.

BS 638 Arc welding plant, equipment and accessories.

BS 639 Covered electrodes for the manual metal-arc welding of mild steel and medium tensile steel.

BS 4870 Approval testing of welding procedures, Part 1 Fusion welding of steel.

BS 4871 Approval testing of welders working to approved welding procedures, Part 1- Fusion welding of steel.

BS 5493 Protective coating of iron and steel structures against corrosion.

### **1903 MATERIALS**

All structural steel shall be to the Grade as defined on the Drawings and shall comply with the requirements of BS 4360 in every respect.

Mill certificates shall be supplied to the Engineer in duplicate to confirm the mechanical and chemical properties.

Steel for headed stud shear connectors shall have a minimum yield stress of 385 N/mm<sup>2</sup> and a minimum tensile strength of 495 N/mm<sup>2</sup>.

## **1904 STORAGE OF MATERIALS**

Structural steelwork whether plain or fabricated shall be stored above ground on platforms, skids or other supports and in such a way as to prevent pools of water forming on the ground. It shall be kept free from dirt, grease and other deleterious material and shall be protected as far as is practicable from corrosion. The time limits for outside storage of unpainted or primed steelwork shall be as detailed in the Special Specification.

## **1905 FABRICATION**

Fabrication shall generally be in accordance with the requirements of BS 153 Part 1, Workmanship. Rolled material, before being processed, must be straight or flat. Straightening or flattening, where required and where permitted by the Engineer, shall be accomplished by a process not harmful to the material.

The Contractor shall submit to the Engineer for his approval two sets of shop drawings with calculations as appropriate and the Contractor shall not commence fabrication until written approval has been given by the Engineer. The Engineer will give comment or approval within 28 days after receipt of the shop drawings and calculations. Such approval shall not relieve the Contractor of any of his responsibilities under the Contract.

Following approval of the shop drawings the Contractor shall supply to the Engineer a further four copies of each drawing for the use of the Engineer and the Employer. The components of various members of the structure shall be placed in jigs of approved design and all welding shall be carried out in accordance with Clause 1907. Every precaution shall be taken to prevent distortion.

## **1906 PREPARATION OF EDGES AND ENDS OF PLATES**

Edges and ends shall be either:

- (a) left as rolled, sawn, machine cut, machine flame cut;
- (b) hand flame cut and ground to a smooth profile; or STRUCTURAL STEELWORK Page 19.2
- (c) for stiffeners and gussets not exceeding 12 mm thick, sheared and subsequently ground to a smooth profile.

Where ends of stiffeners are required to be fitted, they shall be ground to be in contact with the flanges over 80% of the area of stiffener.

After shearing or flame cutting of plates, one of the following requirements shall be satisfied:

- (a) the hardness of the cut edge shall not exceed 350 HV 30 of BS 427;
- (b) the cut edge is incorporated in a weld;
- (c) the material from the edge is removed by machining or grinding to demonstrate that the hardness of the edge is less than 350 HV 30 of BS 427;
- (d) the edge is softened by an approved heat treatment and is shown to be free from cracks by crack detection procedures; or
- (e) the material is Grade 43 steel and is not greater than 40 mm thick and the edge preparation is by machine flame cutting.

## **1907 WELDING**

Welding will be permitted only where shown on the Drawings, and the agreed shop drawings.

All welding operations shall comply with the requirements of BS 5135.

The details of all welds shall be arranged to achieve the most satisfactory welding procedure. The details of the welding procedure shall be submitted to the Engineer for his approval and no welding may commence without the prior approval of the Engineer. No departure from an approved procedure may be made without the prior approval of the Engineer. Welding procedure details to be submitted to the Engineer shall include the following: -

Welding position.

Fusion face preparation.

Pre-heating.

Electrode make, type and size and mechanical properties.

Number and arrangement of runs.

Welding current.

Arc energy.

Method of back gouging and sealing.

Proposed methods of quality control and testing of welds.

## **STRUCTURAL STEELWORK**

Welding shall be carried out under the supervision of an experienced and competent supervisor in accordance with the requirements of BS 5135. The welders shall be tested in accordance with the requirements of BS 4871 prior to the commencement of the work.

The Contractor shall carry out trials of the welding procedure in accordance with the requirements of BS 4870.

Welding plant and accessories shall comply with the requirements of BS 638 and shall be used in accordance with the manufacturer's instructions. The welding plant shall be capable of maintaining at the weld the current and voltage specified by the manufacturer and in accordance with the welding procedure.

The electrodes shall be selected with regard to the quality of the material to be welded and the optimum performance with the welding procedures and shall comply with the requirements of BS 639. All electrodes shall be stored in their original packets in a dry and preferably heated place adequately protected from the weather and shall be handled with care and in accordance with the manufacturers instructions. Electrodes and fluxes that show signs of moisture, damage or deterioration shall not be used.

Welds shall be subject to non-destructive examination and testing as specified in the Special Specification.

Welded fabrications and weld quality shall comply with the requirements of the American Welding Society Specification ANSI/AWS DI.1.81., Section 9, PART D

Stud shear connectors shall be subjected to the following tests: -

(a) The fixing of studs after being welded in position shall be tested by striking the side of the head of the stud with a 2 kg hammer and shall pass such test if no part of the weld shows fracture or is dislodged thereby.

Any stud selected by the Engineer shall be capable of being bent by striking the side of the head of the stud with a 6 kg hammer until its head is displaced laterally a distance of approximately 0.25times the height of the stud from its original position.

The stud weld shall not show any signs of cracking or lack of fusion. Satisfactory studs shall not be bent back again.

Studs whose welds have failed the tests given in (a) and/or (b) above shall be replaced according to a procedure to be agreed with the Engineer.

## **1908 BOLTING**

### **(a) Black Bolts**

All mild steel bolts, washers and nuts shall be of the grade as specified on the Drawings and shall comply with the requirements of BS 4190, BS 2708 or BS 3692 as appropriate. STRUCTURAL STEELWORK Page 19.4

All holes shall be drilled or drilled small and reamed and shall be clean cut without torn or ragged edges. The holes shall be perpendicular to the member and not more than 2mm larger than the nominal diameter of the bolt.

In all cases where the full bearing area of the bolt is to be developed the bolt shall be provided with a steel washer under the nut to avoid any threaded portion of the bolt being within the parts bolted together. Tapered washers of the correct angle of taper shall be provided under all bolt heads and nuts bearing on bevelled surfaces.

### **(b) High Strength Friction Grip (HSFG) Bolts**

HSFG bolts shall comply with the requirements of BS 4395 Parts 1 and 2 and shall be used in accordance with the provisions of BS 4604 Parts 1 and 2.

HSFG bolts, nuts and washers shall be supplied cadmium plated to BS 3382 to a thickness of 5 microns and shall be stamped or otherwise marked with a suitable and permanent mark and the Contractor shall obtain the written approval of the Engineer to the proposed marks before commencement of the work.

Each HSFG bolt shall be supplied complete with its nut screwed on. Washers may be supplied on the bolt or separately and bolts and washers shall be packed in the manufacturer's works and delivered to site in waterproof containers and stored under cover in these containers until required for use.

The method of tightening HSFG bolts shall be either the part turn method, the torque control method or with the use of load indicating washers in accordance with the following: -  
STRUCTURAL STEELWORK Page 19.5 HSFG bolts complying with standard

Permissible methods of tightening.

BS 4604 Part 1 and 2

- 1) Part turn for bolts M16 and above.
- 2) Torque control.
- 3) Load indicating washers.

Whatever method of tightening is adopted, the Contractor shall supply to the Engineer full details of the procedures to be adopted which shall be in accordance with the requirements of BS 4604, together with details of the tools and equipment he will be using at Site and the tests to be carried out to determine the load/torque/shank tension characteristics of the tools, bolts and the load indicating washers.

No bolting shall commence until the Contractor has carried out sufficient site tests to confirm the load/torque/shank tension characteristics of the tools and bolts.

In the case of torque control tightening methods, calibration of the equipment shall be carried out daily before commencing bolting operations in accordance with the requirements of BS 4604.

Where load indicating washers are used they shall be of a type approved by the Engineer and used in accordance with the manufacturer's instructions. The general requirements of BS 4604 shall apply to the assembly and use of HSFG bolts with load indicating washers including check testing to confirm the minimum shank tension is being achieved.

HSFG bolts that have been slackened off after final tightening by any method shall be removed discarded and replaced.

## **1909 TRANSPORTATION HANDLING AND ERECTION**

Erection shall be in accordance with BS 153 part 2, weighing, shipping and Erection. Structural steel shall be handled with due care at all times and in such a manner as not to cause damage to the steelwork or its protective coatings.

The contractor shall submit to the Engineer for his approval two sets of drawings and calculations and details showing his proposed methods for transport, handling and erection of structural steelwork including all plant, temporary supports and do all the work required to complete the works in accordance with the Drawings and this specification.

The work shall be carried out in such a manner as will not injure, overstress or disfigure any part of the structure or the foundations and any part injured, overstressed or disfigured shall be removed and replaced or rectified to comply with the requirements of this specification.

The steelwork shall be temporarily erected at the fabrication works and be subject to inspection by the Engineer before being dispatched to site.

Drift pins will be allowed only for bringing together the several parts of the structure, and shall not be used in such a way as to distort the work or enlarge the bolt holes.

Bolts in site connections shall not be finally tightened until sufficient of the structure is properly plumbed, aligned and levelled and no subsequent straining into position will be allowed. Finally all bolts and connections shall be systematically checked and tightened.

## **1910 SURFACE PREPARATION OF STEELWORK**

Surface preparation of steelwork shall be by blast cleaning in accordance with the requirements of BS 4232, Second Quality. The maximum amplitude of the blast cleaned surface shall not exceed 0.1mm.

Manual cleaning of structural steelwork including mechanical wire brushing, chipping hammers, vibratory needle guns and the like shall not be permitted except for small parts and then only with the prior written permission of Engineer.

Surfaces shall be painted with the specified primer paint within four hours of having been blast cleaned.

