COUNTY GOVERNMENT OF TRANS NZOIA
KITALE MUNICIPALITY

TENDER DOCUMENT

UPGRADING OF BARABARA MPYA – MITUME ROAD (1.75KM) TO BITUMEN STANDARDS

TENDER NO: CGTN/KMB/KUSP/T001/2020-2021

Municipal Manager
Kitale Municipality,
County Government of Trans Nzoia,
P.O Box 4211 – 30200,
KITALE

ISSUED ON: 05/03/2021
SITE VISIT: TUESDAY 09/03/2021, 9.30AM
CLOSING DATE: FRIDAY 12/03/2021, AT 11.00AM
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SECTION I: INVITATION FOR TENDERS

TENDER NAME: UPGRADING OF BARABARA MPYA - MITUME ROAD (1.75KM) TO BITUMEN STANDARDS

TENDER NUMBER: CGTN/KMB/KUSP/T001/2020-2021

1.1 The Kitale Municipal Board has set aside funds from the World Bank’s Kenya Urban Support Program (KUSP) towards the cost of the proposed upgrading of Barabara Mpya - Mitume Road (1.75Km), located in Kitale Town, to Bitumen Standards. The Board now invites sealed Tenders from eligible contractors registered under NCA (Grade 1-5 in Roads and other Civil Works) to execute the works.

1.2 Tendering will be conducted through the open national tendering procedures specified in The Public Procurement and Asset Disposal Act 2015 and The Public Procurement and Asset Disposal Regulations 2020.

1.3 Prospective candidates may obtain further information/details, view and download tender documents free of charge at the County’s website www.transnzoia.go.ke and also at the National Government Tenders Portal http://www.tenders.go.ke.

1.4 A site visit shall be held on Tuesday, 9th March, 2021 starting 10.00am. Prospective Bidders shall converge at the County Supply Chain Management Services located at the County yard (Fire Station) Kitale at 9.30am. A certificate of site visit shall be issued to all those in attendance.

1.5 Bidders shall be required to submit a tender security of Kshs.2,000,000/= in form of Bank Guarantee.

1.6 Completed set of tender documents, One (1) Original and four (4) copies, in plain sealed envelopes clearly marked with the tender number and name, bearing no indication of the bidder should be addressed to;

County Secretary,
County Government of Trans Nzoia
P.O Box 4211 – 30200
Kitale

1.7 And deposited in the tender box located at the County Yard Kitale so as to be received on or before Friday, 12th March, 2021 at 11.00am. Bids delivered late shall not be accepted.

1.8 Tenders will be opened immediately thereafter in the presence of bidders or their representatives who choose to attend.

Municipal Manager
KITALE MUNICIPALITY
SECTION II: INSTRUCTIONS TO TENDERERS.

1. General/Eligibility/Qualifications/Joint venture/Cost of tendering

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 tender documents.

1.2 All tenderers shall provide the Qualification Information, a statement that the tenderer (including all members of a joint venture and subcontractors) is not associated, or has not been associated in the past, directly or indirectly, with the Consultant or any other entity that has prepared the design, specifications, and other documents for the project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to tender.

1.3 All tenderers shall provide in the Form of Tender and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

1.4 In the event that pre-qualification of potential tenderers has been undertaken, only tenders from pre-qualified tenderers will be considered for award of Contract. These qualified tenderers should submit with their tenders any information updating their original pre-qualification applications or, alternatively, confirm in their tenders that the originally submitted pre-qualification information remains essentially correct as of the date of tender submission.

1.5 Where no pre-qualification of potential tenderers has been done, all tenderers shall include the following information and documents with their tenders, unless otherwise stated:

(a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the tender to commit the tenderer;
(b) total monetary value of construction work performed for each of the last five years;
(c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and names and addresses of clients who may be contacted for further information on these contracts;
(d) major items of construction equipment proposed to carry out the Contract and an undertaking that they will be available for the Contract.
(e) qualifications and experience of key site management and technical personnel proposed for the Contract and an undertaking that they shall be available for the Contract.

(f) reports on the financial standing of the tenderer, such as profit and loss statements and auditor’s reports for the past five years;

(g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);

(h) authority to seek references from the tenderer’s bankers;

(i) information regarding any litigation, current or during the last five years, in which the tenderer is involved, the parties concerned and disputed amount; and

(j) proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

1.6 Tenders submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise stated:

(a) the tender shall include all the information listed in clause 1.5 above for each joint venture partner;

(b) the tender shall be signed so as to be legally binding on all partners;

(c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

(d) one of the partners will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of all partners of the joint venture; and

(e) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

1.7 To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria;

(a) annual volume of construction work of at least 2.5 times the estimated annual cashflow for the Contract;

(b) experience as main contractor in the construction of at least two works of a nature and complexity equivalent to the Works over the last 10 years (to comply with this requirement, works cited should be at least 70 percent complete);

(e) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed as required for the Works;

(f) a Contract manager with at least five years’ experience in works of an equivalent nature and volume, including no less than three years as Manager; and

(g) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than 4 months of the estimated payment flow under this Contract.
1.8 The figures for each of the partners of a joint venture shall be added together to determine the tenderer’s compliance with the minimum qualifying criteria of clause 1.7 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria 1.7 (a), (b) and (e) for an individual tenderer, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement will result in rejection of the joint venture’s tender. Subcontractors’ experience and resources will not be taken into account in determining the tenderer’s compliance with the qualifying criteria, unless otherwise stated.

1.9 Each tenderer shall submit only one tender, either individually or as a partner in a joint venture. A tenderer who submits or participates in more than one tender (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the tenderer’s participation to be disqualified.

1.10 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.

1.11 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.

1.12 The procuring entity’s employees, committee members, board members and their relative (spouse and children) are not eligible to participate in the tender.

1.13 The price to be changed for the tender document shall not exceed Kshs.5,000/=.

1.14 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 below and any addenda issued in accordance with Clause 2.4.

- These Instructions to Tenderers
- Form of Tender and Qualification Information
- Conditions of Contract
- Appendix to Conditions of Contract
- Specifications
- Drawings
- Bills of Quantities
- Forms of Securities
2.2 The tenderer shall examine all Instructions, Forms to be filled and Specifications in the tender documents. Failure to furnish all information required by the tender documents, or submission of a tender not substantially responsive to the tendering documents in every respect will be at the tenderer’s risk and may result in rejection of his tender.

2.3 A prospective tenderer making an inquiry relating to the tender 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 only respond to requests for clarification received earlier than seven 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 here below.

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) These Instructions to Tenderers, Form of Tender, Conditions of Contract, Appendix to Conditions of Contract and Specifications;
(b) Tender Security;
(c) Priced Bill of Quantities;
(d) Qualification Information Form and Documents;
(e) Alternative offers where invited; and
(f) Any other materials required to be completed and submitted by the tenderers.

3.3 The tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. 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. All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause
relevant to 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 only be subject to adjustment during the performance of the Contract if provided for in the Appendix to Conditions of Contract and provisions made in the Conditions of 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. A tenderer may refuse the request without forfeiting the Tender Security. A tenderer agreeing to the request will not be required or permitted to otherwise modify the tender, but will be required to extend the validity of Tender Security for the period of the extension, and in compliance with Clause 3.7 - 3.11 in all respects.

3.7 The tenderer shall furnish, as part of the tender, a Tender Security in the amount and form specified in the appendix to invitation to tenderers. This shall be in the amount not exceeding 2 percent of the tender price

3.8 The format of the Tender Security should be in accordance with the form of Tender Security included in Section G - Standard forms or any other form acceptable to the Employer. Tender Security shall be valid for 30 days beyond the validity of the tender.

3.9 Any tender not accompanied by an acceptable Tender Security shall be rejected. The Tender Security of a joint venture must define as “Tenderer” all joint venture partners and list them in the following manner: a joint venture consisting of”............”,“............”and “............”.

3.10 The Tender Securities of unsuccessful tenderers will be returned within 28 days of the end of the tender validity period specified in Clause 3.6.

3.11 The Tender Security of the successful tenderer will be discharged when the tenderer has signed the Contract Agreement and furnished the required Performance Security.

3.12 The Tender Security may be forfeited
(a) if the tenderer withdraws the tender after tender opening during the period of tender validity;
(b) if the tenderer does not accept the correction of the tender price, pursuant to Clause 5.7;
(c) in the case of a successful tenderer, if the tenderer fails within the specified time limit to
   (i) sign the Agreement, or
3.13 Tenderers shall submit offers that comply with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered, unless specifically allowed in the invitation to tender. If so allowed, tenderers wishing to offer technical alternatives to the requirements of the tendering documents must also submit a tender that complies with the requirements of the tendering documents, including the basic technical design as indicated in the Drawings and Specifications. In addition to submitting the basic tender, the tenderer shall provide all information necessary for a complete evaluation of the alternative, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated tender conforming to the basic technical requirements shall be considered.

3.14 The tenderer shall prepare one original of the documents comprising the tender documents as described in Clause 3.2 of these Instructions to Tenderers, bound with the volume containing the Form of Tender, and clearly marked “ORIGINAL”. In addition, the tenderer shall submit copies of the tender, in the number specified in the invitation to tender, and clearly marked as “COPIES”. In the event of discrepancy between them, the original shall prevail.

3.15 The original and all copies of the tender 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, pursuant to Clause 1.5 (a) or 1.6 (b), as the case may be. All pages of the tender where alterations or additions have been made shall be initialled by the person or persons signing the tender.

3.16 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.

3.17 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.

3.18 The tender security shall be in the amount of 0.5 – 2 per cent of the tender price.

4. Submission of Tenders

4.1 The tenderer shall seal the original and all copies of the tender in two inner envelopes and one outer envelope, duly marking the inner envelopes as
“ORIGINAL” and “COPIES” as appropriate. The inner and outer envelopes 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. However, 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.

4.3 Any tender received after the deadline prescribed in clause 4.2 will be returned to the tenderer un-opened.

Tenderers may modify or withdraw their tenders by giving notice in writing before the deadline prescribed in clause 4.2. Each tenderer’s modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with clause 3.13 and 4.1, with the outer and inner envelopes additionally marked “MODIFICATION” and “WITHDRAWAL”, as appropriate. No tender may be modified after the deadline for submission of tenders.

4.4 Withdrawal of a tender between the deadline for submission of tenders and the expiration of the period of tender validity specified in the invitation to tender or as extended pursuant to Clause 3.6 may result in the forfeiture of the Tender Security pursuant to Clause 3.11.

4.5 Tenderers may only offer discounts to, or otherwise modify the prices of their tenders by submitting tender modifications in accordance with Clause 4.4 or be included in the original tender submission.

5. Tender Opening and Evaluation

5.1 The tenders will be opened by the Employer, including modifications made pursuant to Clause 4.4, in the presence of the tenderers’ representatives who choose to attend at the time and in the place specified in the invitation to tender. Envelopes marked “WITHDRAWAL” shall be opened and read out first. Tenderers’ and Employer’s representatives who are present during the opening shall sign a register evidencing their attendance.
5.2 The tenderers’ names, the tender prices, the total amount of each tender and of any alternative tender (if alternatives have been requested or permitted), any discounts, tender modifications and withdrawals, the presence or absence of Tender Security, and such other details as may be considered appropriate, will be announced by the Employer at the opening. Minutes of the tender opening, including the information disclosed to those present will be prepared by the Employer.

5.3 Information relating to the examination, clarification, evaluation, and comparison of tenders and recommendations for the award of 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 To assist in the examination, evaluation, and comparison of tenders, the Employer at his discretion, may ask 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 price or substance of the tender shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered in the evaluation of the tenders in accordance with Clause 5.7.

5.5 Prior to the detailed evaluation of tenders, the Employer will determine whether each tender (a) meets the eligibility criteria defined in Clause 1.7; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the tendering documents. A substantially responsive tender is one which conforms to all the terms, conditions and specifications of the tendering documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the works; (b) which limits in any substantial way, inconsistent with the tendering documents, the Employer’s rights or the tenderer’s obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other tenderers presenting substantially responsive tenders.

5.6 If a tender is not substantially responsive, it will be rejected, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

5.7 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, 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, 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 may be forfeited in accordance with clause 3.11.

5.8 The Employer will evaluate and compare only the tenders determined to be substantially responsive in accordance with Clause 5.5.

5.9 In evaluating the tenders, the Employer will determine for each tender the evaluated tender price by adjusting the tender price as follows:

(a) making any correction for errors pursuant to clause 5.7;

(b) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Dayworks where priced competitively.

(c) making an appropriate adjustment for any other acceptable variations, deviations, or alternative offers submitted in accordance with clause 3.12; and

(d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with clause 4.6

5.10 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the tender documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in tender evaluation.

5.11 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.

5.12 Firms incorporated in Kenya where indigenous Kenyans own 51% or more of the share capital shall be allowed a 10% preferential bias provided that they do not sub-contract work valued at more than 50% of the Contract Price excluding Provisional Sums to an non-indigenous sub-contractor.

6. Award of Contract

6.1 Subject to Clause 6.2, the award of the Contract will be made to the tenderer whose tender has been determined to be substantially responsive to the tendering documents and who has offered the lowest evaluated tender price, provided that such tenderer has been determined to be (a) eligible in accordance with the provision of Clauses 1.2, and (b) qualified in accordance with the provisions of clause 1.7 and 1.8.

6.2 Notwithstanding 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”) that 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. At the same time the other tenderers shall be informed that their tenders have not been successful. The contract shall be formed on the parties signing the contract.

6.4 The Agreement will incorporate all agreements between the Employer and the successful tenderer. Within 14 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 in the amount stipulated in the Appendix to Conditions of Contract and in the form stipulated in the Tender documents. The Performance Security shall be in the amount and specified form

6.6 Failure of the successful tenderer to comply with the requirements of clause 6.5 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Tender Security.

6.7 Upon the furnishing by the successful tenderer of the Performance Security, the Employer will promptly notify the other tenderers that their tenders have been unsuccessful.

6.8 Preference where allowed in the evaluation of tenders shall not be allowed for contracts not exceeding one year (12 months)
6.9 The tender evaluation committee shall evaluate the tender within 30 days of the validity period from the date of opening the tender.

6.10 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.

6.11 Contract price variations shall not be allowed for contracts not exceeding one year (12 months)

6.12 Where contract price variation is allowed, the valuation shall not exceed 15% of the original contract price.

6.13 Price variation request shall be processed by the procuring entity within 30 days of receiving the request.

6.14 The procuring entity may at any time terminate procurement proceedings before contract award and shall not be liable to any person for the termination.

6.15 The procuring entity shall give prompt notice of the termination to the tenderers and on request give its reasons for termination within 14 days of receiving the request from any tenderer.

6.16 A tenderer who gives false information in the tender document about its qualification or who refuses to enter into a contract after notification of contract award shall be considered for debarment from participating in future public procurement.

7. Corrupt and Fraudulent practices

7.1 The procuring entity requires that tenderers observe the highest standards of ethics during procurement process and execution of contracts. A tenderer shall sign a declaration that he has not and will not be involved in corrupt and fraudulent practices.
SECTION III – APPENDIX TO INSTRUCTION TO TENDERER’S

The following appendix to instructions to tenderers shall complement or amend the provisions of the instruction to tenderers (section II). Wherever there is a conflict between the provisions 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 tenderer.

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<th>Particulars Of Appendix To Instructions To Tenders</th>
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<td>1.0</td>
<td>Tenders can be downloaded at <a href="http://www.transnzoia.go.ke">www.transnzoia.go.ke</a> or <a href="http://www.tenders.go.ke">www.tenders.go.ke</a> free of charge</td>
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| 1.5                                | The bidder must provide valid copies of the following for evaluation purposes;  
• Registration/ incorporation certificate CR12 (for Ltd companies)  
• Valid relevant NCA (in road works level 1 – 6) & practicing license  
• Valid Tax compliance  
• Valid Single Business Permit  
• Clearance from CRB (Credit Reference Bureau)  
• Bidders to chronologically serialize all pages of their bid document  
• Confidential Business Question (Form S33)  
• Form of tender filled, signed and stamped  

In addition to the above bidders should provide valid copies of documents as indicated 5.1 below under technical requirements which shall constitute basis for technical evaluation; |

| 3.6                                | Tender validity period is 120 days after the opening date |
| 3.7                                | Tender security of Kshs.2,000,000/= in form of bank guarantee from reputable Banks approved by PPRA. |
| 4.1                                | Tenderers to submit 1 original and 4 copies of the tender documents in the prescribed manner |
| 5.0                                | Friday, 12th March, 2021 at 11.00am |
| 5.1                                | EVALUATION CRITERIA  
Evaluation for all bids shall be in three (3) stages  
(i) Preliminary Evaluation  
(ii) Technical Evaluation.  
(iii) Financial Evaluation |
| Mandatory Evaluation               | Certified copies of the following documents MUST be attached |
| S/No. | Requirements |
| MR1   | Registration/ Incorporation certificate |
| MR2   | CR12 (for Ltd companies) |
| MR3   | Copies of IDs for Directors/Owners |
| MR4   | Valid and current NCA reg. & License (Roads) |
| MR5   | Tender Security of Kshs.2,000,000/= |
| MR6   | Submitted 1 original & 4 copies of tender document |
| MR7   | Valid Tax compliance |
| MR8   | Valid Single Business Permit |
| MR9   | Clearance from CRB (Credit Reference Bureau) |
| MR10  | Confidential Business Question (Form S33) |
| MR11  | Form of tender filled, signed and stamped |
At this stage bid documents shall be examined for compliance with mandatory requirements. Bidders shall be required to submit certified copies of the above (MR2, MR3, MR7 and MR8) by the Commissioner For Oaths and failure to comply on any of the above shall result to automatic disqualification without any further consideration.

**Technical Scores (TS)**

This section (Technical Evaluation) will carry a total of 100% of the whole evaluation and a bidder must score a minimum of 70% to be responsive to the technical requirement. The criteria shall be as follows;

<table>
<thead>
<tr>
<th>ITEM</th>
<th>EVALUATION ATTRIBUTE</th>
<th>WEIGHTED SCORE</th>
<th>MAX. SCORE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPERIENCE OF THE FIRM</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS 1</td>
<td>No. of yrs registered with NCA as a road contractor (Note NCA certificate to be verified)</td>
<td>≥ 10 years = 10</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>≤ 10 (No. of yrs x 10)/10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS 2</td>
<td>NCA Certification Level</td>
<td>NCA 1 = 10, NCA 2 = 8, NCA 3 = 6, NCA 4 =4, NCA 5 = 2)</td>
<td>10</td>
</tr>
<tr>
<td>TS 3</td>
<td>Similar road construction projects</td>
<td>Projects completed in the past 5 year 5 projects = 15mks ≤ 5 projects (No. of projects x 15)/5</td>
<td>15</td>
</tr>
<tr>
<td><strong>FINANCIAL CAPABILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS 4</td>
<td>Audited Accounts</td>
<td>Audited financial report (last 2 yrs)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Average Annual turnover ≥ 250m = 15mks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average Annual turnover ≤ 250m = (amount/250m x 15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS 5</td>
<td>Letter of proof on extent of credit/overdraft from your bankers. (attach letter from your banker on financing/Bank Statement)</td>
<td>Evidence of financial Resources (Cash in hand, lines of credit, overdraft facility etc.)</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>≥ 50million = 15mks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average Annual turnover ≤ 50m = (amount/50m x 15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PERSONNEL CAPABILITY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS 6</td>
<td>Management Profile &amp; Key Personnel (Provide details of any relevant certification &amp;/or accreditations of key staff)</td>
<td>Director (Manager) Relevant academic qualification</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Degree/Diploma = 5 marks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Certificate = 3 marks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Trade test = 2 marks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>None= 0 marks</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Attach CV &amp; Copy of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>Role</td>
<td>Key staff with at least Diploma / Degree in civil engineering or other relevant field with post graduate experience of;</td>
<td>Marks</td>
</tr>
<tr>
<td>----</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
</tbody>
</table>
| 7  | Supervisors    | ≥10 years = 5 marks  
≥5 < 10 years = 3 marks  
< 5 years = 1 marks  
(Attach CV & Copy of academic Certificates) | 5     |
| 8  | Foreman        | Key staff with at least certificate in civil engineering or other relevant field with post graduate experience of; | 5     |
|     |                | ≥10 years = 5 marks  
≥5 < 10 years = 3 marks  
< 5 years = 1 marks  
(Attach CV & Copy of academic Certificates) |       |

**EQUIPMENT CAPABILITY**

<table>
<thead>
<tr>
<th>TS</th>
<th>Requirement</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>The bidder must indicate and provide proof of ownership or leasing of core plant/equipment necessary for the assignment.</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Pedestrian Roller - Man walk behind, Self-propelled single drum vibrating, AC Pavers/Distributors, Mobile concrete mixers, Excavator/loader, Concrete vibrators, Tippers payload, Flatbed lorries, Water tankers (10,000 litres capacity), Motor graders, Dozer, AC Distributer etc.</td>
<td></td>
</tr>
</tbody>
</table>

**LITIGATION HISTORY**

<table>
<thead>
<tr>
<th>TS</th>
<th>Proportion of bidders pending litigation to his net worth</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Proportion of bidders pending litigation to his net worth;</td>
<td></td>
</tr>
</tbody>
</table>
|    | ≥50% = 0 marks  
<50% = 5 marks |       |

**OTHERS**

<table>
<thead>
<tr>
<th>TS</th>
<th>Requirement</th>
<th>Marks</th>
</tr>
</thead>
</table>
| 11 | Corporate Social Responsibility  
(Provide as specified) | 2     |
| 12 | Compliance with NSSF requirement  
Compliance Certificate/proof of Registration | 2     |
| 13 | Compliance with NHIF requirements.  
Compliance Certificate/proof of Registration | 1     |

| Total | 100 |

**6.0 Award Criteria**
Responsive Bidders in the technical evaluation shall be considered for award. Prices shall be compared and the lowest bidder recommended for award. The analysis of each activity as planned in the specification will considered during financial comparison.

| 6.5 | The performance security required shall be 10% of the contract value in form of bank guarantee to be availed on or before signing of the contract |
SECTION IV CONDITIONS OF CONTRACT

1. Definitions

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

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

“Compensation Events” are those defined in Clause 24 hereunder.

