AFD/GOK ROADS 2000 PROJECT – AREA 1

IMPROVEMENT TO BITUMEN STANDARDS AND PERFORMANCE BASED ROUTINE MAINTENANCE WORKS

TENDER No.	**: AFD/EU/ME/LVS/1/2023/24**
ROAD No.	**: C435**
ROAD NAME	**: ISIOLO - MURIRI BATCH 1**
PROJECT LENGTH	**: 6 KM**

JANUARY, 2024

DIRECTOR (PLANNING, DESIGN AND ENVIRONMENT) **KENYA RURAL ROADS AUTHORITY** **P.O. BOX 48151 - 00100** **NAIROBI**	**DIRECTOR GENERAL** **KENYA RURAL ROADS AUTHORITY** **P.O. BOX 48151 - 00100** **NAIROBI**

TABLE OF CONTENTS

INVITATION TO TENDER **1**

SECTION I - INSTRUCTIONS TO TENDERERS **4**

A. General Provisions **4**
1. Scope of Tender 4
2. Fraud and Corruption 4
3. Eligible Tenderers 4
4. Eligible Goods, Equipment, and Services 6
5. Tenderer's Responsibilities 6

B. Contents of Tender Documents **7**
6. Sections of Tender Document 7
7. Site visit 7
8. Pre-Tender Meeting 4
9. Clarification and amendment of Tender Documents 8
10. Amendment of Tender Documents 8

C. Preparation of Tenders **8**
11. Cost of Tendering. 8
12. Language of Tender 8
13. Documents Comprising the Tender 9
14. Form of Tender and Schedules 9
15. Alternative Tenders 9
16. Tender Prices and Discounts 9
17. Currencies of Tender and Payment 10
18. Documents Comprising the Technical Proposal 10
19. Documents Establishing the Eligibility and Qualifications of the Tenderer
20. Period of Validity of Tenders 10
21. Tender Security 12
22. Format and Signing of Tender 13

D Sealing and Marking of Tenders **13**
23. Sealing and Marking of Tenders 13
24. Deadline for Submission of Tenders 14
25. Late Tenders 14
26. Withdrawal, Substitution, and Modification of Tenders 14
27. Tender Opening 14

E. Evaluation and Comparison of Tenders **15**
28. Confidentiality 15
29. Clarification of Tenders 15
30. Deviations, Reservations, and Omissions 16
31. Determination of Responsiveness 16
32. Non-material Non-conformities 16
33. Arithmetical Errors 17
34. Conversion to Single Currency 17
35. Margin of Preference and Reservations 17

36. Subcontractors 17
37. Evaluation of Tenders 17
38. Comparison of Tenders 18
39. Abnormally Low Tenders 18
40. Abnormally High Tenders 19
41. Unbalanced and/or Front-Loaded Tenders 19
42. Qualifications of the Tenderer 19
43. Best Evaluated Tender 19
44. Procuring Entity's Right to Accept Any Tender, and to Reject Any or All Tenders 20

F. Award of Contract ... 20

45. Award Criteria ... 20
46. Notice of Intention to enter into a Contract ... 20
47. Standstill Period ... 20
48. Debriefing by the Procuring Entity ... 20
49. Letter of Award ... 20
50. Signing of Contract ... 20
51. Appointment of Adjudicator ... 21
52. Performance Security. ... 21
53. Publication of Procurement Contract. ... 21
53. Procurement Related Complaints ... 21

SECTION II-TENDER DATA SHEET(TDS) ... **22**

SECTION III - EVALUATION AND QUALIFY ON CRITERIA ... **25**
1. General Provisions ... 25
2. Preliminary examination for Determination of Responsiveness ... 25
3. Tender Evaluation (ITT 35) ... 26
4. Multiple Contracts ... 27
5. Alternative Tenders (ITT 13.1) ... 27
6. Margin of Preference is not applicable ... 28
7. Post qualification and Contract award (ITT 39), more specifically ... 28

