

# REPUBLIC OF KENYA



## EMBU COUNTY GOVERNMENT

**QUOTATION NO: EBU/CNT/Q/268/2017-2018**

**RUGURU NGANDORI WARD**

**PROJECT NAME: CONSTRUCTION OF KABARA BRIDGE**

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## INTRODUCTION

- 1.1 This standard tender document for procurement of works has been prepared for use by procuring entities in Kenya in the procurement of works (e.g. Buildings, Roads, Bridges, Repairs and Maintenance) which the procuring entity considers to be small and where it is not required to be open tendering.
- 1.2 The following guidelines should be observed when using the document:-
  - (a) Specific details should be furnished in the tender notice and in the special conditions of contract (where applicable). The tender document issued to tenderers should not have blank spaces or options.
  - (b) The instructions to tenderers and the General Conditions of Contract should remain unchanged. Any necessary amendments to these parts should be made through Appendix to instructions to tenderers and special conditions of contract respectively.
- 1.3 (a) Information contained in the invitation to tender shall conform to the data and information in the tender documents to enable prospective tenderers to decide whether or not to participate in the tender and shall indicate any important tender requirements
  - I. The invitation to tender shall be as an advertisement in accordance with the regulations or a letter of invitation addressed to tenderers who have been prequalified following a request for prequalification.
- 1.4 The cover of the tender document should be modified to include:-
  - II. Tender number.
  - III. Tender name.
  - IV. Name of procuring entity.
  - V. Delete name and address of PPOA.

## SECTION I

### INVITATION FOR TENDERS

Tender reference no. : **EBU/CNT/Q/268/2017-2018**

- 1.1 The County Government of Embu invites sealed tenders for **Roads Maintenance works**.
- 1.2 Interested eligible candidates may obtain and inspect tender documents from the office of the **Director of Supply Chain Management Office**. For more information/clarification interested applicants can visit the office of the **Director of Supply Chain Management Office**, during normal working hours.
- 1.4 Prices quoted should be net inclusive of all taxes, must be in Kenya shillings and shall remain valid for the contract period.
- 1.4 Original and a copy of tender documents are to be enclosed in plain sealed envelopes marked with Tender name and reference number and deposited in the Quotation Box at the front of Procurement offices or to be addressed to  
**The County Secretary,  
County Government of Embu  
P.O. Box 36  
EMBU**  
  
so as to be received on or before **20<sup>th</sup> March at 9.30 am**.
- 1.6 Tenders will be opened immediately thereafter in the presence of the candidates or their representatives who choose to attend at a location as will be designated.

**Director Supply Chain Management**

For **COUNTY SECRETARY**

SECTION II

INSTRUCTIONS TO TENDERERS

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## INSTRUCTIONS TO TENDERERS.

1. General
  - 1.1 The Employer as defined in the Appendix to Conditions of Contract invites tenders for Works Contract as described in the tender documents. The successful Tenderer will be expected to complete the Works by the Intended Completion Date specified in the said Appendix.
  - 1.2 Tenderers shall include the following information and documents with their tenders, unless otherwise stated:
    - (a) copies of certificates of registration, and principal place of business;
    - (b) experience in works of a similar nature and size for each of the last five years, and clients who may be contacted for further information on these contracts;
    - (c) major items of construction equipment owned;
    - (d) qualifications and experience of key site management and technical personnel proposed for the Contract;
    - (e) reports on the financial standing of the Tenderer, such as profit and loss statements and auditor's reports for the last five years.
  - 1.3 The Tenderer shall bear all costs associated with the preparation and submission of his tender, and the Employer will in no case be responsible or liable for those costs.
  - 1.4 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.
  - 1.5 The procurement entity's employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.
  - 1.6 The procuring entity shall allow the tenderer to review the tender document free of charge before purchase.
2. Tender Documents
  - 2.1 The complete set of tender documents comprises the documents listed here below and any addenda issued in accordance with clause 2.4 here below :-
    - (a) These instructions to Tenderers
    - (b) Form of Tender
    - (c) Conditions of Contract and Appendix to Conditions of Contract

- (d) Specifications
  - (e) Drawings
  - (f) Bills of Quantities/Schedule of Rates (whichever is applicable)
  - (g) Other materials required to be filled and submitted in accordance with these Instructions and Conditions
- 2.2 The Tenderer shall examine all instructions, forms and specifications in the tender documents. Failure to furnish all information required by the tender documents may result in rejection of his tender.
- 2.3 A prospective Tenderer making inquiries of the tendering documents may notify the Employer in writing or by cable, telex or facsimile at the address indicated in the letter of invitation to tender. The Employer will respond to any request for clarification received earlier than seven [7] days prior to the deadline for submission of tenders. Copies of the Employer's response will be forwarded to all persons issued with tendering documents, including a description of the inquiry, but without identifying its source.
- 2.4 Before the deadline for submission of tenders, the Employer may modify the tendering documents by issuing addenda. Any addendum thus issued shall be part of the tendering documents and shall be communicated in writing or by cable, telex or facsimile to all Tenderers. Prospective Tenderers shall acknowledge receipt of each addendum in writing to the Employer.
- 2.5 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their tenders, the Employer shall extend, as necessary, the deadline for submission of tenders in accordance with clause 4.2 herebelow.

### 3. Preparation of Tenders

- 3.1 All documents relating to the tender and any correspondence shall be in English Language.
- 3.2 The tender submitted by the Tenderer shall comprise the following:-
- (a) The Tender;
  - (b) Priced Bill of Quantities/Schedule of Rates for lump-sum Contracts
  - (c) Any other materials required to be completed and submitted by Tenderers.
- 3.3 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities/Schedule of Rates. Items for which no rate or price is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities/Schedule of Rates. All

duties, taxes and other levies payable by the Contractor under the Contract, as of 30 days prior to the deadline for submission of tenders, shall be included in the tender price submitted by the Tenderer.

- 3.4 The rates and prices quoted by the Tenderer shall not be subject to any adjustment during the performance of the Contract.
- 3.5 The unit rates and prices shall be in Kenya Shillings.
- 3.6 Tenders shall remain valid for a period of sixty (60) days from the date of submission. However in exceptional circumstances, the Employer may request that the Tenderers extend the period of validity for a specified additional period. The request and the Tenderers' responses shall be made in writing.
- 3.7 The Tenderer shall prepare one original of the documents comprising the tender documents as described in these Instructions to Tenderers.
- 3.8 The original shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign on behalf of the Tenderer. All pages of the tender where alterations or additions have been made shall be initialed by the person or persons signing the tender.
- 3.9 Clarification of tenders shall be requested by the tenderer to be received by the procuring entity not later than 7 days prior to the deadline for submission of tenders.
- 3.10 The procuring entity shall reply to any clarifications sought by the tenderer within 3 days of receiving the request to enable the tenderer to make timely submission of its tender.

#### 4. Submission of Tenders

- 4.1 The tender duly filled and sealed in an envelope shall;
  - (a) be addressed to the Employer at the address provided in the invitation to tender;
  - [b] bear the name and identification number of the Contract as defined in the invitation to tender; and
  - [c] provide a warning not to open before the specified time and date for tender opening.
- 4.2 Tenders shall be delivered to the Employer at the address specified above not later than the time and date specified in the invitation to tender.
- 4.3 The tenderer shall not submit any alternative offers unless they are specifically required in the tender documents.



Only one tender may be submitted by each tenderer. Any tenderer who fails to comply with this requirement will be disqualified.

- 4.4 Any tender received after the deadline for opening tenders will be returned to the tenderer un-opened.
- 4.5 The Employer may extend the deadline for submission of tenders by issuing an amendment in accordance with sub-clause 2.5 in which case all rights and obligations of the Employer and the Tenderers previously subject to the original deadline will then be subject to the new deadline.

## 5. Tender Opening and Evaluation

- 5.1 The tenders will be opened in the presence of the Tenderers' representatives who choose to attend at the time and in the place specified in the invitation to tender.
- 5.2 The Tenderers' names, the total amount of each tender and such other details as may be considered appropriate, will be announced at the opening by the Employer. Minutes of the tender opening, including the information disclosed to those present will also be prepared by the Employer.
- 5.3 Information relating to the examination, clarification, evaluation and comparison of tenders and recommendations for the award of the Contract shall not be disclosed to Tenderers or any other persons not officially concerned with such process until the award to the successful Tenderer has been announced. Any effort by a Tenderer to influence the Employer's officials, processing of tenders or award decisions may result in the rejection of his tender.
- 5.4 Tenders determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows:
  - (a) where there is a discrepancy between the amount in figures and the amount in words, the amount in words will prevail; and
  - (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail, unless in the opinion of the Employer's representative, there is an obvious typographical error, in which case the adjustment will be made to the entry containing that error.
  - (c) In the event of a discrepancy between the tender amount as stated in the Form of Tender and the corrected tender figure in the main summary of the Bill of Quantities/Quotation, the amount as stated in the Form of Tender shall prevail.

- (d) The Error Correction Factor shall be computed by expressing the difference between the tender amount and the corrected tender sum as a percentage of the Corrected Builder's Work (i.e. corrected tender sum less P.C. and Provisional Sums).
  - (e) The Error Correction Factor shall be applied to all Builder's Work (as a rebate or addition as the case may be) for the purposes of valuations for Interim Certificates and valuation of variations.
  - (f) The amount stated in the tender will be adjusted in accordance with the above procedure for the correction of errors and with concurrence of the Tenderer, shall be considered as binding upon the Tenderer. If the Tenderer does not accept the corrected amount, the tender may be rejected and the Tender Security forfeited.
- 5.5 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.
- 5.6 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)
- 5.7 Where contract price variation is allowed, the valuation shall not exceed 15% of the original contract price.
- 5.8 Price variation requests shall be processed by the procuring entity within 30 days of receiving the request. Preference where allowed in the evaluation of tenders shall not exceed 15%
- 5.9 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may request [in writing] any Tenderer for clarification of the tender, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by cable, telex or facsimile but no change in the tender price or substance of the tender shall be sought, offered or permitted.
- 5.10 The Tenderer shall not influence the Employer on any matter relating to his tender from the time of the tender opening to the time the Contract is awarded. Any effort by the Tenderer to influence the Employer or his employees in his decision on tender evaluation, tender comparison or Contract award may result in the rejection of the tender.
6. Award of Contract
- 6.1 The award of the Contract will be made to the Tenderer who has offered the lowest evaluated tender price.
- 6.2 Notwithstanding the provisions of clause 6.1 above, the

Employer reserves the right to accept or reject any tender and to cancel the tendering process and reject all tenders at any time prior to the award of Contract without thereby incurring any liability to the affected Tenderer or Tenderers or any obligation to inform the affected Tenderer or Tenderers of the grounds for the action.