“The Completion Date” means the date of completion of the Works as certified by the Project Manager, in accordance with Clause 31.

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

“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 and thereafter as adjusted in accordance with the provisions of the Contract.

“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 Project Manager upon correction of defects by the Contractor.

“The Defects Liability Period” is the period named in the Contract Data and calculated from the Completion Date.

“Drawings” include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

“Dayworks” are Work inputs subject to payment on a time basis for labour and the associated materials and plant.
“Employer”, or the “Procuring entity” as defined in the Public Procurement Regulations (i.e. Central or Local Government administration, Universities, Public Institutions and Corporations, etc) 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.

“The Intended Completion Date” is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

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

“Plant” is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

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

“Site” is the area defined as such in the Appendix to Condition of Contract.

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

“Specifications” means the Specifications of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

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

“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 Project Manager which varies the Works.

“The Works” are what the Contract requires the Contractor to construct, install, and turnover to the Employer, as defined in the Appendix to Conditions of Contract.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning in English Language unless specifically defined. The Project Manager will provide instructions clarifying queries about these Conditions of Contract.

2.2 If sectional completion is specified in the Appendix to Conditions of Contract, reference in the Conditions of Contract to the Works, the Completion Date and the Intended Completion Date apply to any section of the Works (other than references to the Intended Completion Date for the whole of the Works).

2.3 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) Appendix to Conditions of Contract,
(5) Conditions of Contract,
(6) Specifications,
(7) Drawings,
(8) Bill of Quantities,
(9) Any other documents listed in the Appendix to Conditions of Contract as forming part of the Contract.

Immediately after the execution of the Contract, the Project Manager shall furnish both the Employer and the Contractor with two copies each of all the Contract documents. Further, as and when necessary the Project Manager shall furnish the Contractor [always with a copy to the Employer] with three [3] copies of such further drawings or details or descriptive schedules as are reasonably necessary either to explain or amplify the Contract drawings or to enable the Contractor to carry out and complete the Works in accordance with these Conditions.

3. Language and Law

3.1 Language of the Contract and the law governing the Contract shall be English language and the Laws of Kenya respectively unless otherwise stated.
4 Project Manager’s Decisions

4.1 Except where otherwise specifically stated, the Project Manager will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5 Delegation

5.1 The Project Manager may delegate any of his duties and responsibilities to others after notifying the Contractor.

6 Communications

6.1 Communication between parties shall be effective only when in writing. A notice shall be effective only when it is delivered.

7 Subcontracting

7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor’s obligations.

8 Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities etc. as listed in the Appendix to Conditions of Contract and also with the Employer, as per the directions of the Project Manager. The Contractor shall also provide facilities and services for them. The Employer may modify the said List of Other Contractors etc., and shall notify the Contractor of any such modification.

9 Personnel

9.1 The Contractor shall employ the key personnel named in the Qualification Information, to carry out the functions stated in the said Information or other personnel approved by the Project Manager. The Project Manager will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Qualification Information. If the Project Manager asks the Contractor to remove a person who is a member of the Contractor’s staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Work in the Contract.

10 Works

10.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings. 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 Project Manager, and complete them by the Intended Completion Date.

11 Safety and Temporary Works

11.1 The Contractor shall be responsible for the design of temporary works. However before erecting the same, he shall submit his designs including specifications and drawings to the Project Manager and to any other relevant third parties for their approval. No erection of temporary works shall be done until such approvals are obtained.

11.2 The Project Manager’s approval shall not alter the Contractor’s responsibility for design of the Temporary works and all drawings prepared by the Contractor for the execution of the temporary or permanent Works, shall be subject to prior approval by the Project Manager before they can be used.

11.3 The Contractor shall be responsible for the safety of all activities on the Site.

12. Discoveries

12.1 Anything of historical or other interest or of significant value unexpectedly discovered on Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager’s instructions for dealing with them.

13. Work Program

13.1 Within the time stated in the Appendix to Conditions of Contract, the Contractor shall submit to the Project Manager for approval a program showing the general methods, arrangements, order, and timing for all the activities in the Works. An update of the program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Work, including any changes to the sequence of the activities.

The Contractor shall submit to the Project Manager for approval an updated program at intervals no longer than the period stated in the Appendix to Conditions of Contract. If the Contractor does not submit an updated program within this period, the Project Manager may withhold the amount stated in the said Appendix from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue program has been submitted. The Project Manager’s approval of the program shall not alter the Contractor’s obligations. The Contractor may revise the program and submit it to the Project Manager again at any time. A
revised program shall show the effect of Variations and Compensation Events.

14. Possession of Site

14.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the Appendix to Conditions of Contract, the Employer will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.

15. Access to Site

15.1 The Contractor shall allow the Project Manager and any other person authorised by the Project Manager, access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

16. Instructions

16.1 The Contractor shall carry out all instructions of the Project Manager which are in accordance with the Contract.

17. Extension or Acceleration of Completion Date

17.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Work, which would cause the Contractor to incur additional cost. The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager in writing for a decision upon the effect of a Compensation Event or variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay caused by such failure shall not be considered in assessing the new (extended) Completion Date.

17.2 No bonus for early completion of the Works shall be paid to the Contractor by the Employer.

18. Management Meetings

18.1 A Contract management meeting shall be held monthly and attended by the Project Manager and the Contractor. Its business shall be to review the plans for the remaining Work and to deal with matters raised in accordance with the early warning procedure. The Project Manager shall record the minutes of management meetings and provide copies of the same to those attending
the meeting and the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

19. Early Warning

19.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the Work, increase the Contract Price or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

19.2 The Contractor shall cooperate with the Project Manager in making and considering proposals on how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the Work and in carrying out any resulting instructions of the Project Manager.

20. Defects

20.1 The Project Manager 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 Project Manager may instruct the Contractor to search for a defect and to uncover and test any Work that the Project Manager considers may have a defect. 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.

20.2 The Project Manager shall give notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the Appendix to Conditions of Contract. The Defects Liability Period shall be extended for as long as defects remain to be corrected.

20.3 Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Project Manager’s notice. If the Contractor has not corrected a defect within the time specified in the Project Manager’s notice, the Project Manager 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.

21. Bills Of Quantities
21.1 The Bills of Quantities 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 rate in the Bills of Quantities for each item.

21.2 If the final quantity of the Work done differs from the quantity in the Bills of Quantities for the particular item by more than 25 percent and provided the change exceeds 1 percent of the Initial Contract price, the Project Manager shall adjust the rate to allow for the change.

21.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bills of Quantities.

22. Variations

22.1 All variations shall be included in updated programs produced by the Contractor.

22.2 The Contractor shall provide the Project Manager with a quotation for carrying out the variations when requested to do so. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period as may be stated by the Project Manager and before the Variation is ordered.

22.3 If the work in the variation corresponds with an item description in the Bills of Quantities and if in the opinion of the Project Manager, the quantity of work is not above the limit stated in Clause 21.2 or the timing of its execution does not cause the cost per unit of quantity to change, the rate in the Bills of Quantities shall be used to calculate the value of the variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the variation does not correspond with items in the Bills of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of Work.

22.4 If the Contractor’s quotation is unreasonable, the Project Manager may order the variation and make a change to the Contract price, which shall be based on the Project Manager’s own forecast of the effects of the variation on the Contractor’s costs.

22.5 If the Project Manager decides that the urgency of varying the Work would prevent a quotation being given and considered without delaying the Work, no quotation shall be given and the variation shall be treated as a Compensation Event.

22.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
22.7 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

23. Payment Certificates, Currency of Payments and Advance Payments

23.1 The Contractor shall submit to the Project Manager monthly applications for payment giving sufficient details of the Work done and materials on Site and the amounts which the Contractor considers himself to be entitled to. The Project Manager shall check the monthly application and certify the amount to be paid to the Contractor within 14 days. The value of Work executed and payable shall be determined by the Project Manager.

23.2 The value of Work executed shall comprise the value of the quantities of the items in the Bills of Quantities completed, materials delivered on Site, variations and compensation events. Such materials shall become the property of the Employer once the Employer has paid the Contractor for their value. Thereafter, they shall not be removed from Site without the Project Manager’s instructions except for use upon the Works.

23.3 Payments shall be adjusted for deductions for retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of issue of each certificate. If the Employer makes a late payment, the Contractor shall be paid simple interest on the late payment in the next payment. Interest shall be calculated on the basis of number of days delayed at a rate three percentage points above the Central Bank of Kenya’s average rate for base lending prevailing as of the first day the payment becomes overdue.

23.4 If an amount certified is increased in a later certificate or as a result of an award by an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

23.5 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

23.6 The Contract Price shall be stated in Kenya Shillings. All payments to the Contractor shall be made in Kenya Shillings and foreign currency in the proportion indicated in the tender, or agreed prior to the execution of the Contract Agreement and indicated therein. The rate of exchange for the calculation of the amount of foreign currency payment shall be the rate of exchange indicated in the Appendix to Conditions of Contract. If the Contractor indicated foreign currencies for payment other than the currencies of the countries of origin of related goods and services the Employer reserves
the right to pay the equivalent at the time of payment in the currencies of the countries of such goods and services. The Employer and the Project Manager shall be notified promptly by the Contractor of any changes in the expected foreign currency requirements of the Contractor during the execution of the Works as indicated in the Schedule of Foreign Currency Requirements and the foreign and local currency portions of the balance of the Contract Price shall then be amended by agreement between Employer and the Contractor in order to reflect appropriately such changes.

23.7 In the event that an advance payment is granted, the following shall apply:

a) On signature of the Contract, the Contractor shall at his request, and without furnishing proof of expenditure, be entitled to an advance of 10% (ten percent) of the original amount of the Contract. The advance shall not be subject to retention money.

b) No advance payment may be made before the Contractor has submitted proof of the establishment of deposit or a directly liable guarantee satisfactory to the Employer in the amount of the advance payment. The guarantee shall be in the same currency as the advance.

c) Reimbursement of the lump sum advance shall be made by deductions from the Interim payments and where applicable from the balance owing to the Contractor. Reimbursement shall begin when the amount of the sums due under the Contract reaches 20% of the original amount of the Contract. It shall have been completed by the time 80% of this amount is reached.

The amount to be repaid by way of successive deductions shall be calculated by means of the formula:

\[ R = \frac{A(x^1 - x^{11})}{80 - 20} \]

Where:

\[ R \] = the amount to be reimbursed

\[ A \] = the amount of the advance which has been granted

\[ X^1 \] = the amount of proposed cumulative payments as a percentage of the original amount of the Contract. This figure will exceed 20% but not exceed 80%.

\[ X^{11} \] = the amount of the previous cumulative payments as a percentage of the original amount of the
Contract. This figure will be below 80% but not less than 20%.

d) with each reimbursement the counterpart of the directly liable guarantee may be reduced accordingly.

24. Compensation Events

24.1 The following issues shall constitute Compensation Events:

(a) The Employer does not give access to a part of the Site by the Site Possession Date stated in the Appendix to Conditions of Contract.

(b) The Employer modifies the List of Other Contractors, etc., in a way that affects the Work of the Contractor under the Contract.

(c) The Project Manager orders a delay or does not issue drawings, specifications or instructions required for execution of the Works on time.

(d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon the Work, which is then found to have no defects.

(e) The Project Manager unreasonably does not approve a subcontract to be let.

(f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to tenderers (including the Site investigation reports), from information available publicly and from a visual inspection of the Site.

(g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer or additional work required for safety or other reasons.

(h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

(i) The effects on the Contractor of any of the Employer’s risks.

(j) The Project Manager unreasonably delays issuing a Certificate of Completion.

(k) Other compensation events described in the Contract or determined by the Project Manager shall apply.

24.2 If a compensation event would cause additional cost or would prevent the Work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

24.3 As soon as information demonstrating the effect of each compensation event upon the Contractor’s forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor’s forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager’s own forecast.
Project Manager will assume that the Contractor will react competently and promptly to the event.

24.4 The Contractor shall not be entitled to compensation to the extent that the Employer’s interests are adversely affected by the Contractor not having given early warning or not having co-operated with the Project Manager.

24.5 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the Appendix to Conditions of Contract.

24.6 The Contractor shall give written notice to the Project Manager of his intention to make a claim within thirty days after the event giving rise to the claim has first arisen. The claim shall be submitted within thirty days thereafter.

Provided always that should the event giving rise to the claim of continuing effect, the Contractor shall submit an interim claim within the said thirty days and a final claim within thirty days of the end of the event giving rise to the claim.

25. Price Adjustment

25.1 The Project Manager shall adjust the Contract Price if taxes, duties and other levies are changed between the date 30 days before the submission of tenders for the Contract and the date of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor.

25.2 The Contract Price shall be deemed to be based on exchange rates current at the date of tender submission in calculating the cost to the Contractor of materials to be specifically imported (by express provisions in the Contract Bills of Quantities or Specifications) for permanent incorporation in the Works. Unless otherwise stated in the Contract, if at any time during the period of the Contract exchange rates shall be varied and this shall affect the cost to the Contractor of such materials, then the Project Manager shall assess the net difference in the cost of such materials. Any amount from time to time so assessed shall be added to or deducted from the Contract Price, as the case may be.

25.3 Unless otherwise stated in the Contract, the Contract Price shall be deemed to have been calculated in the manner set out below and in sub-clauses 25.4 and 25.5 and shall be subject to adjustment in the events specified thereunder;

(i) The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the rates of wages and other emoluments and expenses as determined by the Joint Building Council of Kenya (J.B.C.) and set out in the schedule of basic rates issued 30 days before the date
for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

(ii) Upon J.B.C. determining that any of the said rates of wages or other emoluments and expenses are increased or decreased, then the Contract Price shall be increased or decreased by the amount assessed by the Project Manager based upon the difference, expressed as a percentage, between the rate set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of labour incorporated within the amount of Work remaining to be executed at the date of publication of such increase or decrease.

(iii) No adjustment shall be made in respect of changes in the rates of wages and other emoluments and expenses which occur after the date of Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.4 The prices contained in the Contract Bills of Quantities shall be deemed to be based upon the basic prices of materials to be permanently incorporated in the Works as determined by the J.B.C. and set out in the schedule of basic rates issued 30 days before the date for submission of tenders. A copy of the schedule used by the Contractor in his pricing shall be attached in the Appendix to Conditions of Contract.

25.5 Upon the J.B.C. determining that any of the said basic prices are increased or decreased then the Contract Price shall be increased or decreased by the amount to be assessed by the Project Manager based upon the difference between the price set out in the schedule of basic rates issued 30 days before the date for submission of tenders and the rate published by the J.B.C. and applied to the quantum of the relevant materials which have not been taken into account in arriving at the amount of any interim certificate under clause 23 of these Conditions issued before the date of publication of such increase or decrease.

25.6 No adjustment shall be made in respect of changes in basic prices of materials which occur after the date for Completion except during such other period as may be granted as an extension of time under clause 17.0 of these Conditions.

25.7 The provisions of sub-clause 25.1 to 25.2 herein shall not apply in respect of any materials included in the schedule of basic rates.

26. Retention
26.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the Appendix to Conditions of Contract until Completion of the whole of the Works. On Completion of the whole of the Works, half the total amount retained shall be repaid to the Contractor and the remaining half when the Defects Liability Period has passed and the Project Manager has certified that all defects notified to the Contractor before the end of this period have been corrected.

27. Liquidated Damages

27.1 The Contractor shall pay liquidated damages to the Employer at the rate stated in the Appendix to Conditions of Contract for each day that the actual Completion Date is later than the Intended Completion Date. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not alter the Contractor’s liabilities.

27.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rate specified in Clause 23.30

28. Securities

28.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a reputable bank acceptable to the Employer, and denominated in Kenya Shillings. The Performance Security shall be valid until a date 30 days beyond the date of issue of the Certificate of Completion.

29. Dayworks

29.1 If applicable, the Dayworks rates in the Contractor’s tender shall be used for small additional amounts of Work only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

29.2 All work to be paid for as Dayworks shall be recorded by the Contractor on Forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the Work being done.

29.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

30. Liability and Insurance
30.1 From the Start Date until the Defects Correction Certificate has been issued, the following are the Employer’s risks:

(a) The risk of personal injury, death or loss of or damage to property (excluding the Works, Plant, Materials and Equipment), which are due to;
   (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works, or
   (ii) negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.

(b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Employer’s design, or due to war or radioactive contamination directly affecting the place where the Works are being executed.

30.2 From the Completion Date until the Defects Correction Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is the Employer’s risk except loss or damage due to;

(a) a defect which existed on or before the Completion Date.
(b) an event occurring before the Completion Date, which was not itself the Employer’s risk
(c) the activities of the Contractor on the Site after the Completion Date.

30.3 From the Start Date until the Defects Correction Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer’s risk are Contractor’s risks.

The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts stated in the Appendix to Conditions of Contract for the following events;

(a) loss of or damage to the Works, Plant, and Materials;
(b) loss of or damage to Equipment;
(c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract, and
(d) personal injury or death.

30.4 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager’s approval before the Start Date. All such insurance shall provide for compensation required to rectify the loss or damage incurred.
30.5 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

30.6 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager. Both parties shall comply with any conditions of insurance policies.

31. Completion and taking over

31.1 Upon deciding that the Works are complete, the Contractor shall issue a written request to the Project Manager to issue a Certificate of Completion of the Works. The Employer shall take over the Site and the Works within seven [7] days of the Project Manager are issuing a Certificate of Completion.

32. Final Account

32.1 The Contractor shall issue the Project Manager with a detailed account of the total amount that the Contractor considers payable to him by the Employer under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 30 days of receiving the Contractor’s account if it is correct and complete. If it is not, the Project Manager shall issue within 30 days a schedule that states the scope of the corrections or additions that are necessary. If the final account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a Payment Certificate. The Employer shall pay the Contractor the amount due in the Final Certificate within 60 days.

33. Termination

33.1 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 when no stoppage of work is shown on the current program and the stoppage has not been authorised by the Project Manager;
(b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
(c) the Contractor is declared bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
(d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 30 days (for Interim Certificate) or 60 days (for Final Certificate) of issue.

(e) the Project Manager gives notice that failure to correct a particular defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

(f) the Contractor does not maintain a security, which is required.

33.2 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under Clause 33.1 above, the Project Manager shall decide whether the breach is fundamental or not.

33.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

33.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible. The Project Manager 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.

34. Payment Upon Termination

34.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the Work done and materials ordered and delivered to Site up to the date of the issue of the certificate. Additional liquidated damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable by the Contractor.

34.2 If the Contract is terminated for the Employer’s convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the Work done, materials ordered, the reasonable cost of removal of equipment, repatriation of the Contractor’s personnel employed solely on the Works, and the Contractor’s costs of protecting and securing the Works.

34.3 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 the Site, plant, equipment and temporary works.