SECTION IV – TENDERING FORMS ... 25

QUALIFICATION FORMS ... 35
1. Form Equ. Equipment ... 35
2. Form per-1 ... 36
4. FORM PER-2: ... 37

5. TENDERERS QUALIFICATION WITHOUT PRE-QUALIFICATION ... 39
FORM ELI -1.1 ... 39
FORM ELI -1.2 ... 40
FORM CON – 2 ... 41
5.4 FORM FIN – 3.1: ... 42
5.5 FORM FIN – 3.2: ... 44
5.6 FORM FIN – 3.3: ... 44
5.7 FORM FIN – 3.4: ... 45
5.8 FORM EXP - 4.1 ... 46
5.9 FORM EXP - 4.2(a) ... 47
5.11 FORM EXP - 4.2(b) ... 48

OTHER FORMS ... 50

6. FORM OF TENDER ... 50

a) TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE ... 53
b) CERTIFICATE OF INDEPENDENT TENDER DETERMINATION ... 56
c) SELF-DECLARATION FORM - SELF DECLARATION OF THE TENDERER ... 57
d) APPENDIX 1- FRAUD AND CORRUPTION ... 60

7. FORM OF TENDER SECURITY - DEMAND BANK GUARANTEE ... 62
8. FORM OF TENDER SECURITY (INSURANCE GUARANTEE) ... 63
9. FORM OF TENDER-SECURING DECLARATION ... 64
10. APPENDIX TO TENDER ... 63

PART II - WORK REQUIREMENTS ... **69**

SECTION V - DRAWINGS 70
SECTION VI - SPECIFICATIONS 71
SECTION VII - BILLS OF QUANTITIES 199
1. The Bills of Quantities 202

PART III-CONDITIONS OF CONTRACT AND CONTRACT FORMS 224

SECTION VIII - GENERAL CONDITIONS OF CONTRACT 225

A. General
1. Definitions 226
2. Interpretation 226
3. Language and Law 228
4. Project Manager's Decisions 228
5. Delegation 228
6. Communications 228
7. Subcontracting 228
8. Other Contractors 228
9. Personnel and Equipment 228
10. Procuring Entity's and Contractor's Risks 228
11. Procuring Entity's Risks 229
12. Contractor's Risks 229
13. Insurance 229
14. Site Data 229
15. Contractor to Construct the Works 229
16. The Works to Be Completed by the Intended Completion Date 230
17. Approval by the Project Manager 230
18. Safety 230
19. Discoveries 230
20. Possession of the Site 230
21. Access to the Site 230
22. Instructions, Inspections and Audits 230
23. Appointment of the Adjudicator 231
24. Settlement of Claims and Disputes 231
25. Fraud and Corruption 233

B. Time Control 233
1. Program 233
2. Extension of the Intended Completion Date 234
3. Acceleration 234
4. Delays Ordered by the Project Manager 234
5. Management Meetings 234
6. Early Warning 234

C. Quality Control **234**
1. Identifying Defects 234
2. Tests 235
3. Correction of Defects 235
4. Uncorrected Defects 235

D. Cost Control **235**
1. Contract Price 235
2. Changes in the Contract Price. 235
3. Variations 235
4. Cash Flow Forecasts 236
5. Payment Certificates 236
6. Payments 237
7. Compensation Events 237
8. Tax 238
9. Currency y of Payment 238
10. Price Adjustment 238
11. Retention 238
12. Liquidated Damages 238
13. Bonus 238
14. Advance Payment 239
15. Securities 239
16. Dayworks 239
17. Cost of Repairs 239

E. Finishing the Contract **239**
1. Completion 239
2. Taking Over 239
3. Final Account 239
4. Operating and Maintenance Manuals 240
5. Termination 240
6. Payment upon Termination 240
7. Property 240
8. Release from Performance 241