- 6.3 The Tenderer whose tender has been accepted will be notified of the award prior to expiration of the tender validity period in writing or by cable, telex or facsimile. This notification (hereinafter and in all Contract documents called the “Letter of Acceptance”) will state the sum [hereinafter and in all Contract documents called the “Contract Price” which the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract. The contract shall be formed on the parties signing the contract. At the same time the other tenderers shall be informed that their tenders have not been successful.
  - 6.4 The Contract Agreement will incorporate all agreements between the Employer and the successful Tenderer. It will be signed by the Employer and sent to the successful Tenderer, within 30 days following the notification of award. Within 21 days of receipt ,the successful Tenderer will sign the Agreement and return it to the Employer.
  - 6.5 Within 21 days after receipt of the Letter of Acceptance, the successful Tenderer shall deliver to the Employer a Performance Security amount stipulated in the Appendix to Conditions of Contract.
  - 6.6 The parties to the contract shall have it signed within 30 days from the date of notification of contract award unless there is an administrative review request.
  - 6.7 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.
  - 6.8 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 das of receiving the request from any tenderer.
7. Corrupt and fraudulent practices
- 7.1 The procuring entity requires that the tenderer observes the highest standard of ethics during the procurement process and execution of the contract. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.

- 7.2 The procuring entity will reject a tender if it determines that the tenderer recommended for award has engaged in corrupt and fraudulent practices in competing for the contract in question.
- 7.3 Further a tenderer who is found to have indulged in corrupt and fraudulent practices risks being debarred from participating in public procurement in Kenya.

## **Appendix to Instructions to Tenderers**

### **Notes on the Appendix to the Instruction to Tenderers**

1. The Appendix to instructions to tenderers is intended to assist the procuring entity in providing specific information in relation to the corresponding clause in the instructions to Tenderers and has to be prepared for each specific procurement.
2. The procuring entity should specify in the appendix information and requirements specific to the circumstances of the procuring entity, the goods to be procured and the tender evaluation criteria that will apply to the tenders.
3. In preparing the Appendix the following aspects should be taken into consideration;
  - (a) The information that specifies and complements provisions of Instruction to tenderers to be incorporated
  - (b) Amendments and/or supplements if any, to provisions of Section 2.0 as necessitated by the circumstances of the goods to be procured to be also incorporated
4. Section II should remain unchanged and can only be amended through the Appendix.
5. Clauses to be included in this part must be consistent with the public procurement law and the regulations.

## **Appendix to Instructions to Tenderers/General information**

The following information regarding the particulars of the tender shall complement supplement or amend the provisions of the instructions to tenderers. Wherever there is a conflict between the provision of the instructions to tenderers and the provisions of the appendix, the provisions of the appendix herein shall prevail over those of the instructions to tenderers

### **PRELIMINARY REQUIREMENTS**

1. All entries must be typed or written in ink. Mistakes must not be erased but should be crossed out and corrections made and initialed by the persons signing the tender.
2. The form of bid **shall** be duly filled, signed and stamped by an individual entrusted with the powers of attorney.
3. Each bid should be submitted in a plain sealed envelope with the Tender Number and Name endorsed on the outside.
4. The bidder shall attach a duly filled, signed and stamped confidential business questionnaire by an individual entrusted with the powers of attorney.
5. The form of power of attorney shall be duly filled, signed and stamped.
6. **The tender document shall be submitted complete, intact with no page alterations.**
7. Tenderers shall ensure that the submitted bid (documents) is (are) serialized .i.e (each page in the submitted bid shall have serial identification).
8. All submitted forms and documents shall be duly filled, signed (where applicable) and stamped.

**Bidders shall attach copies of the under listed documents endorsed (signed and stamped) by commissioner of oaths/advocate registered in Kenya.**

9. Valid current year business permit.
10. Valid current year tax compliance certificate.
11. Certificate of incorporation.
12. PIN/VAT certificate from KRA.
13. Copy of NCA registration certificate of roadworks category 6 and above.
14. Financial audited accounts for the previous three years endorsed, signed and stamped by a registered external auditor in order to confirm the following:
  - a. the current soundness of the applicants' financial position and its prospective long-term profitability.
  - b. Minimum average bi-annual construction turnover of KShs. 2Million [Two million] for the last two years.]

**Bidders that will not comply with the above criteria shall be considered non-responsive.**

### **TECHNICAL REQUIREMENTS**

In the technical requirements below, bidders shall fill the tables appropriately failure to which the bids will be considered non-responsive. All the attached proof/copies of documents shall be endorsed, signed and stamped by Commissioner of Oaths/Advocate to ensure validity.

15. The bidder shall have Experience under construction contracts in the role of contractor, subcontractor, or management contractor for at least the last five [5] years prior to the applications submission deadline.
16. Bidders shall List and attach valid proof of at least three similar projects of similar magnitude undertaken in the last seven years in table below. Bidders shall also attach copies of proof of completion of the projects. This will indicate Participation as contractor, management contractor or subcontractor, in at least three (3) contracts within the last seven (7) years, each with a value of at least KShs. 5 Million (Five million), that have been successfully and substantially completed and that are similar to the proposed works. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics as described in Scope of Works (Schedule 5 & 6).

Previous work done: Attach proof.

Serial No.	Projects	Clients Name, Address & Telephone No.	Value of the project (KShs.)	Year(s) the Project was undertaken
1.				
2.				
3.				
4				

## SECTION III – CONDITIONS OF CONTRACT

### 1. Definitions

1.1 In this Contract, except where context otherwise requires, the following terms shall be interpreted as indicated;

“Bills of Quantities” means the priced and completed Bill of Quantities forming part of the tender[where applicable].

“Schedule of Rates” means the priced Schedule of Rates forming part of the tender [where applicable].

“The Completion Date” means the date of completion of the Works as certified by the Employer’s Representative.

“The Contract” means the agreement entered into by the Employer and the Contractor as recorded in the Agreement Form and signed by the parties.

“The Contractor” refers to the person or corporate body whose tender to carry out the Works has been accepted by the Employer.

“The Contractor’s Tender” is the completed tendering document submitted by the Contractor to the Employer.

“The Contract Price” is the price stated in the Letter of Acceptance.

“Days” are calendar days; “Months” are calendar months.

“A Defect” is any part of the Works not completed in accordance with the Contract.

“The Defects Liability Certificate” is the certificate issued by Employer’s Representative upon correction of defects by the Contractor.

“The Defects Liability Period” is the period named in the Appendix to Conditions of Contract and calculated from the Completion Date.

“Drawings” include calculations and other information provided or approved by the Employer’s Representative for the execution of the Contract.

“Employer” Includes Central or Local Government administration, Universities, Public Institutions and Corporations and is the party who employs the Contractor to carry out the Works.

“Equipment” is the Contractor’s machinery and vehicles brought temporarily to the Site for the execution of the Works.

“Site” means the place or places where the permanent Works are to be carried out including workshops where the same is being prepared.

“Materials” are all supplies, including consumables, used by the Contractor for incorporation in the Works.

“Employer’s Representative” is the person appointed by the Employer and notified to the Contractor for the purpose of supervision of the Works.

“Specification” means the Specification of the Works included in the Contract.



“Start Date” is the date when the Contractor shall commence execution of the Works.

“ A Subcontractor” is a person or corporate body who has a Contract with the Contractor to carry out a part of the Work in the Contract, which includes Work on the Site.

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

“ A Variation” is an instruction given by the Employer’s Representative which varies the Works.

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer.

## 2. Contract Documents

2.1 The following documents shall constitute the Contract documents and shall be interpreted in the following order of priority;

- (1) Agreement,
- (2) Letter of Acceptance,
- (3) Contractor’s Tender,
- (4) Conditions of Contract,
- (5) Specifications,
- (6) Drawings,
- (7) Bills of Quantities or Schedule of Rates [whichever is applicable]

## 3. Employer’s Representative’s Decisions

3.1 Except where otherwise specifically stated, the Employer’s Representative will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

## 4. Works, Language and Law of Contract

4.1 The Contractor shall construct and install the Works in accordance with the Contract documents. The Works may commence on the Start Date and shall be carried out in accordance with the Program submitted by the Contractor, as updated with the approval of the Employer’s Representative, and complete them by the Intended Completion Date.

4.2 The ruling language of the Contract shall be English language and the law governing the Contract shall be the law of the Republic of Kenya.

## 5. Safety, Temporary works and Discoveries

5.1 The Contractor shall be responsible for design of temporary works

and shall obtain approval of third parties to the design of the temporary works where required.

- 5.2 The Contractor shall be responsible for the safety of all activities on the Site.
- 5.3 Any thing of historical or other interest or significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Employer's Representative of such discoveries and carry out the Employer's Representative's instructions for dealing with them.

## 6 Work Program and Sub-contracting

- 6.1 Within seven days after Site possession date, the Contractor shall submit to the Employer's Representative for approval a program showing the general methods, arrangements, order and timing for all the activities in the Works.
- 6.2 The Contractor may sub-contract the Works (but only to a maximum of 25 percent of the Contract Price) with the approval of the Employer's Representative. However, he shall not assign the Contract without the approval of the Employer in writing. Sub-contracting shall not alter the Contractor's obligations.

## 7 The site

- 7.1 The Employer shall give possession of all parts of the Site to the Contractor. The Contractor shall allow the Employer's Representative and any other person authorised by the Employer's Representative, access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

## 8 Instructions

- 8.1 The Contractor shall carry out all instructions of the Employer's Representative which are in accordance with the Contract.

## 9 Extension of Completion Date

- 9.1 The Employer's Representative shall extend the Completion Date if an occurrence arises which makes it impossible for completion to be achieved by the Intended Completion Date. The Employer's Representative shall decide whether and by how much to extend the Completion Date.
- 9.2 For the purposes of this clause, the following occurrences shall be valid for consideration;

Delay by:-

- (a) force majeure, or

- (b) reason of any exceptionally adverse weather conditions, or
- (c) reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works, or
- (d) reason of the Employer's Representative's instructions issued under these Conditions, or
- (e) reason of the contractor not having received in due time necessary instructions, drawings, details or levels from the Employer's Representative for which he specifically applied in writing on a date which having regard to the date for Completion stated in the appendix to these Conditions or to any extension of time then fixed under this clause was neither unreasonably distant from nor unreasonably close to the date on which it was necessary for him to receive the same, or
- (f) delay on the part of artists, tradesmen or others engaged by the Employer in executing work not forming part of this Contract, or
- (g) reason of delay by statutory or other services providers or similar bodies engaged directly by the Employer, or
- (h) reason of opening up for inspection of any Work covered up or of the testing or any of the Work, materials or goods in accordance with these conditions unless the inspection or test showed that the Work, materials or goods were not in accordance with this Contract, or
- (i) reason of delay in appointing a replacement Employer's Representative, or
- (j) reason of delay caused by the late supply of goods or materials or in executing Work for which the Employer or his agents are contractually obliged to supply or to execute as the case may be, or
- (k) delay in receiving possession of or access to the Site.

## 10 Management Meetings

- 10.1 A Contract management meeting shall be held regularly and attended by the Employer's Representative and the Contractor. Its business shall be to review the plans for the remaining Work. The Employer's Representative shall record the business of management meetings and provide copies of the record to those attending the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Employer's Representative either at the management meeting

or after the management meeting and stated in writing to all who attend the meeting.

- 10.2 Communication between parties shall be effective only when in writing.

## 11 Defects

- 11.1 The Employer's Representative shall inspect the Contractor's work and notify the Contractor of any defects that are found. Such inspection shall not affect the Contractor's responsibilities. The Employer's Representative may instruct the Contractor to search for a defect and to uncover and test any Work that the Employer's Representative considers may have a defect. Should the defect be found, the cost of uncovering and making good shall be borne by the Contractor. However if there is no defect found, the cost of uncovering and making good shall be treated as a variation and added to the Contract Price.
- 11.2 The Employer's Representative shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract.
- 11.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Employer's Representative's notice. If the Contractor has not corrected a defect within the time specified in the Employer's Representative's notice, the Employer's Representative will assess the cost of having the defect corrected by other parties and such cost shall be treated as a variation and be deducted from the Contract Price.