34.4 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 Project Manager may in writing specify, any
temporary buildings, plant, machinery, appliances, goods or materials belonging to or hired by him, and in default 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.

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 therefore the Project Manager 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.

35. Release from Performance

35.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop Work as quickly as possible after receiving this certificate and shall be paid for all Work carried out before receiving it.

36. Corrupt gifts and payments of commission

The Contractor shall not;

(a) offer or give or agree to give to any person in the service of the Employer any gift 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 for the Employer or for showing or forbearing to show favour or disfavour to any person in relation to this or any other contract for the Employer.

(b) enter into this or any other contract with the Employer in connection with which commission has been paid or agreed to be paid by him or on his behalf or to his knowledge, unless before the Contract is made particulars of any such commission and of the terms and conditions of any agreement for the payment thereof have been disclosed in writing to the Employer.

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

37. Settlement Of Disputes

37.1 In case any dispute or difference shall arise between the Employer or the Project Manager on his behalf and the Contractor, either during the progress or after the completion or termination of the Works, such dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed by the Chairman or Vice Chairman of any of the following professional institutions;

(i) Architectural Association of Kenya  
(ii) Institute of Quantity Surveyors of Kenya  
(iii) Association of Consulting Engineers of Kenya  
(iv) Chartered Institute of Arbitrators (Kenya Branch)  
(v) Institution of Engineers of Kenya

On the request of the applying party. The institution written to first by the aggrieved party shall take precedence over all other institutions.

37.2 The arbitration may be on the construction of this Contract or on any matter or thing of whatsoever nature arising thereunder or in connection therewith, including any matter or thing left by this Contract to the discretion of the Project Manager, or the withholding by the Project Manager of any certificate to which the Contractor may claim to be entitled or the measurement and valuation referred to in clause 23.0 of these conditions, or the rights and liabilities of the parties subsequent to the termination of Contract.

37.3 Provided that no arbitration proceedings shall be commenced on any dispute or difference where notice of a dispute or difference has not been given by the applying party within ninety days of the occurrence or discovery of the matter or issue giving rise to the dispute.

37.4 Notwithstanding the issue of a notice as stated above, the arbitration of such a dispute or difference shall not commence unless an attempt has in the first instance been made by the parties to settle such dispute or difference amicably with or without the assistance of third parties. Proof of such attempt shall be required.
37.5 Notwithstanding anything stated herein the following matters may be referred to arbitration before the practical completion of the Works or abandonment of the Works or termination of the Contract by either party:

37.5.1 The appointment of a replacement Project Manager upon the said person ceasing to act.
37.5.2 Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
37.5.3 Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
37.5.4 Any dispute or difference arising in respect of war risks or war damage.

37.6 All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Employer and the Contractor agree otherwise in writing.

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

37.8 The Arbitrator shall, without prejudice to the generality of his powers, have powers to open up, review and revise any certificate, opinion, decision, requirement or notice and to determine all matters in dispute which shall be submitted to him in the same manner as if no such certificate, opinion, decision requirement or notice had been given.

37.9 The award of such Arbitrator shall be final and binding upon the parties.
SECTION V – APPENDIX TO CONDITIONS OF CONTRACT

The following appendix to instructions to tenderers shall complement or amend the provisions of the instruction to tenderers (section II). Wherever there is a conflict between the provisions 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 tenderer.

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<th>Data</th>
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<td>Time for Completion</td>
<td>3 (three) Months, from date of contract signing</td>
</tr>
<tr>
<td>Priority of Documents</td>
<td>The documents forming the Contract shall be interpreted in the following order of priority:</td>
</tr>
<tr>
<td></td>
<td>• the Contract Agreement and Appendix to conditions of contract</td>
</tr>
<tr>
<td></td>
<td>• the Letter of Acceptance</td>
</tr>
<tr>
<td></td>
<td>• the Form of Tender</td>
</tr>
<tr>
<td></td>
<td>• the Conditions of Contract, Part II - Conditions of Particular Application</td>
</tr>
<tr>
<td></td>
<td>• the Conditions of Contract, Part I - General Conditions of Contract</td>
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<tr>
<td></td>
<td>• the standard specifications for road and bridge construction <em>(1986)</em></td>
</tr>
<tr>
<td></td>
<td>• the Drawings,</td>
</tr>
<tr>
<td></td>
<td>• the Priced Bill of Quantities</td>
</tr>
<tr>
<td>Law of Contract</td>
<td>Laws of the Republic of Kenya</td>
</tr>
<tr>
<td>Language</td>
<td>English</td>
</tr>
<tr>
<td>Provision of Site</td>
<td>On Commencement Date</td>
</tr>
<tr>
<td>Name and Address of Employer</td>
<td>County Government of Trans Nzoia, P.O. Box 4211 – 30200, Kitale</td>
</tr>
<tr>
<td>Authorized Person</td>
<td>Chief Officer – Transport &amp; Infrastructure, County Government of Trans Nzoia, P.O. Box 4211 – 30200, Kitale</td>
</tr>
<tr>
<td>Name and Address of the Engineer</td>
<td>Roads Engineer, County Government of Trans Nzoia, P.O. Box 4211 – 30200, Kitale</td>
</tr>
<tr>
<td>Name and Address of Engineer’s Representative</td>
<td>Roads Engineer, County Government of Trans Nzoia, P.O. Box 4211 – 30200, Kitale</td>
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<tr>
<td>Penalty to the Contractor for Employer paying workers on his behalf</td>
<td>10% of the amount paid to the workers.</td>
</tr>
<tr>
<td>Performance Security</td>
<td>(Refer to guideline Notes)</td>
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<tr>
<td>Amount</td>
<td>10% of sum stated as the Contract Price</td>
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<td></td>
<td>Bank Guarantee or Insurance Bond issued by PPRA</td>
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<td>Form</td>
<td>approved insurance companies</td>
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<td>------</td>
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<tr>
<td>Requirements of Contractors Design</td>
<td>Not applicable</td>
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<td>Programme</td>
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<tr>
<td>Time of Submission</td>
<td>Within 14 days of Commencement Date</td>
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<td>Form of Programme</td>
<td>Bar Chart</td>
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<td>Interval Updates</td>
<td>As requested by the Roads Engineer</td>
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<td>Liquidated Damages Amount payable due to failure to complete</td>
<td>0.01% of Contract Price per Day to a limit of 1% of Contract Price.</td>
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<td>Defects Liability</td>
<td>Refer to guideline Notes</td>
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<td>Period of notifying defects</td>
<td>6 months after practical completion of the project</td>
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<td>Percentage of Retention</td>
<td>Refer to guideline Notes</td>
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<td>Maximum Amount of Advance Payment</td>
<td>Refer to guideline Notes</td>
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<td>Form of Guarantee for Advance Payment</td>
<td>Bank Guarantee</td>
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<td>Valuation of Works</td>
<td>Re-measurements with Bills of Quantities</td>
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<td>Repayment Schedule for Advance Payment</td>
<td>20% instalments from 1st three certificates.</td>
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<td>Minimum Amount of Interim Payment</td>
<td>Ksh. 50% of Billed works</td>
</tr>
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<td>Currency of Payment</td>
<td>Kenya Shilling</td>
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<td>Rate of Interest</td>
<td>Simple Interest at a rate of 2% above mean Base Lending Rate as issued by the Central Bank of Kenya.</td>
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<td>Required/ Not required</td>
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<td>N/A</td>
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<td>Third party injury to persons and damage to property</td>
<td>Mandatory</td>
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<td>Workers compensation (WIBA- workers injury benefits policy)</td>
<td>As per work injury benefits act 2007 laws of Kenya</td>
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<td>CAP 49 of the Laws of Kenya</td>
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<td>Appointing Authority</td>
<td>County Secretary County Government of Trans Nzoia</td>
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SECTION VI: STANDARD FORMS

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FORM OF TENDER

TO: __________________________________________
[Name of Employer]

____________________________________________________
[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 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 on the commencement date and to complete the whole of the Works comprised in the Contract within the time stated in the Appendix.

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 Tenderer] of ___________________________[Address of Tenderer]

Witness: Name_____________________________________

Address_____________________________________

Signature___________________________________

Date_______________________________________
LETTER OF AWARD

[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:
FORM OF TENDER SECURITY

WHEREAS ......................................................(hereinafter called “the Tenderer”) has submitted a Tender dated ............................ for the Rehabilitation/Spot Improvement 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 Employer’s notice under
Sub-Clause 8.2 (Taking-Over Notice), of the Conditions of Contract.

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 furnish you with a
Bank guarantee by a recognised Bank for the sum specified therein as a security for
compliance with his obligations in accordance with the Contract in an amount of
Kshs._____________[amount of Guarantee in figures] Kenya
Shillings_____________________________________[amount of Guarantee in words].

We, the _______________________[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].

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.

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: ____________________________________________________________
FORM OF AGREEMENT

THIS AGREEMENT is made on the ..........day of ..... 2017 between the County Government of Trans Nzoia, of P.O. BOX 4211 - 30200, Kitale, Kenya hereinafter called the “Employer “ of the one part and ____________________________________________ hereinafter called the “Contractor” of the other part.

WHEREAS the Employer is desirous that certain works should be executed, viz: ----- 

And has accepted a Bid by the Contractor to execute, complete and maintain such works NOW THIS AGREEMENT WITNESSETH as follows:

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.

The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:

The said BID dated ________________________________________________________________

- Conditions of Contract; Parts I and II
- The Standard and Special Specifications;
- Priced Bill of Quantities;
- Letter of Acceptance;
- Form of Tender
- Drawings;
- Appendix to the Form of Agreement
- Schedule of Supplementary Information
- Other Documents/Materials/Conditions agreed and documented.

All aforesaid documents are hereinafter referred to as “The Contract”.

In consideration of the payment to be made by the Employer to the Contractor, the Contractor covenants with the Employer to execute and complete the Works in conformity with the provisions of the Contract.

The Employer hereby covenants to pay the Contractor in consideration of the execution, completion and maintenance of the Works at the Contract Price or such other sum as may become payable under the Contract at the times and in the manner prescribed by the Contract.
IN WITNESS WHEREOF the parties hereto have caused their respective common seals to be hereeto affixed (or have hereunto set their respective hands and seals) on the day and year first above written.

SIGNED AND DELIVERED
By the said Employer: .................................................................

Signature: .................................................................

Region: .................................................................

(Chief Officer – Transport & Infrastructure)
(For and on behalf of the said Employer.)

In the presence of: .................................................................

Signature .................................................................

By the said Contractor: .................................................................

Signature .................................................................

Designation: .................................................................
(For and on behalf of the said Contractor)

In the presence of: .................................................................

Signature .................................................................

Address: .................................................................
QUALIFICATION INFORMATION

TENDER QUESTIONNAIRE
Please fill in block letters.

1. Full name of Tenderer;

…………………………………………………………………………………………

2. Full address of Tenderer to which Tender correspondence is to be sent (unless an agent has been appointed below);

…………………………………………………………………………………………

3. Telephone number (s) of Tenderer;

…………………………………………………………………………………………

4. Facsimile of Tenderer;

…………………………………………………………………………………………

5. Name of Tenderer’s representative to be contacted on matters of the Tender during the Tender period;

…………………………………………………………………………………………

6. Details of Tenderer’s nominated agent (if any) to receive Tender notices (name, address, telephone, telefax);

…………………………………………………………………………………………

…………………………………………………………………………………………

_______________________
Signature of Tenderer

Make copy and deliver to:_______________(Name of Employer) (The Tenderer shall leave one copy at the time of purchase of the Tender documents)
CONFIDENTIAL BUSINESS QUESTIONNAIRE

You are requested to give the particulars indicated in Part 1 and either Part 2 (a) or 2 (b) whichever applies to your type of business.

You are advised that it is a serious offence to give false information on this Form.

Part 1 – General

Business Name ........................................................................................................

Location of business premises; Country/Town.................................................

Plot No.................................................. Street/Road .................................

Postal Address..................................... Tel No...........................................

Nature of Business.............................................................................................

Current Trade Licensee No............... Expiring date.........................

Maximum value of business which you can handle at any time: Kshs ..........

Name of your Bankers.......................................................................................

Branch..............................................................................................................

Part 2 (b) – Partnership

Give details of partners as follows:

<table>
<thead>
<tr>
<th>Name in full</th>
<th>Nationality</th>
<th>Citizenship Details</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part 2(c) – Registered Company:

Private or public…………………………………………………………………………………..

State the nominal and issued capital of the Company-

Nominal Kshs………………………………………………………………………………………

Issued Kshs………………………………………………………………………………………..

Give details of all directors as follows:

<table>
<thead>
<tr>
<th>Name in full</th>
<th>Nationality</th>
<th>Citizenship Details*</th>
<th>Shares</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Part 2(d) – Interest in the Firm:

Is there any person / persons in …………… ……… (Name of Employer) who has interest in this firm? Yes/No…………………… (Delete as necessary)

I certify that the information given above is correct.

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

* Attach proof of citizenship
SCHEDULE OF LABOUR: - BASIC RATES

(Reference: Clause 4 of Conditions of Particular Application)

<table>
<thead>
<tr>
<th>LABOUR CATEGORY</th>
<th>UNIT (MONTH/SHIFT/HOUR)</th>
<th>RATES</th>
</tr>
</thead>
</table>

Categories to be generally in accordance with those used by the Kenya Building Construction and Engineering and Allied Trades Workers’ Union.

I certify that the above information is correct.

……………………………
…………………………
…………………………

(Title) (Signature) (Date)
COUNTY GOVERNMENT OF TRANS NZOIA

SITE VISIT CERTIFICATE

THIS IS TO CERTIFY that:
I, ______________________________ (name of bidder or his representative) of the ______________________________ (name of construction firm) in the company of Chief Officer Transport and Infrastructure (Project Manager) visited the site in connection with the;

Tender No: .................................... for the ..............................................................

Having examined the bid documents, I certify that I have acquainted with the nature, geographical and exact location of the works; the general conditions of execution; the neighboring buildings and other constraints that might affect the construction methods; the obligation not to obstruct the traffic where requested, or the flow of any water; the physical conditions specific to the construction sites; the climatic conditions; local conditions; means of communication and transport; the possibility of supplying water, electricity and fuel; the availability of labor sufficient in number and quantity; all constraints and obligations resulting from social, tax and customs legislation; and all conditions and circumstances which might influence the execution or price of the works.

I further certify that I am satisfied with the description of the works and the Project Engineer’s explanations and that I understand perfectly the works to be undertaken as specified and implied in the execution of the Contract.

__________________________ ____________________ ____________________
Name Firm Date:

[OFFICIAL STAMP]

__________________________ ____________________ ____________________
Name: Signature Date

[OFFICIAL STAMP]

Note 1: This form shall be completed at the time of the visit to the site where the works are to be carried out.

Note 2: If the bidder has visited the site by himself at some date, this site visit certificate will be signed by the bidder only.
FORM OF WRITTEN POWER-OF-ATTORNEY

The Tenderer consisting of a joint venture shall state here below the name and address of his representative who is authorized to receive on his behalf correspondence in connection with the Tender.

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

(Name of Tenderer’s Representative in block letters)

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

(Address of Tenderer’s Representative)

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

(Signature of Tenderer’s Representative)
<table>
<thead>
<tr>
<th>DESIGNATION</th>
<th>NAME</th>
<th>NATIONALITY</th>
<th>SUMMARY OF QUALIFICATIONS AND EXPERIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headquarters:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Managing Director</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Office:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Site Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I certify that the above information is correct.

.................................  .................................  .................................
(Title)                      (Signature)                   (Date)
SCHEDULE OF THE PROPOSED APPROPRIATE EQUIPMENT.

Mandatory minimum number of equipment required by the Employer for the execution of the project that the bidder must make available for the Contract

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Equipment Details</th>
<th>Minimum Number Required</th>
<th>No of equipment Owned by the Bidder</th>
<th>No. of equipment to be hired</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pedestrian Roller – Man walk behind</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Motor Graders</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>AC Distributor/Paver</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Self-propelled single drum vibrating</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Mobile concrete mixers</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Excavator/loader</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Concrete vibrators</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Tippers payload</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Flat bed lorries</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Water tankers (10,000 litres capacity)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Bidder must attach certified copies of log books or lease agreement of the following

I certify that the above information is correct.

.................................................  .................................................  .................................................
(Title)                                      (Signature)                                      (Date)
SCHEDULE OF COMPLETED CIVIL WORKS CARRIED OUT IN THE PREVIOUS YEARS

<table>
<thead>
<tr>
<th>DESCRIPTION OF WORKS AND CLIENT</th>
<th>TOTAL VALUE OF WORKS (KSHS)</th>
<th>CONTRACT PERIOD (YEARS)</th>
<th>YEAR COMPLETED</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I certify that the above Civil Works were successfully carried out and completed by ourselves.

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

57
### SCHEDULE OF ONGOING PROJECTS

<table>
<thead>
<tr>
<th>DESCRIPTION OF WORK AND CLIENT</th>
<th>CONTRACT PERIOD</th>
<th>DATE OF COMMENCEMENT</th>
<th>DATE OF COMPLETION</th>
<th>TOTAL VALUE OF WORKS (KSHS.)</th>
<th>% COMPLETE TO DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I certify that the above Civil Works are being carried out by ourselves and that the above information is correct.

………………………………………
(Title)

………………………………………
(Signature)

………………………………………
(Date)

58
OTHER SUPPLEMENTARY INFORMATION

1. Financial reports for the last three years, balance sheets, profit and loss statements, auditors’ reports etc. List them below and attach copies.

2. Evidence of access to financial resources to meet the qualification requirements. Cash in hand, lines of credit etc. List below and attach copies of supporting documents

3. Name, address, telephone, telex, fax numbers of the Tenderer’s Bankers who may provide reference if contacted by the Employer.

4. Information on current litigation in which the Tenderer is involved.

<table>
<thead>
<tr>
<th>Other Party (Ies)</th>
<th>Cause of Dispute</th>
<th>Amount Involved (Kshs)</th>
<th>Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I certify that the above information is correct.

                        ........................................  ........................................  ........................................
Title                   Signature                   Date
ADJUDICATOR’S AGREEMENT

Identification of Project:

…………………………………………………………………………………………………………

…

(the “Project”)

Name and address of the Employer:

…………………………………………………………………………………………………………

(the “Employer”)

Name and address of the Contractor:

…………………………………………………………………………………………………………

(the “Contractor”)

Name and address of the Adjudicator:

…………………………………………………………………………………………………………

(the “Adjudicator”)

Whereas the Employer and the Contractor have entered into a Contract (“the Contract”) for the execution of the Project and wish to appoint the Adjudicator to act as adjudicator in accordance with the Rules for Adjudication [“the Rules”].

The Employer, Contractor and Adjudicator agree as follows:

1. The Rules and dispute provisions of the Contract shall form part of this Agreement.
2. The Adjudicator shall be paid:
   A retainer fee of …………………………………………………………………………….. per calendar month(where applicable)
   A daily fee of ……………………………………………………………

   Expenses (including the cost of telephone calls, courier charges, faxes and telexes incurred in connection with his duties; all reasonable and necessary travel expenses, hotel accommodation and subsistence and other direct travel expenses).

   Receipts will be required for all expenses.
3. The Adjudicator agrees to act as Adjudicator in accordance with the Rules and has disclosed to the Parties any previous or existing relationship with the Parties or others concerned with the Project.

4. This Agreement shall be governed by the laws of………………………………

5. The Language of this Agreement shall be ……………………………………….

SIGNED BY ...........................................................................................

For and on behalf of the Employer in the presence of

Witness ........................................................................................................
Name ...........................................................................................................
Address......................................................................................................
Date ...........................................................................................................

SIGNED BY ...........................................................................................

For and on behalf of the Contractor in the presence of

Witness ........................................................................................................
Name ...........................................................................................................
Address......................................................................................................
Date ...........................................................................................................

SIGNED BY ...........................................................................................

For and on behalf of the Adjudicator in the presence of

Witness ........................................................................................................
Name ...........................................................................................................
Address......................................................................................................
Date ...........................................................................................................
FRAUD & CORRUPTION

1. If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 14 days’ notice to the Contractor, terminate the Contractor’s employment under the Contract and expel him from the Site.

2. Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed.

3. For the purposes of this Sub-Clause:
   (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
   (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
   (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
   (iv) “Coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.

4. The Contractor declares that:
   a) They did not engage in any action to influence the Project implementation process to the detriment of the Employer, in particular no collusive practice took place nor will take place, and

The bidding proceedings, contract award, and execution have not and will not be subject to any corrupt practice as defined in the United Nations Convention to combat corruption dated 31 October 2003.