SECTION IX - SPECIAL CONDITIONS OF CONTRACT 242
SECTION X - CONTRACT FORMS 245

FORM No. 1 - NOTIFICATION OF INTENTION TO AWARD 245
FORM No. 2 – REQUEST FOR REVIEW 248
FORM No. 3 - LETTER OF AWARD 249
FORM No. 4 - CONTRACT AGREEMENT 250
FORM No. 5 - PERFORMANCE SECURITY [Option 1 - Unconditional Demand Bank Guarantee] 251
FORM No. 6- PERFORMANCE SECURITY [Option 2– Performance Bond] 252
FORM No. 7- ADVANCE PAYMENT SECURITY 254
FORM No. 8- RETENTION MONEY SECURITY 255
FORM No. 9- BENEFICIAL OWNERSHIP DISCLOSURE FORM 256

INVITATION TO TENDER

Kenya Rural Roads Authority,
P.O. Box 48151–00100, hh
NAIROBI.
Email : dg@kerra.go.ke

TENDER NAME: UPGRADING TO BITUMEN STANDARDS AND PERFORMANCE BASED ROUTINE MAINTENANCE OF ISIOLO- MURIRI ROAD IN MERUCOUNTY -BATCH 1

TENDER No: AFD/EU/ME/LVS/1/2023/24

The (*Kenya Rural Roads Authority)* invites sealed tenders from eligible candidates for **UPGRADING TO BITUMEN STANDARDS AND PERFORMANCE BASED ROUTINE MAINTENANCE OF ISIOLO- MURIRI ROAD -BATCH 1 IN MERU COUNTY**

1. Tendering will be conducted under open competitive method using a standardized tender document. Tendering is open to all qualified and interested Tenderers.

2. This Tender is OPEN to all citizens.

3. Qualified and interested tenderers may obtain further information and inspect the Tender Documents during office hours *[0900 to1600 hours]* at the address given below.

   The Director General,
   Kenya Rural Roads Authority,
   Block 'B', Barabara Plaza, off Mombasa Road,
   Opposite KCAA along Airport South Road, JKIA, Nairobi.
   P.O Box 48151-00100, Nairobi, Kenya.

4. Tender documents may be obtained electronically from the Authority's Website (*www.kerra.go.ke)* Tender documents obtained electronically will be free of charge.

5. Tender documents may be viewed and downloaded for free from the website (*www.kerra.go.ke*). Tenderers who download the tender document must forward their particulars immediately to (*procurementhq@kerra.go.ke)* to facilitate any further clarification or addendum.

6. All Tenders must be accompanied by a *Kenya Shillings one hundred thousand shillings Only [Kshs.100,000.00]* Tender Security.

7. The Tenderer shall chronologically serialize all pages of the tender documents submitted.

8. Completed tenders must be delivered to the address below on or before ***15th February, 2024 at 11.00am***. Electronic Tenders ***will not*** be permitted.

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

10. Late tenders will be rejected.

11. There will be **a MANDATORY pre-arranged pre-tender site visit** held on **31st January 2024 at 9:00am** at the **Kenya Rural Roads Authority (KeRRA) Regional Office – Meru County**

12. The addresses referred to above are:

A. Address for obtaining further information and for purchasing tender documents

Physical address for hand Courier Delivery to an office or Tender Box

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

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

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

Physical address for hand Courier Delivery to office or Tender Box

The Regional Director,
Kenya Rural Roads Authority,
Meru Regional Office
P.O. Box 442-60200,
MERU

C. Address for Opening of Tenders.

Regional office,
Kenya Rural Roads Authority,
Meru Regional Office
P.O. Box 442-60200,
MERU

Deputy Director – Supply Chain Management
FOR. DIRECTOR GENERAL

PART 1 - TENDERING PROCEDURES

SECTION I: INSTRUCTIONS TO TENDERERS

A General Provisions

1. Scope of Tender

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

2. Fraud and Corruption

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

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

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

2.4 Unfair Competitive Advantage -Fairness and transparency in the tender process require that the Firms or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to this tender being tendered for. The Procuring Entity shall indicate in the **TDS** firms (if any) that provided consulting services for the contract being tendered for. The Procuring Entity shall check whether the owners or controllers of the Tenderer are same as those that provided consulting services. The Procuring Entity shall, upon request, make available to any tenderer information that would give such firm unfair competitive advantage over competing firms.