## 12 Bills of Quantities/Schedule of Rates

- 12.1 The Bills of Quantities/Schedule of Rates shall contain items for the construction, installation, testing and commissioning of the Work to be done by the Contractor. The Contractor will be paid for the quantity of the Work done at the rates in the Bills of Quantities/Schedule of Rates for each item. Items against which no rate is entered by the Tenderer will not be paid for when executed and shall be deemed covered by the rates for other items in the Bills of Quantities/Schedule of Rates.
- 12.2 Where Bills of Quantities do not form part of the Contract, the Contract Price shall be a lump sum (which shall be deemed to have been based on the rates in the Schedule of Rates forming part of the tender) and shall be subject to re-measurement after each stage.

## 13 Variations

- 13.1 The Contractor shall provide the Employer's Representative with a quotation for carrying out the variations when requested to do so. The Employer's Representative shall assess the quotation and shall obtain the necessary authority from the Employer before the variation is ordered.
- 13.2 If the Work in the variation corresponds with an item description in the Bill of Quantities/Schedule of Rates, the rate in the Bill of Quantities/Schedule of Rates shall be used to calculate the value of the variation. If the nature of the Work in the variation does not correspond with items in the Bill of Quantities/Schedule of Rates, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.
- 13.3 If the Contractor's quotation is unreasonable, the Employer's Representative may order the variation and make a change to the Contract Price, which shall be based on the Employer's Representative's own forecast of the effects of the variation on the Contractor's costs.

#### 14 Payment Certificates and Final Account

- 14.1 The Contractor shall be paid after each of the following stages of Work listed herebelow (subject to re-measurement by the Employer's Representative of the Work done in each stage before payment is made). In case of lump-sum Contracts, the valuation for each stage shall be based on the quantities so obtained in the re-measurement and the rates in the Schedule of Rates.
- (i) Advance payment\_   
 (*percent of Contract Price,*   
 [after Contract execution] *to be inserted by the*   
 *Employer*).
  - (ii) First stage (*define stage*) \_
  - (iii) Second stage (*define stage*)\_
  - (iv) Third stage (*define stage*) \_
  - (v) After defects liability period .
- 14.2 Upon deciding that Works included in a particular stage are complete, the Contractor shall submit to the Employer's Representative his application for payment. The Employer's Representative shall check, adjust if necessary and certify the amount to be paid to the Contractor within 21 days of receipt of the Contractor's application .The Employer shall pay the Contractor the amounts so certified within 30 days of the date of issue of each Interim Certificate.

- 14.3 The Contractor shall supply the Employer's Representative with a detailed final account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Employer's Representative shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor's account if it is correct and complete. If it is not, the Employer's Representative shall issue within 21 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Employer's Representative shall decide on the amount payable to the Contractor and issue a Final Payment Certificate. The Employer shall pay the Contractor the amount so certified within 60 days of the issue of the Final Payment Certificate.
- 14.4 If the period laid down for payment to the Contractor upon each of the Employer's Representative's Certificate by the Employer has been exceeded, the Contractor shall be entitled to claim simple interest calculated pro-rata on the basis of the number of days delayed at the Central Bank of Kenya's average base lending rate prevailing on the first day the payment becomes overdue. The Contractor will be required to notify the Employer within 15 days of receipt of delayed payments of his intentions to claim interest.
15. Insurance
- 15.1 The Contractor shall be responsible for and shall take out appropriate cover against, among other risks, personal injury; loss of or damage to the Works, materials and plant; and loss of or damage to property.
16. Liquidated Damages
- 16.1 The Contractor shall pay liquidated damages to the Employer at the rate 0.001 per cent of the Contract price per day for each day that the actual Completion Date is later than the Intended Completion Date except in the case of any of the occurrences listed under clause 9.2. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.
17. Completion and Taking Over
- 17.1 Upon deciding that the Work is complete the Contractor shall request the Employer's Representative to issue a Certificate of Completion of the Works, upon deciding that the Work is completed.
- The Employer shall take over the Site and the Works within seven days of the Employer's Representative issuing a Certificate of Completion.

## 18. Termination

18.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract. These fundamental breaches of Contract shall include, but shall not be limited to, the following;

- (a) the Contractor stops Work for 30 days continuously without reasonable cause or authority from the Employer's Representative;
- (b) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (c) a payment certified by the Employer's Representative is not paid by the Employer to the Contractor within 30 days after the expiry of the payment periods stated in sub clauses 14.2 and 14.3 hereinabove.
- (d) the Employer's Representative gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time.

18.2 If the Contract is terminated, the Contractor shall stop Work immediately, and leave the Site as soon as reasonably possible. The Employer's Representative shall immediately thereafter arrange for a meeting for the purpose of taking record of the Works executed and materials, goods, equipment and temporary buildings on Site.

## 19. Payment Upon Termination

19.1 The Employer may employ and pay other persons to carry out and complete the Works and to rectify any defects and may enter upon the Works and use all materials on Site, plant, equipment and temporary works.

19.2 The Contractor shall, during the execution or after the completion of the Works under this clause, remove from the Site as and when required within such reasonable time as the Employer's Representative may in writing specify, any temporary buildings, plant, machinery, appliances, goods or materials belonging to him, and in default thereof, the Employer may (without being responsible for any loss or damage) remove and sell any such property of the Contractor, holding the proceeds less all costs incurred to the credit of the Contractor.

19.3 Until after completion of the Works under this clause, the Employer shall not be bound by any other provision of this Contract to make any payment to the Contractor, but upon such completion as aforesaid and

the verification within a reasonable time of the accounts therefor the Employer's Representative shall certify the amount of expenses properly incurred by the Employer and, if such amount added to the money paid to the Contractor before such determination exceeds the total amount which would have been payable on due completion in accordance with this Contract, the difference shall be a debt payable to the Employer by the Contractor; and if the said amount added to the said money be less than the said total amount, the difference shall be a debt payable by the Employer to the Contractor.

## 20. Corrupt Gifts and Payments of Commission

### 20.1 The Contractor shall not;

- (a) Offer or give or agree to give to any person in the service of the Employer any gifts or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract with the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract with the Employer.
- (b) Any breach of this Condition by the Contractor or by anyone employed by him or acting on his behalf (whether with or without the knowledge of the Contractor) shall be an offence under the Laws of Kenya.

## 21. Settlement of Disputes

- 21.1 Any dispute arising out of the Contract which cannot be amicably settled between the parties shall be referred by either party 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 by the chairman of the Chartered Institute of Arbitrators, Kenya branch, on the request of the applying party.



## **SECTION IV – APPENDIX TO CONDITIONS OF CONTRACT**

THE EMPLOYER IS

Name: COUNTY GOVERNMENT OF EMBU

Address: P.O BOX 36-60100 EMBU

The Project Manager is

Name: DIRECTOR-INFRASTRUCTURE, TRANSPORT AND PUBLIC WORKS.

Address: P.O BOX 36-60100 EMBU

## **SECTION V- STANDARD FORM**

- (i) Form of Invitation for Tenders
- (ii) Form of Tender
- (iii) Letter of Acceptance
- (iv) Form of Agreement
- (v) Form of Tender Security
- (vi) Performance Bank Guarantee
- (vii) Bank Guarantee for Advance Payment
- (viii) Qualification Information
- (ix) Tender Questionnaire
- (xi) Confidential Business Questionnaire
- (x) Statement of Foreign Currency Requirement
- (xi) Details of Sub-Contractors
- (x) Request for Review Form

**FORM OF BID**

(NOTE: The Appendix forms part of the Bid. Bidders are required to fill all the blank spaces in this form of Bid and Appendix)

TO: \_\_\_\_\_ [Name of Employer] \_\_\_\_\_ [Date]  
 \_\_\_\_\_ [Name of Contract]

Dear Sir,

1. In accordance with the Conditions of Contract, Specifications, Drawings and Bills of Quantities for the execution of the above named Works, we, the undersigned offer to construct, install and complete such Works and remedy any defects therein for the sum of Kshs. \_\_\_\_\_ [Amount in figures] Kenya Shillings \_\_\_\_\_ [Amount in words]
2. We undertake, if our tender is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Project Manager's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix to Conditions of Contract.
3. We agree to abide 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.
5. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

Signature \_\_\_\_\_ in the capacity of \_\_\_\_\_

duly authorized to sign tenders for and on behalf of

\_\_\_\_\_ [Name of Employer]

of \_\_\_\_\_ [Address of Employer]

Witness; Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

Date \_\_\_\_\_

**APPENDIX TO FORM OF BID  
(This appendix forms part of the bid)**

<b>APPENDIX CONDITIONS OF CONTRACT</b>	<b>CLAUSE</b>	<b>AMOUNT</b>
Program to be submitted	14.1	Not later than 14 (Fourteen) days after issuance of Order to Commence
Period for commencement, from Engineer's order to commence	41.1	14 days
Time for completion	43.1	3 (Three) months
Amount of liquidated damages	47.1	Ksh. 10,000 per day
Defects Liability Period	49.1	6 (Six) months
Percentage of Retention	60.3	10% of Interim Payment Certificate
Appointer of Arbitrator	67(3)	Chairman, Chartered Institute of Arbitrators-Kenya Chapter
Notice to Employer and Engineer	68.2	The Employers address is: County Secretary County Government of Embu P.O.Box 36 - 60100 EMBU  The Engineer's address is: Director Roads Department of Infrastructure, Transport & Public Works P.O.Box 36 - 60100 EMBU

Signature of Bidder..... Date .....

**LETTER OF ACCEPTANCE**  
**[letterhead paper of the Employer]**

\_\_\_\_\_ [date]

To: \_\_\_\_\_  
[name of the Contractor]

\_\_\_\_\_  
[address of the Contractor]

Dear Sir,

This is to notify you that your Tender dated \_\_\_\_\_  
for the execution of \_\_\_\_\_  
*[name of the Contract and identification number, as given in the Tender documents]*  
for the Contract Price of Kshs. \_\_\_\_\_ *[amount in*  
*figures]* Kenya Shillings \_\_\_\_\_ *(amount in words)* ] in  
accordance with the Instructions to Tenderers is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in  
accordance with the Contract documents.

Authorized Signature .....

Name and Title of Signatory .....

Attachment : Agreement

### FORM OF AGREEMENT

THIS AGREEMENT, made the \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_ between **COUNTY GOVERNMENT OF EMBU** of[or whose registered office is situated at] **P.O BOX 36, EMBU,KENYA** (hereinafter called “the Employer”) of the one part AND

\_\_\_\_\_ of[or whose registered office is situated at]\_\_\_\_\_ (hereinafter called “the Contractor”) of the other part.

WHEREAS THE Employer is desirous that the Contractor executes  
.....  
.....  
.....]  
(name and identification number of Contract ) (hereinafter called “the Works”) located at **Embu County**[Place/location of the Works]and the Employer has accepted the tender submitted by the Contractor for the execution and completion of such Works and the remedying of any defects therein for the Contract Price of Kshs\_\_\_\_\_ [Amount in figures],Kenya Shillings\_\_\_\_\_ [Amount in words].