Dated this __________________ day of _______20________________

Signature __________________in the capacity of___________________
duly authorized to sign Tenders for and on behalf of
_______________________________[Name of Tenderer] of
_______________________________[Address of Tenderer]
_______________________________[Seal or Stamp of Tenderer]
ENVIRONMENTAL AND SOCIAL COMMITMENT

I have taken due note of the importance to comply with environmental and social standards and regulations.

I, the undersigned, [............] acting as the duly authorized representative of [.................],

With respect to the submission of a bid for [........] in accordance with the invitation to tender No [..........], I undertake to comply, and ensure that our subcontractors, if any, comply with international environmental and labour standards consistent with applicable law and regulations in the country of implementation of the Project, including the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties.

In addition, I also undertake to adopt any environmental and social risk mitigation measures as defined in the environmental and social management plan or the notice of environmental and social impact issued by the Employer.

Dated this ____________________ day of _______20________________

Signature __________________ in the capacity of___________________
duly authorized to sign Tenders for and on behalf of

________________________________________[Name of Tenderer] of

________________________________________[Address of Tenderer]

________________________________________[Seal or Stamp of Tenderer]
<table>
<thead>
<tr>
<th>Activity</th>
<th>Activity Description</th>
<th>Deliverables</th>
</tr>
</thead>
</table>

I certify that the above information is correct.

…………………………………………………………………

Title  Signature  Date
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
DECLARATION FORM

Date _______

To _______

________________________________________

________________________________________

The tenderer i.e. (Name and address)____________________________________

________________________________________ declare the following:

a) Has not been debarred from participating in public procurement.

b) Has not been involved in and will not be involved in corrupt and fraudulent practices regarding public procurement.

_________ ___________ ___________
Title Signature Date

(To be signed by authorized representative and officially stamped)
SECTION VII: CONTRACTOR’S EVALUATION CHECKLIST
### Supervision Check List (1/2)

<table>
<thead>
<tr>
<th>Item</th>
<th>Check Point</th>
<th>During execution</th>
<th>After</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Execution system in general</td>
<td>1-1 Works Execution Programme (including its revised version if any) is submitted before the date specified in contract document</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-2 Works Execution Programme properly reflects the given specifications and air conditions</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1-3 Execution procedures are in accordance with Works Execution Programme</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> Equipment holding</td>
<td>2-1 All equipment used are properly mobilized in accordance with Works Execution Programme</td>
<td>☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-2 All equipment used is well maintained during the execution of works</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> Contractor’s in-house staff</td>
<td>3-1 Qualified technical staff of contractor are properly assigned as specified in Works Execution Programme</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-2 Contractor’s in-hose key staff understand work process and schedule properly</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-3 Contractor’s in-house staff give technical guidance and direction to workers and operators properly and timely</td>
<td>☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4 Communications with authority in writing is properly and timely</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td><strong>4</strong> Personnel employment</td>
<td>4-1 Workers and operators are deployed in accordance with Works Execution Programme</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-2 Wage payment is properly made on time</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> Site base facilities</td>
<td>5-1 Office and stockyard are prepared in accordance with Works Execution Programme</td>
<td>☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-2 Site as well maintained during the work execution and cleared on completion</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-3 Material stored on site is properly managed during the work execution</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td><strong>6</strong> Quality and quantity management</td>
<td>6-1 Material testing, structural examination, and measurements are properly and correctly conducted based on specifications and Works Execution Programme</td>
<td>☐ ☐ ☐</td>
<td>☐ ☐ ☐</td>
<td></td>
</tr>
</tbody>
</table>
### Supervision Check List (2/2)

1. This check list is for Resident Engineer to check contract work execution process.
2. Fill in date of checking as (day/mo/yr), mark as indicated in Filling Example, and state remarks.
3. Put this check list in the Monthly Progress Report.

<table>
<thead>
<tr>
<th>Item</th>
<th>Check Point</th>
<th>Text</th>
<th>During execution</th>
<th>Other</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>6-2</td>
<td>Results of material testing, structural examination and measurements are within the specifications.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>6.2</td>
<td>6-3</td>
<td>Results of material testing, structural examination, and measurements are properly compiled in reports for confirmation.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>7.1</td>
<td>Work scheduling</td>
<td>Understanding of critical path and its reflection on scheduling are proper.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>7.2</td>
<td>Actual proceedings are periodically compared to the planned schedule described in Works Execution Programme.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>7.3</td>
<td>Changes caused by site conditions are properly handled to keep Works on schedule.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>7.4</td>
<td>All works are completed within the contract term or within the extended term as allowed.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>8.1</td>
<td>Work safety management</td>
<td>No accident occurs to workers, operators, or third parties.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>8.2</td>
<td>Safety of workers and operators is considered.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>8.3</td>
<td>Accident prevention efforts for third parties are proper.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>8.4</td>
<td>Traffic and site safety devices are properly installed and managed.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>8.5</td>
<td>Temporary facilities (e.g. scaffolding) are constantly checked.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>9.1</td>
<td>Environmental and social management</td>
<td>Environmental and social mitigation efforts (e.g. against noise, vibration, emission, and dust) are conducted.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
<tr>
<td>9.2</td>
<td>Waste material on site is properly disposed.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>9.3</td>
<td>Damage to existing roads, works and services is avoided or are repaired when it occurs.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
<tr>
<td>9.4</td>
<td>Transportation by vehicles is properly done with no overloading, and without material falling, leakage, or spillage.</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
</tbody>
</table>

**Filling Example:** ✓ Check point is satisfactory  ■ Check point is unsatisfactory  N/A Not applicable

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Note: The digital representation of the image is limited to text and table data. The page number 69 is included to indicate the page's position within the document.
SECTION VIII: SPECIFICATIONS, DRAWINGS AND BILLS OF QUANTITIES

STANDARD SPECIFICATIONS

The Standard Specifications referred to in this document is the Standard Specifications for Road and Bridge Construction, 1986 Edition published by the Ministry of Transport and Communications. This document shall form part of the Contract.

Work shall be carried out in accordance with the Standard Specification except as supplemented or revised in the Special Specification.

SPECIAL SPECIFICATIONS

SECTION 01: PRELIMINARY AND GENERAL ITEMS

Scope:

This section comprises those items that are required at the Commencement and Completion of the Works or that are Provisional Items applicable for the duration of the Works.

01-40-001 Mobilization and Establishment of the Site

The Contractor shall provide all equipment, tools, materials, temporary offices, stores and housing required to carry out the Works.

The Contractor shall ensure that all possible means of protection are given to the labour force at all times. Such protection shall include provision of high visibility clothing or vests, goggles and masks for workers in potentially dangerous locations or dealing with potentially harmful materials. The Contractor shall also maintain first aid kits with a minimum of the following items:

- Non Stick wound dressing
- Selection of plaster/band aids
- Crepe bandages
- Gauze and cotton wool
- Antiseptic solution (washing wounds)
- Antiseptic cream – Betadine, Burnol
- Pain killers Panadol, Disprin
- Anti diarrhoea – Immodium, Diadis, Charcoal
- Anti histamine – Piriton, Triludan
- Anti nausea - Stemetil
- Eye ointment
- Oral re-hydration sachets
- Surgical gloves

Measurement and Payment:
No separate payment shall be made for this item. The Contractor shall include the costs in the rates for other measured items.

01-40-002 Clearance on Completion

On Completion of the Works, all temporary housing, equipment, signs and tools shall be removed from the site, and the site left in good order to the satisfaction of the Engineer.

Measurement and Payment

The Lump Sum payment will be made upon approval by the Engineer that the Clearance has been satisfactorily carried out.

01-40-003 Insurance and Bonds

The Contractor shall provide Insurance and Sureties in accordance with relevant Clauses in the Conditions of Contract.

Measurement and Payment

Lump Sum payment for this item will be made upon the production of satisfactory evidence by the Contractor that Insurances and Securities have been effected.

01-40-004 Quality Control Tests

The Engineer may instruct the Contractor during the progress of the Works to carry out quality control tests to check materials and standards of workmanship, against the Specifications.

Where such tests indicate defective standards the Engineer shall instruct the Contractor to rectify the defects to the Engineer’s satisfaction and at the Contractor’s expense.

Measurement and Payment

The Engineer shall include a Provisional Sum for this item to be expended only as and when the Contractor is instructed to carry out tests.

01-40-005 Publicity Sign Boards

The Contractor shall provide Sign Boards as specified on the Drawings or as directed by the Engineer. The Sign Boards shall be placed at the beginning and end of the road or road section covered by this Contract.

Sign Boards shall be maintained for the duration of the Works, and removed on completion.

Quality Control

The Engineer shall check that Sign Boards have been erected in accordance with Drawings and Specifications.
Measurement: Number

The unit of measurement shall be number of Sign Boards erected

Payment

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

01-40-006 Traffic Control

The Contractor shall provide warning signs, fences, barriers, detours, which shall be properly positioned in advance of the Works to ensure that traffic is well and safely accommodated for the duration of the Works.

Traffic signs and other traffic control facilities shall be kept in good condition and located in positions where they are visible to road users.

Quality Control

The Engineer shall check regularly that traffic control measures are satisfactory.

Measurement and Payment

A Lump Sum shall be paid on a Monthly basis upon the approval of the Engineer that satisfactory control measures are in place.

01-40-007 Drinking Water

The Contractor shall provide safe drinking water on site for workers at a reasonable distance from all work locations, for the duration of the Works.

Quality Control

The Engineer shall check regularly that adequate supplies of water are available throughout the Site.

Measurement and Payment

A Lump Sum shall be paid on a Monthly basis upon the approval of the Engineer that adequate supplies have been provided.

SECTION 02: SETTING OUT

Scope

This section covers the activities required in the re-establishment of the horizontal alignment of the road include setting out the centre line, cross section widths, drains and structures.
02-50-001: Setting Out the Horizontal Alignment

The Contractor shall set out the centreline to follow the existing road alignment unless instructed otherwise by the Engineer.

The minimum standards as shown in Table 2.1 shall apply

Table 2.1 Alignment Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Flat and Rolling Terrain</th>
<th>Hilly Terrain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal Curves</td>
<td>Desirable</td>
<td></td>
</tr>
<tr>
<td>Minimum radius</td>
<td>100m</td>
<td>50m</td>
</tr>
</tbody>
</table>

The cross section details of the road shall be as shown on the Drawing or as directed by the Engineer.

Work Method

The Contractor shall use Labour methods to carry out this item.

Quality Control

- Centreline pegs shall be set at 10m intervals on straight sections and 5m on curves
- Chainage or reference pegs shall be set out and marked at 20m intervals and located at one metre outside the cleared width and on both sides of the road.
- Cross section widths shall be checked at 10m intervals and shall have maximum tolerances of +/- 25mm

Measurement Unit: m

The measurement shall be the linear metres of the road

Payment

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

SECTION 04: SITE CLEARANCE

Scope

This section covers the clearance of bushes, shrubs, grasses, trees, stumps, boulders, stripping and grubbing of the topsoil, removal of anthills and other unsuitable materials for the specified widths of the road, quarry and borrow areas. The distinction between light and heavy bush shall be decided by the Engineer.

The minimum site clearing widths for each of the activities shall be as shown in Table 4.1
Table 4.1: Site Clearing Widths

<table>
<thead>
<tr>
<th>Road Category</th>
<th>Running Surface</th>
<th>Stripping and Grubbing</th>
<th>Trees, Stumps, Boulders</th>
<th>Bush Clearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>A/B/C + Secondary Roads</td>
<td>6.0 m</td>
<td>10.6 m</td>
<td>10.6 m</td>
<td>14.0 m</td>
</tr>
<tr>
<td>D/E + Minor Roads</td>
<td>5.4 m</td>
<td>10.0 m</td>
<td>10.0 m</td>
<td>13.0 m</td>
</tr>
<tr>
<td>RAR Roads</td>
<td>4.5 m</td>
<td>7.9 m</td>
<td>8.0 m</td>
<td>11.0 m</td>
</tr>
<tr>
<td>Minor / RAR roads with insufficient widths or Temporary Sections</td>
<td>3.5 m</td>
<td>6.9 m</td>
<td>7.0 m</td>
<td>9.0 m</td>
</tr>
</tbody>
</table>

04–50–002 Grass Cutting (Manual)

Grass shall be defined as any form of plant growth including small shrubs having a girth of not more than 100mm measured at height of 200mm above ground level.

The grass shall be cut to height of not more than 50 mm above the ground. The width limits shall be as instructed by the Engineer. All cut grass shall be removed from the carriageway, side drains, mitre drains and inlets and outlet drains of structures/culverts and deposited in approved spoil dumps.

EA Burning of the grass shall not be allowed and care shall be taken not to damage roadside fixtures such as signs and marker posts.

This activity shall be carried out twice, each time before the rainy season or as shall be instructed by the Engineer.

Work Method

The Contractor shall use Labour to carry out this item of work.

Quality Control

The road width for grass cutting shall be measured at 50-m intervals and shall be free of grass after the operation.

Measurement: m²

The measurement shall be area of grass cut, based on the standard width and measured length of clearing.
Payment

The unit rate shall be full compensation, for labour, materials, tools, and incidental costs required to carry out the work.

04-50-003 Bush Clearing (Heavy)

Where the Engineer designates an area as Heavy Bush (based on the undergrowth density) the Contractor shall clear all vegetation including small trees, shrubs and undergrowth, and their root systems, and shall salvage any re-useable timber or other material by cutting into logs and stacking. Other cleared material shall be collected and disposed of off-site as directed by the Engineer.

Work Method

The Contractor shall use Labour methods for this item

Quality Control

The Engineer shall check the cleared widths at 50 metre intervals.

Measurement Unit: m2

The measurement shall be the area cleared to the specified width over the length as instructed by the Engineer.

Payment:

The unit rate shall be the full compensation for all labour, tools and incidental costs required to complete the work.

04-50-004 Bush Clearing (Light)

The Contractor shall clear all vegetation including small trees, and shrubs with their root systems. Grasses and any undergrowth shall be cut to a height of not more than 100mm. The cleared material shall be collected and disposed of away from the side drains and in a manner that causes no visibility obstruction to traffic.

Work Method

The Contractor shall use Labour methods for this item

Quality Control

The Engineer shall check the cleared widths at 50 metre intervals.

Measurement Unit: m2
The measurement shall be the area cleared to the specified width over the length as instructed by the Engineer.

Payment:

The unit rate shall be the full compensation for all labour, tools and incidental costs required to complete the work.

04-50-005 Pruning Tree Branches

Where instructed by the Engineer the Contractor shall trim tree branches to improve visibility. Cut material shall be collected and disposed of as directed by the Engineer and burning of waste material shall not be permitted.

Work Method

The Contractor shall use Labour for this item.

Quality Control

The Engineer shall check for visibility improvement.

Measurement and Payment

A Provisional Sum shall be allowed for this item, which shall be paid under Dayworks.

04-50-006 Trees and Stumps Removal (200-450mm girth)

Trees and Stumps outside the construction width but within the road reserve having a trunk girth of between 200-450mm at a point 600mm above the ground shall only be removed on the instruction of the Engineer.

The Contractor shall excavate around any trees to be removed to a depth not less than 0.5 m before cutting the roots. Existing stumps shall be uprooted in the same manner. All holes left by the removal of trees and stumps shall be back-filled with approved material and compacted to existing ground level. Cut material and stumps shall be collected and disposed of as directed by the Engineer. Burning of waste material shall not be permitted.

Work Method

The Contractor shall use Labour methods for this item.

Quality Control

The Engineer shall approve the removal, backfilling and satisfactory disposal of all waste material.

Measurement Unit: No
The measurement shall be the number of trees and stumps removed.

**Payment**

The unit rate shall be the full compensation for all labour, tools and incidental costs required to complete this item.

**04-50-007 Trees and Stump Removal (>450mm girth)**

All the requirements of item 04-003 shall apply for trees and stumps greater than 450mm girth. In addition any re-useable timber from trees removed shall be cut into logs not more than 1.5 metres long and stacked as directed by the Engineer.

**Work Method**

The Contractor shall use Labour methods, with appropriate sawing tools and equipment for this item.

**Quality Control**

The Engineer shall approve the removal, backfilling and satisfactory disposal of all waste material.

**Measurement Unit:** No

Measurement shall be the number of trees and stumps removed

**Payment:**

The unit rate shall be the full compensation for all labour, tools, equipment and incidental costs required to complete this item.

**04–50–008: Clearing of Obstructions**

This activity shall involve the following tasks:-

- Inspection of the road section(s) regularly
- Removal of all obstructions such as fallen trees/branches, rock fall, landslides and broken signs away from the road, side drains, mitre drains and other drains, inlets and outlets of drifts, culverts and other structures and the safe disposal thereof outside the road formation width.
- Removal of dead animals’ carcasses away for the carriageway and disposing of them as directed by the Engineer.

Liaison with the Police may be necessary.

**Work Method**

The Contractor shall use Labour to carry out this item of work

**Quality Control**
The road section shall be free of any obstruction.

**Measurement Unit: Provisional Sum**
The measurement for this item shall be a Provisional Sum paid as necessary on a Dayworks basis.

**Payment**
The unit rate shall be the full compensation for the provision of labour, tools and incidental costs necessary to carry out the tasks.

**04-50-009 Rock/Boulder Removal**
The Contractor shall remove in a manner agreed by the Engineer, rocks and boulders greater than 1.5 m girth using labour and appropriate equipment as necessary. Boulders shall be disposed of outside the road area.

**Work Method**
The Contractor shall use Labour and appropriate equipment methods for this item.

**Quality Control**
The Engineer shall approve the removal and satisfactory disposal of the boulders.

**Measurement Unit: Provisional Sum**
A Provisional Sum shall be included for this item

**Payment:**
Payment shall be made on a Dayworks basis.

**04-50-010 Stripping and Grubbing**
The Contractor shall remove, over the widths shown in Table 4.1, topsoil including anthills, loose boulders up to 1.5m girth and other unsuitable material and deposit the debris outside the cleared area as directed by the Engineer.

**Work Method**
The Contractor shall use Labour methods for this item

**Quality Control**
The Engineer shall approve the stripped and grubbed area and the satisfactory disposal of waste material.

**Measurement Unit** m²
The measurement shall be the area cleared as directed by the Engineer.

**Payment**

The unit rate shall be the full compensation for all labour, tools and incidental expenses required to complete this item.

**SECTION 05: EARTHWORKS**

**Scope**

This section covers the excavation of soil and the placing, watering and compaction of hard and soft material to form the road formation.

**05-40-001: Re-establishment of the Vertical Alignment**

The Contractor shall re-establish the vertical alignment of the road section which includes the setting out excavation of horizontal slots marking the level road platform.

The width of the slots shall be 0.5 m and they shall be set out at 10m intervals along the straight section and 5m on the curve sections of the road. Each slot shall be compacted using hand rammers until no more imprints of the rammer on the surface of the slot can be seen. The length of each slot shall be equal to the formation width of the road.

Vertical alignment standards shall be those set out in Table 5.1.

**Table 5.1 Vertical Alignment Standards**

<table>
<thead>
<tr>
<th>Standard</th>
<th>Flat &amp; Rolling Terrain</th>
<th>Hilly Terrain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desirable Minimum</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Desirable Maximum</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>Absolute Maximum</td>
<td>10%</td>
<td>12%</td>
</tr>
</tbody>
</table>

**Work method**

The Contractor shall apply Labour methods to carry out this item work.

**Quality Control:**

- The hand rammer shall be not less than 5kg
- The level of the slot shall have a tolerance of + 50 mm
- The longitudinal profile of the road shall be checked at every third slot and shall have a maximum tolerance of + 50mm
Measurement Unit: m

The measurement shall be linear metres of road alignment set out.

Payment:

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

05-50-007 Excavation to Level and Compaction

The Contractor shall cut material to form the level road platform and place the excavated material as fill or in spoil areas approved by the Engineer. Where material needs to be borrowed excavation shall only be from borrow areas approved by the Engineer.

The fill layers to be compacted shall not exceed 150mm loose depth.

Compaction of the fill material shall be carried out from the edges to the centre by overlapping passes of the compaction equipment. The number of passes shall be as directed by the Engineer dependent upon the equipment used and the material being compacted. Unless otherwise instructed the moisture content of the material shall be within ± 2% of optimum. Where additional moisture is required water shall be applied in an even manner such that no longitudinal or transverse flow occurs.

The Engineer may instruct the Contractor to carry out density tests on the compacted material to ensure that an acceptable standard has been achieved.