As soon as the first undercoat has dried, a further stripe coat of paint shall be applied by brush to all edges, corners, crevices, exposed parts of bolts, rivet heads and welds. The stripe coat should have the same specification as the undercoat but a contrasting shade.

Painted surfaces shall be cleaned of dust immediately prior to the application of further paint. All loose paint, dirt and grit shall be removed and areas contaminated with oil and grease shall be cleaned with emulsion cleaners followed by washing and rinsing with clean fresh water and allowed to dry thoroughly before paint is applied.

In the case of painted steelwork where the interfaces of HSFG bolts are bare steel, the primer coat shall be taken between 10mm and 20mm inside the perimeter of the joint area.

Where paints are to be applied to parent surfaces before making of a joint they shall be stepped back at 30mm intervals commencing at 80mm from welded joints and 10mm from the perimeter of all other joints.

All bolted joints shall be sealed against the ingress of water. Gaps at joints shall be plugged with an approved filler and the perimeter of all joints shall be sealed with subsequent coats of paint.

All joints, welds and surfaces affected by welding shall receive the same protective system as applied to the parent surfaces.

Within 14 days of a joint being made and accepted by the Engineer, the parent material, exposed parts of bolts, nuts and washers, weld and affected areas shall be prepared and painted.

## **1911 PAINTING**

All paint used in the Works shall be subject to the approval of the Engineer.

All paint shall be supplied from the store to the painters ready for application. Any addition of thinners must be made in the store under the supervision of the Engineer and only as permitted by the manufacturer's data sheet. All the requirements of the manufacturer's data sheet shall be strictly complied with.

Paint shall be applied only to surfaces which have been prepared and cleaned in accordance with the requirements of Clause 1910.

The use of rollers shall not be permitted for the application of paint. Paint shall not be applied under any of the following conditions: -

- (a) When the ambient temperature is less than 4°C.
- (b) When the relative humidity is greater than 90%.
- (c) During fog, rain or mist.
- (d) When any moisture is present or likely to condense on the steel.

Each coat of paint shall be free from surface defects.

Successive coats of paint shall have different shades for identification.

The Contractor shall ensure that the proposed application rates shall enable the specified minimum dry film thickness to be achieved. If the total dry film thickness is less than the specified minimum, an extra finishing coat or coats shall be applied until the specified dry film thickness is obtained.

## **1912 PAINT SYSTEMS**

The paint system to be used on structural steel work shall be as specified in the Special Specification.

## **1913 DAMAGED SURFACES**

Any areas of paint which have been damaged following application shall be cleaned down to bare metal and the full specified painting system shall be re-applied. The new paint shall overlap the existing paint by at least 50mm all round the affected area.

Galvanized surfaces damaged shall be repaired either by the use of low melting point zinc alloy repair rods or powders made specifically for this purpose or by the use of at least two coats of a good quality zinc rich paint to BS 4652.

## **1914 MEASUREMENT AND PAYMENT**

- (a) Item: Structural Steelwork

Unit: tonne

Structural steelwork shall be measured by the tonne and shall be the weight calculated from the approved shop drawings excluding bolts, welds, washers and all other fixings

required. No deduction shall be made in the measurement for splay cuts, notches and holes providing that the area of each is less than 0.1 square metres. No allowances shall be made in the measurement for rolling margin or cutting to waste.

The density of steel shall be taken as 7850 kilogrammes per cubic metre.

The rate for structural steelwork shall include for the cost of the following: -

- (i) Design, submission of orders, fabrication drawings, details, calculations and certificates.
- (ii) Provision of all structural steelwork, materials, bolts, nuts, washers, welding rods, and all other fixings; fabrication, including drilling, machining and welding; testing of welds and welders.
- (iii) Temporary erection at the fabrication works for inspection by the Engineer.
- (iv) Surface preparation, painting with specified paint system.
- (v) Inspection, and submission of test reports and certificates.
- (vi) Marking, handling, packing, transporting and storage.
- (vii) Erection, bolting, welding, including temporary bracings, guys, and craneage.
- (viii) Complying with all the requirements of Section 19 of this Specification.

## **SECTION 20 ROAD FURNITURE**

### **2001 Road reserve boundary posts**

The Contractor shall establish a reference point on top of each boundary post.

### **2004 Permanent road signs**

Road signs shall be done using non-scrap value materials.

### **2005 Road marking**

Road marking paints shall be hot applied thermoplastic materials as specified in Clause 219 of the Standard Specifications.

### **2012 Service ducts beneath roads**

Service ducts will be provided in rural areas after every 1km and in urban centres after every 200m. All bridges and junctions will also be provided with Service ducts on both sides.

The ducts shall be 300mm diameter ogee precast concrete pipes surrounded by a minimum 100mm thickness of Class 15/20 concrete. The minimum clearance between the road formation and the top of the concrete surround shall be 100mm.

The ducts shall be provided with draw cords fabricated from strong man-made fibre such as nylon and each duct shall be sealed at each end with a tight fitting plastic plug. In the existing pavement, the ducts shall be at least 250 mm below the road surface measured from the top of the concrete pipes and all back filling shall be in Class 15/20 concrete. The concrete pipes shall conform to the requirements of Clause 215 of the Standard Specification.

### **2013 Duct markers**

Duct markers shall be installed by the Contractor at each end of the services ducts provided under Clause 2012. The duct marker shall be located immediately beyond the outer edge of the shoulder or footpath and as close to the line of the duct as physical constraints permit. Where several ducts are laid side by side, only one duct marker post will be necessary. The duct marker posts shall be constructed as shown on the drawings and shall be clearly and durably marked on the side facing away from the road. The marker post shall be inscribed 'X DUCTS', where 'X' is the number of ducts laid in the group marked by the marker post.

### **2016 Retro reflective road studs**

All retro-reflective road studs shall comply with BS 873: Part 4. The Contractor shall submit details of the reflective road studs he proposes to use in the works to the Engineer for approval. The Contractor shall submit also a Certificate of approval from an approving authority. Reflective road studs shall be installed in the locations shown on the drawings or instructed by the Engineer.

## SECTION 21 CONCRETE AND STEEL PILING WORK FOR STRUCTURES

**Add new clauses as follows:**

### **2109 Bridge foundations and site investigations**

This Section covers all foundation work, which for the purposes of these Specifications, shall comprise those elements of construction below the level of the bottom surface of the footings, the pile-capping slabs or the caisson cover slabs, collectively hereinafter referred to as bases or bases, which shall also include all the associated temporary works.

#### **2109.1 Site investigations**

The Contractor will be required to arrange to carry out geotechnical investigations in accordance at the proposed bridge locations and in liaison with the Engineer prior to commencing construction works.

The investigations are to include assessment of safe design parameters for the proposed piled and spread foundations by an independent approved geotechnical testing laboratory. For each bridge location, the Contractor shall supply three copies of the results of the investigations to the Engineer in an approved standard reporting format.

In the event the report indicates that changes in the original designs and construction details are necessary due to the prevalent site conditions, the Engineer will revise/update substructure designs and construction details to suit the site conditions indicated by the investigations. Revised structural drawings will be issued and other related details will then be issued during the construction period.

#### **2109.2 Scope of site investigations**

Site investigations shall be done in accordance with BS 5930.

### **2110 Concrete Piling Works**

#### **2110.1 Materials**

##### **(a) General**

Material used in the permanent foundation work shall comply with the requirements specified for the particular material under this clause.

##### **(b) Rock (for rock fill)**

Stones shall be hard, angular, natural or quarry stones of such quality that they will not disintegrate on exposure to water or weathering. The stones shall be free from soil, clay or organic material. Neither the breadth nor thickness of a single stone shall be less than one-third its length. Not more than 10% of the total volume of rock fill shall consist of stones with a mass of less than 0.5 times the specified mass

and not more than 10% of the total volume of rock fill shall consist of stones with a mass of more than 5 times the specified mass. At least 50% of the total volume of rock fill shall consist of stones the mass of which exceeds the specified mass.

(c) Crushed stone

Crushed stone used for the construction of crushed stone fill shall originate from sound unweathered rock approved by the Engineer.

(d) Granular fill

Granular material used for constructing the compacted granular fill shall be approved granular material of at least gravel sub base quality.

(e) Sand fill

Sand used for filling the caissons shall be clean, hard sand free from lumps of clay or organic or other deleterious matter.

(f) Structural steel

Steel in the steel piles shall comply with the requirements of BS 4360 or SABS 1431 or equivalent, BS EN 10113 and BS EN 10155 for the grade of steel specified on the Drawings. I and H sections shall comply with the requirements of BS 4: Part 1.

Fabricated sections shall comply with the details shown on the Drawings.

(g) Permanent pile casings

Permanent pile casings shall be sufficiently rigid so as not to deform permanently or damage during handling and construction. The casings shall be sufficiently dense to prevent the fluid components of the concrete from leaking during the placing of the concrete or thereafter. Where steel casings contribute to the strength of the pile, the casings shall have a minimum wall thickness of 4.5mm.

(h) Driven pile casings

Driven pile casings shall have sufficient strength to permit their being driven and not being distorted by the driving of adjacent piles, and they shall be sufficiently watertight to prevent water leaking through the casing walls during the placing of concrete.

(i) Grouting

i Cement grout

Unless otherwise agreed by the Engineer, the grout shall consist of only Portland cement and water. The water/cement ratio shall be as low as possible consistent with the necessary workability.

ii Proprietary-brand grout

Proprietary-brand grout shall be prepared and used strictly in accordance with the instructions of the manufacturer.

**2110.2 General**

(a) Subsurface data

If it is found during the course of excavating, founding pile or caisson work that the soil or founding conditions differ greatly from those shown on the Drawings, the Contractor shall immediately notify the Engineer.

The Engineer shall, as often as he may deem necessary during the course of excavation, be entitled to call on the Contractor to conduct additional foundation investigations and/or tests at or below the respective founding levels in view of establishing safe bearing pressures and founding depths.

(b) Channel preservation

The flow of the stream and the conservation of marine and freshwater life shall be maintained at all times. Access to cofferdams, artificial islands and piling platforms shall be effected without unnecessarily disrupting to the flow of the stream at the point of crossing, unless otherwise specified.