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and shall be read and construed as part of this Agreement i.e.
  - (i) Letter of Acceptance
  - (ii) Form of Tender
  - (iii) Conditions of Contract Part I

- (iv) Conditions of Contract Part II and Appendix to Conditions of Contract
  - (v) Specifications
  - (vi) Drawings
  - (vii) Priced Bills of Quantities
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer 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 thereto have caused this Agreement to be executed the day and year first before written.

The common Seal of \_\_\_\_\_

Was hereunto affixed in the presence of \_\_\_\_\_

Signed Sealed, and Delivered by the said \_\_\_\_\_

Binding Signature of Employer \_\_\_\_\_

Binding Signature of Contractor \_\_\_\_\_

In the presence of (i) Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

[ii] Name \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

**FORM OF TENDER SECURITY**

WHEREAS .....(hereinafter called “the Tenderer”) has submitted his tender dated ..... for the construction of .....  
..... (name of Contract)

KNOW ALL PEOPLE by these presents that WE ..... having our registered office at .....(hereinafter called “the Bank”), are bound unto .....(hereinafter called “the Employer”) in the sum of Kshs..... for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors and assigns by these presents sealed with the Common Seal of the said Bank this ..... Day of .....20.....

THE CONDITIONS of this obligation are:

1. If after tender opening the tenderer withdraws his tender during the period of tender validity specified in the instructions to tenderers  
Or
2. If the tenderer, having been notified of the acceptance of his tender by the Employer during the period of tender validity:
  - (a) fails or refuses to execute the form of Agreement in accordance with the Instructions to Tenderers, if required; or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Tenderers;

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including thirty (30) days after the period of tender validity, and any demand in respect thereof should reach the Bank not later than the said date.

\_\_\_\_\_  
[date]

\_\_\_\_\_  
[signature of the Bank]

\_\_\_\_\_  
[witness]

\_\_\_\_\_  
[seal]



**PERFORMANCE BANK GUARANTEE**

To: \_\_\_\_\_(Name of Employer) \_\_\_\_\_(Date)  
\_\_\_\_\_ (Address of Employer)

Dear Sir,

WHEREAS \_\_\_\_\_(hereinafter called “the Contractor”) has undertaken, in pursuance of Contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ (hereinafter called “the Works”);

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognised bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of Kshs. \_\_\_\_\_ (amount of Guarantee in figures) Kenya Shillings \_\_\_\_\_ (amount of Guarantee in words), and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of Kenya Shillings \_\_\_\_\_ (amount of Guarantee in words) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change, addition or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any change, addition, or modification.

This guarantee shall be valid until the date of issue of the Certificate of Completion.

SIGNATURE AND SEAL OF THE GUARANTOR \_\_\_\_\_

Name of Bank \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

**BANK GUARANTEE FOR ADVANCE PAYMENT**

To: \_\_\_\_\_ [name of Employer] \_\_\_\_\_ (Date)  
 \_\_\_\_\_ [address of Employer]

Gentlemen,

Ref: \_\_\_\_\_ [name of Contract]

In accordance with the provisions of the Conditions of Contract of the above-mentioned Contract, We, \_\_\_\_\_ [name and Address of Contractor] (hereinafter called "the Contractor") shall deposit with \_\_\_\_\_ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Contract in an amount of Kshs. \_\_\_\_\_ [amount of Guarantee in figures] Kenya Shillings \_\_\_\_\_ [amount of Guarantee in words].

We, \_\_\_\_\_ [bank or financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to \_\_\_\_\_ [name of Employer] on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding Kshs \_\_\_\_\_ [amount of Guarantee in figures] Kenya Shillings \_\_\_\_\_ [amount of Guarantee in words], such amount to be reduced periodically by the amounts recovered by you from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between \_\_\_\_\_ [name of Employer] and the Contractor, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

No drawing may be made by you under this guarantee until we have received notice in writing from you that an advance payment of the amount listed above has been paid to the Contractor pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until \_\_\_\_\_ (name of Employer) receives full payment of the same amount from the Contract.

Yours faithfully,

Signature and Seal \_\_\_\_\_

Name of the Bank or financial institution \_\_\_\_\_

Address \_\_\_\_\_

Date \_\_\_\_\_

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

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

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**LETTER OF NOTIFICATION OF AWARD**

Address of Procuring Entity

\_\_\_\_\_

\_\_\_\_\_

To: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

RE: Tender No. \_\_\_\_\_

Tender Name \_\_\_\_\_

This is to notify that the contract/s stated below under the above mentioned tender have been awarded to you.

\_\_\_\_\_

\_\_\_\_\_

1. Please acknowledge receipt of this letter of notification signifying your acceptance.
2. The contract/contracts shall be signed by the parties within 30 days of the date of this letter but not earlier than 14 days from the date of the letter.
3. You may contact the officer(s) whose particulars appear below on the subject matter of this letter of notification of award.

*(FULL PARTICULARS)* \_\_\_\_\_

\_\_\_\_\_

SIGNED FOR ACCOUNTING OFFICER

**FORM RB 1**

**REPUBLIC OF KENYA**  
**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...

**REQUEST FOR REVIEW**

I/We.....,the above named Applicant(s), of address: Physical  
address.....Fax 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.
- etc.

By this memorandum, the Applicant requests the Board for an order/orders that: -

- 1.
- 2.
- etc

SIGNED .....(Applicant)

Dated on.....day of ...../...20...

---

**FOR OFFICIAL USE ONLY**

Lodged with the Secretary Public Procurement Administrative Review Board on .....  
day of .....20.....

SIGNED  
Board Secretary

## **SECTION VI – SPECIFICATIONS, DRAWINGS & BILLS OF QUANTITIES**

### **STANDARD SPECIFICATIONS**

#### **STANDARD SPECIFICATIONS**

Standard Specifications refers to the Standard Specifications for Road and Bridge Construction, 1986 Edition.

## SECTION 11: SPECIAL SPECIFICATIONS

### SPECIAL SPECIFICATIONS

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**SECTION 1 - GENERAL****101 SPECIAL SPECIFICATIONS.**

Special specification is supplementary to the Standard Specifications and the two must be read in conjunction. In any case where there appears to be conflict between the two then the Special Specifications will take precedence

**104 PROGRAMME OF EXECUTION OF THE WORKS**

The contractor shall provide the works programme, required under clause 14 of the Conditions of Contract, within 21 days of receipt of the Engineer's Order to commence work.

The programme shall be co-ordinated with climatic and other conditions to provide for the completion of the works in the order and by the time specified.

The Contractor shall carry out the contract in accordance with the programme agreed with the Engineer, but he shall in no manner be relieved by the Engineer's approval of the programme, of his obligation to complete the works in the prescribed order and by the prescribed completion date and he shall from time to time review his progress and make such amendments to his rate of execution of the works as may be necessary to fulfil his obligations.

**105 ORDER OF EXECUTION OF WORKS**

In addition to Clause 105 of the Standard Specification the Contractor shall carry out the Works such that a continuous and consecutive output of fully completed work is achieved.

**107 TAKING OVER CERTIFICATE**

The minimum length of road for which a certificate will be issued under Clause 48 of the Conditions of Contract is the entire length of the road when substantially completed.

**109 NOTICE OF OPERATIONS**

Add the following sub- Clause.

**109.1 Notification Terms**

It shall be the Contractor's responsibility to notify the Engineer when any item of works scheduled are completed and ready for approval, and the contractor shall give sufficient notice to allow control test to be performed.

**109.2 Explosive and Blasting**

- (a) The requirements of the Laws of Kenya governing explosives and other requirements and regulations of Government of Kenya and other authorities shall be complied with.
- (b) No explosives of any kind shall be used without prior written consent of the Engineer.
- (c) The Contractor shall be solely responsible for the provision, handling, storage and transporting of all explosive ancillary materials and all other items of related kind whatsoever required for blasting.

**117 HEALTH, SAFETY AND ACCIDENTS**

Add to section 117 the following:

In addition to providing, equipping and maintaining adequate first aid stations throughout the works in accordance with the laws of Kenya, the contractor shall provide and maintain on site during the duration of the Contract, a fully equipped dispensary. This shall be with a qualified Clinical Officer / Nurse who shall offer the necessary medical advice on HIV and related diseases to the Engineer's and Contractor's Site staff. The Contractor shall allow for this in the rates and be responsible for all site welfare arrangements at his own cost.

**121 DIVERSION OF SERVICES**

- (a) The Contractor shall acquaint himself with the location of all existing services such as telephone lines, electricity cables, water pipes, sewers etc., before execution of any works that may affect the services. The cost of determining the location of the existing services together with making good or repairing of any damage caused all to the satisfaction of the Engineer shall be included in the tender rates.
- (b) Subject to the agreement with the Engineer, the Contractor shall be responsible for removal of alteration and relocation of existing services.
- (c) The Contractor shall indemnify the Employer against claims originating from damage to existing services or works.

**123 LIAISON WITH GOVERNMENT AND POLICE OFFICIALS**

The Contractor shall keep in close touch with the Police and the other Government officials of the area regarding their requirements in the control of traffic or other matters, and shall provide all assistance or facilities, which may be required by such officials in the execution of their duties.

**124 LAND FOR ALL CAMPS SITES AND FOR THE CONTRACTOR'S OWN PURPOSES, INCLUDING TEMPORARY WORKS.**

Notwithstanding Clause 124 of the Standard Specification all requirements of land for temporary works and construction purposes shall be to the approval of the Engineer but the Contractor will make all necessary arrangements with the property owners concerned and pay all charges arising 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 reasonable and practicable. No separate payment will be made to the

Contractor on account of these items and the Contractor must make due allowance for them in his rates.

Notwithstanding Clause 120 of the Standard Specifications, the Contractor shall be required to appoint a competent surveyor who will liaise with the Engineer on matters related to the demarcation of the existing road reserve, site measurements, removal and reinstatement of existing services.

**128 STORAGE OF MATERIALS**

All materials shall be stored on Site in a manner approved by the Engineer and the Contractor shall carefully protect from the weather all work and materials which may be affected thereby.

**129 TEST CERTIFICATES**

When instructed by the Engineer, the Contractor shall submit certificates of test from the suppliers of materials and goods required in connection with the works as the Engineer may require.

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

**131 SIGNBOARDS**

The Contractor shall provide and erect 1 (one) or two (2) publicity signboards on the site as directed. The Engineer shall as shown in the Drawings and as required direct the minimum dimensions of the boards. The boards shall be prepared primed and painted cream and lettered in black. The boards shall be of stout construction, resistant to the effects of weather.

**134 ENGINEER'S LABORATORY**

The Contractor shall pay for all materials testing and Staff Allowances. Payments shall be made under the relevant item of the BOQ on provision of receipt.

**137 ATTENDANCE UPON THE ENGINEER AND HIS STAFF**

The Contractor shall provide, pay (including all overtime) attendant staff to fulfil the requirements of Clause 137 of the Standard Specification. The number of staff required for these duties shall be not exceed 6No. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits under relevant item of the Bills of Quantities.