Work Method

The Contractor shall use Labour and appropriate compaction Equipment to carry out this item of work.

Quality Control

- The width of the platform shall be checked at intervals of 50 m and shall have a tolerance of + / - 50mm.
- The level platform shall be horizontal in the transverse direction and shall have a tolerance of + / - 15 mm under a 2 metre straight edge.
- The longitudinal profile shall have a maximum tolerance of + / - 50 mm over a 30m length of gradient.
- Compaction shall show no movement of material under the roller.
- Compaction test standard shall be 95% MDD (AASHTO T99)

Measurement Unit: m³

The measurement shall be the volume of compacted fill material forming the level platform.

Payment
The unit rate shall be the full compensation for labour, tools, equipment, water and incidental costs required for carrying out the work.

08-50-003:  Side-drain Excavation (Soft Material)

The Contractor shall excavate side drains to the profiles shown on the Drawings or as directed by the Engineer.

The material from the excavations shall be used for the formation of the camber. Where additional material is required to achieve the required camber, the widths of the side drains may be increased, with the approval of the Engineer.

Locations of the side drains shall be as shown on the Drawings or as directed by the Engineer, and the Contractor shall use the appropriate ditch template to control the excavations.

Work method

The Contractor shall apply Labour methods to carry out this item.

Quality Control

- The dimensions of the side drains shall be checked at 50m intervals and shall have a tolerance of + 50mm
- The longitudinal profile of the side drains shall be checked at 30m intervals and shall have a tolerance of +/- 50mm.

Measurement Unit  m3

Measurement shall be the volume of material excavated to form the side drains, and deposited for camber formation.

Payment

The unit rate shall be the full compensation for labour, tools and incidental costs required for carrying out the work.

08-50-004  Side-drain Excavation (Hard material)

Where, in the opinion of the Engineer, the material to be excavated to form the side drains may be classified as hard the Contractor shall carry out the excavation in accordance with 05-003 and shall be compensated under this item.

Work Method:

The Contractor shall apply Labour methods with appropriate Equipment to carry out this item.

Quality Control:
The Engineer shall measure the volume of the excavation classified as Hard material.

**Measurement Unit:** m³
The measurement shall be the volume of material excavated and deposited to form the camber.

**Payment:**
The unit rate shall be the full compensation for all labour, tools, equipment and incidental costs required to complete the work.

**08-50-005 Mitre Drains/Catchwater Drains**

i. Labour
ii. Equipment

The Contractor shall excavate mitre drains and catchwater drains to the dimensions shown on the Drawings and at locations as directed by the Engineer. They shall be excavated in a manner to minimise erosion at the discharge point. The material excavated from the drains shall be used to form the side drain bund directing water to the mitre-drain, and a bund on the lower side of the cut-off drain, or disposed of as directed by the Engineer.

**Work Method**
The Contractor shall use either Labour or Equipment as directed by the Engineer to carry out this work.

**Quality Control**

- The longitudinal profile shall have a gradient of maximum 4%.
- The dimensions of the mitre drains shall have maximum tolerances of +20mm
- The location of the mitre drains shall be approved by the Engineer.

**Measurement Unit:** m³
The measurement shall be the volume of material excavated as measured on site in approved drains.

**Payment**
The unit rate shall be full compensation for labour, tools, equipment and incidental costs required for carrying out the work.

**05-50-008 Spreading and Compaction for Camber Formation**
The Contractor shall spread and compact the material deposited from the side drains to form the camber on the road, in accordance with the Drawings or as directed by the Engineer, and shall check the profile with the appropriate camber board.
Compaction shall be carried out from the edges to the centre line by overlapping passes of the compaction equipment. The number of passes shall be as directed by the Engineer dependent upon the equipment used and the material being compacted. Unless otherwise instructed the moisture content of the material shall be within ± 2% of optimum. Where additional moisture is required water shall be applied in an even manner such that no longitudinal or transverse flow occurs.

The Engineer may instruct the Contractor to carry out density tests on the compacted material to ensure that an acceptable standard has been achieved.

**Work method**

The Contractor shall use Labour and appropriate compaction Equipment to carry out this item.

**Quality Control**

- The width of the carriageway including the shoulders shall be checked at 50m intervals and shall have a tolerance of +50/-20 mm.
- The camber shall be checked 50m intervals and shall have a tolerance of +/- 1%.
- Compaction shall show no movement of material under the roller
- Compaction test standard shall be 98% MDD (AASHTO T99)

**Measurement Unit** m2

The measurement shall be the area of camber formed, according to the specified carriageway width and measured length of road.

**Payment**

The unit rate shall be the full compensation for all labour, tools, equipment, water and incidental costs required for carrying out the work.

**SECTION 07: EXCAVATION AND FILLING FOR STRUCTURES**

**Scope**

This section covers all Works in connection with the excavation for concrete pipe culverts; inlet and outlet structures; drifts and drainage protection Works;

**07-50-002 Excavation for Drainage Structures**

The Contractor shall excavate trenches for culverts; foundations for head walls, wing walls; inlet and outlet aprons and other drainage structures to the dimensions and levels shown on the Drawings or as directed by the Engineer. The excavations shall be kept free of water and shall be compacted with hand rammers of not less than 5kg.

The Engineer shall approve all excavations before the Contractor shall be permitted to proceed with the construction.
The Contractor shall take all necessary precautions to safeguard the stability and safety of the excavations.

**Work Method**

The Contractor shall apply Labour methods to carry out this item.

**Quality Control**

- The dimensions of the excavations shall have a tolerance of + / - 50mm
- The invert levels shall have a tolerance of + / - 50mm
- The trench bottom gradients shall have a tolerance of + / - 20mm over the length of the trench

**Measurement Unit**  
**m3**

The measurement shall be volume of material excavated measured net according to the Drawings.

**Payment**

The unit rate shall be the full compensation for labour, tools, and any incidental costs required for carrying out the work.

**SECTION 08: CULVERT AND DRAINAGE WORKS**

**Scope**

This section covers all Works in connection with the installation of concrete pipe culverts; inlet and outlet structures; drifts and drainage protection Works; and the construction of Scour Checks

08-50-002: Ditch Cleaning (Manual)

i. Partially silted

Partially silted drains are those that are less than half silted and require only cleaning.

All deposited material, debris, and vegetation shall be removed and the drain shaped to the original cross-section and left in a free-draining condition. Suitable material may be used to fill depressions and potholes on the carriageway. All debris and other unsuitable material removed from the side drains shall be disposed of well clear of the drainage system in approved spoil dumps where it will not cause any obstruction or be washed back.

The side drains, mitre drains and catchwater drains shall be cleaned before the onset of the rains or as directed by the Engineer.

**Work Method**
The Contractor shall use Labour to carry out this item of work

Quality Control

• Appropriate drain templates shall be used to check and control the dimensions of the drains.
• The longitudinal profile of the drains shall be checked using boning rods, to ensure free flow.

Measurement Unit: m

The measurement shall be the length of drain desilted or cleaned to the specified cross-section.

Payment

The unit rate shall be full compensation, for labour, tools, and incidental costs required to carry out the work.

ii. Fully silted

Fully silted drains shall be those that are greater than half-silted and require re-excavation or reshaping.

All deposited material, debris, and vegetation shall be removed and the drain shaped to the original cross-section and left in a free-draining condition. Suitable material may be used to fill depressions and potholes on the carriageway. All debris and other unsuitable material removed from the side drains shall be disposed of well clear of the drainage system in approved spoil dumps where it will not cause any obstruction or be washed back.

The side drains shall be desilted or re-excavated before the onset of the rains, or as directed by the Engineer.

Work Method

The Contractor shall use Labour to carry out this item of work

Quality Control

• Appropriate drain templates shall be used to check and control the dimensions of the drains.
• The longitudinal profile of the drains shall be checked using boning rods, to ensure free flow.

Measurement Unit: m

The measurement shall be the length of drain re-excavated or re-shaped to the specified cross-section.

Payment
The unit rate shall be full compensation for labour, tools, and any incidental costs required to carry out the work.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-60-001</td>
<td>Culvert Cleaning (partially blocked)</td>
<td>300</td>
</tr>
<tr>
<td>08-60-002</td>
<td></td>
<td>450</td>
</tr>
<tr>
<td>08-60-003</td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>08-60-004</td>
<td></td>
<td>900</td>
</tr>
<tr>
<td>08-60-005</td>
<td></td>
<td>1200</td>
</tr>
</tbody>
</table>

This activity involves the cleaning of culverts of specified sizes including pipe barrels, the outlet/inlet structures, and the outlet drains, keeping them free of all debris, weed, silt and any obstruction to ensure free passage of water at all times. The debris shall be deposited in approved spoil dumps as directed by the Engineer.

Partially blocked culverts shall be those with less than half of the barrel blocked.

Correct widths and slopes of the outlet drains shall be maintained. The gradient of the outlet drain shall be not less than 2 %.

All broken culvert barrels discovered in the course carrying out this activity shall be reported to the Engineer.

This activity shall be carried out before the rains, or as directed by the Engineer.

**Work Method**

The Contractor shall use Labour to carry out this item of work.

**Quality Control**

The culverts shall be checked as free of debris to the satisfaction of the Engineer.

**Measurement Unit:** \( m \)

The measurement shall be the length of culvert, including the outlet drain, cleaned.

**Payment**

The unit rate shall be full compensation for labour, tools and incidental costs required to carry out the work.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-60-006</td>
<td>Culvert Cleaning (Fully blocked):</td>
<td>300</td>
</tr>
<tr>
<td>08-60-007</td>
<td></td>
<td>450</td>
</tr>
<tr>
<td>08-60-008</td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>08-60-009</td>
<td></td>
<td>900</td>
</tr>
<tr>
<td>08-60-010</td>
<td></td>
<td>1200</td>
</tr>
</tbody>
</table>
This activity involves the cleaning of culverts of specified sizes including pipe barrels, the outlet/inlet structures, and the outlet drains, keeping them free of all debris, weed, silt and any obstruction to ensure free passage of water at all times. The debris shall be deposited in approved spoil dumps as directed by the Engineer.

Fully blocked culvert shall be those with greater than half of the barrel blocked.

Correct widths and slopes of the outlet drains shall be maintained. The gradient of the outlet drain shall be not less than 2%.

All broken culvert barrels discovered in the course of carrying out this activity shall be reported to the Engineer.

This activity should be carried out before the onset of the rains, or as directed by the Engineer.

**Work Method**
The Contractor shall use Labour to carry out this item of work.

**Quality Control**
The culverts shall be checked as free from debris, to the satisfaction of the Engineer.

**Measurement Unit:** m

The measurement shall be the length of culvert, including the outlet drain cleaned.

**Payment**
The unit rate shall be full compensation for labour, tools and incidental costs required to carry out the work.

### Concrete Pipe Culverts

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-60-016/035</td>
<td>300 mm</td>
<td>haunched (Type II)</td>
</tr>
<tr>
<td>08-60-017/035</td>
<td>300 mm</td>
<td>unhaunched (Type I)</td>
</tr>
<tr>
<td>08-60-018/035</td>
<td>450 mm</td>
<td>haunched (Type II)</td>
</tr>
<tr>
<td>08-60-019/035</td>
<td>450 mm</td>
<td>unhaunched (Type I)</td>
</tr>
<tr>
<td>08-60-020/035</td>
<td>600 mm</td>
<td>haunched (Type II)</td>
</tr>
<tr>
<td>08-60-021/035</td>
<td>600 mm</td>
<td>unhaunched (Type I)</td>
</tr>
<tr>
<td>08-60-022/035</td>
<td>900 mm</td>
<td>haunched (Type II)</td>
</tr>
<tr>
<td>08-60-023/035</td>
<td>900 mm</td>
<td>unhaunched (Type I)</td>
</tr>
<tr>
<td>08-60-024/035</td>
<td>1200 mm</td>
<td>haunched (Type II)</td>
</tr>
<tr>
<td>08-60-025/035</td>
<td>1200 mm</td>
<td>unhaunched (Type I)</td>
</tr>
<tr>
<td>08-60-026/035</td>
<td>300 mm</td>
<td>semi-s Surround (Type III)</td>
</tr>
<tr>
<td>08-60-027/035</td>
<td>300 mm</td>
<td>Surround (Type IV)</td>
</tr>
<tr>
<td>08-60-028/035</td>
<td>450 mm</td>
<td>semi-s Surround (Type III)</td>
</tr>
<tr>
<td>08-60-029/035</td>
<td>450 mm</td>
<td>Surround (Type IV)</td>
</tr>
<tr>
<td>08-60-030/035</td>
<td>600 mm</td>
<td>semi-s Surround (Type III)</td>
</tr>
<tr>
<td>08-60-031/035</td>
<td>600 mm</td>
<td>Surround (Type IV)</td>
</tr>
</tbody>
</table>
The Contractor shall supply, lay and joint concrete pipes to form culverts, including the concrete bedding; haunching or surrounds; and backfilling, in accordance with the Drawings for the Type and diameter specified in the Contract or directed by the Engineer.

The pipes shall be of Class 20/20 concrete, at least 28 days cured, and manufactured on site or procured from a supplier approved by the Engineer. The pipes shall be laid on a bedding of Class 15/20 concrete of dimensions as shown on the Drawings and jointed with cement mortar 1:4.

The culvert gradient including the outlet shall be a minimum 2%.

The pipes shall be haunched or surrounded, according to the Type specified, with Class 15/20 concrete to the dimensions shown on the Drawings or as directed by the Engineer.

Backfilling shall be carried with approved material and compacted in layers not exceeding 150 mm loose depth and placed evenly on each side of the pipe. Ramps shall be shaped to achieve a minimum overfill of 75% of the pipe diameter, and shall be tapered back on the carriageway to provide a gradual approach, as directed by the Engineer.

If the Contractor wishes to construct culverts in-site, using inflatable or collapsible forms the Engineer’s approval shall first be sought for the proposed working method.

On completion the inside of the culvert shall be smooth, without displaced joints or other obstructions and true to line and level.

Work Method

The Contractor shall use Labour and appropriate Equipment to carry out this item work

Quality Control

- Concrete quality shall be checked for cracks, honey combing, and other defects.
- Before the pipes are laid, the gradient of the concrete bedding shall be checked and shall not be less than 2%
- The joints shall be checked to see that they have been properly made.

Measurement Unit: m

The measurement shall be in linear metres of the installed Type and size of culvert specified, measured net according to the Drawings.

Payment
The unit rate shall be the full compensation for labour, tools, materials, equipment and any other incidentals that may be required in carrying out the work.

08-70-001  Head Wall Repair - Masonry

This activity involves the repairs to damaged head walls and wing walls built in masonry.

Where directed by the Engineer, the masonry walls shall be inspected and loose or missing stone re-secured or replaced. Damaged pointing shall be repaired with cement mortar 1:4 and finished flush with the stonework.

Work Method

The Contractor shall use Labour to carry out this item of work

Quality Control

• The stability of the walls and the pointing shall be to the satisfaction of the Engineer.

Measurement Unit:  No

The measurement shall be the number of walls repaired as directed by the Engineer.

Payment

The unit rate shall be full compensation for labour, materials, tools, and incidental costs required to carry out the work.

08-70-002  Headwall Repair - Concrete

The activity involves the repairs to damaged concrete headwalls and wingwalls, and to inlet/outlet concrete aprons. Concrete walls shall be inspected and repair works carried out as instructed by the Engineer to include breaking out and replacement of damaged concrete with similar material, and the rendering of open texture areas with cement mortar 1:4. Broken wall sections shall be re-built in 20/20 (1:2:4) concrete within formwork erected on the correct lines and levels in accordance with the Standard Drawings. Areas of new concrete and mortar shall be protected from direct sunlight and kept moist for 3 days.

Quality Control

The work shall be carried out to the satisfaction of the Engineer.

Measurement Unit:  No

The measurement shall be the number of walls/aprons repaired.

Payment
The unit shall be full compensation for labour, materials, tools, and incidental costs required to carry out the work.

**Minor Drainage Structures - Masonry**

08-70-003 Type I  
08-70-016 Type 2  
08-70-017 Type 3(a)  
08-70-018 Type 3(b)  
08-70-019 Type 4

The Contractor shall construct inlet and outlet structures for culverts including headwalls, wingwalls in stone masonry or concrete block, and aprons in concrete to the dimensions and levels shown on the Drawings or as directed by the Engineer. The walls shall be built on foundations of class 15/20 concrete and jointed with cement mortar 1:4. The aprons shall be in Class 20/20 concrete and after laying the surface shall be kept moist for 3 days.

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

- The dimensions of the structures shall have a tolerance of + / - 10mm
- The levels shall have a tolerance of + / - 10mm
- The mortar joints shall be finished flush with the face of the walls.

**Measurement Unit:** m³

EB

The measurement shall be the volume of the structures constructed, in whichever material, measured net according to the Drawings.

**Payment**

The unit rate shall be the full compensation for labour, tools, materials and any other incidentals that may be required in carrying out the work.

**Minor Drainage Structures - Concrete**

08-70-004 Type I  
08-70-021 Type 3(a)  
08-70-022 Type 3(b)  
08-70-023 Type 4

The Contractor shall construct inlet and outlet structures for culverts in concrete to the dimensions and levels shown on the Drawings or as directed by the Engineer.

Concrete shall be Class 20/20 unless otherwise specified. The formwork for the walls shall be erected on the concrete foundations, to the correct dimensions, and shall be approved by the Engineer before concrete is poured. Concrete shall be poured in a single lift and the top
surface shall be kept moist for 3 days. Formwork may be struck after 2 days or as directed by the Engineer.

The Contractor shall use a concrete vibrator or other means approved by the Engineer to ensure full compaction of the concrete.

**Work Method**

The Contractor shall use both Labour and appropriate Equipment to carry out this item.

**Quality Control**

- The dimensions of the structures shall have a maximum tolerance of $\pm 20\text{mm} / - 10\text{mm}$
- The workability and mix of concrete shall be checked using the slump test and shall have a slump limit as directed by the Engineer. The frequency of testing shall be determined by the Engineer.
- The concrete shall be checked for cracks, honey combing and other defects at the time of striking the formwork.

**Measurement Unit:** m³

The measurement shall be the volume of concrete in the completed structure, measured net in accordance with the Drawings.

**Payment**

The unit rate shall be the full compensation for labour, tools, materials, formwork, equipment and other incidentals that may be required in carrying out the work.

08–70-005 Scour Checks (Concrete)
08–70-006 Scour Checks (Masonry)
08–70-007 Scour Checks (Wooden Stakes)

The Contractor shall construct scour checks using either stones, stakes, or concrete as instructed by the Engineer.

Construction of concrete scour checks shall be in class 20/20 concrete, unless otherwise specified, and to the details shown in the Drawings.

Spacing for scour checks shall be as shown in Table 8.1, or as directed by the Engineer.

Table 8.1: Scour checks spacing

<table>
<thead>
<tr>
<th>Gradient of Drain</th>
<th>Scour Check Spacing</th>
<th>Gradient of Drain</th>
<th>Scour Check Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4% or less</td>
<td>not required</td>
<td>8%</td>
<td>7.5m</td>
</tr>
<tr>
<td>------------</td>
<td>--------------</td>
<td>----</td>
<td>------</td>
</tr>
<tr>
<td>5%</td>
<td>20m</td>
<td>9%</td>
<td>6m</td>
</tr>
<tr>
<td>6%</td>
<td>15m</td>
<td>10%</td>
<td>5m</td>
</tr>
<tr>
<td>7%</td>
<td>10m</td>
<td>&gt;10%</td>
<td>4m</td>
</tr>
</tbody>
</table>

**Work method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

The spacing of the scour checks shall have a tolerance of + / - 0.5m
The sizes of the stakes and stones used shall be in accordance with the Drawings
The shape of the scour check shall be checked using the scour check template.

**Measurement Unit:** No.

The measurement shall be the number of scour checks constructed.

**Payment**

The unit rate shall be full compensation, for labour, tools, materials and incidental costs required for carrying out the work.

08 - 70 - 008: Scour Check Repair - masonry
08 - 70 - 009: Scour Check Repair - wooden
08 - 70 - 010: Scour Check Repair - concrete

This activity involves the repair of Scour Checks using stones or wooden stakes or concrete. The construction details shall be shown in the Drawings or as instructed by the Engineer.

Scour checks shall be inspected and the repairs carried out as directed by the Engineer, which shall include replacement of missing or broken stonework and stakes; and the repair of damaged concrete, to the original lines, levels, and Specifications.

**Work Method**

The Contractor shall use Labour to carry out this item work.