Precautions shall be taken by the Contractor to maintain water quality standards. Water contaminated with silt shall be settled in ponds before being pumped into streams. Water contaminated with chemicals shall be purified before being returned to the stream or disposed of in an appropriate manner as directed by the Engineer. Precautions shall be taken by the Contractor to ensure that the natural pH and electrical conductivity are not raised or lowered.

On completion of the work, surplus excavated materials including materials excavated from caisson compartments and holes for piles, materials used in cofferdams and other temporary works, as well as in-situ material, shall be removed and disposed of by the Contractor to the level of the original bed or such elevation as agreed to by the Engineer or required for stream channelization.

**2110.3 Access and Drainage**

(a) General

This clause covers the provision of access, including the construction of cofferdams, and draining the excavations. Where it is unnecessary to provide access, as detailed in (b) below.

After completion of the permanent works, all temporary works shall be completely removed, the ground levelled and the site left neat. Where this is impracticable, such

portions as have not been removed shall be dealt with in accordance with the Engineer's instructions.

(b) Access

Where temporary banks or artificial islands are constructed in view of affording access to the location where structural members, piles or caissons are to be constructed, the banks or islands shall be adequately compacted in view of supporting any plant and material without any undue settling which may have a harmful effect on the end product.

The Contractor may use any material deemed by him to be suitable for constructing the islands, but no separate payment will be made for any obstructions, hard or unsuitable material occurring in the material used for constructing temporary banks or artificial islands.

Designing and constructing any cofferdams shall comply with the requirements of BS 8004.

(c) Drainage

The Contractor shall apply suitable, effective drainage methods for preventing the ingress of water into excavations and to keep them dry.

The drainage measures, with the exception of pumping, shall be maintained until the backfilling has been completed. Between the various construction stages pumping may be employed in consultation with the Engineer.

Any draining or pumping of water shall be done in a manner that will preclude the concrete or materials or any part thereof from being carried away.

#### **2110.4 Excavation**

(a) General

This work shall include excavations not provided for elsewhere in this Specification, which are required for founding the structures as well as for the excavating required in respect of the demolition, extension or modification of existing bridges and culverts.

(b) Surface levels agreed on for excavations

Prior to commencing with any excavation, the Contractor shall notify the Engineer in good time to ensure that levels be taken of the undisturbed ground surface for determining the ground surface from where the excavation can be measured, and this ground surface shall be agreed on by the Engineer and the Contractor.

(c) Excavation

Where in the opinion of the Engineer the casting of concrete against the excavated earth faces is not permissible, or where formwork has to be provided, the extremities of the excavation, for purposes of measurement and payment, shall be deemed to be the vertical planes parallel to and 0.5 m outside the perimeter of the member for which formwork is to be provided.

Where suitable and stable material is encountered during excavating, that part of the trench or foundation pit shall be excavated to the neat dimensions of the base unless otherwise directed by the Engineer. Over-excavation (overbreak) in hard material shall be backfilled with the same class of concrete as that in the base or with mass concrete fill as specified or as directed by the Engineer.

Where blasting is required, the Contractor shall complete the entire foundation excavation before he commences with the construction of any permanent concrete work, unless otherwise approved by the Engineer.

Boulders, logs or any other unsuitable material excavated shall be carted away to designated spoil areas.

When hard material suitable for founding is encountered at the founding level, it shall be cut and trimmed to a firm surface, either level, stepped or serrated, as may be required.

Where, in the opinion of the Engineer, unsuitable material is encountered at founding level, such material shall be removed and replaced with foundation fill to the approval of the Engineer.

(d) Classification of excavated material

For payment purposes distinction shall be made between common excavation in soft material and rock excavation. All excavation for the foundations of structures shall be classified as summarised as follows:

(i) Rock excavation:

Rock excavation shall be excavation in material, which requires drilling and blasting, or the use of hydraulic or pneumatic jackhammers to be loosened and to be loaded for transportation.

(ii) Common excavation:

Common excavation shall be excavation in all material other than rock as defined above.

(e) Blasting

Where blasting is permitted, it shall be carried out to the approval of the Engineer.

(f) Deterioration of foundation excavations

Where soft material, or hard material which quickly deteriorates when exposed, is found at foundation level, the material shall be excavated to the final slope and level immediately before the screed is placed.

Where the bottoms or sides of excavations, in which bases are to be cast, are softened on account of negligence on the part of the Contractor in allowing storm or other water to enter the excavations, the softened material shall be removed and replaced with foundation fill as directed by the Engineer and at the Contractor's expense.

(g) The safety of excavations

The Contractor shall take the necessary precautions to safeguard the stability and safety of the excavations and adjacent structures.

The personal safety of any person shall not be jeopardised neither shall any situation be allowed to arise which may result in damage of whatsoever nature. Precautionary measures taken by the Contractor shall comply with the appropriate legal provisions.

(h) Inspection

No concrete shall be placed before the excavation has been properly cleaned by the Contractor and inspected and approved by the Engineer.

(i) Excavation by hand

Where circumstances prevent the use of mechanical excavators and material can be removed only by hand implements, the cost of such miscellaneous excavation shall be deemed to have been included elsewhere in the Schedule of Prices.

## **2110.5 Founding**

In consequence of possible variations of the anticipated founding conditions, the dimensions and founding levels specified or shown on the Drawings may have to be varied during construction as stated in Clause 2109 of this Special Specification.

No bases, caissons or piles shall be founded unless authorised by the Engineer. Each founding level shall be accurately measured and recorded and agreed on.

## **2110.6 Utilization of Excavated Materials**

Excavated material and material recovered from temporary works shall, if suitable, be utilised for backfill.

Material unsuitable for use as backfill or in excess of the required quantity shall be carted away to designated spoil areas or utilised as directed by the Engineer.

Excavated material not used for backfill or not carted away to spoil areas but used in the construction of embankments or other parts of the work, as directed by the Engineer, will be paid for under foundation excavation or under the relevant item for the purpose for which it is used.

The free haul distance on excavated material and imported material for backfill shall be 1.0 km.

Excavated and stockpiled material shall be so dumped as not to endanger the uncompleted structure either by direct pressure or indirectly by overloading the fills contiguous to the structure, or in any other way.

## **2110.7 Foundation Fill**

If it is found during the course of excavation that the material at the indicated founding depth does not have the required bearing capacity as specified on the Drawings, the excavations shall be extended at the discretion of the Engineer until satisfactory founding material is encountered. The Engineer may order the Contractor to make up the difference in levels with foundation fill.

Where the foundation fill consists of rock or crushed stone, it shall be constructed in accordance with the requirements of these Specifications or as directed by the Engineer. Foundation fill consisting of granular material shall be constructed in layers not exceeding 150 mm in thickness after compaction. Each layer shall be moistened or dried to the optimum moisture content for the material and compacted to a density of not less than 100% MDD (AASHTO T-99). Mass concrete fill to be used shall be of the class or mix of concrete fill as specified or directed by the Engineer.

Unless otherwise specified or directed by the Engineer, the foundation fill constructed from rock, crushed stone or compacted granular material shall be defined by a prism with vertical sides. The base of the prism lies in the founding plane and coincides with the base of a prismoid with trapezium-shaped inclined sides which extend downwards and outwards at an angle of 60° with the horizontal from each outer edge of the underside of the footing down to the founding level.

The upper plane of the prism lies in the plane of the underside of the footing.

A concrete screed which complies with the requirements shown on the Drawings shall be placed underneath all bases except where mass concrete fill is used or where authorized by the Engineer that this need not be done.

Where mass concrete fill is constructed under a base it shall be constructed accurately to the final levels of the underside of the base.

## **2110.8 Grouting of Rock Fissures**

Where specified, fissures in the rock below and around the bases shall be sealed by pressure grouting with a neat cement or sand-cement grout or with a proprietary brand grout as specified.

The cement water ratio of the grout shall be approved in advance by the Engineer.

The extent of the fissuring shall be established by means of water testing under pressure. Holes of at least 40 mm in diameter shall be drilled at places shown by the Engineer and grout shall then be pumped into these holes under suitable pressures. Grouting shall be done in 3 m stages to the maximum depth ordered. Care shall be taken to avoid further fracturing of the rock strata by excessive grouting pressures.

Grouting of the rock fissures shall be done by specialised operators with adequate experience in this class of work.

#### **2110.9 Foundation Dowels**

Where required, foundation dowels of specified material, diameter and length shall be installed at the positions and to the dimensions shown on the Drawings or as directed by the Engineer. After exposing, clearing and trimming the rock formation, holes with specified diameters and depths shall be drilled in the rock.

After the holes have been cleared and pre-wetted, they shall be filled with grout. Within 15 minutes of having been filled with grout, the dowels shall be carefully driven into the holes. The cement and water in the grout shall be mixed in the ratio of 50 kg of cement to 20 litres of water, and an approved expanding additive, to the Engineer's approval, shall be added.

The dowels shall to the Engineer's approval.

#### **2110.10 Foundation Lining**

Where specified or directed by the Engineer, foundation linings shall be installed as described hereafter. The Engineer shall have the right to order the use of linings against the sides of excavations and the undersides of bases and slabs in lieu of formwork and concrete blinding.

All surfaces to be lined shall be covered with approved sheeting to provide a clean impervious layer. The material shall be of sufficient strength to provide a durable working surface and to support the concrete and reinforcement without tearing. The joints of the material between strips shall have a 150 mm overlap and the lining shall be held firmly in position by nails, pegs, etc.

#### **2110.11 Foundation Piling**

(a) This work shall consist of performing all operations in connection with furnishing, driving, boring, excavating, concreting, and cutting off of piles to obtain the specified bearing value complete in place and strictly in accordance with these Specifications.

(b) The Contractor shall carry out the work in accordance with a method statement, which has been submitted to and approved by the Engineer.

#### **2110.12 Code of Practice**

All workmanship, materials, tests and performance in connection with the piling work are to be in conformity with the B.S. Code of Practice CP 8004: Foundations.

#### **2110.13 Access to Site**

The Contractor is to make allowance in his rates for any methods or other means of support to his piling machines which he may require to travel and work on the site and he is to make every allowance in his rates for bringing plant and materials on and off the site.