**138 VEHICLES AND DRIVERS FOR THE ENGINEER AND HIS STAFF AND METHOD OF PAYMENT**

The Contractor shall when instructed to do so shall Pay the Service Provider the amount of the invoice for the Supervision Vehicle during the period of the contract.

Payment for the vehicle shall be by a rate entered in the Preliminary and General Item of the BOQ.

**139 RECEIPTED ACCOUNTS**

The Contractor may be instructed by the Engineer to make payments of general miscellaneous accounts for such items as stationary, stores and equipment and miscellaneous supervision personnel and claims or the Engineer may direct the Contractor to purchase or pay for the above. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits under relevant items of the BOQ.

**140 ACCOMODATION FOR THE ENGINEER'S STAFF**

Not Applicable

**142 LIQUIDATED DAMAGES**

Liquidated Damages at the rate shown in the Appendix to Form of Bid shall apply in the event of the works not being completed within the time for completion plus any extension of time which may be determined by the Engineer.

**143 ENVIRONMENTAL PROTECTION**

The Contractor shall ensure so far as is reasonably practicable and to the satisfaction of the Engineer; that the impact of the construction on the environment shall be kept to a minimum and that appropriate measures are taken to mitigate any adverse effects during the construction.

- (a) After extraction of materials, all borrows pits shall be back-filled to the satisfaction of the Engineer. In particular borrow pits near the project road shall be back-filled in such a way that no water collects in them.
- (b) Spilling of bitumen, fuels, Oils and other pollutants shall be cleared up.

**SECTION 2 - MATERIALS AND TESTING OF MATERIALS**

**205 SOILS AND GRAVEL**

Whenever in the Contract Document a minimum California Bearing Ratio (CBR) is specified, the CBR of the material shall be determined at the specified state of compaction.

- a) After four days soaking in the case of neat materials and
- b) After seven days curing plus seven days soaking in the case of cement improved materials

**SECTION 3 - SETTING OUT & TOLERANCES**

**301**

**SETTING OUT**

The contractor while pegging out the distances shall ensure that the existing alignment is followed unless instructed otherwise by the Engineer.

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**SECTION 4- SITE CLEARANCE AND TOP SOIL STRIPPING**

**401 SITE CLEARANCE**

Site Clearance shall be carried out as directed by the Engineer.

**402 REMOVAL OF TOPSOIL**

Topsoil shall include up to 200mm depth or any unsuitable material encountered in existing or newly constructed drains, drainage channels, and accesses.

**403 REMOVAL OF STRUCTURES, FENCES AND OBSTRUCTIONS**

When instructed by the Engineer, the Contractor shall demolish or remove structure and payment for this shall be made as per the bill item.

**SECTION 5 – EARTHWORKS****504 PREPARATION PRIOR TO FORMING EMBANKMENT**

Where benching is required for existing pavement to accommodate earthworks sub-grade or sub-base for widening the road, the rate for compaction of existing ground shall be deemed to cover this activity.

(b)

Excavation in the pavement of the existing road shall be kept dry. In the event of water penetrating the underlying layer, construction of the subsequent layers shall be postponed until the underlying layers are dry enough to accommodate the construction plant without deforming or otherwise showing distress.

Step construction shall be carried out per layer at the joint where excavating both vertically and perpendicular to the direction of the travel. The step shall be 500mm perpendicular to the direction of the travel and 150mm vertical unless otherwise instructed by the Engineer.

Special care shall be taken when compacting the new material at the joint ensuring that specified density is achieved.

**505 CONSTRUCTION OF EMBANKMENTS**

Only material approved by the Engineer shall be used for fill in embankments.

Material with high swelling characteristics or high organic matter content and any other undesirable material shall not be used, unless specifically directed by the Engineer. Unsuitable material shall include:

- (i) All material containing more than 5% by weight or organic matter (such as topsoil, material from swamps, mud, logs, stumps and other perishable material)
- (ii) All material with a swell of more than 3% (such as black cotton soil)
- (iii) All clay of plasticity index exceeding 50.
- (iv) All material having moisture content greater than 105% of optimum moisture content (Standard Compaction)

Subgrade: Shall mean upper 300mm of earthworks either insitu or in fill and subgrade shall be provided for as part of earthworks operation and payment shall be made as "fill". The material for subgrade shall have a CBR of not less than 8% measured after a 4 day soak in a laboratory mix compacted to a dry density of 100% MDD (AASHTO T99) and a swell of less than 1%.

Embankment repair: Where directed by the Engineer, any localised filling in soft, hard or natural; selected material requirements shall be executed in accordance with Clause 505.

**508 COMPACTION OF EARTHWORKS**

At pipe culverts, all fill above ground level around the culverts shall be compacted to density of 100% MDD (AASHTO T.99) up to the level of the top of the pipes or top of the surround(s), if any and for a width equal to the internal diameter of the pipe on either side of the pipe(s) or surround(s) as applicable.

At locations adjacent to structures, all fill above ground level upto the underside of the sub-grade shall be compacted to density of 105% MDD (AASHTO T.99). In case of fill around box culverts this should 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.

Notwithstanding the provision of clause 503 of the standard Specification, Compaction of subgrade material (i.e. material immediately below formation) in cut areas shall not be carried out by the contractor in areas where the formation is formed in hard material, unless specific instructions to the contrary are issued by the Engineer.

Where improved sub-grade material shall be required, this shall be compacted and finished to the same standards and tolerances as those required for normal sub-grade and clauses in the specifications applying to normal sub-grade shall also apply.

## **511 BORROW PITS**

The first part of the Standard Specification is amended as follows:-

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 contrary to what has been stated.

## **515 SIDE DRAINS**

Side drains shall be constructed in accordance with clause 515 of the Standard Specification. This item shall be paid under item no. 5.04.

## **517 MEASUREMENT AND PAYMENT**

Notwithstanding the provisions of clause 517 of the standard specifications, the rate for compaction of fill in soft material shall allow for the requirements of clause 508 of the special specification and no extra payment shall be made for compaction around pipe culverts (100% MDD AASHTO T.99).

### **517(e) Overhaul**

A freehaul of 1.5 km shall be allowed.

## **518 Grading and shaping**

Where directed by the Engineer, the Contractor shall carry out grading and shaping over the full width of the carriageway and side slopes, so that the final profile complies with a standard cross-section shown in the drawings. The grading involves scarification up to a maximum depth of 150 mm, reworking of material to render it uniform and not segregated, reshaping, grading to profile, removing of material from side drains to spoil as directed by the Engineer, watering and compacting to 95 % MDD AASHTO T180, to required carriageway surface tolerance and uniform cross-fall all as directed by the Engineer.

The whole width of the finished surface, after the grading shall be trimmed and cleared off as necessary to leave the surface and slopes smooth, even and free from fresh loose heaps or windrows, stones or boulders or rocks, vegetation or any other deleterious material.

### **Measurement and Payment**

Payment shall be made for the plan area instructed and approved by the Engineer

Item: Grading

Unit: Square metres

**SECTION 6 - QUARRIES, BORROW PITS, STOCKPILES & SPOIL AREAS**

**601**

**GENERAL**

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for quarries, borrow pits, stockpiles and spoil areas, except for those areas in road reserves specifically approved by him.

The contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, Wining, haulage to site of these materials and all costs involved therein. Similarly the contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling

materials and spoil dumps. Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works the Contractor may utilise these subject to the approval of the Engineer.

No additional payment will be made to the Contractor to cover costs arising from the requirements for this Clause and the Contractor must include these costs in the rates inserted into the Bills of Quantities.

## **SECTION 7 - EXCAVATION AND FILLING FOR STRUCTURES**

The Preliminary Materials Report included as Vol. II of the tender documents is only for guidance of the Tenderers and that the information therein is neither warranted nor guaranteed.

### **703 EXCAVATION OF FOUNDATIONS FOR STRUCTURES**

Unless otherwise instructed by the Engineer, all excavated surfaces in material other than hard material, on which foundations for structures shall be placed, shall be compacted to 100% MDD (AASHTO T.99) immediately before structures are constructed.

Paragraph 4, last line: - Replace "95%" with "100%".

### **707 BACKFILLING FOR STRUCTURES**

Unless otherwise instructed by the Engineer, all backfilling material shall be compacted to a minimum of 100% MDD (AASHTO T.99).

**709 EXCAVATION FOR RIVER TRAINING AND NEW WATER COURSES**

Payments for river training and establishment of new watercourses shall only be made where such work constitute permanent works. Works done for road deviation or other temporary works shall not qualify for payment.

**710 STONE PITCHING**

Stone pitching to drains, inlets and outlets of culverts to embankments and around structures shall consist of sound unweathered rock approved by the Engineer.

The stone as dressed shall be roughly cubical in shape with minimum dimensions of 150 x 150mm for normal thickness of stone pitching. The Engineer may instruct use of river stones and paid for as per the bill rate.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone laid, interlocked and rammed into the material to give an even finished surface.

In areas where stone pitching has been damaged, the Contractor shall identify such areas and notify the Engineer for his agreement of the extent of the Works required and his approval and instructions to proceed with the Works. Stone Pitching Repair and Reconstruction shall be carried out in accordance with Clause 710 of the Standard Specifications.

The Works shall involve removal of the damaged stone pitching and reconstruction of the said areas in accordance with Clause 710 of the Standard Specifications by use of the sound salvaged material together with any necessary additional material where all such materials shall comply with Section 7 of the Standard Specifications.

**711 GABIONS**

Where instructed by the Engineer the Contractor will install gabions as protection works to washout areas or bridge Piers and or Abutments. Gabions shall be constructed in accordance with Clause 711 of the Standard Specification.

In cases where existing gabions have been damaged, the Contractor shall identify them and notify the Engineer for his agreement of the extent of the Work required and his approval and instructions to proceed with the Works.

The Works shall involve removal of the damaged gabions / rocks, excavation to the correct levels and grades as directed by the Engineer, and in accordance with Clause 711 of the Standard Specifications and reconstruction with new gabions and other necessary materials as necessary. The damaged gabions shall be recovered and transported to the nearest County Yard or Kerugoya Office.

**712 RIP-RAP PROTECTION WORK**

Quarry waste or similar approved material shall be used to backfill scoured and eroded side, outfall and cutoff drains. The material shall be compacted to form a flat or curved surface preparatory to stone [pitching of drainage channels, existing and new scour checks as directed by the Engineer.

The surface to receive the pitching shall be compacted and trimmed to slope and the stone hand laid, interlocked and rammed into the material to give an even finished surface. The interstices of the Pitching shall be rammed with insitu material. The insitu material immediately behind the pitching shall be compacted to minimum density of 100% MDD compaction (AASHTO T.99)

**714 BACKFILL BELOW STRUCTURES**

Where instructed this shall be carried out in compliance with the requirements of Clause 507 and 804 of the Standard Specification.

**SECTION 8 - CULVERTS AND DRAINAGE WORKS****801 SCOPE OF SECTION**

The operations specified in this section apply to the installation of drainage works and reinstatement and improvement of the same.

In addition, this Section covers:-

Replacement of existing 450mm pipe culverts by 600mm diameter or 900mm  
Extending of existing 600mm and 900mm diameter pipes to be compatible with the increased road width.

Desilting and cleaning of existing pipes and outfall drains to make them free flowing.