**Quality Control**

EC
The sizes of the stakes and stones used shall be as the original construction.
The shape of the scour check shall be checked using the scour check template.

**Measurement:** No.

The unit rate of measurement shall be the number of scour checks repaired.

**Payment**

The unit rate shall be full compensation, for labour, tools, materials, and incidental costs required for carrying out the work.

08-70-011: **Stone Pitching Repair**

This activity involves the repair of stone pitching on slopes, in inlet/outlet aprons and access drifts. The stone pitching shall be inspected and repairs carried out as directed by the Engineer, including the replacement and re-bedding of missing or loose stones; the repair of mortar jointing; and the cleaning out of weepholes, as required. All work shall be to the lines and levels of the original construction with new stonework and mortar being flush with the adjacent materials.

**Work Method**

The Contractor shall use Labour to carry out this work

**Quality Control**

The work shall be carried out to the satisfaction of the Engineer.

**Measurement Unit:** m²

The measurement shall be the net surface area of the repairs.

**Payment**

The unit rate shall be full compensation, for labour, tools, materials, and incidental costs required to carry out the work.

08-70-016: **Stone Pitching**

The Contractor shall lay stone pitching at locations shown on the Drawings or as directed by the Engineer, which shall include levelling the area to be covered with stone pitching, collecting stones, laying stones, applying mortar to the joints and constructing weep holes, if required.

The area to be covered with stone pitching shall be trimmed to the level and slope shown on the Drawings or as directed by the Engineer. The prepared surface shall be firm and well compacted, with hand rammers.

The stones shall have minimum dimensions of 150mm and maximum 300mm and shall be set on the flat side and securely bedded, with the largest dimensions at right angles to the
flow of water, in an interlocking pattern so as to leave only a minimum of voids between the stones which shall be filled with suitably shaped and tightly wedged spalls. The top of the pitching shall be finished flush with the adjacent material.

The stones shall be placed in full contact with the surface and bedded into cement mortar 1:4 with a minimum thickness of 100 mm. The mortar shall be worked into the pitching so that the voids between the stones are filled to the full depth of the pitching. The mortar shall be finished flush with the surface of the stones.

Weep holes shall be provided to stone pitching on slopes as directed by the Engineer.

The surface of the stone pitching shall be protected from direct sunshine and kept moist for 2 days.

Work Method

The Contractor use Labour to carry out this item.

Quality Control

ED

• The quality of pitching shall be checked for gaps and voids.
• The dimensions of the area of stone pitching shall have a tolerance of + / - 100mm

Measurement Unit: m2

The measurement shall be the total area of pitching calculated as the net area, measured on the slope.

Payment

The unit rate shall be full compensation, for labour, tools, materials, and incidental costs required for carrying out the work.

08-80-002 : Gabions

The Contractor shall provide and install Gabions as retaining walls and anti-erosion structures at locations shown on the Drawings or as directed by the Engineer.

Gabions shall include mattresses and boxes and for purposes of construction, measurement and payment, no distinction shall be made between them.

Gabions shall be ‘Maccaferi’ boxes or ‘Reno’ matresses or equivalent approved by the Engineer.

The surfaces on which the Gabions are to be laid prior to being filled with rock shall be levelled to the depths and dimensions shown on the Drawings or as directed by the Engineer.
Gabion boxes shall be tied together with 3 mm galvanised binding wire securing all edges at 150mm intervals.

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

The placing and tying of the Gabions shall be approved by the Engineer before filling commences.

**Measurement Unit:** No

The measurement shall be the number of Gabion boxes installed.

**Payment**

The unit rate shall be the full compensation for labour, materials, and any incidental item costs necessary to carry out the work.

08-80-003 : Rockfill to Gabions

The Contractor shall provide selected rock, crushed if necessary, and carry out the packing and compacting of the rock inside the Gabion boxes.

The boxes shall be filled in layers from the sides towards the middle in an interlocking stone matrix to prevent deformation and bulging. The interior and top layers of the boxes shall be hand packed with smaller stone to form a tightly compact structure and rammed in place. Care shall be taken to ensure that each layer of boxes is filled evenly and to a level surface before the next course of boxes is placed.

**Work method**

EE

The Contractor shall use Labour to carry out this activity.

**Quality Control**

The filling and compaction of the stones in the Gabion boxes shall be approved by the Engineer.

**Measurement Unit** m³

Rockfill to Gabions shall be the volume of Gabions filled.

**Payment**

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

08-80-004 Drift Maintenance – desilting
This activity involves the removal of debris, silt and any vegetation from drifts and causeways. The debris shall be deposited away from the drift in approved spoil dumps.

This activity shall be carried before the rains, or as directed by the Engineer.

Work Method

The Contractor shall use Labour to carry out this item of work

Quality Control

The work shall be carried out to the satisfaction of the Engineer.

Measurement Unit: m3

The measurement shall be the volume of debris or silt removed calculated as the product of length, width and measured depth of the affected section of drift.

Payment

The unit rate shall be full compensation for labour, tools, and incidental costs required to carry out the work.

08-80-005 Drift Repairs – Concrete

This activity involves the repair of concrete drifts, including the removal of loose or broken concrete, cutting back damaged areas to sound surfaces and repairing with concrete of similar Class to the original.

The drift shall be inspected and necessary repairs shall be instructed by the Engineer. Holes and voids shall be cleared of debris, loose material and dust, and shall be well watered before the new concrete is placed. The new concrete shall be firmly rammed against the existing surfaces and finished flush with the surrounding materials. The surface of the repair shall be protected from direct sunlight and kept moist for 3 days. Concrete shall be Class 20/20 unless otherwise directed by the Engineer.

Quality Control

The work shall be carried out to the satisfaction of the Engineer.

Measurement Unit: m3

The measurement shall be the volume of concrete used for the repair.

Payment:

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required to carry out the work.

08- 80-006 Drifts (Stone Pitching)
08-80-007 Drifts (Concrete)

The Contractor shall construct Access drifts in grouted stone pitching and watercourse drifts in concrete at locations, and to the dimensions, shown on the Drawings or as directed by the Engineer. This shall include the provision of stone and the levelling of the areas to be covered.

The stone pitching for Access drifts shall comply with the requirement of 08-70-016 with the addition of masonry toes at each end of the drift as shown on the Drawings.

Concrete drifts shall be constructed in Class 20/20 concrete to the lines and dimensions shown on the Drawings or as directed by the Engineer.

The area to be covered shall be trimmed to the line and slope shown on the Drawings or as directed by the Engineer, and the prepared surface compacted with hand rammers or appropriate equipment. The concrete shall be poured in bays of half road width and of length 10-15 metres, between construction joints, with steel mesh reinforcement mats laid 50mm below the finished surface level. Contraction joints if required shall correspond with the construction joints where directed by the Engineer expansion joints shall be installed at positions and to the details given by the Engineer.

The grouted stone pitching and the concrete shall be covered with wet sacking or other approved cover for not less than 4 days after laying and shall not be subject to loading until adequate strength has been developed as instructed by the Engineer.

Work Method

The Contractor shall use Labour and appropriate Equipment to carry out this item.

Quality Control

i) Stone pitching quality shall be as for 08-70-016
ii) Concrete shall be checked by slump test to the standard as directed by the Engineer.

Measurement Unit m3

The measurement shall be the volume of stone pitching or concrete laid, measured net according to the Drawings.

Payment

The unit rate shall be full compensation for labour, tools, materials, equipment and incidental costs required for carrying out the work.

08-80-008 At-level Scour Checks

The Contractor shall select and place flat stones of minimum dimensions 0.10-0.15m in gently sloping channels. The stones shall be placed in a manner to ensure minimum voids within the structure. A trench 0.2m deep by 0.2m wide shall be excavated in the invert of the channel and extended 0.2m into the slopes. Stones shall be laid up to the level of the
invert with the middle section lower than the sides to form a spill way. The spacing of the checks shall be 1-4 metres, as directed by the Engineer.

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

The construction and spacing of the scour checks shall be checked by the Engineer.

**Measurement Unit:** No

The measurement shall be the number of scour checks constructed.

**Payment**

The unit rate shall be full compensation for labour, tools, materials and incidental costs required to carry out the work.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-80-009</td>
<td>Stone Chute Stabilisation</td>
</tr>
<tr>
<td>08-80-010</td>
<td>Stone and Post Chute Stabilisation</td>
</tr>
</tbody>
</table>

The Contractor shall construct gully-head protection works as directed by the Engineer to the dimensions and details shown on the Drawings.

The dimensions of the stones shall not be less than 200mm and the volume not less than 0.01m³ for the smaller stones and pebbles to be used as the transition layer between the stone structure and the ground. No rounded stones shall be used. Posts shall be durable hardwood minimum 900mm in length and 15mm diameter.

The gully head shall be excavated as shown on the Drawings to form a firm base for the stone layers. The initial layer shall be the small stones and gravel to a depth of 150mm after which the larger stone shall be carefully placed to form a compact matrix. Posts shall be driven a minimum of 600mm into the ground at a spacing as directed by the Engineer.

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

The stone dimensions and construction shall be checked by the Engineer.

**Measurement Unit:** No

The measurement shall be number of units constructed.

**Payment**
The unit rate shall be full compensation for labour, tools, materials and incidental costs required to carry out the work.

08-80-011/012 Check Dams
08-80-011 Stone Dams
08-80-012 Stone and Post Dams

The Contractor shall construct check dams in erosion gullies to the dimensions and details shown on the Drawings and as directed by the Engineer.

The dimensions of the stones in the main structure shall not be less than 200mm and the volume not less than 0.01 m³ for the stones and pebbles for the transition layer between the stone structure and the ground. No rounded stones shall be used.

Posts shall be durable treated hardwood of minimum diameter 0.10m, of minimum length 1.6m, driven at least 600mm into the ground. Stones shall be carefully hand-packed to provide a stable structure with a minimum of voids.

The spacing of the check dams shall be as shown in the table below:

<table>
<thead>
<tr>
<th>Gradient</th>
<th>0.15</th>
<th>0.25</th>
<th>0.50</th>
<th>0.75</th>
<th>1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>15.0</td>
<td>25.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>5.0</td>
<td>8.7</td>
<td>17.5</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>10</td>
<td>2.5</td>
<td>4.2</td>
<td>8.4</td>
<td>12.6</td>
<td>16.8</td>
</tr>
<tr>
<td>15</td>
<td>1.4</td>
<td>2.3</td>
<td>4.6</td>
<td>6.9</td>
<td>9.2</td>
</tr>
<tr>
<td>20</td>
<td>0.9</td>
<td>1.6</td>
<td>3.2</td>
<td>4.8</td>
<td>6.4</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>1.3</td>
<td>2.5</td>
<td>3.8</td>
<td>5.0</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
<td>4.0</td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td>1.6</td>
<td>2.4</td>
<td>3.2</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td>1.2</td>
<td>1.8</td>
</tr>
</tbody>
</table>

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

The Engineer shall check the workmanship and spacing of the check dams.

**Measurement Unit:** No

The measurement shall be the number of check dams constructed.

**Payment**

The unit rate shall be full compensation for labour, tools, materials and incidental costs required to carry out the work.
SECTION 10: GRADING AND GRAVELLING

Scope:
Grading covers the work of the reinstating of the road carriageway to the correct camber by removing the high points and filling gullies, corrugations, and wheel ruts to restore a smooth running surface. Gravelling consists of the excavation, loading, hauling, dumping and spreading of gravel wearing course material on the formation of the road carriageway. Gravel shall include lateritic gravel, quartzitic gravel, calcareous gravel, decomposed rock, soft stone coral rag, clayey sand and crushed rock.

The material may be obtained from quarries, borrow pits or excavation in cuttings as directed by the Engineer. Gravel material shall conform to the requirement given in Table 10.1

Table 10.1: Requirement for Gravel Wearing Course

<table>
<thead>
<tr>
<th>GRADING REQUIREMENTS</th>
<th>PLASTICITY INDEX REQUIREMENTS PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sieve (mm)</td>
<td>% by Weight Passing</td>
</tr>
<tr>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>28</td>
<td>95 - 100</td>
</tr>
<tr>
<td>20</td>
<td>85 - 100</td>
</tr>
<tr>
<td>14</td>
<td>65 - 100</td>
</tr>
<tr>
<td>10</td>
<td>55 - 100</td>
</tr>
<tr>
<td>5</td>
<td>35 - 92</td>
</tr>
<tr>
<td>2</td>
<td>23 - 77</td>
</tr>
<tr>
<td>1</td>
<td>18 - 62</td>
</tr>
<tr>
<td>0.425</td>
<td>14 - 50</td>
</tr>
<tr>
<td>0.075</td>
<td>10 - 40</td>
</tr>
</tbody>
</table>

For “Quarry Waste” gravel stones of maximum dimension 80mm may be permitted

The Engineer shall approve quarries and the extent of their exploitation. The quarries shall be shown to the Contractor prior to commencement of the Works. The Contractor shall be
responsible for the acquisition of the quarry rights and shall conduct respective negotiations with landowners and affected communities.

Alternative sources of gravel material whose quality can be shown to be in compliance with the specification requirements may be used, with the approval of the Engineer and at no extra cost to the Employer. The Contractor is deemed to have included in his rates for the provision of the gravel material.

**10-50-002 Carriageway Grading – Heavy Grading**

The Contractor shall scarify the existing carriageway surface, cutting high spots and moving materials to fill potholes, corrugations and wheel ruts and reshape the surface to the specified camber, using a Motor grader unless otherwise directed by the Engineer. All loose rocks, roots and grasses shall be removed and disposed of well clear of the drains.

Pegs 300 to 400mm long shall be placed at 20 m intervals to mark edge of the carriageway. The material shall be bladed towards the centre of the road starting from both edges until the specified camber is achieved. Suitable material from the side drains may be used as additional material. Any further material needed to achieve the correct camber shall be from an approved source. Compaction shall be carried out using appropriate equipment approved by the Engineer, from the carriageway edges to the centerline in overlapping passes.

No grading shall be carried out in dry conditions. Where additional moisture is required to achieve compaction it shall be added in an even manner without transverse or longitudinal flow.

**Work Method**

The Contractor shall use Equipment to carry out this item.

**Quality Control**

- The width of the carriageway shall be checked at every 50m intervals and have a tolerance of + 50mm or .20mm.
- The camber shall be checked with a camber board at 25m intervals and shall have a tolerance of +/- 1%

**Measurement Unit:** \( m^2 \)

The measurement shall be the area of carriageway graded, measured net according to the specified width and measured length graded.

**Payment**

The unit rate shall be the full compensation for labour, tools, equipment and incidental costs required for carrying out the work.

**10-50-004: Carriageway Grading - Light Grading**
The Contractor shall grade the carriageway to control roughness and corrugations using either a Towed or a Motor grader. The width of the carriageway shall be as specified for the Road Class.

Pegs 200 to 300mm long shall be placed at 20 m intervals to mark edge of the carriageway.

The material shall be bladed toward the centre of the road, starting from both edges, to the specified camber. Where instructed by the Engineer, suitable materials from the side drains may be used to fill potholes and gullies in the carriageway. Any further material needed to re-form the camber shall be from an approved source. Compaction shall be achieved using the wheels of the equipment, tracked evenly over the full surface, or by other approved means. No grading shall be carried out in dry conditions.

**Work Method**

The Contractor shall use Equipment to carry out this item.

**Quality Control**

- The width of the carriageway shall be checked at every 50m intervals and have a tolerance of +50mm or -20mm
- The camber shall be checked with a camber board at 25m intervals and shall have a tolerance of +/- 1%

**Measurement Unit:** m²

The measurement shall be the area of carriageway graded, measured net according to the specified width and measured length graded.

**Payment**

The unit rate shall be the full compensation for labour, tools, equipment and incidental costs required for carrying out the work.

10-80- 004  Removal of Overburden - Labour
10-80- 009  - Equipment

The Contractor shall remove overburden from quarries and borrow pits, which includes loading, hauling and stockpiling at approved locations. The thickness of the overburden layer to be removed shall be determined from trial pits dug on a 30 metre grid within the quarry area.

The overburden shall be deposited neatly for re-use to reinstate the quarry on completion of the Works, as directed by the Engineer.

**Work Method:**

The Contractor shall use Labour and appropriate Equipment to carry out this item.

**Quality Control**
• The location and manner of stock piling of the overburden for the reinstatement of the quarry shall be to the approval of the Engineer.

Measurement Unit: m³

The measurement shall be the volume of overburden removed as calculated from the cleared area and the mean depth indicated from the trial pits.

Payment

The unit rate shall include full compensation for labour, tools materials and equipment, haulage, stockpiling and incidental costs required for carrying out the work.

10–80-005: Haulage (Overhaul beyond 1.5km)

The Contractor shall load the excavated gravel, haul by appropriate equipment and off-load on the road as directed by the Engineer. Where the quantity delivered in any load falls short of the equipment capacity, off-loading shall only be permitted after the agreed spacing is adjusted accordingly.

No vehicle with a capacity of greater than 10 tonnes shall be permitted to off-load gravel directly on the prepared formation. Any greater loads shall be dumped in stockpiles off-road and transported to the formation areas by appropriate means.

Where loads supplied are found to contain material other than from the approved quarry and are of unacceptable quality, the Contractor shall remove them from site at the Contractor’s expense.

Work Method:

The Contractor shall use both Labour and Equipment to carry out this Item.

Quality Control:

• No haulage equipment shall be used until its capacity has been ascertained by the Engineer
• The quality of gravel dumped on the road shall be according to the Specifications
• The quantity of material delivered in each load shall be checked before dumping is allowed
• The distance between the stacks shall be checked to ensure the required compacted thickness will be achieved.

Measurement Unit: m³ km (Overhaul)

The Contractor shall allow in the rates for item 10-80-007 for a ‘free’ haul distance of 1.5km. The ‘overhaul’ shall be the distance, greater than 1.5km, to the centre point of the section where the gravel is being dumped and processed, measured along the shortest route as determined by the Engineer.
The measurement of overhaul shall be the product of the volume of the gravel hauled and the distance to the centre point as indicated above.

**Payment**

The unit rate shall include full compensation for labour, tools, equipment, and incidental costs necessary to carry out the work.

**Excavation, Free haul, Spreading and Compaction of Gravel**

10-80-007  -  Labour
10-80-008  -  Equipment

**Excavation of Gravel - Labour**

- Equipment

Gravel shall be excavated from quarries approved by the Engineer, and the Contractor shall inform the Engineer if the quality/availability of the gravel changes during the course of excavation. Excavation and loading shall normally be by labour unless, at the request of the Contractor, the Engineer allows the use of equipment.

Stones and boulders with one dimension greater than 80mm shall be removed from the excavated gravel and deposited outside the quarry at locations approved by the Engineer. Such stones and boulders may be reused in other parts of Works with the approval of the Engineer.

**Work Method**

The Contractor shall use Labour and/or Equipment to carry out this work, as directed by the Engineer.

**Quality Control:**

- Oversize stones and boulders shall not be loaded for haulage to the road.
- Areas containing deleterious material shall not be excavated.

**Free haul, spreading and Compaction of Gravel**

The Contractor shall spread and compact gravel material, in a manner to ensure a uniform thickness of the layer across the full width of the carriageway and shaped to the specified camber. Spreading also includes the removal of any oversized stones or boulders, which cannot be broken down to the required size, to spoil dumps. Gravel shall be spread within 24 hours of off-loading.

Compaction of the gravel material shall be carried out from the carriageway edges to the centerline by overlapping passes of the compaction equipment. The number of passes shall be as directed by the Engineer dependent upon the equipment used and the material being compacted. Unless otherwise instructed the moisture content of the material shall be within +2% of optimum.
Where additional moisture is required water shall be applied in an even manner and the rate of application shall be such that no transverse or longitudinal flows occur.

The Engineer may instruct the Contractor to carry out density tests on the compacted material to ensure that an acceptable standard has been achieved.

**Work Method:**

The Contractor shall use Labour and/or appropriate Equipment to carry out this item.

**Quality Control:**

- The gravel surface width shall be checked at 100m intervals and shall have a tolerance of + / - 50mm
- Trial holes shall be dug as directed by the Engineer to check the gravel thickness and shall have a tolerance of + 5mm / - 0mm
- The camber shall be checked at 50m intervals and the maximum tolerance shall be + / - 1 %
- The longitudinal profile shall be checked after the compaction of each load to ensure a smooth surface with no corrugations or depressions

**Measurement Unit:** m³

The measurement shall be the volume of compacted gravel surfacing measured net according to the Drawings and shall include the excavation and the 1.5km ‘free’ haul distance

**Payment**

The unit rate shall be the full compensation for labour, tools, equipment and incidental costs required for carrying out the work.