#### **2110.14 Setting Out**

The Contractor will be responsible for setting out the substructure bases and the positions of piles and shall maintain the setting out of the substructure bases, whilst carrying out his work. No separate payment shall be made for this work and the Contractor must make allowance for this in his rates for piling.

#### **2110.15 Lengthening of Piles**

Where it becomes necessary to lengthen a pile at the top, the Contractor shall submit his proposal to the Engineer for his approval.

#### **2110.16 Piling - General**

Full details of the Contractor's proposed piling method, giving the number and type of rigs, type of tools and equipment as well as details of supervisory staff and their previous experience, should be submitted to the Engineer, for his approval at least 21 days before the Contractor proposes to commence piling. The Contractor shall not be permitted to commence piling until he has received written approval from the Engineer covering all aspects of the piling. This approval shall not relieve the Contractor of his responsibilities for the piles. Should the Contractor subsequently wish to change any aspect of his proposals, the written approval of the Engineer shall be obtained prior to such changes being effected.

The following notes are general and should be construed in the light of any special requirements for the piling system.

- (a) During concreting, care should be taken to prevent the formation of voids in the piles. A record shall be kept of the volume of concrete placed and the calculated volume of each pile.
- (b) In the case of all piles, care shall be taken not to damage previously formed piles.
- (c) Ingress of water, into excavations shall be prevented. However, where subsoil water, which cannot be sealed off, is encountered, the water in the borehole shall be maintained above the standing level of the subsoil water.
- (d) The Contractor shall, at his expense, dispose of all spoil from boreholes to a spoil area provided by himself to the satisfaction of the Engineer. As each borehole is excavated, the Contractor shall, if required by the Engineer, take samples of the strata and test them or carry out site tests, as required in accordance with B.S. Code of Practice 2001.

- (e) Work on piling shall not commence until the Engineer has approved the Contractor's proposals.
- (f) The requirements herein are minimum. Compliance with these requirements will not relieve the Contractor of the responsibility for adopting whatever additional provisions may be necessary to ensure the successful completion of the Works.
- (g) The kind and type of piles shall be as shown on the Contractor's shop drawings. The type of piling shall require the written approval of the Engineer.
- (h) The Contractor shall ensure that damage does not occur to completed piles through his method of working. The Contractor shall submit to the Engineer a programme of his proposed sequence and timing for driving or boring piles having regard to the avoidance of damage to adjacent piles or unfilled pile excavations. Piling shall not commence until approval by the Engineer has been obtained for these proposals.
- (i) The Contractor shall report immediately to the Engineer any circumstance, which indicates that in the Contractor's opinion the ground conditions differ from those expected from his interpretation of the site investigations reports.

#### **2110.17 Materials Requirements**

- (a) The diameter and length of reinforced concrete piles shall be detailed by the Contractor as shown on the shop drawings. Drawings shall be submitted to the Engineer for approval.
- (b) Concrete shall meet all the specified requirements for Class 25.
- (c) A permanent lining of at least 200mm thickness shall be provided in all cast in-situ bored piles constructed over water or very soft ground, or as directed by the Engineer.

#### **2110.18 Position and Cut-off Levels of Piles**

All piles are to be formed to within 75 mm of the position shown on the drawings, and no pile shall deviate from the vertical alignment by more than one half (0.5) degree. No method of forcible correction will be permitted.

#### **2110.19 Obstructions**

Should the Contractor encounter, in the driving or boring of piles or linings any unnatural obstructions which cannot be removed or displaced by normal methods, he shall immediately inform the Engineer who may order the obstruction to be removed, payment being made by Dayworks rates, or the pile to be relocated. If a bored pile is to be relocated, the hole for the original pile shall be cleaned out and backfilled, to the satisfaction of the Engineer, with Class 30/20 concrete to the level approved by the Engineer. The Contractor will be paid for the work at the same rate as for the good piles, the payment length being from the cut-off level directed by the Engineer to the base of the hole. For steel piles, the Contractor may be asked to pull out the abandoned pile or cut it off at a suitable level as directed by the Engineer. In the event that the

Engineer orders the obstruction to be removed, then the standing time for the piling rig in excess of two hours from the time of informing the Engineer of the obstruction shall be paid by the rig hour rate. This rate shall be deemed to cover all the costs incurred by the rig standing. Standing time less than 2 hours from the time of informing the Engineer of the obstruction will not be paid for.

## **2110.20 Construction Requirements**

### **(a) Cast-in-Place Piles**

Cast-in-place piles shall consist of driven or bored cast-in-place concrete piles or continuous flight auger concrete or grout piles.

Driven cast-in-place piles apply to piles for which a permanent casing of steel or concrete is driven, reinforcement placed within it where required, and the casing filled with concrete. It also applies to piles in which a casing is driven, reinforcement placed within it and the pile formed in the ground by filling the temporary casing with concrete before and during its extraction.

Bored cast-in-place piles apply to piles in which the pile bore is excavated by rotary and/or percussive means using short augers, buckets, grabs or other boring tools to advance the open bore. Where the open bore is unstable, temporary or permanent casing or bentonite suspension may be used to support the wall of the bore prior to concreting, subject to the approval of the Engineer.

Continuous flight auger concrete or grout piles apply to bored piles which employ a continuous flight auger for both advancing the bore and maintaining its stability. The spoil-laden auger is not removed from the ground until concrete or grout is pumped into the pile bore from the base of the hollow-stemmed auger to replace the excavated soil.

Where piles are to be driven or bored through water or unstable ground, the Contractor shall provide a platform, temporary embankment, pier, pontoon, cofferdam or suitable approved alternative working access. The Contractor shall submit for the approval of the Engineer details of these proposed temporary works together with all precautions to ensure their stability during all operations to avoid any deformations and settlement.

### **(b) Bored Cast-in-Place and Continuous Flight Auger Piles**

#### **(i) Boring Procedure**

- The method of boring shall be one that maintains stability, verticality or batter of the walls and base of borehole by the use of temporary casing and/or bentonite slurry. The variation from alignment shall not exceed plus or minus one half (0.5) degree.
- All holes shall be drilled to the elevation determined from investigations and approved by the Engineer. Rejected boreholes shall

be filled with class 25/20 concrete by the Contractor at his own expense.

- The piling method shall be such that it allows soil samples to be taken and in-situ soil tests, if required, to be carried out during or ahead of boring operations. The method/procedure used in the execution of the borehole and other operations shall not be such as to cause vibrations resulting in damage to completed or partially completed piles or to adjacent structures, services or other property. The procedure shall not be such as to cause harmful loosening or softening of soil outside the pile that has to be filled with concrete.

The equipment used for the execution of the borehole shall be adequate to ensure that each pile penetrates to the required founding level.

- Suitable casings shall be furnished and placed when required to prevent caving of the hole before concrete is poured. The bottom of the casing shall be maintained not less than one hundred and fifty (150) cm below the top of the concrete during withdrawal and pouring operations, unless otherwise permitted by the Engineer. Segregation of the concrete during withdrawal operations shall be avoided.

(ii) Temporary Casing

- The temporary casing shall be of appropriate diameter for locating the pile and piloting the borehole and shall be pitched at the exact specified locations to ensure that the casing when sunk is within the specified tolerances. The casing shall be sunk to a sufficient depth by approved methods. The depth shall be at least sufficient to prevent the ingress of alluvium or other loose materials into the bore when encountered below the bottom level of the casing. In addition, the depth shall be such as the Contractor considers necessary for the stability of the casing and/or temporary works systems during construction in general and for the following conditions and operations in particular during all conditions of river flow which may occur during the period of works:

- a. Open temporary casing to ensure against blow-in of soil.
- b. Concreting of the pile, until the temporary casing is extracted.

- The Contractor shall take all such measures and provide such strengthening and bracing as is necessary and to the approval of the Engineer to ensure that the temporary casing is not disturbed, overturned, over-stressed or under-eroded in any condition and shall be such that it will not disturb the freshly cast concrete and/or permanent lining and/or reinforcement.
- Where the use of temporary casing is approved for the purpose of maintaining the stability and over-rapid withdrawal of the boring tools which could lead to excessive removal of soil and water and

disturbance of the surrounding ground and when boring through any permeable stratum (including silt), the water level in the boring shall be maintained between one (1) metre and two (2) metres above the external water level, unless the Engineer directs otherwise.

- The temporary casing shall be free from significant distortion and/or shall be uniform cross-sections throughout each continuous length. During concreting they shall be free from encrusted concrete or any internal projections which might prevent the proper formation of the pile.

(iii) Bentonite Slurry

- Where the use of bentonite slurry is required for the purpose of maintaining the stability of the walls and base of the pile bore, the Contractor's proposals shall be submitted to the Engineer for approval describing all details of the slurry.

(iv) Excavation from Boreholes

- The soil and debris from inside the pile boreholes shall be removed by bucket, auger or circulating bentonite slurry provided that no jetting at the foot of the borehole shall be permitted. Methods of excavation, which in the opinion of the Engineer may damage the permanent lining of the pile, shall not be employed.

**A.** Should the excavation reveal any soil stratum below the bottom of a pile which is, in the opinion of the Engineer, unsuitable for supporting the loads that will be imposed on it, the Contractor shall remove all such subsoil stratum to the satisfaction of the Engineer and shall lengthen the pile as necessary and the cost of any such lengthening shall be paid in accordance with the Contract rates.

**B.** Excavation shall be carried out as rapidly as possible in order to reduce to a minimum the time in which any strata are exposed to the atmosphere, bentonite slurry or water. In any case, a pile shall not remain unfilled with concrete for any period exceeding eighteen (18) hours after completion of the borehole.

**C.** Excavations shall not be exposed to the atmosphere longer than is necessary and shall be covered at all times when work is not in progress. The Contractor shall take all precautions necessary to prevent the ingress of surface water or foreign matter. Temporary casing or drilling fluid shall be provided where necessary to ensure stability of the pile boring during boring, placing of reinforcement and concreting operations.

**D.** The materials from pile excavation shall be disposed of as agreed with the Engineer so that the same does not interfere with any part of the

permanent works of this Contract leaving the site in a neat and workmanlike manner.