**804 EXCAVATION FOR CULVERTS AND DRAINAGE WORKS**

In the Standard Specifications, make the following amendments: -

**(a) Removal of Existing Pipe Culverts**

Where instructed by the Engineer, the Contractor shall excavate and remove all existing blocked or collapsed culvert pipes of 450mm, 600mm and 900mm diameter including concrete surround, bedding, inlet and outlet structure.

The void left after removal of culvert pipes shall be widened as necessary to accommodate new concrete bedding, pipe and haunching.

The payment of this work shall be per linear metre of pipes removed, and the volume in m<sup>3</sup> of inlet/outlet structure removed. The void left by removal of these pipes shall be carefully preserved in order to accommodate replacement 600mm or 900mm diameter pipe culverts as shall be directed by the Engineer.

**(b) Removal of Other Existing Drainage Structures**

When instructed by the Engineer, the Contractor shall demolish or remove any other structure and payment for this shall be made on day work basis.

**(c) Excavation for Culverts and Drainage Works**

The Contractor shall carry out all excavations for new culverts and drainage works to the lines, levels, inclinations, and dimensions shown on the drawings or as instructed by the Engineer.

**805 EXCAVATION IN HARD MATERIAL**

In the Standard Specifications, Sub-clauses 805(a) and 805 (b) delete “95%” and insert “100%”.

In sub-clause 809(a), paragraph 1, line 1, substitute “95%” with “100%”.

In sub-clause 809©, paragraph 2, line 4, between the words “compacted” and “and shaped” insert the words “to 100% MDD (AASHTO T.99)”.

Hard material is a material, which can be excavated only after blasting with explosives or barring, and wedging or the use of a mechanical breaker fitted with a rock point in good condition and operated correctly. Boulders of more than 0.2m<sup>3</sup> occurring in soft material shall be classified as hard material.

**809 BEDDING AND LAYING OF PIPE CULVERTS**

Concrete pipes shall be laid on a 150mm thick concrete bed of class 15/20 and the pipes shall be bedded on 1:3 cement: sand mortar at least 50mm thick, 150mm wide and extending the full length of the barrel.

The rates inserted shall allow for compaction of the bottom of excavation to 95% MDD (AASHTO T.99).

**810 JOINTING CONCRETE PIPES**

The concrete pipes for the culverts shall have ogee joints and will be jointed by 1:2 cement: sand mortar and provided with fillets on the outside as described in clause 810 of the Standard Specification.

**812 BACKFILLING OVER PIPE CULVERTS**

In the Standard Specifications, clause 812

- a) Delete paragraph 6 “for pipe culverts ..... depth of 150mm”, entirely.

The rates entered for laying of pipe culverts shall allow for backfilling to pipe culverts and compacting to 95% MDD (AASHTO T.99) and these works shall **not** be measured and paid for separately.

**814 SUBSOIL DRAINS**

In the event of excavation for repairs exposing local seepage, springs or unacceptably high water table, the Engineer may instruct the provision of counter fort or French drains.

These drains shall consist of a trench excavated to the alignment, width, depth and gradient instructed by the Engineer, and backfilled with approved compacted clean hard crushed rock material as specified in clause 815 of the standard specification. Where these drains lie within the carriageway the carriageway shall be reinstated with compacted graded crushed stone or stabilised gravel and surfaced with hot asphalt or a surface dressing as instructed by the Engineer.

**817 REPAIRS TO DRAINS**

- (i) Cleaning Existing Drains

In areas of existing side drains, mitre or outfall drains where such are blocked, the Engineer shall instruct the Contractor to clean and clear the drains to free flowing condition.

The work shall consist of:

- (a) Stripping and removal of any extraneous material to spoil including vegetation and roots in the drains to the satisfaction of the engineer.  
 (b) Spreading of any spoil to the satisfaction of the Engineer.  
 (c) Shaping the drains to free flowing condition as directed by the Engineer.

Measurement and Payment for cleaning drains shall be by linear metre of drain cleaned measured as the product of plan area and vertical depth of extraneous material instructed to be removed. No extra payment will be made for removal of

vegetation and roots.

(ii) Channels

The Engineer may instruct that the Contractor provides open channels in place of existing subdrains where the latter may be damaged or in any other place. The rates entered by the Contractor in the bills of quantities must include for removal and disposal of any subdrain material, excavation to line and level, backfilling and compaction as directed by the engineer. The channels shall be constructed of precast class 20/20 concrete of minimum 80mm thickness and lengths or widths not exceeding 1000mm. Joints shall be at least 15mm wide filled with 1:2 cement sand mortar.

(iii) Rubble fills for protection work

Quarry waste or similar approved material shall be used to back fill scoured and eroded side, outfall and cutoff drains. The material shall be compacted to form a flat or curved surface preparatory to stone pitching of drainage channels, existing and new scour checks as directed by the Engineer.

(iv) Stone Pitching

Stone pitching shall be constructed in accordance with clause 710 of the standard Specification.

(v) Gabions

Gabions shall be constructed in accordance with clause 711 of the standard Specification.

(vi) Spoil Material

The Contractor shall be responsible for removal from site of all materials excavated in the course of undertaking works in this section of the specifications, unless suitable for re-use, and deposit of the material in a spoil dump to be approved by the Engineer.

**818**

**Concrete scour checks**

Concrete for scour checks shall be class 15/20.reinforcement shall be wire mesh A193 at the middle of the base of the wall, or as shown in the drawings or instructed by the Engineer.

**Item:** Concrete scour checks

**Unit:** M<sup>3</sup>

Concrete scour checks shall be measured in cubic metres of concrete placed calculated from the dimensions of the scour check shown on the drawings or as directed by the Engineer.

The rate for concrete scour checks shall include the cost of excavating, removing excavated material to spoil, providing and placing class 15/20 concrete, A193 reinforcement and shuttering, all complying with the requirement of he specifications.

**(b) Earthfill scour checks**

Earthfill scour checks shall be constructed using selected earthfill material, in accordance with section 5 of the specification, or as shown in the drawings or as instructed by the Engineer.

**Item:** Earthfill scour checks

**Unit:** M<sup>3</sup>



Earthfill scour checks shall be measured by cubic metres of earthfill calculated from the dimensions of the scour check shown on the drawings or as directed by the Engineer.

The rate for earthfill scour checks shall include for the cost of excavating, removing excavated material to spoil, providing, placing and compacting of the earthfill to at least 95% MDD (Standard Compaction) and trimming the slopes. An extra pitching the surfaces as per Clause 710 of the special specifications.

**819**

**CLEANING AND MAINTENANCE**

1.

2. (i) Desilting of Pipe Culverts

•

• Where instructed Contractor shall desilt the existing pipe culverts by removing all the material from the pipe to make them clean and free flowing.

• Measurement and payment shall be by the linear metres of pipes de-silted, regardless of diameter size.

**SECTION 9 - PASSAGE OF TRAFFIC****901 SCOPE OF THE SECTION**

The Contractor shall so arrange his work to ensure the safe passage of the Traffic at all times and if necessary construct and maintain an adequate diversion for traffic complete with all the necessary road traffic signs.

The contractor shall provide to the satisfaction of the Engineer adequate warning signs, temporary restriction signs, advance warning signs, barriers, temporary bumps and any other device and personnel equipped with two way radios to ensure the safe passage of traffic through the works.

When carrying out the Works the Contractor shall have full regard for the safety of all road users.

The Contractor shall also provide sign posts and maintain to the satisfaction of the Engineer all deviations necessary to complete the works. The contractor should allow for the costs of complying with the requirements of this clause in his rates.

The contractor will 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 to the contractor for any expenditure on traffic control or the provision of deviations. The employer shall not be liable for inadequate prior investigations of this nature by the contractor.

**906 PASSAGE OF TRAFFIC THROUGH THE WORKS**

The Contractor shall arrange for passage of traffic through the works during construction and the cost of doing so shall be payable under Item 9.01. To this end, the contractor shall be deemed to have inspected the site Any damage caused by passing traffic through the works shall be made good at the contractor's own cost.

**907 SIGNS, BARRIERS AND LIGHTS**

Contractor shall provide signs, barriers and lights as shown in the drawing in Book of Drawings at the locations where the traffic is being carried off the existing road to the deviation and back again to existing road. The Contractor shall provide ramps and carry out any other measures as instructed by the Engineer to safely carry traffic from the road to deviation.

Contrary to what has been specified in this clause the road signs provided shall be fully reflectorised and in conformity with clause 9.1 of the "Manual for Traffic Signs in Kenya Part II".

**909 ASSISTANCE TO PUBLIC**

In addition to provision of clause 909, Contractor shall maintain close liaison with the relevant authorities to clear any broken down or accident vehicles from the deviations and the main road, in order to maintain smooth and safe flow of the traffic.

**912 MEASUREMENT AND PAYMENT**

(a) Construct Deviation

The Contractor shall be paid only 50% of the rate for this when he completes deviation road to the satisfaction of the Engineer. The balance shall be paid in equal monthly instalments over the contract period, as he satisfactorily maintains the deviation (as per clause 904 and 905 above) when it is in operation.

**SECTION 10 - GRAVEL WEARING COURSE****1001****GENERAL**

The material for gravel wearing course shall be won from sources identified by the contractor but approved by the Engineer. Method B, specified in the Standard Specification, shall be used as the method of measurement.

The gravel to be used shall meet all the requirements of Clause 10 of the Standard Specification for Road and Bridge Construction. The compaction shall be at least 95 % MDD (AASHTO T180) at a moisture content of between 80% and 105% of the Optimum Moisture Content (AASHTO T180).

**1003****MATERIAL REQUIREMENTS**

The material requirements for natural gravel for re-gravelling shall be as follows:

The grading of the gravel after placement and compaction on the road shall have a smooth grading curve within and approximately parallel to the following envelope.

Sieve (mm)	% by weight
37.5	100
28	85-100
20	85-100
14	65-100
10	55-100
5	35-92
2	23-77
1	18-62
0.425	14-50
0.075	10-40

The material shall have a minimum CBR of 20 at 95% MDD (AASHTO T180) and 4 day soak. The plasticity index shall not exceed 20%.

**SECTION 17 - CONCRETE WORKS****1703 MATERIALS FOR CONCRETE**

This work shall consist of placing selected approved material of 250mm minimum diameter on the foundation put after excavation to receive levelling concrete in accordance with these specifications and in conformity with the lines, grades and cross sections shown on the Drawings as directed by the Engineer.

**(a) Materials**

Selected rock: The selected rock boulders to be placed for this work shall be hard, sound, durable quarry stones as approved by the Engineer. Samples of the stone to be used shall be submitted to and approved by the Engineer before any stone is placed.

The maximum size of the stone boulders shall be 300mm.

**(b) Construction Method**

After completion of the structural excavation the surface of the loose soil shall be levelled and compacted. Then the stone of the above sizes shall be placed in one layer of 250mm over the compacted bed where the bottom slab will rest. Coarse sand shall be spread to fill up the voids in the stone boulders, and compaction with vibratory compactors should be performed to make this layer dense whereon a concrete of levelling course shall be placed.

**(c) Measurement and payment**

Measurement for the bedding materials shall be made in cubic metres for the completed and accepted work, measured from the dimension shown on the Drawings, unless otherwise directed by the Engineer.