**10-80-010 Restoration of Quarries and Borrow Pits**

The Contractor shall level the ground, return the topsoil from the stockpiles, and uniformly spread the material over the full excavation area.

Adequate drainage provisions shall be made to protect the excavation areas, and where necessary appropriate protection measures shall be taken to avoid erosion of the spread topsoil layer. Grass and trees shall be replanted as directed by the Engineer.

**Work Method**

The Contractor shall use Labour and/or Equipment to carry out this item as agreed by the Engineer.

**Quality Control**
The Engineer shall check that the required measures have been satisfactorily taken.

Measurement and Payment: Provisional Sum

Payment shall be made on a Dayworks basis for the labour and equipment as directed by the Engineer.

**SECTION 12: NATURAL MATERIAL BASES**

**12-50-001 Hand Packed Stone Paving**

The Contractor shall construct the hand packed stone paving on the shaped and compacted road formation which has been approved by the Engineer.

Pegs shall be placed at 5 metre centres at the edge of the carriageway with the tops of the pegs at the desired finished road level.

A kerb of larger stones (30-40 cms) shall be placed in an edge trench so that the tops of the stones correspond to the finished road surface level. The trench shall be backfilled and compacted to secure the kerb stones in place. Stones 15-20 cms maximum dimension shall be placed tightly together on the road formation between the kerbs with the greater dimension vertical, and the tops approximately at the finished surface level.

The gaps between the base stones shall then be filled with smaller stones and hammered into place. Angular chippings from the breaking of larger stones, and other smaller stones shall be wedged into the gaps to form a close matrix.

The surface shall then be blinded to finished road profile level with gravel, fine stones, sand or clay sand mix, and compacted until no movement is observed.

**Work Method**

The Contractor shall use Labour and Equipment to carry out this item.

**Quality Control**

The passage of the compaction equipment shall show no movement within the paving. The finished surface shall be dense and firm.

**Measurement Unit: m³**

The measurement shall be the volume of paving in place measured net according to the Drawings.

**Payment**

The unit rate shall include full compensation for labour, tools, material, equipment and incidental costs necessary to carry out the work.

**SECTION 15: BITUMINOUS SURFACE TREATMENTS**

**Scope**
This section covers a range of bituminous surface treatments including surface dressing, slurry seal, otta seal and cold asphalt.

Aggregate Gradings

The following are the aggregate grading requirements for the bituminous surface treatments.

**- Surface Dressing (Single or Double Seal)**

<table>
<thead>
<tr>
<th>Sieve Size (mm)</th>
<th>Nominal Size (mm) (% passing of mass)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.5</td>
<td>100</td>
</tr>
<tr>
<td>19.0</td>
<td>85-100</td>
</tr>
<tr>
<td>16.0</td>
<td>-</td>
</tr>
<tr>
<td>13.2</td>
<td>0-30</td>
</tr>
<tr>
<td>9.5</td>
<td>0-5</td>
</tr>
<tr>
<td>6.7</td>
<td>0-5</td>
</tr>
<tr>
<td>4.75</td>
<td>0-5</td>
</tr>
<tr>
<td>3.35</td>
<td>0-5</td>
</tr>
</tbody>
</table>

**- Slurry Seal**

<table>
<thead>
<tr>
<th>Sieve Size (mm)</th>
<th>% Passing by mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fine</td>
</tr>
<tr>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>4.75</td>
<td></td>
</tr>
<tr>
<td>2.36</td>
<td>100</td>
</tr>
<tr>
<td>1.18</td>
<td>65-90</td>
</tr>
<tr>
<td>0.60</td>
<td>40-60</td>
</tr>
<tr>
<td>0.30</td>
<td>25-42</td>
</tr>
<tr>
<td>0.15</td>
<td>15-30</td>
</tr>
<tr>
<td>0.075</td>
<td>10-20</td>
</tr>
</tbody>
</table>

**- Otta Seals**

<table>
<thead>
<tr>
<th>Sieve Size (mm)</th>
<th>% Passing by mass</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coarse</td>
</tr>
<tr>
<td>19</td>
<td>100</td>
</tr>
<tr>
<td>16</td>
<td>85-100</td>
</tr>
<tr>
<td>13.2</td>
<td>60-80</td>
</tr>
<tr>
<td>9.5</td>
<td>36-56</td>
</tr>
<tr>
<td>6.7</td>
<td>20-40</td>
</tr>
<tr>
<td>4.75</td>
<td>10-30</td>
</tr>
<tr>
<td>2.36</td>
<td>2-16</td>
</tr>
<tr>
<td>1.18</td>
<td>0-10</td>
</tr>
<tr>
<td>0.425</td>
<td>0-5</td>
</tr>
<tr>
<td>0.075</td>
<td>0-2</td>
</tr>
</tbody>
</table>
Coarse grading < 100 vpd
Fine grading >100 vpd

Mixing Requirements

The following are the mixing proportions required for bituminous surfacing materials

- Slurry Seal

<table>
<thead>
<tr>
<th>Nominal Rate of Application m³/m²</th>
<th>Materials required</th>
<th>Cement m³/100m²</th>
<th>Graded Stone Crusher Dust m³/100m²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Water litres/100m²</td>
<td>Emulsion litres/100m²</td>
<td></td>
</tr>
<tr>
<td>0.006</td>
<td>96</td>
<td>138</td>
<td>0.006</td>
</tr>
<tr>
<td>0.008</td>
<td>128</td>
<td>184</td>
<td>0.008</td>
</tr>
<tr>
<td>0.020</td>
<td>320</td>
<td>460</td>
<td>0.020</td>
</tr>
</tbody>
</table>

Cold Asphalt

80 litres 6.3 mm stone
30 litres Crusher Dust
10 litres Cationic grade Emulsion
3 litres Water

Application Rates

The following are the application rates for seals and aggregates for bituminous surfacing materials.

Surface Dressing

(i) Emulsion Seals

<table>
<thead>
<tr>
<th>Application</th>
<th>Single Seal litres/m²</th>
<th>Double Seal Litres/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime</td>
<td>0.85-1.10</td>
<td>0.80-1.10</td>
</tr>
<tr>
<td>Tack Coat</td>
<td>-</td>
<td>0.75-1.30</td>
</tr>
<tr>
<td>Seal Coat</td>
<td>1.30-1.70</td>
<td>1.75-1.95</td>
</tr>
</tbody>
</table>

(ii) Chipping Spread Rates

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>m²/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>130-170</td>
</tr>
<tr>
<td>10</td>
<td>100-130</td>
</tr>
<tr>
<td>14</td>
<td>80-110</td>
</tr>
<tr>
<td>20</td>
<td>60-85</td>
</tr>
</tbody>
</table>
(iii) Slurry Seals

<table>
<thead>
<tr>
<th>Surfacing Type</th>
<th>Nominal Size of Aggregate (mm)</th>
<th>Nominal Rate of Application m³/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Seal</td>
<td>13.2</td>
<td>0.006</td>
</tr>
<tr>
<td></td>
<td>19.0</td>
<td>0.008</td>
</tr>
<tr>
<td>Slurry</td>
<td>Thin (6mm)</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>Thick (15mm)</td>
<td>0.020</td>
</tr>
</tbody>
</table>

15-70-008 Slurry Seal

The Contractor shall carry out slurry seal surfacing on the prepared roadbase only after the approval of the Engineer of the proposed working method.

The roadbase shall be free of dust and loose material and the Contractor shall lightly dampen the surface before the application of the prime coat. The prime coat shall be sprayed with a hand lance, or other approved means on designated and marked areas to ensure the correct spray application rate is achieved. The prime shall be applied with a constant spray action, which avoids bare patches, in a longitudinal and transverse movement. The prime coat shall be left for a minimum of 24 hours before the application of the slurry seal.

The slurry seal shall be mixed in a mechanical concrete mixer by first adding 75% of the required volume of water. Crusher dust and cement shall then be added slowly and mixed to a uniform consistency. The remaining 25% of the water shall then be added.

The bitumen emulsion shall be added and mixed until a creamy workable consistency is obtained. The slurry shall then be transported in wheelbarrows, laid in designated and marked areas, and spread to an even thickness with rubber squeegees.

Before a second seal layer is laid, the first layer shall be opened to traffic for a period specified by the Engineer. The second seal shall be laid in a similar manner to the first.

Work Method

The Contractor shall use Labour and Equipment to carry out this item.

Quality Control

The Engineer shall check the application rate of the slurry seal and the consistency of the surface finish.

Measurement Unit: m²

The measurement shall be the area of seal measured net according to the Drawings.

Payment
The unit rate shall be the full compensation for labour, tools, equipment, materials and incidental cost necessary to carry out the work.

15-70-010  Surface Dressing - Single Seal
15-70-011  - Double Seal

The Contractor shall carry out the surface dressing on the prepared roadbase only after approval of the Engineer of the proposed working method.

The roadbase shall be free of dust and loose material and the Contractor shall lightly dampen the surface before the application of the prime coat.

The prime coat shall be sprayed with a hand lance, or other approved means, on designated and marked areas to ensure the correct spray application rate is achieved. The prime shall be applied with a constant spray action, which avoids bare patches, in longitudinal and transverse movements.

The prime coat shall be left for a minimum of 24 hours before any seal coat is applied.

With the approval of the Engineer, the Contractor shall apply the seal coat at the specified temperature and spray application rate, using a hand lance or other approved means.

On achieving the application rate on the designated areas an even layer of clean stone chippings shall be spread with shovels, at the specified application rate, to obtain a uniform coverage without an excess of chippings.

Areas of completed seal shall be rolled, before the bitumen has hardened, with a dead weight steel or pneumatic roller which does not cause any crushing of the chippings.

After 24 hours the sealed surface shall be swept clean of excess chippings and slow moving traffic shall be permitted on the surface. If required, a second seal shall be applied in the same manner, as directed by the Engineer.

**Work Method**

The Contractor shall use Labour and Equipment to carry out this item.

**Quality Control**

The Engineer shall check the specified application rates of the bitumen and chippings, and the consistency of the coverage.

**Measurement Unit: m²**

The measurement shall be the area of seal measured net according to the Drawings.

**Payment**

The unit rate shall be the full compensation for labour, tools, equipment, materials and incidental costs necessary to carry out the Works.
Cold Asphalt

Cold asphalt may be used for bitumen surfacing repairs and areas of new surfacing where directed by the Engineer. The areas shall be prepared and primed as instructed by the Engineer before the application of the cold asphalt.

Asphalt may be mixed by hand on a clean concrete surface with the mixing piles placed in a circle around a central area which will be used to stockpile the mixed asphalt, or alternatively in a concrete mixer.

Piles of stone and crusher dust shall be in proportion to the mixing requirement specified above.

The cationic emulsion shall be carefully poured on to the mixing piles in a manner to ensure no run-off and the materials shall be thoroughly mixed with shovels to a uniform consistency. The mix shall then be formed into a central stockpile and shall be used as directed by the Engineer with 2 weeks of mixing.

The asphalt may alternatively be mixed in a concrete mixer following the same mixing procedure.

The asphalt shall be transported to the work site in wheelbarrows, laid and spread to form an even, uniformly thick, surface as directed by the Engineer. The surface shall be rolled with a dead, weight roller such that the asphalt does not flow under the drums.

The surface may be open to traffic immediately after rolling.

Work Method

The Contractor shall use Labour and Equipment to carry out this item.

Quality Control

The Engineer shall check the asphalt consistently and the thickness of the laid surfacing.

Measurement Unit: m²

The measurement shall be the area of asphalt measured net according to the Drawings.

Payment

The unit rate shall be the full compensation for labour, tools, material, equipment and incidental costs necessary to carry out the work.

15-70-013 Otta Seal - Single
15-70-014 - Double

The application of the Otta Seal shall follow the requirements for Surface Dressing in 15-004. The Contractor shall first lay a trial section under the direction of the Engineer, to ascertain
the optimum binder application rate for the site conditions, and the grading of the aggregates.

After the first seal has been laid to the satisfaction of the Engineer, the Contractor shall apply extensive rolling with a pneumatic roller for 3 days, or as directed by the Engineer, in addition to allowing slow moving traffic to pass.

Over a further 10-12 days the Contractor shall ensure that any loosened aggregate is swept back into the wheelpaths of traffic for re-compaction into the surface.

**Work Method**

The Contractor shall use Labour and Equipment to carry out this item.

**Quality Control**

The Engineer shall specify binder application rates and aggregate grading and check compliance.

**Measurement Unit:**

The measurement shall be the area of seal measured net according to the Drawings.

**Payment**

The unit rate shall be the full compensation for labour, tools, materials, equipment and incidental costs necessary to carry out this work.

**SECTION 17: Concrete Works**

**17-40-001 Concrete Road Section**

The Contractor shall construct the concrete road carriageway on the prepared, shaped and compacted road formation as approved by the Engineer.

Concrete shall be class 20/20 and may be batched by volume, but shall be mixed in a mechanical mixer. The mix shall be as shown below:

<table>
<thead>
<tr>
<th>Concrete Class</th>
<th>Nominal Mix by Volume</th>
<th>Batch with 1 bag Cement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of boxes</td>
</tr>
<tr>
<td>20/20</td>
<td>1:2:4 (20mm max aggregate)</td>
<td>2</td>
</tr>
</tbody>
</table>

The water added shall be the minimum necessary to give sufficient workability for efficient consolidation of the concrete. For concrete placed by hand this shall be 23-27 litres per bag of cement. For mechanical mixing and compacting (poker vibrator) the water content shall be reduced to 20 litres per bag of cement.

The concrete shall be placed in formwork which is clean, smooth faced and secure from movement and leakage to the full depth of the carriageway (150mm) in clearly marked out
bays. Steel reinforcing mesh mats (6mm) shall be laid at a depth 50mm below the finished surface as the concrete is being poured. Compaction of the concrete shall be by hand ramming or poker vibrator. The surface shall be tamped with a timber tamping bar to produce a uniform, transverse ridged surface.

Concrete pours shall normally be over half the carriageway width and in lengths between construction joints as directed by the Engineer, of 10-15 metres. Contraction joints if required shall correspond with the construction joints.

Where directed by the Engineer expansion joints shall be formed in positions and in accordance with the details provided by the Engineer.

The surface of the concrete shall be covered and kept moist for at least 4 days to allow adequate curing.

The Contractor shall make cubes for testing as directed by the Engineer.

All materials used for concrete production and the Contractor’s working method shall be approved by the Engineer before concreting is permitted.

**Work Method**

The Contractor shall use Labour and Equipment to carry out this item.

**Quality Control**

Slump test shall be to the standard specified by the Engineer in the range of 25-100mm. Cube strength shall be 27.5 N/mm\(^2\) at 28 days on an average of 4 cubes

**Measurement Unit:** m\(^3\)

The measurement shall be the volume of concrete measured net according to the Drawings

**Payment**

The unit rate shall include full compensation for labour, tools, equipment, materials and incidental costs necessary to carry out the work.

**SECTION 20: ROAD FURNITURE**

**Scope:**
This section comprises those items of Road Furniture to be erected and maintained as aids to road safety, including traffic signs and guardrails.

20-50-001 **Traffic Sign Maintenance**

This activity involves all the tasks required to ensure that the road signs and signposts are in a clean, properly aligned, vertical and secure condition; the replacement of missing or
broken bolts, nuts or other fixings and the tightening of the same. The maintenance shall also extend to securing any loose posts by the re-compacting or removal of any unsuitable material surrounding the posts, importing and compacting of suitable material to render the post secure.

**Work Method**

The Contractor shall use Labour to carry out this item.

**Quality Control**

- The signs shall be clean and in vertical position
- The fixings shall be hand checked to be tight

**Measurement Unit:** No.

The measurement shall be number of signs maintained.

**Payment**

The unit rate shall be the full compensation for labour, tools, material and incidental costs required to carry out the work.

**20-50-002 Traffic Signs**

The Contractor shall erect traffic signs of the type and at locations as directed by the Engineer. The signs materials and quality are shown on the Drawings. The signs shall be bedded in concrete Class 15/20 and shall be supported vertically until the concrete is set.

**Work Method.**

The Contractor shall use Labour to carry out this item.

**Quality Control.**

The Engineer shall check the sign position before concrete is backfilled.

**Measurement Unit:** No

The measurement shall be the number of signs erected.

**Payment**

The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

**20-70-001: Guardrail Repair**
This activity involves the repair of Guardrails (including rails, posts and fixings) to a properly aligned, vertical and secure condition. The repair shall include securing any loose posts by re-compaction or removal of any unsuitable material surrounding the post, importing and compaction of suitable materials to render the posts secure, and the re-fixing of the rails.

Work Method

The Contractor shall use Labour to carry out this item.

Quality Control

- The guardrails shall be checked as being properly aligned secure and in a vertical position
- The fixings shall be hand checked to be firmly fixed

Measurement Unit: $m$

The measurement shall be the length of Guardrail repaired

Payment

The unit rate shall be the full compensation for labour, material, tools, and incidental costs required to carry out the work.

20-50-004: Marker Posts Replacement

This activity involves the replacement of kilometre stones and culvert marker posts

The Engineer shall determine the location of the marker stones and posts. They shall be set in a simple excavation and backfilled with soil. The depth of the excavation shall be determined on the site, depending on the size and shape of the marker stone or post.

Work Method

The Contractor shall use Labour to carry out this item.

Quality Control

- The posts shall be vertical and firmly bedded to the approval of the Engineer

Measurement Unit: $No$

The measurement shall be in number of marker posts.

Payment

The unit rate shall be the full compensation for labour, tools, posts, materials and incidental costs required to carry out the work.

20-70-003. Guard Rails
The Contractor shall erect guardrails at locations shown on the Drawings or as directed by the Engineer. The guardrails shall comply with the requirements of the Road Authority and shall be erected on timber posts of top diameter not less than 150mm.

Posts shall be drilled and shaped as shown on the Drawings and provided with the necessary bolts, nuts, washers and spacer blocks.

Holes excavated for the timber posts shall be spaced to suit the standard length of guardrail supplied, and shall be of sufficient size to permit the proper setting of the posts and to allow room for backfilling and compacting. At least 1 metre of a post shall be embedded in the ground. The backfilling shall be with 12:1 soil cement mixture, or as otherwise directed by the Engineer, after the erected rails have been approved by the Engineer.

**Work Method**
The Contractor shall use Labour to carry out this item.

**Quality Control**
The Engineer shall check the post and rail erection before final backfilling.

**Measurement Unit:** m

The measurement shall be the length of Guardrail erected.

**Payment**
The unit rate shall be the full compensation for labour, tools, materials and incidental costs required for carrying out the work.

**SECTION 22: DAYWORKS**

A Provisional Sum shall be included in the Bills of Quantities to cover the payment of equipment, labour and materials for work instructed by the Engineer on a Dayworks basis.

The Contractor shall include prices for all items in the Schedule of Rates, in the Dayworks Bill, and shall carry out work using these rates only if directed by the Engineer.

**Measurement and Payment**

**a. Equipment:**

Payment for equipment shall only be made for the time each item of equipment is working. Idle time due to breakdown or incompleteness of the equipment shall not be paid. The rate of equipment shall include for the cost of the following:-

i. Transport of the equipment to the site
ii. Operators, drivers and assistants including their overtime
iii. Fuels and lubricants
iv. Maintenance, spare parts and all costs of repairs
v. Depreciation, insurance, overheads and profits.

b. Labour

Payment shall only be made for the time each of worker working on the Dayworks as instructed by the Engineer. The rate for labour shall include the cost of,

i. All wages, allowances and other payments due to the worker
ii. Provision of small tools used on Dayworks activities by labourers and tradesmen.
iii. Insurance, overheads and profit.

c. Materials

Payment shall only be made for materials instructed by the Engineer for use in Dayworks activities. The rate for materials shall include for the cost of provision of the material, transport to site, storage, handling, overheads and profits.

Schedule of Dayworks

The Engineer shall compile a Schedule of the Equipment, Labour and Materials which may apply to Dayworks activities, to be included in the Dayworks Bill.

SECTION 25: HIV/AIDS AWARENESS AND PREVENTION CAMPAIGN

Scope:
This section sets out the Contractors obligations with regard to on-site HIV / AIDS awareness campaign and preventive measures that are to be instituted.

25-50-001 HIV / AIDS Awareness Campaign

The Contractor shall institute an HIV / AIDS awareness campaign amongst his workers for the duration of the Contract.

The Contractor shall display AIDS awareness posters in all buildings frequented by workers employed on the Contract, where such buildings fall under the control of the Contractor.