(v) Samples and Tests

- The Contractor shall take soil samples as given below or as directed by the Engineer to the designed tip elevation of the pile and shall carry out in-situ Standard Penetration tests within, and ahead of borehole on the line of vertical axis of the pile at these locations after each one and half (1.5) meter interval.
- E.** The costs of tests and collection of samples shall be deemed to be included in the unit rates submitted by the Contractor.
- F.** Each disturbed sample shall, as far as possible, be truly representative of the grading of in-situ soil at the point from which it is taken, without contamination by other material. It shall approximately be five (5) kg in weight and shall be placed in a strong airtight container immediately after its removal from the sampler. The container shall be sealed as soon as the sample has been placed in and shall be taken to the site laboratory for grading, moisture content and Atterberg Limits.

(vi) Limitations of Boring Sequence

- Piles shall be constructed in such a manner and sequence as to ensure that no damage is sustained by piles already constructed in adjacent positions.
- The Contractor shall submit to the Engineer for his approval a programme showing sequence of construction of various piles.

(vii) Tolerances

- The heads of piles at the designated cut off level shall be within seventy five (75) mm of their position in plan as shown on the shop drawings and no pile shall deviate from the vertical alignment by more than one half (0.5) degree.
- Forceful methods of correction of any casing or piles shall not be used.

(viii) Inspection

- After the borehole has reached its final stipulated positions, and all the samples have been taken out, as required by the Engineer, and the borehole has been completely cleaned of all loose matter and otherwise made ready to receive the reinforcement and thereafter the concrete, the Contractor shall so inform the Engineer, and request inspection and approval.

- The Engineer shall inspect the soil samples and test results therefrom, check the elevation of the bottom of the borehole and the amount and direction, if any, by which the top of the casing is out of position, or out-of-plumb and having satisfied himself on these and on any other points which he may consider relevant, shall provide written approval for the Contractor to proceed with the placing of the reinforcement.
- The Contractor shall under no circumstances proceed with the placing of reinforcement or with the subsequent concreting without having first obtained the approval signed separately for each and every pile bore from the Engineer.

(ix) Pile Reinforcement

- The reinforcement for each pile shall be assembled and securely tied by means of binding wire and by welded reinforcement rings shown on the approved shop drawings, in such a manner as to form a rigid cage.
- The required concrete cover to the reinforcement shall be maintained by suitable spacers securely attached to the reinforcement and of sufficient strength to resist damage during handling of the reinforcement cage into the pile. The distance between the spacers shall be such that the required cover is maintained throughout and that there is no displacement of the reinforcement cage in the course of the concreting operation.

(d) Concreting of Piles

The following particular requirements shall be observed.

Materials

- Concrete for cast-in-place piles shall be a rich coherent mix of high workability and cement content meeting all requirements for the specified class as provided below.
- The concrete shall be of Class 25, unless otherwise specified.
- All concrete for cast-in-place piles shall be compacted to produce a dense homogeneous mass by a method agreed by the Engineer.
- The Contractor shall submit the details of the proposed additive for Engineer's approval with appropriate supporting data on laboratory trial mix results. The dosing of retarders shall ensure initial setting time of not less than five (5) hours corresponding to the ambient temperature at which the concreting is proposed to be carried out.

Commencement of Concreting

Prior to placing any concrete:

- Any heavy contaminated bentonite slurry, which could impair the free flow of concrete from the tremie pipe, shall be removed.

- Any loose or soft material/water soil shall be removed from the bottom of the bore by methods acceptable to the Engineer.

The Contractor shall not proceed with the concreting of the pile until the Engineer gives specific approval to do so after satisfying himself of the following:

- Adequacy of the Contracts equipment and arrangement.
- Proficiency of his personnel.
- Cleanliness of the borehole, and
- Contractor shall have suitable lighting arrangements at all times for the Engineer to inspect the entire length of the shells, pipe or hole before placing the reinforcing steel or concrete.

Prior to the concreting a pile a sample of slurry shall be taken from the base of the borehole using an approved sampling device and its specific gravity shall be determined and submitted for the Engineer's approval.

#### Placing of Concrete

- The tremie shall be of not less than two hundred and fifty (250) mm diameter made of watertight construction.
- The means of supporting the tremie shall be such as to permit the free movement of the discharge end of the concrete.
- The tremie pipe shall be fitted with a travelling plug, which shall be placed at the top of the pipe before charging the tremie pipe with concrete, as a barrier between the concrete and water or bentonite slurry, so as to prevent water or bentonite slurry entering the tube and mixing with the concrete.
- The tremie shall be carefully lowered into the borehole, so that the end of the tube shall rest at about one hundred and fifty (150) mm above the bottom of the borehole, with reinforcement in the borehole, and the hopper end of the tremie tube shall be filled with concrete as aforesaid. It shall be slightly raised, so that when the concrete reaches the bottom it flows out of the lower end of the tube and fills the bottom of the borehole.
- Thereafter, the rate of withdrawal of the tremie shall be gradual so as to ensure the end of the tremie pipe is always one and a half (1.5) metres below the top of the concrete in the borehole. An allowance shall be made for the top five hundred (500) mm of concrete in the borehole during concreting being unsatisfactory.
- When the next batch is placed in the hopper, the tremie shall be slightly raised but not out of the concrete at the bottom, until the batch discharges to the bottom of the hopper. This operation shall be controlled by calculating the volume of concrete required to fill one linear meter of pile and then by measuring the rate of withdrawal of the tube corresponding to

the volume of the batch in the hopper. The flow shall then be retarded by lowering the tube.

- The depth of the concrete in borehole shall be measured at intervals to keep a constant check that the tremie pipe bottom is immersed in concrete.
- Concreting in each pile shall be carried out in a continuous operation without stoppages until the pile has been completed.
- If the bottom of the tremie pipe ceases to be immersed in the body of the concrete in the pile and the seal is broken, concreting shall cease immediately and such remedial measures as the Engineer may accept or direct shall be carried out.
- The Contractor shall take precautions to ensure that the concrete is free of voids and shall prevent the entry of water and/or collapse of soil into concrete. If any soil or other deleterious or extraneous materials fall into any pile excavation prior to or during concreting, it shall be removed immediately.
- Concreting shall continue until the concrete has reached an elevation of five hundred (500) mm higher than the designated pile cut off level shown on the shop drawings or as otherwise directed by the Engineer.
- The concrete shall be placed in one continuous operation from tip to cut-off elevation and shall be carried out in such a manner as to avoid segregation. The method of placing the concrete and the consistency (slump) shall be to the satisfaction of the Engineer.
- 

(e) Withdrawal of Temporary Casing

If the method of construction involves withdrawal of temporary casing as concreting proceeds, a sufficient head of concrete shall be maintained above the bottom of the temporary casing to ensure that no voids are formed within the pile and to prevent the entry of ground water and to prevent the collapse of soil into the concrete.

If such entry or collapse should occur, the temporary casing shall be re-driven before the concrete has set and all defective concrete shall be removed or the construction of the pile shall be abandoned, in which case the provision of the clause herein which refers to "Defective Piles" shall apply.

The withdrawal of the temporary casing shall be carried out before the adjacent concrete has taken its initial set.

The method and timing of withdrawal must be such as to ensure that the space between the pile and the surrounding ground shall be filled with concrete.

(f) Cutting of Piles

Tops of piles shall be embedded in the concrete footing as shown on the shop drawings.

Concrete piles shall, when approved by the Engineer, be cut off at such a level that at least 50 mm of undamaged pile can be embedded in the structure above, but not more than 150 mm, unless otherwise specified or directed by the Engineer. If a pile is damaged below this level, the Contractor shall repair the pile to the satisfaction of the Engineer. The longitudinal reinforcement of the piles shall be embedded in the structure above to a length equal to at least (40) times the diameter of the main reinforcing bars.

When the cut-off elevation for a cast-in-place concrete pile is below the elevation of the bottom of the pile cap, the pile may be built up from the butt of the pile to the elevation of the bottom of the cap by means of a reinforced concrete construction method, to be submitted to the Engineer for approval.

**(g) Defective Piles**

Any pile completed with defects such as damage during casting in-situ, placed out of its proper location, incapable or partially capable of permanently carrying the load which it is intended to carry, driven below the elevation fixed by the Engineer, due to the immature setting of the concrete in the pile or due to cavity/collapse of the borehole fully or partially, or due to any cause of which Engineer shall be sole judge to determine shall be corrected at the Contractor's expense by one of the following methods approved by the Engineer:

- A second pile shall be driven or cast adjacent to the defective pile
- The Contractor shall undertake such additional tests/works as the Engineer may specify to provide additional foundations to supplement the defective piles and so modify the structure to be supported as to ensure that load will be transferred safely to the additional foundations of existing pile. The Contractor shall be responsible for the cost of such additional functions and tests and/or of the extra work carried out in such modifications to the structure.

A concrete pile shall be considered defective if it has a visible crack or cracks, extending around the four sides of the pile, or any defect, which, in the opinion of the Engineer, affects the strength or service life of the pile.

When a new pile is driven or cast to replace a rejected one, the Contractor at his expense, shall enlarge the footing as deemed necessary by the Engineer.