3. Eligible Tenderers

3.1 A Tenderer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITT 3.7 or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. Public employees and their close relatives *(spouses, children, brothers, sisters and uncles and aunts)* are not eligible to participate in the tender. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the tendering process and, in the event the JV is awarded the Contract, during contract execution. The maximum number of JV members shall be specified in the **TDS.**

3.2 Public Officers of the Procuring Entity, their Spouses, Child, Parent, Brothers or Sister. Child, Parent, Brother or Sister of a Spouse, their business associates or agents and firms/organizations in which they have a substantial or controlling interest shall not be eligible to tender or be awarded a contract. Public Officers are also not allowed to participate in any procurement proceedings.

3.3 A Tenderer shall not have a conflict of interest. Any tenderer found to have a conflict of interest shall

be disqualified. A tenderer may be considered to have a conflict of interest for the purpose of this tendering process, if the tenderer:

a) Directly or indirectly controls, is controlled by or is under common control with another tenderer; or

b) Receives or has received any direct or indirect subsidy from another tenderer; or

c) Has the same legal representative as another tenderer; or

d) Has a relationship with another tenderer, directly or through common third parties, that puts it in a position to influence the tender of another tenderer, or influence the decisions of the Procuring Entity regarding this tendering process; or

e) Any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the tender; or

f) any of its affiliates has been hired (or is proposed to be hired) by the Procuring Entity as Engineer for the Contract implementation; or

g) Would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the contract specified in this Tender Document or

h) Has a close business or family relationship with a professional staff of the Procuring Entity who:

i) are directly or indirectly involved in the preparation of the Tender document or specifications of the Contract, and/or the Tender evaluation process of such contract; or

ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Procuring Entity throughout the tendering process and execution of the Contract.

3.4 A tenderer shall not be involved in corrupt, coercive, obstructive, collusive or fraudulent practice. A tenderer that is proven to have been involved any of these practices shall be automatically disqualified.

3.5 A Tenderer (either individually or as a JV member) shall not participate in more than one Tender, except for permitted alternative tenders. This includes participation as a subcontractor in other Tenders. Such participation shall result in the disqualification of all Tenders in which the firm is involved. A firm that is not a tenderer or a JV member may participate as a subcontractor in more than one tender. Members of a joint venture may not also make an individual tender, be a subcontractor in a separate tender or be part of another joint venture for the purposes of the same Tender.

3.6 A Tenderer may have the nationality of any country, subject to the restrictions pursuant to ITT 4.8.A Tenderer shall be deemed to have the nationality of a country if the Tenderer is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or sub- consultants for any part of the Contract including related Services.

3.7 Tenderer that has been debarred from participating in public procurement shall be ineligible to tender or be awarded a contract. The list of debarred firms and individuals is available from the website of PPRA www.ppra.go.ke.

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

3.9 A Firms and individuals may be ineligible if their countries of origin (a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country, or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the

United Nations, Kenya prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country. A tenderer shall provide such documentary evidence of eligibility satisfactory to the Procuring Entity, as the Procuring Entity shall reasonably request.

3.10 Foreign tenderers are required to source at least forty (40%) percent of their contract inputs (in supplies, subcontracts and labor) from national suppliers and contractors. To this end, a foreign tenderer shall provide in its tender documentary evidence that this requirement is met. Foreign tenderers not meeting this criterion will be automatically disqualified. Information required to enable the Procuring Entity determine if this condition is met shall be provided in for this purpose is be provided in *"SECTION III - EVALUATION AND QUALIFICATION CRITERIA, Item 9".*

3.11 Pursuant to the eligibility requirements of ITT 4.10, a tender is considered a foreign tenderer, if the tenderer is not registered in Kenya or if the tenderer is registered in Kenya and has less than 51 percent ownership by Kenyan Citizens. JVs are considered as foreign tenderers if the individual member firms are not registered in Kenya or if are registered in Kenya and have less than 51 percent ownership by Kenyan citizens. The JV shall not subcontract to foreign firms more than 10 percent of the contract price, excluding provisional sums.