Payment for the bedding Materials for Levelling Concrete Works shall be full compensation for furnishing and placing all materials, all labour equipment, tools and all other items necessary for proper completion of the work in accordance with the Drawings and specifications and as directed by the Engineer.

**1703(A) LEVELLING CONCRETE (CLASS 15/20) FOR BOTTOM SLAB INCLUSIVE OF COST OF FORM WORKS**

This work shall consist of placing and levelling lean concrete class 15/20 over the prepared bed of stone boulders in the foundation for bottom slab and wingwalls in accordance with these specifications and which conformity with the lines, grades, thickness and typical cross-sections shown on the drawings unless otherwise directed by the Engineer.

**(a) Materials for Levelling Concrete**

Requirement for the concrete class 15/20 is specified as follows:-

Design compressive strength (28) days : 15N/mm<sup>2</sup>

Maximum size of coarse aggregate : 20mm

Maximum cement content: 300 kg/m<sup>3</sup>.

Maximum water/cement ration of 50% with slump of 80mm.

**(b) Construction Method**

The bed of stone boulders upon which the levelling concrete will be placed shall be smooth, compacted and true to the grades and cross-section shall be set to the required lines and grades.

(c) Measurement and payment

Measurement for levelling concrete (class 15/20) shall be made in cubic metres completed and accepted levelling concrete work measured in place which is done in accordance with the Drawings and the Specifications.

Payment for this work shall be the full compensation for furnishing and placing all materials, labour, equipment and tools, and other incidentals to Specifications and as directed by the Engineer.

Pay item No. 17/02 Levelling Concrete Works (Class 15/20) for Box Culvert and wingwalls inclusive of Cost of Form works.

**1703(B)**

**REINFORCING BARS OF WALLS AND SLABS**

This work shall consist of furnishing, fabricating and placing in the concrete of the bottom slab, top slab, median wall, sidewalls, wingwalls and aprons, reinforcing bars of the quality, type and size in accordance with these specifications in conformity with the requirements shown on the Drawings.

(a) Material:

Reinforcing bars shall be deformed and shall meet the requirements of British standard BS4461, unless otherwise called for the drawings or approved by the Engineer.

No reinforcing bar shall be delivered without a certificate guaranteeing the yield stress. The 54 reinforcing bar shall be kept off the ground, free from dirt, oil, grease, or avoidable rust and stored within a building or provided with suitable covers.

If it is necessary for the Engineer to ascertain the quality of the reinforcing bars, the Contractor shall test the reinforcing bars, at his own expense, by means as directed by the Engineer.

(b) Construction Method

(i) Bar Bending Schedule:

The Engineer shall provide the Contractor with bending schedule showing the location types, sizes, bending dimensions and cut lengths of the reinforcing bar required to be fixed in the works.

(ii) Cutting and Bending:

Qualified men shall be employed for the cutting and bending, and proper application shall be provided for such work.

Bars shall be cut and bent cold to the dimensions indicated and with equipment and methods approved by the Engineer.

Stirrups and tie bars shall be bent around a pin having a diameter not less than 15 times the minimum diameter of the bar. Bends of other bars, where full tension in the bar may occur, shall be made around a pin having a diameter not less than 7.5 times the bar diameter as shown on the Drawings.

Reinforcing bars shall be accurately formed to the shapes and dimensions indicated on the Drawings, and shall be fabricated in a manner that will not injure the materials.

(c) Placing

Reinforcing bars shall be accurately placed in proper position, and so that they be firmly held during placing of concrete.

Bars shall be tied at all intersections by using annealed iron wire 0.9mm or larger diameter, or suitable clips.

Distances from the forms shall be maintained, corrected by means of metal

hangers, metal blocks, metal supports or other supports approved by the Engineer.

The Engineer shall inspect reinforcing bars after placing. When a long time has elapsed after placing reinforcing bars, they shall be cleaned and inspected again by the Engineer before placing concrete.

(d) Splicing and Joint

When it is necessary to splice reinforcing bars at points, position and methods of splicing shall be determined based on strength calculations and approved by the Engineer.

In lapped splices, the bars shall be lapped by the required length, and wired together at several points by using annealed iron wire larger than 0.9mm.

Exposed reinforcing bars intended for bonding with future extensions shall be effectively protected from injury and corrosion.

Oxyacetylene welding joint of reinforcing steel shall be done only if authorised by the Engineer in writing.

(e) Measurement and Payment

Bending and installation of reinforcing bar of piers and abutments shall be measured in terms of tons. The length of steel bar of each size will be shown on the drawings in which the bar length for splicing is excluded. In computing the weight to be measured, the theoretical weights of bars of the cross-section shown on the Drawings or authorised shall be used.

These weights are given in the following table: -

Bar type and the Cross-section in millimetres	Weight of Bar in Kilogramme—per 12m length of bar
Y10	7.40
Y12	10.66
Y16	18.95
Y20	29.60
Y25	46.30

**1703 (C) FORMWORK FOR CULVERT WALLS AND SLABS**

This work shall consist of all temporary moulds for forming the concrete for culvert walls



and slabs together with all temporary construction required for their support. Unless otherwise directed by the Engineer all formworks shall be removed on completion of the walls and slabs.

(a) Materials

Forms shall be made of wood or metal and shall conform to the shape, lines and dimensions shown on the Drawings.

All timber shall be free from holes, loose material, knots, cracks, splits and warps or other defects affecting the strength or appearance of the finished structure.

Release Agents – Release agents shall be either neat oils containing a surface activating agent, cream emulsions, or chemical agents to be approved by the Engineer.

(b) Construction Method

(c)

(i) Formworks

Formworks shall be designed to carry the maximum loads which may be imposed, and so be rigidly constructed as to prevent deformation due to load, drying and wetting, vibration and other causes. After forms have been set in correct location, they shall be inspected and approved by the Engineer before the concrete is placed.

If requested, the contractor shall submit to the Engineer working drawings of the forms and also, if requested, calculations to certify the rigidity of the forms.

Unless otherwise described in the Contract, all form joints for exposed surfaces of concrete shall form a regular pattern with horizontal and vertical lines continuous throughout each structure and all construction joints shall coincide with these horizontal and vertical lines. PVC pipes of 50mm diameter for weep holes shall be arranged as shown on the Drawings.

Unless otherwise specified, formwork shall be designed to form chamfers at all external corners whether or not such chamfers are shown on the Drawings to prevent cracks and other damage from arising.

The inside surface of forms shall be cleaned and coated with a releasing agent to prevent adhesion of the concrete. Release agents shall be applied strictly in accordance with the manufacturer's detailed instructions. The release agent shall be applied to the formwork prior to erection. Release agent must not come into contact with reinforcement. Immediately before concrete is placed, the forms shall be thoroughly cleaned and freed from sawdust, shavings, dust, mud or other debris by hosing with water. Temporary openings shall be provided in the forms to drain away the water and rubbish.

(i) Scaffolding

All scaffolding required to support the forms shall be designed and constructed to provide necessary rigidity and support the loads without appreciable deflection or deformation.

Details, plans and structural and flexural calculations for scaffolding shall be submitted to the Engineer for approval, but in no case shall the contractor be relieved of his responsibility for the results obtained by use of these plans, etc.

(iii) Removal of formwork

The time at which the formwork is truck shall be the Contractor's responsibility and the forms shall not be removed until the concrete strength has reached 20 N/mm<sup>2</sup>.

(c) Measurement and Payment

Formwork shall be measured as the net area, in square metres, in contact with the finished concrete surface of the walls and slabs. No measurement shall be allowed for formwork of temporary construction joints.

Payment for the Formworks shall be full compensation for furnishing, erecting, jointing all the forms for the concrete including furnishing and applying release agent, and construction of the required scaffolding to support the forms, all conforming to the shape, lines, grade and dimensions of the structure as shown on the Drawings, all in accordance with the Drawings and as directed by the Engineer.

**1703(D) CONCRETE WORKS (CLASS 25/20) OF CULVERT WALLS AND SLABS**

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of culvert walls and slabs, 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.

(a) Concrete Materials

(d)

(1) Cement:

Cement shall be of Portland type and shall conform to the requirements of BS 12 or equivalent.

The contractor shall select only one type or brand of cement or others. 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 storehouse shall not exceed more than two (2) months, 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 result of quality certificate done prepared by the manufacturer.

Whenever it is found out that cement have been stored too long, moist, or caked, the cement shall be rejected and removed from the project.

(2) 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, AASGTO T96 : Max. 405 loss  
 Soft Fragment and shale, AASHTO M80 : Max. 5% by weight  
 Thin and elongated Pieces, AASHTO M80 : Max. 15%

## (3) Water

All sources of water to be used with cement shall be approved by the Engineer. Water shall be free from injurious quantities of oil, alkali, vegetable matter and salt as determined by the Engineer.

## (4) Admixture

Only admixture, which have been tested and approved in the site laboratory through trial mixing for design proportion shall be used.

Before selection of admixture, the Contractor shall submit to the Engineer the specific information or guarantees prepared by the admixture supplier.

The contractor shall not exclude the admixture from concrete proportions.

**Concrete class 25/20**

Concrete class 25/20 shall be used for culvert wingwalls and slabs. The requirements of Concrete class 25/20 are provided as follows unless otherwise the Engineer will designate any alteration.

Design compressive strength (28 days) : 25N/mm<sup>2</sup>  
 Maximum size of coarse aggregates : 20mm

Maximum water/cement ratio of 45% with slump of 80mm

(a) **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 proportions which has 120% of the strength requirement specified for the designated class of concrete.

No class of concrete shall be prepared or placed until its job-mix proportions have been approved by the Engineer.

(b) **Concrete Work**

(i) **Batching**

Batching shall be done by weight with accuracy of:

Cement	: ½ percent
Aggregate	: ½ percent
Water and Admixture	: 1 percent.

(e)

Equipment should be capable of measuring quantities within these tolerances for the smartest batch regularly used, as well as for larger batches.

The accuracy of batching equipment should be checked every month in the presence of the Engineer and adjusted when necessary.

(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<sup>0</sup>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 is 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.

(d) **Measurement and Payment**

Measurements for the Concrete Works Class 25/20 of culvert walls and slabs shall be made in cubic metres for the walls and slabs actually constructed, measured from their dimensions shown on the Drawings. Payment for the Concrete Works (Class 25/20) of culvert walls and slabs 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 incidental necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

**SECTION 20 - ROAD FURNITURE****2004 PERMANENT ROAD SIGNS**

Permanent Road Signs shall be provided as directed by the Engineer and in compliance with the requirements of the “Manual for Traffic Signs in Kenya” Part II and Standard Specification clause 2004.

**2004B EXISTING ROAD SIGNS**

Where directed by the Engineer, the Contractor shall take down road signs including all posts, nuts, bolts and fittings, and remove and dispose of the concrete foundation and backfill the postholes. The signs shall be stored at the Contractor’s store and they shall become the property of the Employer who shall remove them prior to the expiry of the maintenance period.

Measurement and payment for taking down road signs shall be made by the number of signs of any type and size taken down, cleaned and stored as directed.

Where a salvaged existing sign complies with the requirements of new road signs, the Engineer may instruct the Contractor to remove the sign for safe storage, and re-erect it.

Measurement and payment shall be made by the number of road signs re-erected as directed and the rate shall include for excavation, concrete foundations and backfilling around posts and removal of surplus material to spoil.