**(h) Pile Records**

The Contractor shall keep records of the piles driven or installed. A copy of the record shall be given to the Engineer within two (2) days after each pile is driven. The record form to be used shall be approved by the Engineer. The pile records shall give full information on the following:

Data	Driven cast-in- place Concrete Piles	Bored cast- in-place Concrete Piles	Continuous Flight Auger Concrete or Grout Piles
Contract	*	*	*
Pile reference number (location)	*	*	*
Pile Type	*	*	*
Nominal cross-sectional dimensions or diameter	*	*	*
Nominal diameter of underream/base	--	*	--
Length of performed pile`	--	--	--
Standing groundwater level from direct observation or given site investigation data	*	*	*
Date and time of driving, re-driving or boring	*	*	*
Date of concreting	*	*	*
Ground level at pile position at commencement of installation of pile (commencing surface)	*	*	*
Working level on which piling base machine stands	*	*	*
Depth from ground level at pile position to pile toe	*	*	*
Toe level	*	*	*
Pile head level as constructed	*	*	*
Pile cut-off level	*	*	*
Length of temporary casing	*	*	--
Length of permanent casing	*	*	--
Type, weight, drop and mechanical condition of hammer and equivalent information for other equipment	*	--	--
Number and type of packings used and type and condition of dolly used during driving of the pile	*	--	--
Set of pile or pile tube in millimetres per 10 blows or number of blows per 25 mm of penetration	*	--	--
If required, the sets taken at intervals during the last 3 m of driving	*	--	--

Data	Driven cast-in-place Concrete Piles	Bored cast-in-place Concrete Piles	Continuous Flight Auger Concrete or Grout Piles
If required, temporary compression of ground and pile from time of a marked increase in driving resistance until pile reached its final level	*	--	--
If required, driving resistance taken at regular intervals over the last 3 m of driving	*	--	--
Soil samples taken and in-situ tests carried out during pile formation or adjacent to pile position	*	*	*
Length and details of reinforcement	*	*	*
Concrete Mix	*	*	*
Volume of concrete supplied to pile	*	*	*
All information regarding obstructions, delays and other interruptions to the sequence of work	*	*	*

On completion of the piling for each structure, the Contractor shall deliver to the Engineer a drawing recording the exact location and the final depth (tip elevation) of all piles.

## 2110.21 Site Supervision

Full details of the Personnel in charge of the piling operation, including their qualification and experience, shall be submitted by the Contractor to the Engineer for his approval. He shall also retain an approved and competent English-speaking foreman on the Works, while piling is in progress, and shall keep at the Site of the Works copies of all the drawings, Specifications, instructions and a complete log and records of all piles formed or driven with details of the set obtained, if any, and the actual length of each completed pile. These shall be available to the Engineer for inspection at all times. The Contractor shall give every assistance to the Engineer to enable him to keep a similar record.

## 2110.22 Piles – Type and Design

The nominal pile length is indicated on the drawings of piles for the bridge. All the piles will be designed on the basis of end bearing in dense sand. The number of piles and/or the length can be changed from that shown on the drawings, depending on the results obtained from test pile. At least 2 months before it is proposed to start the piling operation on a particular bridge, an independent test pile shall be constructed close to one of the proposed piled foundations at a location determined by the Engineer. The test pile shall be of the same size as the working piles and its length shall be as instructed by the Engineer and it shall be constructed in the same manner and to the same standards as proposed, and as directed by the Engineer, for the

working piles. The test shall be carried out to the approval of the Engineer.

Two copies of the test results shall be supplied to the Engineer within twenty-four (24) hours, and within thirty (30) days of the test records having been handed over to the Engineer, the Contractor shall be instructed as to the founding levels for the working piles.

### **2110.23 Proof Loading of Piles**

(a) General

- (i) Piles selected by the Engineer shall be tested by proof loading and the Contractor shall give the Engineer at least 24 hours' notice of the commencement of the test.
- (ii) The test load shall be applied by a method agreed by the Engineer

(b) Main Piles

- (i) Test piles shall be main piles selected by the Engineer for test loading by one of the methods described herein and shall be tested after the pile has attained its characteristic strength.
- (ii) Main piles shall not be used as reaction piles.

(c) Measuring Devices

- (i) Load measuring devices shall be calibrated before and after each series of tests, whenever adjustments or replacements are made to the devices and at the intervals recommended by the manufacturer of the equipment. Pressure gauges and hydraulic jacks shall be calibrated together. Certificates of calibration from a testing laboratory approved by the Engineer for such calibration shall be supplied to the Engineer.
- (ii) The Contractor's proposed method of measuring the movement of pile heads shall be submitted to the Engineer for his agreement.

### **2110.24 Test Loading of Working Piles**

(a) General

Each increment of load shall be measured within an accuracy of 2%. Movements shall be measured within an accuracy of 0.25 mm. An independent reference frame or wire shall be set up to permit measurement of pile movement. Dial gauges shall be accurate to within 0.1 mm. Overall movements shall be checked by optical or any other levelling method agreed with the Engineer by reference to an external datum.

Where required by the Engineer, working piles shall be subjected to test loads of up to 1.5 times its nominal working load. The test load shall not be applied by jacking against the adjacent working piles, but by jacking against additional piles

installed for that purpose, or by jacking against kentledge, heavier than the required test load, placed on a platform supported well clear of the test pile.

The Contractor shall prepare and submit to the Engineer for agreement, his proposals for carrying out the test loading, including the method of extending the pile to ground level, if necessary, and full details of the methods of applying the load and measuring loads and deflections. A copy of the current certificates of calibration of the approved load measuring apparatus shall be submitted to the Engineer, prior to any test loading being applied to a pile. The deflections of the head of the test pile shall be accurately measured in relation to an undisturbed datum.

Piles shall not be loaded until the Contractor has received the Engineer's approval of his proposals.

(b) Procedure

The Contractor shall give the Engineer not less than 12 hours' notice of his intention to commence the application of the test load.

The test load equal to the nominal working load shall be applied in four equal increments. The intermediate load shall be maintained until the rate of change of deflection of the test pile is less than 0.1 mm in 30 minutes. The working load of the pile shall be maintained for a period of not less than 12 hours and the total movement recorded before unloading. Load is taken off in four equal intervals with holding time of 10 minutes for each interval.

After 1 hour, the test load equal to 150 percent of the nominal working load shall be reapplied in increments of 25 percent of the nominal working load. The intermediate loads corresponding to 25, 50, 75, 100, 125 and 150 percent of the nominal working load shall be maintained until the rate of change of deflection of the test pile is less than 0.2 mm in 30 minutes. The load corresponding to 150 percent of the nominal working load shall be maintained for 24 hours and the total movement recorded.

The load shall then be reduced to zero in decrements of 25 percent of the nominal working load. Each load shall be maintained until the rate of change of deflection of the test pile is less than 0.35 mm in 30 minutes.

(c) Records

The progressive deflection of the pile head shall be measured accurately throughout the whole period of the test.

Readings for the unloading and intermediate test loads should be taken at about 1,2,4,8,15 and 30 minutes after each change in loading and thereafter at least every 30 minutes.

Two copies of the test records shall be supplied to the Engineer within 24 hours of the completion of a pile test. The records shall give the dates and times of load

application and removal, the load-pile deflection and time-pile deflection relationships, both in tabular and graphical form, reference number of the load measuring apparatus and details of any special circumstances relating to the pile test.

(d) Limits of Settlement

The maximum settlement of the pile head permitted shall be 4 mm under the nominal working load and 6 mm for 1.5 times the working load. The piling scheme put forward by the Contractor must meet these requirements, and the Contractor must guarantee that the piles will carry the required loads without exceeding the specified deflection.

(e) Defective Piles

If, in the opinion of the Engineer, any pile is incapable or only partially capable of permanently carrying the load which it is intended to carry, as determined by the pile test or by reason of ground water or soil having entered during construction, or the strength of concrete (as shown by the results of the cube tests) being below that specified, or the pile having been constructed outside the permitted tolerances or having been damaged by the construction of any other pile nearby or otherwise, or failure to conform in any other respect to the requirements of the Contract, then the Engineer will require the Contractor to submit for approval his proposals for making good any defective work or inadequate pile all at his own expense.

## SECTION 23 CONCRETE PAVEMENT

### Preamble

The drawings indicate concrete pavement to truck parking areas, this section modifies and/or supplements Section 17 of the Standard Specification in regard to the concrete pavement section. Clauses under this section supplement or modify the bracketed clauses in Section 17 of the Standard Specification. In addition to the requirements of Section 17 of the Standard Specification, concrete works for the concrete pavement at the railway bridge and elsewhere shall be carried out in accordance with the following specifications.

### 2301 General (1704)

The specified concrete compressive strength shall be the highest of the following:

- 35 MPa at 28 days

The concrete shall also have a minimum slump of 35 mm.

### 2302 Placing of concrete (1708)

**(a) Preparation of surface to receive concrete**

Add the following:

A separation membrane shall be used between the concrete pavement and the subbase. The separation membrane shall be impermeable plastic sheeting 125 microns thick laid flat without creases. Where an overlap of plastic sheets is necessary, this shall be at least 300 mm. There shall be no standing water on or under the membrane when the concrete is placed upon it.

**(f) Placing sequence**

The concrete shall be placed in panels as shown on the drawings. Panels shall be placed in alternate sequence such that no two adjacent panels are placed at the same time. No traffic shall be allowed on the concrete for a period of 21 days after placing the concrete.

**2303 Expansion and contraction joints (1718)**

**(i) Contraction joints**

Contraction joints shall consist of sawn joint groove as shown on the drawings. The sawing shall be undertaken as soon as possible after the concrete has hardened sufficiently to enable a sharp edged groove to be produced without disrupting the concrete and before random cracks develop in the slab.

The grooves shall be between 1/4 and 1/3 of the specified depth of the slab and of any convenient width not less than 3 mm. The sealing groove may be constructed at the same time or be sawn to the required width later.

**(ii) Expansion joints**

Expansion joints shall consist of a joint filler board as shown on the drawings. Joint filler board for expansion joints shall be 25 mm thick unless otherwise shown on the drawings, within a tolerance of  $\pm 1.5$  mm. It shall be a self-expanding cork seal or a firm compressible material or a bonded combination of compressible and rigid materials of sufficient rigidity to resist deformation during the laying of the concrete.

**(iii) Dowel bars**

Dowel bars shall be Grade 250 steel complying with BS 4449 and shall be free from oil, dirt, loose rust and scale. They shall be straight, free from burrs and other irregularities and the sliding ends sawn or, if approved by the Engineer, cropped cleanly with no protrusions outside the normal diameter of the bar. For expansion joints, the dowel bars shall be 32 mm diameter at 300 mm spacing and 600 mm long. For contraction joints, dowel bars shall be 25 mm diameter at 300 mm spacing and 400 mm long.

Dowel bars shall be supported on cradles in prefabricated joint assemblies positioned prior to construction of the slab.