In addition at least two of the Contractors vehicles regularly used on site shall display HIV / AIDS awareness posters. The posters shall be printed on gloss paper and shall be at least A1 size on buildings and A3 size or other approved size on vehicles. The message on the posters shall be supplied by the Employer through the Engineer.

Aids awareness shall also be included in the orientation process of all workers employed on the Contract.

Measurement Unit: month
The measurement shall be the calendar month or part thereof, measured over the duration of the campaign.

**Payment:**

The rate shall include full compensation for equipment; labour and material required for the provision of the item.

**25-50-002 AIDS Prevention Campaign**

The Contractor shall institute an HIV / AIDS prevention campaign amongst his workers for the duration of the Contract.

As part of the campaign the Contractor will be required to make condoms available to his workers. The condoms shall be supplied by the Employer through the Engineer.

**Measurement Unit:** month
The measurement shall be the calendar month, measured over the duration of the campaign.

**Payment**

The rate shall include full compensation for equipment, labour and material, including the distribution of condoms, required for the provision of the item.

**25-50-003 HIV/AIDS and Cross-cutting Issues**

The Contractor shall arrange and conduct meetings and/or training sessions for workers and staff on HIV/AIDS and other cross-cutting issues at times and locations directed by the Engineer.

**Measurement**

A Provisional Sum shall be included in the Bill of Quantities for this item.
PREAMBLE TO BILLS OF QUANTITIES

1. The Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the Instructions to Tenderers and these Documents.

2. The prices and rates to be inserted in the Bills of Quantities are to be the full, inclusive value of the work described under the several items including all costs and expenses which may be required in and for the execution of the work described and for the Contractor’s overheads and profits. The rates shall be VAT exclusive but include all other taxes, levies and fees applicable. The rates shall be based on the Works being carried out in accordance with the R2000 Strategy of using optimum labour resources.

3. Each item in the Bills of Quantities contains only a brief description of the required work. Fuller details and descriptions of the work to be done, the materials to be used, the standards of workmanship, methods of measurement and payment are to be found in the various sections of the Specifications and on the Drawings.

4. The Quantities set out in the Bills of Quantities are estimated and represent substantially the work to be carried out. There is no guarantee that the Contractor will be required to carry out all the quantity of work indicated under any one particular item or group of items in the Bills of Quantities. The basis of payment shall be the Contractor’s rates and the quantities of measured work done in fulfilment of the obligations under the Contract.

5. Work shall be carried out under Dayworks items only at the direction, and with the approval, of the Engineer. The Contractor shall enter rates in the Dayworks Schedule of Rates, which shall reflect the realistic costs, including overheads and profit, of each item. If, in the opinion of the Engineer, a rate is unreasonably high or low, the Contractor may be required to amend the rate to the satisfaction of the Engineer.

6. The Bills of Quantities form part of the Contract Documents and are to be read in conjunction with the Instructions to Tenderers and these Documents.

7. The prices and rates to be inserted in the Bills of Quantities are to be the full, inclusive value of the work described under the several items including all costs and expenses which may be required in and for the execution of the work described and for the Contractor’s overheads and profits. The rates shall be VAT exclusive but include all other taxes, levies and fees applicable. The rates shall be based on the Works being carried out in accordance with the R2000 Strategy of using optimum labour resources.
8. Each item in the Bills of Quantities contains only a brief description of the required work. Fuller details and descriptions of the work to be done, the materials to be used, the standards of workmanship, methods of measurement and payment are to be found in the various sections of the Specifications and on the Drawings.

9. The Quantities set out in the Bills of Quantities are estimated and represent substantially the work to be carried out. There is no guarantee that the Contractor will be required to carry out all the quantity of work indicated under any one particular item or group of items in the Bills of Quantities. The basis of payment shall be the Contractor’s rates and the quantities of measured work done in fulfilment of the obligations under the Contract.

10. Work shall be carried out under Dayworks items only at the direction, and with the approval, of the Engineer. The Contractor shall enter rates in the Dayworks Schedule of Rates, which shall reflect the realistic costs, including overheads and profit, of each item. If, in the opinion of the Engineer, a rate is unreasonably high or low, the Contractor may be required to amend the rate to the satisfaction of the Engineer.
### BILL No.01: preliminary and general office overheads

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.01</td>
<td>Allow a prime cost sum for relocation of utilities and services along the proposed road site</td>
<td>Prov. Sum</td>
<td>1</td>
<td>30000</td>
<td>30000</td>
</tr>
<tr>
<td>01.02</td>
<td>Extra over item 01-01 for contractors overheads and profits</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.03</td>
<td>Allow a prime cost sum for road survey works</td>
<td>Prov. Sum</td>
<td>1</td>
<td>50000</td>
<td>50000</td>
</tr>
<tr>
<td>01.04</td>
<td>Extra over item 01-03 for contractors overheads and profits</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.05</td>
<td>Provide and erect standard publicity Signs as directed by the Engineer</td>
<td>NO</td>
<td>2</td>
<td>40000</td>
<td>80000</td>
</tr>
<tr>
<td>01.06</td>
<td>Extra over item 01-05 for contractors overheads and profits</td>
<td>%</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.07</td>
<td>Allow for pc sum for material testing</td>
<td>Prov. Sum</td>
<td>1</td>
<td>120000</td>
<td>120000</td>
</tr>
<tr>
<td>01.08</td>
<td>Extra over item 01-07 for contractors overheads and profits</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.09</td>
<td>Allow for pc sum for site office organization</td>
<td>Pc sum</td>
<td>1</td>
<td>150000</td>
<td>150000</td>
</tr>
<tr>
<td>01.10</td>
<td>Extra over item 01-09 for contractors overheads and profits</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.11</td>
<td>Allow a prime cost sum for road public participation meetings</td>
<td>Prov. Sum</td>
<td>2</td>
<td>475,000</td>
<td>950000</td>
</tr>
<tr>
<td>01.12</td>
<td>Extra over item 01-11 for contractors overheads and profits</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL FOR BILL 1 CARRIED FORWARD TO SUMMARY**

### BILL No. 4: SITE CLEARENCE AND TOPSOIL STRIPPING
ITEM | DESCRIPTION | UNIT | QUANTITY | RATES (KSHS) | AMOUNT (KSHS)
--- | --- | --- | --- | --- | ---
4.01 | **IMPORTANT NOTE**  
All costs and charges connected with haulage are to be included within the unit rates entered against the items described in this Bill of quantities. | | | | |
4.02 | **Site clearance.**  
Clear site on road reserve and material sites including removal of trees, hedges, bushes and other vegetation or deleterious organic material, grub up roots including structures and back fill to 100% MDD (AASHTO T99) with approved material in accordance with the specification. | M² | 5250 | |
4.03 | **Top-soil Stripping**  
Remove topsoil on the roadway, junctions and accesses to an approved depth and cart away to spoil or stockpile good material for re-use as directed by the engineer (Average depth = 200mm) | M³ | 1400 | |
4.03 | Excavate, remove and dispose of or stockpile existing concrete pipe culverts of any diameter, including outlet and inlet structures as will be directed by the Engineer | M | 48 | |

**TOTAL FOR BILL 4 C/F TO SUMMARY**
### BILL No. 5: EARTHWORKS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.01</td>
<td><strong>Fill in Soft Material</strong>&lt;br&gt;Excavate from borrow, transport over any distance and fill in the embankment soft material, including watering and compaction</td>
<td>M³</td>
<td>3109</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.02</td>
<td><strong>Fill in Hard Material</strong>&lt;br&gt;Excavate, transport over any distance and fill in hard material</td>
<td>M³</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.03</td>
<td><strong>Spoil in Soft Material</strong>&lt;br&gt;Excavate, transport over distance and stockpile for re-use or spoil in soft material</td>
<td>M³</td>
<td>4800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.04</td>
<td><strong>Spoil in Hard Material</strong>&lt;br&gt;As Item 5.03 but in hard material</td>
<td>M³</td>
<td>42</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FOR BILL 5 C/F TO SUMMARY
### BILL No 7: EXCAVATION AND FILLING FOR STRUCTURES

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.01</td>
<td><strong>Stone Pitching</strong>&lt;br&gt;Provide all materials, select stones and construct 200mm thick dry stone pitching; all in accordance with the specifications and conformity with the Engineer’s instructions</td>
<td>M²</td>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.02</td>
<td>Extra over Item 7.05 for grouting to stone pitching</td>
<td>M²</td>
<td>9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL FOR BILL 7 C/F TO SUMMARY**
## BILL No. 8: CULVERTS AND DRAINAGE WORKS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.01</td>
<td><strong>NOTE:</strong> No separate payment shall be made for gravel for building or cart to spoil of unsuitable excavation material and the cost of such shall be included in rates and prices entered</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.02</td>
<td><strong>Excavate for Culvert and Subsoil Drain in Soft Material</strong>&lt;br&gt;Excavate for culvert and sub soil drain in soft material</td>
<td>M³</td>
<td></td>
<td>102</td>
<td></td>
</tr>
<tr>
<td>8.03</td>
<td><strong>Excavation for Minor Drainage Structures in Soft Material (Provisional)</strong>&lt;br&gt;Excavation for minor drainage structures in soft material, compaction of the invert of the excavation material or removing the excavated material to spoil</td>
<td>M³</td>
<td></td>
<td>180</td>
<td></td>
</tr>
<tr>
<td>8.04</td>
<td>E. O. Item 8.03 for excavated in hard material</td>
<td>M³</td>
<td></td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>8.05</td>
<td><strong>Excavated for Inlet, Outfall, Mitre and Catch water Drains in Soft Material</strong>&lt;br&gt;Excavated for inlet, outfall, mitre and catch water drains in soft material and disposal of excavated material to spoil</td>
<td>M³</td>
<td></td>
<td>832</td>
<td></td>
</tr>
<tr>
<td>8.06</td>
<td>E. O. Item 8.05 for excavated in hard material</td>
<td>M³</td>
<td></td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>8.07</td>
<td><strong>Selected Backfill Material</strong>&lt;br&gt;Provide, haul as necessary and backfill to any depth selected material; all in accordance with the specifications and in conformity with the Engineer’s instructions</td>
<td>M³</td>
<td></td>
<td>78</td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td><strong>Rock fill Below Culvert</strong>&lt;br&gt;Provide and place rock fill below culvert</td>
<td>M³</td>
<td></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>8.09</td>
<td><strong>Provide, Lay and Joint Pipes</strong>&lt;br&gt;Provide, Lay and Joint Pipes&lt;br&gt;(a) 900mm diameter</td>
<td>MT</td>
<td></td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.09</td>
<td>(b) 600mm diameter</td>
<td>MT</td>
<td></td>
<td>56</td>
<td></td>
</tr>
</tbody>
</table>

C/F to next page
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>B/F from previous page</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.10</td>
<td><strong>Concrete class 15/20 to Beds, Surrounds and Haunches</strong>&lt;br&gt;Provide and place concrete class 15/20 to beds, surrounds and haunches; all in accordance with the specifications and conformity with the Engineer’s instructions</td>
<td>M³</td>
<td>14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.11</td>
<td><strong>Concrete class 25/20 to Headwalls, Wing walls, Aprons, Toe Beams and other Drainage Structures</strong>&lt;br&gt;Provide and place concrete class 25/20, including reinforcement and shuttering; all in accordance with the specifications and conformity with the Engineer’s instructions</td>
<td>M³</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.12</td>
<td><strong>Select Granular Fill Material</strong>&lt;br&gt;Provide, hauling as necessary and backfilling to any depth selected granular fill material; all in accordance with the specifications and in conformity with the Engineer’s instructions</td>
<td>M³</td>
<td>64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.13</td>
<td><strong>Precast Invert Block Drains-Invert Block Type A</strong>&lt;br&gt;Provide and place invert block drains and side slabs including bedding and backfilling with selected material; all in accordance with the specifications and in conformity with the Engineer’s instructions.</td>
<td>M</td>
<td>3400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.14</td>
<td>Provide and place pedestrian crossing slabs across the drain as shown in the drawing and as instructed by the Engineer.</td>
<td>No</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Carried Forward</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### BILL No.9: PASSAGE OF TRAFFIC

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.01</td>
<td>Construction of Deviations in maximum lengths of 5km sections: Rates to include cost of reinforcement of the same</td>
<td>Km</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Construct and maintain, including watering 6.0m wide deviation, having a 150mm thick compacted gravel wearing course of CBR greater than 20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.02</td>
<td><strong>Temporary Traffic Signs and Barriers on Deviation Roads</strong></td>
<td>LSum</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide, Place, maintain and remove Temporary signs and barriers, lights on deviations; all in accordance with specifications and as instructed by the Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL FOR BILL 9 C/F TO SUMMARY**
## BILL No.12: NATURAL MATERIAL FOR SUB BASE AND BASE

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
</table>
| 12.01 | Natural Grave Sub Base and Base (Base Quality)  
*Note: Measurements and payments by method ‘A’ as defined in the specifications. No separate payment shall be made for the overhaul of material and the cost of such of such haulage shall be included in the rates and or prices.* | M³ | 2906 | | |
| 12.02 | Provide, transport over any distance, place and compact, natural gravel sub base to Footpath, accesses, parking’s etc.; all in accordance with the specifications or as directed by the Engineer | M³ | 1575 | | |
| 12.03 | Provide, transport over any distance, place and compact, graded hand pack stones to carriageway, accesses; all in accordance with the specifications or as directed by the Engineer | M³ | 2981 | | |
| 12.04 | Provide, place and compact quarry waste | M³ | 350 | | |

**TOTAL FOR BILL 12 C/F TO SUMMARY**
## BILL No.14: CEMENT AND LIME TREATED MATERIAL

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.01</td>
<td><strong>Lime Treated Materials – Natural Gravel</strong></td>
<td>ton</td>
<td>76</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide and spread Lime stabilizer to natural gravel sub base; all in accordance with the specifications or as directed by the Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.02</td>
<td><strong>Cement Treated Materials – Natural Gravel</strong></td>
<td>ton</td>
<td>330</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide and spread cement stabilizer to natural gravel sub base; all in accordance with the specifications or as directed by the Engineer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.03</td>
<td>Mix-in stabilizer into natural gravel for sub base</td>
<td>m3</td>
<td>1650</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.04</td>
<td><strong>Curing and Maintenance of Treated Materials</strong></td>
<td>m3</td>
<td>3600</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Water and maintain curing system for cement and lime treated material; all in accordance with the specifications or as directed by the Engineer</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**TOTAL FOR BILL 14 C/F TO SUMMARY**
## BILL No. 15: BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.01</td>
<td>Prime Coat</td>
<td>Liter</td>
<td>16041</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare surface, provide, heat and spray MC-70 cutback bitumen as prime coat to carriageway, shoulders, footways, junctions and accesses; (1.0 – 1.2 l/m²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.02</td>
<td>K-160 Track Coat</td>
<td>Liter</td>
<td>24062</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provide, heat and spray K-160 tack on roadway, walkway, junctions and accesses; all in accordance with the specifications or as directed by the Engineer (0.3 – 0.8l/m²)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FOR BILL 15 C/F TO SUMMARY
### BILL No 16: BITUMINOUS MIX BASES, BINDER COURSE AND WEARING COURSES

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td><strong>Note: No haulage, variation in binder/mineral filler/sand will be for bituminous mix based and Asphalt Concrete (AC) wearing course and shall be deemed to be included in the renderers rate.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 16.01| **Asphalt Concrete Surfacing AC20**  
Provide, lay and compact 50mm thick Type I Asphalt Concrete binder course with nominal bitumen content of 5% on carriage way and footpath, all in accordance with the specifications or as directed by the Engineer | M³   | 962.5    |              |               |

**TOTAL FOR BILL 16 C/F TO SUMMARY**

---

**BILL No. 20 ROAD FURNITURE**
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
</table>
| 20.01 | **Priority signs**  
Provide, excavate for and priority signs, including backfill and concreting with concrete class 15/20 base  
(a) 600mm size | No | 2 | | |
| 20.02 | **Prohibitory signs**  
Provide, excavate for and erect prohibitory signs diameter 600mm, including backfill and concreting with concrete class 15/20 to base | No | 2 | | |
| 20.03 | **Standard informatory signs – All Provisional**  
Provide, excavate for and erect information signs, include backfill and concreting with concrete class  
(a) 400mm × 300mm size | No | 4 | | |
| 20.04 | **Road marking in thermoplastic point**  
Prepare road surface, supply approved tack coat and road thermoplastic paint, spray approved tack coat, mark out and point  
(a) White paint  
(b) Yellow paint | M² | 520 | | |
| 20.05 | **Reflective road studs (cat’s eyes)**  
Provide, transport, handle and place approved reflective road studs | NO | 80 | | |
<p>| Carried Forward | | | | | |</p>
<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>UNIT</th>
<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B/F from previous page</td>
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</tr>
</tbody>
</table>
| 20.06 | **Concrete road Kerbs**  
Provide material, transport, handle, mix and place raised precast road kerbs as specified in the drawings and as directed by the Engineer | M    | 3500     |               |               |
| 20.07 | **Channel blocks**  
Provide, lay and joint 125 × 100mm channel blocks to road, footpaths and shoulders                                                      | M    | 7000     |               |               |
| 20.08 | **Planting trees**  
Provide, plant, water, look after until after the maintenance period, approved indigenous trees and shrubs at least 2m high at locations including protection fence as directed by the Engineer | No   | 118      |               |               |
| 20.09 | **Raised Zebra Crossing**  
Provide all materials, lay and construct raised zebra crossing                                                                 | No   | 3        |               |               |
|       | Carried forward                                                                                                                               |      |          |               |               |
**BILL No.25: HIV/AIDS AND COVID -19 AWARENESS CAMPAIGN**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
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<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25.01</td>
<td>Allow a provisional sum of KShs.150000 for Instituting HIV/AIDS and Covid -19 awareness, prevention campaigns and training including preparation and presentation of weekly reports at site meeting in accordance with the specifications to be approved by the Engineer for the entire duration of the contract.</td>
<td>Prov. Sum</td>
<td>1</td>
<td>150,000</td>
<td>150,000</td>
</tr>
<tr>
<td>25.02</td>
<td>Extra over item 25.01 for Contractor’s profit overheads</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL FOR BILL 25 CARRIED FORWARD TO SUMMARY**
BILL No.26: ROAD SAFETY AWARENESS CAMPAIGN

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
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<th>QUANTITY</th>
<th>RATES (KSHS)</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.01</td>
<td>Allow a provisional sum of KShs.200000 for Instituting Road Safety Awareness and Accident Prevention Campaigns and training including preparation</td>
<td>Prov. Sum</td>
<td>1</td>
<td>200000</td>
<td>200000</td>
</tr>
<tr>
<td></td>
<td>and presentation of monthly reports at site meeting in accordance with the specifications to be approved by the Engineer for the entire duration of the contract for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.2</td>
<td>Extra over item 26.01 for contractors overhead and profit</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TOTAL FOR BILL 26 CARRIED FORWARD TO SUMMARY
### SUMMARY OF BILL OF QUANTITIES

<table>
<thead>
<tr>
<th>BILL NO</th>
<th>DESCRIPTION</th>
<th>AMOUNT (KSHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>PRELIMINARY AND GENERAL OFFICE ADMINISTRATION</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>SITE CLEARANCE AND TOP SOIL STRIPPING</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>EARTHWORKS</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>EXCAVATION AND FILLING FOR STRUCTURE</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>CULVERTS AND DRAINAGE WORKS</td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>PASSAGE OF TRAFFIC</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>NATURAL MATERIAL FOR SUB BASE AND BASE</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>CEMENT AND LIME TREATED MATERIAL</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>BITUMINOUS SURFACE TREATMENT AND SURFACE DRESSING</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>BITUMINOUS MIX BASE BINDER COURSE AND WEARING COURSE</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>ROAD FURNITURE</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>HIV/AIDS AND COVID -19 AWARENESS CAMPAIGN</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>ROAD SAFETY AWARENESS CAMPAIGN</td>
<td></td>
</tr>
</tbody>
</table>

Sub –Total road works

Add 16% of sub total for value added tax

Add 10% contingencies

Grand total carried to form of tender

**Note:** All payments subject to 3% Withholding Tax

Amount in words.......................................................... ..........................................................
...........................................................................................................................
...........................................................................................................................

Signed on behalf of the Contractor:  
Name.................................................................  
Title.................................................................

Witness:  
Name.................................................................  
Title.................................................................

Signature.................................................................  
Signature.................................................................

Date.................................................................  
Date.................................................................