**2006 GUARDRAILS AND HANDRAILS**

Contrary to the Standard Specification, guardrail posts shall be concrete 200mm diameter set vertically at least 1.2m into the shoulder as directed by the Engineer. Spacer blocks shall also be made of concrete.

Beams for guardrails shall be “Armco Flexbeam” or similar obtained from a manufacturer approved by the Engineer.

Handrails, steel bolts and nuts shall be provided on all bridges.

## **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 Bill 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 Bill of Quantities are estimated and provisional, 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. 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.
5. A price or rate shall be entered in ink against every item in the Bill of Quantities with the exception of items, which 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.
6. Provisional sums in the Bill of Quantities shall be expended in whole or in part at the discretion of the Engineer in accordance with Sub-Clause 52.4 and Clause 58 of Part I of the Conditions of Contract.
7. The price and rates entered in the Bill of Quantities shall, except insofar 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 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.
8. Errors in the pricing of the Bills of Quantities will be corrected in accordance with Clause (28) of instructions to bidders.

## **DRAWINGS**



**SCHEDULE 1: SCHEDULE OF BASIC RATES OF MATERIALS**

(Ref: Conditions of Contract)

Bidders shall complete the blank section of this schedule only, and shall make no alterations to any item nor insert any additional materials. The prices inserted shall be those prevailing 30 days before submission of Bids and shall be quoted in Kenya shillings using the exchange rates specified in the Bidding Data. The prices shall be supported by bona fide quotations for use as provided in Clause 70.

ITEM NO	DESCRIPTION	COUNTRY OF ORIGIN	NAME OF SUPPLIER	UNIT	RATE KSHS. CTS	
1.	Petrol, Regular Grade			Litre		
2.	Petrol, Premium/ super Grade			Litre		
3.	Automotive Diesel Fuel			Litre		
4.	Industrial Diesel Oil			Litre		
5.	Kerosene Fuel			Litre		
6.	Cement			Tonne		
7.	Flex beam Guardrail			Metre		
8.	Gabion Mesh			M <sup>2</sup>		
9.	Reinforcing Steel			Tonne		

The employer shall / has the right to confirm the authenticity of prices from the said suppliers.

.....  
(Signature of Bidder)

.....  
(Date)

**SCHEDULE 2: MAJOR ITEMS OF CONSTRUCTION PLANT AND EQUIPMENT**

Date of Arrival on Project (Days after commencement)	
Power Rating	
Owned/Leased/Imported	
Source	
Estimated CIF Mombasa Value (If to be Imported)	
Capacity	
New or Used	
Year of Manufacture	
No. of each	
Description Type, Model, Make	

The Bidder shall enter in this schedule all major items of plant and equipment which he proposes to bring to site. Only reliable plant in good working order and suitable for the work required of it shall be shown on this Schedule.

I certify that the above information is correct.

.....  
(Signature of Bidder)

.....  
(Date)

**SCHEDULE 3: FORM OF WRITTEN POWER OF ATTORNEY**

The Bidder shall state here below the name(s) and address of his representative(s) who is/are authorized to receive on his behalf correspondence in connection with the Bid.

.....  
(Name of Bidder's Representative in block letters)

.....  
(Address of Bidder's Representative)

.....  
(Signature of Bidder's Representative)

Alternate:

.....  
(Name of Bidder's Representative in block letters)

.....  
(Address of Bidder's Representative)

.....  
(Signature of Bidder's Representative)

\*To be filled by all Bidders.

\*Both representative and alternate **must** attach copy of National Identification card or Passport

**SCHEDULE 6: KEY PERSONNEL**

DESIGNATION	NAME	NATIONALITY	SUMMARY OF QUALIFICATIONS AND EXPERIENCE		
			Qualifications	General Experience (Yrs)	Specific Experience (Yrs)
<p><b>Headquarters</b></p> <p>Partner/Director or other key staff (give designation)</p>					
<p><b>Site Office</b></p> <p>Site Agent</p> <p>Deputy Site Agent.</p> <p>Supervising Engineer</p> <p>Construction supervisors</p> <p>Site Surveyor</p> <p><b>Other Key Staff</b></p> <p>Foremen</p> <p>(i) Earthworks</p> <p>(ii) Concrete</p>					

**Note:** The Bidder shall list in this schedule the key personnel he will employ from the Contractor’s headquarters and from the Contractor’s site office to direct and execute the work together with their qualifications, experience, position held and nationality in accordance with of the Conditions of Contract (where required, use separate sheets to add extra data for column 4). Bidders shall attach signed and certified CVs of all key staff.

I certify that the above information is correct.

.....  
(Signature of Bidder)

.....  
(Date)



**SCHEDULE 8: SCHEDULE OF ONGOING PROJECTS**

DESCRIPTION	NAME & ADDRESS OF CLIENT	DATE OF COMMEN CEMENT	DATE OF COMPLETION	VALUE OF WORKS (KSHS)	VALUE COMPLETED UP TO DATE %	PHYSICALLY COMPLETED UP TO DATE %

I certify that the above works are being carried out by me and that the above information is correct.

.....  
(Signature of Bidder)

.....  
(Date)

**SCHEDULE 9: SCHEDULE OF LOCAL LABOUR BASIC RATES**

The rates inserted in this schedule will be those used in determining changes in cost of local labour as provided in Clause 70.1 of the Conditions of Contract Part 2.

LABOUR CATEGORY	MONTH/SHIFT/HOUR	UNIT	RATE SHS

NOTE: Categories to be generally in accordance with those used by the Kenya Building Construction Engineering and Allied Trade Workers Union

I certify that the above information is correct.

.....  
Date

.....  
Signature Of Bidder

**SCHEDULE 10: FINANCIAL STANDING**

- 1 Submit copies of audited profit and loss statements and balance sheet for the last five calendar years.
- 2 Give turnover figures for each of the last five (5) financial years. Quote in millions and decimal thereof.

	Year	Year	Year	Year	Year
	KShs.	KShs.	KShs.	KShs.	KShs.
Roadworks					
Other civil Engineering works					
Other (specify)					
Total					

**SUMMARY OF ASSETS AND LIABILITIES OF THE AUDITED FINANCIAL STATEMENTS OF THE LAST THREE (3) FINANCIAL YEARS.**

	Year	Year	Year
	KShs.	KShs.	KShs.
1. Total Assets			
2. Current Assets			
3. Bank Credit Line Value			
4. Total Liabilities			
5. Current Liabilities			
6. Net Worth (1-4)			
7. Working capital (2+3-5)			

(a) Name/Address of Commercial Bank providing credit line

.....  
 .....

(b) Total amount of credit line KShs.....

Attach certified copies of financial bank statements of the last three years.

Attach a certified copy of Undertaking of the Bank to providing the credit.



**SCHEDULE 11: OTHER SUPPLEMENTARY INFORMATION**

1. Name, address, telephone, telex, fax numbers of the Bidders Bankers who may provide reference if contacted by the Contracting Authority.

.....  
 .....  
 .....

2. Information on current litigation in which the Bidder is involved.

OTHER PARTY (IES)	CAUSE OF DISPUTE	AMOUNT INVOLVED (KSHS)

I certify that the above information is correct.

.....  
 Date

.....  
 Signature Of Bidder

**SCHEDULE 12: WORK METHODOLOGY**

Give a brief description of how you intend to carry out the work including traffic management, quality assurance of works and any designs to be carried out by the Bidder, in not less than one (1) page and not more than three (3) pages.

Proposed Construction of Kabara Bridge - Ruguru Ngandori Ward

<b><u>BILLS OF QUANTITIES</u></b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>AMOUNT</b>
1.01	Provide, erect and maintain contract signboard throughout the contract as directed by the engineer	Nr	1		
1.02	Prime Cost Sum of Kshs. 200,000 for attendance upon the Resident Engineer as directed by the Engineer in accordance with clause 137 of the standard specification	P.C sum	1		
1.03	Allow for testing of materials and samples by resident engineer's office at places other than laboratories on site	P.C sum	1		
1.04	Allow for profits and overheads for item 1.02	%			
1.05	Clear bushes(Light bush clearing) on either sides of the proposed box culvert and cart away to spoil	M <sup>2</sup>	200		
1.06	Allow for river trenching by excavating in any material and carting away the surplus material for the river to resume its original course as will be directed by the Engineer	Lump Sum	1		
1.07	Demolish existing timber deck and masonry abatments and cart to spoil or stockpile for re-use as directed by the Engineer.	Lump Sum	1		
1.08	Excavation for structures in soft material	M <sup>3</sup>	63		
1.09	Excavate and backfill in soft material and compact the excavation to receive gabion boxes and / or spoil the excavated materials as directed by the Engineer.	M <sup>3</sup>	35		
1.1	Allow for rock blasting on the down stream	Lump Sum	1		
1.11	Provide and place macaferri or equivalent gabion boxes (2X1X1) and mattresses as specified	m <sup>2</sup>	30		
1.12	Provide and place rockfill to gabions	M <sup>3</sup>	27		
1.13	Provide stone pitching complete with cement sand 1:3 for grouting as directed by the Engineer	m <sup>2</sup>	30		
	Total Carried Forward Below				

Proposed Construction of Kabara Bridge - Ruguru Ngandori Ward

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	<b>Brought forward from above</b>				
1.14	E.O item 1.12 for cement grouting to gabion faces as directed by the EGINEER	m <sup>2</sup>	27		
1.16	Allow for the passage of traffic through the works	L/SU M	1		
1.16	Construct and maintain 6.5 m wide deviation having a 150mm thick gravel surfacing including road signs.	Km	0.05		
	<b>CONCRETE</b>				
	Provide, place and compact the following classes of concrete as specified				
1.17	Class 15/20 concrete	M <sup>3</sup>	7		
1.18	Class 25/20 concrete	M <sup>3</sup>	36		
	<b>Form work</b>				
1.19	Provide, erect and afterwards dismantle and remove all the formwork as specified by the Engineer.				
1.2	Class F1 finish	M <sup>2</sup>	66		
1.21	Class F2 finish	M <sup>2</sup>	48		
	<b>Reinforcement</b>				
	Provide, bend and fix to Position high yield steel reinforcement				
1.22	i) 16 mm Diameter or less	ton	2.6		
1.23	ii) Larger than 16 mm Diameter	ton	2.5		
1.24	Provide and install in position 75mm Diameter plastic pipes through the sides of the Deck slab and abutment	No	30		
1.25	Provide and place new guard rails of 75mm by 100mm by 6mm with two running lines of size complete with steel of 100 mm by 100mm by 6mm posts, spacer nuts,	M	11		
1.26	Provide and compact suitable material to culvert approaches for verticle alignment of the road	M <sup>3</sup>	150		
1.27	Provide, lay, process and compact 150mm thick gravel to culvert approaches	M <sup>3</sup>	90		
Total					
Total Carried to Summary Sheet					

## SUMMARY SHEET

No.	DESCRIPTION	TOTAL AMOUNT(KShs)
1	Total value of works Sub total 1	
2	Allow Provisional Sum of 5% of Sub - Total 1 for Contingencies To Be Expended Only With Express Approval Of The Engineer	
3	<b>SUB - TOTAL 2</b>	
4	<b>Add 16% for V.A.T of Sub total 2</b>	
5	<b>CARRIED TO QUOTATION FORM</b>	