Dowel bars shall be positioned at mid- depth from the surface level of the slab  $\pm 20$  mm. They shall be aligned parallel to the finished surface of the slab, to the centreline of the carriageway and to each other within the following tolerances:

- (a) all bars in a joint shall be within  $\pm 3$  mm per 300 mm length of bar;
- (b) two thirds of the bars shall be within  $\pm 2$  mm per 300 mm length of bar;
- (c) no bar shall differ in alignment from an adjoining bar by more than 3 mm per 300 mm length of bar in either the horizontal or vertical plane.

Dowel bars shall be covered by a flexible polymeric corrosion resistant coating, bonded onto the previously cleaned bar. The coating shall be smooth and free of indentations.

For expansion joints, a closely fitting cap 100 mm long consisting of waterproofed cardboard or an approved synthetic material shall be placed over one end of each dowel bar. An expansion space 10 mm greater than the thickness of the joint filler board shall be formed between the end of the cap and the end of the dowel bar.

#### **2304 Preparation and sealing of joint grooves**

- (1) Joint grooves shall be prepared in accordance with BS 5212:Part 2 and subclauses 2 to 7 of this clause.
- (2) That part of the groove former used to form the sealing groove or any temporary seal shall be removed cleanly without damaging the joint arises to a minimum depth of 25 mm where compression seals are used or otherwise to such depth as will provide an applied seal to the dimension shown below. If joint grooves are not initially constructed to provide the minimum dimensions for the joint seals as given in the table, they shall be widened by sawing. Joint grooves formed by tapered formers need not be widened. The sealing grooves shall be cleaned out immediately after sawing using high pressure water jets, to remove all slurry from the joint, before the slurry hardens.
- (3) If rough arrises develop when grooves are made they shall be ground to provide a chamfer approximately 5 mm wide. If the groove is at an angle up to  $10^\circ$  from the perpendicular to the surface, the overhanging edge of the sealing groove shall be sawn or ground perpendicular. If spalling occurs or the angle of the former is greater than  $10^\circ$  the joint sealing groove shall be sawn wider and perpendicular to the surface to encompass the defects up to a maximum width, including any chamfer, of 40 mm for transverse joints and 25 mm for longitudinal joints. If the spalling cannot be eliminated then the arris shall be repaired by an approved thin bonded arris repair using cementitious mortar or fine concrete.
- (4) For applied sealants the sides of the joint sealing groove shall be scoured by dry abrasive blasting. This shall not be carried out before the characteristic strength of the concrete is expected to reach  $15 \text{ N/mm}^2$ . When compressive seals are used, the sides of the groove may be ground or wire brushed.

- (5) For hot and cold applied sealants, compressible caulking material, debonding strip or tape or cord compatible with the sealant, of a suitable size to fill the width of the sealing groove, shall be firmly packed or stuck in the bottom of the sealing groove to such a depth so as to provide the correct depth of seal as described in the table below, with the top of the seal at the correct depth below the surface of the concrete.
- (6) All grooves shall be cleaned of any dirt or loose material by air blasting with filtered, oil - free compressed air. The groove shall be clean and dry at the time of priming and sealing.
- (7) For applied sealants the joint grooves shall be primed with the relevant primer for the hot or cold applied sealant in accordance with the manufacturer's recommendations and with BS 5212: Part 2, except that when necessary the joint grooves may be primed and sealed earlier than 14 days after construction, as soon as the grooves have been grit-blasted and cleaned. The dimensions of joints shall be as below:

### Dimensions of Applied Joint Seals

Type and Spacing of Joints (m)	Minimum width (mm)	Minimum depth of seal		Impregnated Foam compression strips (mm)	Depth of seal below concrete surface (mm)
		Cold Applied (mm)	Hot Applied (mm)		
Contraction					
15 and under	13	13	15	30	5 ± 2
Over 15 to 20	20	15	20	30	5 ± 2
Over 20 to 25	30	20	25	40	5 ± 2
Expansion	30	20	25	40	7 ± 2
Transverse warping	10	10	13	30	5 ± 2
Longitudinal joints (if sealed)	10	10	13	30	0 to 5

### 2305 Joint seals - Cold - applied sealants

- (1) Cold seals shall be Type N complying with BS 5212: Part 1.
- (2) For joints in kerbs and joints other than in pavements, seals may be any of the pavement sealants if they have the suitable characteristics for the application, or gunning grade cold applied plasticised bituminous rubber sealant or gunning grades of two part polysulphide - based sealants complying with BS 4254 may be used. Alternatively, polyurethane - based sealing compounds may be used provided their performance is not inferior to BS 4254 material.

### 2306 Surface floating and texture

**(i) Floating**

The concrete while still fresh, shall be floated with a longitudinal float at least 5 m long, 150 mm wide, and stiffened to prevent flexibility and warping. The float shall be worked in a sawing method while holding it in a position parallel to the road centreline and passing it gradually from one side of the pavement to the other. The float shall be continuously advanced ahead by no more than one - half its length at one pass. Any excess water or laitance shall be wasted over the side forms.

**(ii) Surface texture**

Immediately after laying, compaction and floating of the concrete slab, and while the concrete is still plastic, the surface of the concrete shall be textured to form an even grooved pattern perpendicular to the centreline. The surface shall be provided with individual grooves 2 mm to 3 mm wide and 3 mm to 5 mm deep and spaced at 10 mm to 20 mm centres. This shall be done by using metallic tines or a finned ball float. Small restricted edges may be textured manually. Textures in damaged areas shall be repaired by sawing grooves if the concrete has reached its initial set.

**2307 Trial Section**

At least 3 months prior to the start of the work, the Contractor shall submit to the Engineer for approval, a detailed description of the proposed materials, mix proportions, plant, equipment and construction methods to be applied for the concrete pavement. No trials of new materials, plant, equipment or construction methods, nor any development of them shall be permitted either during the construction of the trial length or any subsequent paving works, unless they form part of further approved trials.

The contractor shall carry out laboratory trials and batch testing of the proposed mix and submit the test results showing compliance with the specified minimum strength, durability, workability and other parameters. The laboratory test results shall also be used to determine the cement content required for the mix.

After successful laboratory trials, the Contractor shall carry out field trials on a full panel of concrete pavement between two joints to demonstrate the adequacy of his proposed working method, equipment, materials and workmanship. Only after approval of the field trials by the Engineer shall the Contractor proceed with full scale construction work on the concrete pavement.

**2308 Surface Levels and Irregularity**

**(i) Surface Levels**

Surface levels of the completed concrete pavement shall meet the same requirements as those of bituminous wearing course as set out in Section 3 of the Standard Specification. Levels for the concrete pavement shall be taken at intervals of not more than 2.5 m along any line or lines parallel to the longitudinal centre line of the road.

**(ii) Surface Irregularity**

The surface irregularity shall be measured using a 3 m long straight edge at random intervals. The surface defect variations measured between the testing edge of the straightedge and any two longitudinal or transverse contacts shall be within the tolerances given in Table 3 - 1 (base) in Section 3 of the Standard Specification.

### **2309 Construction joints**

Construction joints as shown on the drawings shall be formed against approved formwork where there is no restraining kerb. The formwork shall be so anchored that no lateral or vertical movement of the form occurs during the placing, compaction and finishing of the concrete pavement. Where the joints is adjacent to kerb or channel, the joint shall be retained with removable cardboard or other approved material.

### **2310 Curing**

Curing of the completed concrete panels shall be carried out for a minimum period of 7 days using methods approved by the Engineer. The curing method and curing compounds proposed by the Contractor shall be included in the method statement submitted by the Contractor for the work.

### **2311 Approval and acceptance**

Approval of the materials, mix proportions, plant, equipment and construction methods will be given when the trial section complies with the specification. The Contractor shall not proceed with normal working until the trial section has been approved and any earlier defective trial sections have been removed, unless they can be remedied to the satisfaction of the Engineer. If the Engineer does not notify the Contractor of any deficiencies in any trial section within 14 days after completion of that trial section, the Contractor may assume that the trial section, and the materials, mix proportions, plant, equipment and construction methods adopted are acceptable.

When approval has been given, the materials, mix proportions, plant, equipment and construction methods shall not thereafter be changed, except for normal adjustments and maintenance of plant, without the approval of the Engineer. Any changes in the materials, mix proportions, plant, equipment and construction methods shall entitle the Engineer to require the Contractor to lay a further trial section to demonstrate that the changes will not affect the permanent works.

## **SECTION 25: HIV/AIDS, GENDER ISSUES, SOCIAL ISSUES AND LOCAL PARTICIPATION**

### **2501 Scope**

This specification sets out the Contractor's obligations with regard to on-site HIV/AIDS awareness campaign and preventive measures which are to be instituted.

### **2502 Interpretation and Documentation**

The following documents shall inter-alia be read in conjunction with this specification:

- The Instructions to Bidders;
- The Conditions of Contract;
- The Drawings;

### **2503 HIV/AIDS Awareness Campaign**

The Contractor shall institute an HIV/AIDS awareness campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to display AIDS awareness posters in all buildings frequented by workers employed on the contract, where such buildings fall under the control of the Contractor. In addition, at least ten (10) of the Contractor's vehicles, regularly used on site shall display HIV/AIDS awareness posters. The posters shall be printed on gloss paper and shall be at least A1 size on buildings and A3 size, or other approved size on vehicles. The message on the posters shall be supplied by the Employer through the Engineer before the posters are printed. Aids awareness shall also be included in the orientation process of all workers employed on the contract.

In the awareness campaign, the Contractor shall employ and designate a safety officer who will undertake and co-ordinate all aspects of the HIV/AIDS awareness campaign.

### **2504 AIDS Prevention Campaign**

The Contractor shall institute an HIV/AIDS prevention campaign amongst his workers for the duration of the contract. As part of the campaign the Contractor will be required to make condoms available to workers. The condoms shall be from an approved manufacturer and comply with the current ISO Standards or WHO/UNAIDS Specifications and Guidelines for Condoms, 1998, or any more recent equivalent publication. The Contractor shall make available at least 4,000 condoms every month, through dispensing machines or other approved method of distribution. The Contractor shall at all times keep the site adequately supplied with condoms.

As part of the campaign the Contractor shall maintain at least one STD and HIV/AIDS clinic on site or make alternative arrangements with an existing suitably qualified and equipped local clinic. The Clinic shall have a minimum of two rooms each at least 10 sq. m with ablution and washroom. The clinic shall be suitably staffed and equipped for screening, diagnosis and counselling of STD and HIV/AIDS of the project staff and labour. The Contractor shall cover the costs of the clinic to provide free treatment for

general STD cases, whereas workers with HIV/AIDS shall be referred to the national HIV/AIDS programme co-ordinated by the Ministry of Health

## **2505 HIV/AIDS Training**

### **2505.1 Objective**

The objective of the HIV/AIDS training programme is to reduce the risk of exposure to and spread of the HIV virus in the area influenced by the construction. The target group will be local labourers and their supervisors employed by the works contractors. The wider community will benefit indirectly through their normal day-to-day interaction with the target group.

### **2505.2 Scope of activities**

Activities for HIV/AIDS awareness and prevention will be broad-based, targeting both individuals and groups. They may consist of:

- i). Information posters in public places, both on and offsite (eating houses, bars, guest houses, etc.) and on contractor's vehicles.
- ii). Availability of socially marketed condoms.
- iii). Peer educators (reference people) drawn from the local labour and educated in HIV/AIDS issues for discussions with colleagues (estimate 1 per 100 employees).
- iv). Small focus group discussions to disseminate information covering key issues.
- v). Theatre groups and video presentations.
- vi). Promotional events (such as football matches) to encourage openness and discussion of HIV/AIDS issues.
- vii). Promotional bill boards to raise awareness of the integration of construction and HIV/AIDS activities.
- viii). Inclusion of HIV/AIDS activities at site meetings with the District Aids Committee and other approved representatives.
- ix). Availability of promotional materials such as T-shirts, caps, bumper stickers, key rings, etc.

The scope of activities may be tailored as required to meet the perceived needs and priorities of the labourers, and should involve participatory approaches to ensure that they are appropriate and have a public health impact. The scale and frequency of activities may also be adjusted to suit requirements of the target group. Education will cover:

- preventive behaviours including partner reduction, condom use, awareness and appreciation of the importance of treatment of sexually transmitted incidences (STIs)
- skills including negotiating safer sex, correct condom use, purchase of condoms without embarrassment; and
- Referral to local health centres and available services.

Tasks to be undertaken to support the above activities include:

- Establishing the status and focus of all current and planned HIV/AIDS activities in the area to ensure complementarities and determining potential involvement in project activities.
- Carrying out a brief review of regional activities combining road construction with HIV/AIDS campaigns to determine options, best practice key issues, constraints, etc.
- Reviewing of Information, Education and Communication (IEC) materials available and their relevance to road construction, making recommendations for future development of IEC materials.
- Providing education and training for site personnel, supervisors and peer educators for the scope of activities as above.
- Providing supervision for peer educators to ensure sustained quality of education. Incentives for their continual work may be small promotional items such as T - shirts, caps, etc.
- Providing mechanisms for the social marketing of condoms and distribution of materials.
- Monitoring activities regularly to assess effectiveness and impact. This should include an initial, interim and final assessment of basic knowledge, attitude and practices (KAP) taking account of existing data sources and recognising the limitations due to the short time-frame to show behaviour change. The KAP will be supported by qualitative information from focus group discussions.

### **2505.3 Collaboration**

HIV/AIDS activities are co-ordinated nationally by the National Aids Control Council (NACC). KeRRA, in consultation with NACC and the Ministry of Health (MOH), will co-ordinate with the provincial, district and local representatives. Representatives of local health authorities will be invited to attend training and communication activities. Activities on the construction site will be linked as far as possible with on-going HIV/AIDS awareness and prevention in the area. This will ensure complementary of approaches, reinforcing education and minimising duplication. In addition, these links will ensure that the target group will have access to continued information after the end of the construction period.

### **2505.4 Contractor Responsibilities**

The Contractor will employ and designate a qualified HIV/AIDS expert, to be approved by the Engineer, who will work closely with the Client, MOH and other implementing agencies to support the HIV/AIDS awareness and prevention activities. This will ensure maximum effectiveness and integration with construction activities. Specific, but not exclusive, issues to be addressed by the Contractor are:

- Scheduling appropriate timing and durations of the implementation of HIV/AIDS activities as part of workplan for labourers and supervisors. Designated rest times such as lunch breaks and pay days should be excluded.
- Identification of suitable individuals from recruitment records for education with the implementing organisation.
- provision of suitable sites for communication activities and for condom distribution.

- Monitoring of the implementation of peer educator activities.
- provision of support as necessary to the implementing organisation.

#### **2505.5 Inputs**

An organisation experienced in the provision of HIV/AIDS awareness and prevention activities will be selected as a subcontractor to provide the above scope of activities on behalf of the main Contractor.

#### **2505.6 Reporting**

The implementing organisation will produce the following reports to be submitted to the Contractor, Consultants, KeRRA and NACC:

- monthly progress briefs for inclusion in site meetings.
- quarterly reports detailing activities carried out, issues, follow up, etc.
- a review report of activities in the road construction sector,
- a review report of existing IEC materials with recommendations for development of materials specifically for the road sector.
- a final report detailing the methodology and activities carried out under this project including lessons learnt, impact, liaison with the Contractor and other parties, etc.

In addition, a report with the recommended approach for integration of HIV/AIDS awareness and prevention activities in the road construction sector will be produced. This will be a synthesis of project activities including contractual approaches, communication activities, availability of materials, liaison with existing organisations, etc. It will be developed with all parties involved in the construction activities to ensure the wide range of views and experiences is gained.

The final report and recommended approach will be presented to KeRRA, NACC and other interested organisations including private sector, funding agencies and NGO's.

#### **2506 Timing**

Activities shall commence at the start of the construction period and continue throughout the contract period to ensure a sustained impact. Reporting and dissemination activities shall continue for three months after the project is completed to ensure integration into current practice.

### **SECTION 26 ENVIRONMENTAL MITIGATION MEASURES**

Clauses under this section are all additional to the Standard Specification.

#### **2601 Soil Erosion**

Steep slopes shall be monitored during construction and regular maintenance activities to ensure that slopes do not become unstable.

#### **2602 Landscape Scarring**

After the borrow pits have been exploited, they shall be reinstated in such a way that they do not pose a hazard to humans and animals. This shall be done as soon as the borrow pits have served their purpose or work on the project, requiring material from these borrow pits, has been completed.

If the borrow pits are in soft material, the gradient of the walls of the pits shall be constructed in such a way that humans and animals can enter and exit with minimal

effort. Should the field conditions allow, the pits can also be constructed to be self-draining so as not to encourage the ponding of water.

If the borrow pits are in hard material or rock and the walls of the pits cannot be feasibly graded, then a fence shall be constructed at an approved distance from the edges of the pits to prevent humans and animals accidentally falling in them.

### **2603 Deforestation and Reforestation**

Trees that are within the road reserve but do not impede either construction or sight lines shall be preserved in-situ.

All tree felling must be authorised by the Forestry Department.

### **2604 Water Quality Degradation**

Storm water treatment facilities shall be provided consistent with the Government regulations.

The use of pesticides and fertilizers in landscape maintenance shall be minimised.

Warning signs shall be posted at sharp corners and steep descents to prevent heavy trucks and other vehicles over speeding and overturning on these bends resulting into accidental spills.

Water wells and other sources of water must be protected from traffic pollution. It would be advisable to have suitable aprons on well heads and drainage of spills to protect the water quality.

### **2605 Flora and Fauna**

Erosion and sedimentation control measures proposed to be applied during construction shall be implemented.

### **2606 Disposal of Waste Material**

#### **(i) General**

Waste materials including, but not limited to, refuse, garbage, sanitary wastes, industrial wastes, and oil and other petroleum products, shall be disposed of by the Contractor. Disposal of combustible materials shall be buried, where burial of such materials is approved by the Engineer; by burning, where burning of approved materials is permitted; or by removal from the construction area. Disposal of non-combustible materials shall be by burying, where burial of such materials is approved by the Engineer, or by removal from the construction area. Waste materials removed from the construction area shall be dumped at an approved spoil area.

#### **(ii) Disposal of Material by Burying**

Only materials approved by the Engineer may be buried. Burial shall be in pits the location, size and depth of which shall be approved by the Engineer. The pits shall be covered by at least 0.6 metre of earth material during tidying up of the site on completion of the works and before leaving the site.

#### **(iii) Disposal of Material by Burning**

All materials to be burned shall be piled in designated burning areas in such a manner as will cause the least fire hazards. Burning shall be thorough and complete and all charred pieces remaining after burning, except for scattered small pieces, shall be removed from the construction area and disposed of as otherwise provided in this Sub-Clause.

The Contractor shall, at all times, take special precautions to prevent fire from spreading beyond the piles being burned and shall be responsible for any damage caused by his burning operations. The Contractor shall have available, at all times, suitable equipment and supplies for use in preventing and suppressing fires and shall be subject to all laws and regulations locally applicable for pre-suppression, suppression and prevention of fires.

(iv) Disposal of Material by Removal

Material to be disposed of, by removal from the construction area, shall be removed from the area prior to the completion of the work under these specifications. All materials removed shall become the property of the Contractor.

Materials to be disposed of by dumping shall be hauled to an approved dump. It shall be the responsibility of the Contractor to make any necessary arrangements with private parties and with local officials pertinent to locations and regulations of such dumping. Any fees or charges required to be paid for dumping of materials shall be paid by the Contractor and shall be included in the prices inserted in the Schedule of Prices for other items of work.

## 2607 Graves and Tombs

Areas, which contain graves and/or tombs within the site, shall be cleared by the Contractor who shall be under the coordination of the employer to obtain from the District Administrator written authority to enter into each of such areas before commencing work. A copy of each letter of authority shall be submitted to the Engineer, who shall, when he is satisfied that the removal of these features has been completed, give authority to the Contractor to proceed with the works within the limits of the site so affected.



## **SECTION X**

## **DRAWINGS**

The drawings are as attached.