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

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

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

4. Eligible Goods, Equipment, and Services

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

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

5. Tenderer's Responsibilities

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

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

5.3 The Tenderer and any of its personnel or agents will be granted permission by the Procuring Entity to enter upon its premises and lands for the purpose of such visit. The Tenderer shall indemnify the

Procuring Entity against all liability arising from death or personal injury, loss of or damage to property, and any other losses and expenses incurred as a result of the inspection.

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

B. Contents of Tender Documents

6. Sections of Tender Document

6.1 The tender document consists of Parts 1, 2, and 3, which includes all the sections specified below, and which should be read in conjunction with any Addenda issued in accordance with ITT 8.

PART 1 Tendering Procedures

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

PART 2 Works Requirements

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

PART 3 Conditions of Contract and Contract Forms

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

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

6.3 Unless obtained directly from the Procuring Entity, the Procuring Entity is not responsible for the completeness of the Tender document, responses to requests for clarification, the minutes of the pre-Tender meeting (if any), or Addenda to the Tender document in accordance with ITT 8. In case of any contradiction, documents obtained directly from the Procuring Entity shall prevail.

The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document and to furnish with its Tender all information and documentation as is required by the Tender document.

7. Site Visit

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

8. Pre-Tender Meeting

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

8.2 The Tenderer is requested to submit any questions in writing, to reach the Procuring Entity not later

than the period specified in the **TDS** before the meeting.

8.3 Minutes of the pre-Tender meeting and the pre-arranged pretender site visit of the site of the works, if applicable, including the text of the questions asked by Tenderers and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Tenderers who have acquired the Tender Documents in accordance with ITT 6.3. Minutes shall not identify the source of the questions asked.

8.4 The Procuring Entity shall also promptly publish anonym zed (*no names*) Minutes of the pre-Tender meeting and the pre-arranged pretender visit of the site of the works at the web page identified in the **TDS**. Any modification to the Tender Documents that may become necessary as a result of the pre-tender meeting and the pre-arranged pretender site visit, shall be made by the Procuring Entity exclusively through the issue of an Addendum pursuant to ITT 8 and not through the minutes of the pre-Tender meeting. Nonattendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

9. Clarification and amendments of Tender Documents

9.1 A Tenderer requiring any clarification of the Tender Document shall contact the Procuring Entity in writing at the Procuring Entity's address specified in the **TDS** or raise its enquiries during the pre-Tender meeting and the pre- arranged pretender visit of the site of the works if provided for in accordance with ITT 8.4. The Procuring Entity will respond in writing to any request for clarification, provided that such request is received no later than the period specified in the **TDS** prior to the deadline for submission of tenders. The Procuring Entity shall forward copies of its response to all tenderers who have acquired the Tender Documents in accordance with ITT 6.3, including a description of the inquiry but without identifying its source. If specified in the **TDS**, the Procuring Entity shall also promptly publish its response at the web page identified in the **TDS**. Should the clarification result in changes to the essential elements of the Tender Documents, the Procuring Entity shall amend the Tender Documents appropriately following the procedure under ITT 8.4.

10. Amendment of Tendering Document

10.1 At any time prior to the deadline for submission of Tenders, the Procuring Entity may amend the Tendering document by issuing addenda.

10.2 Any addendum issued shall be part of the tendering document and shall be communicated in writing to all who have obtained the tendering document from the Procuring Entity in accordance with ITT 6.3. The Procuring Entity shall also promptly publish the addendum on the Procuring Entity's web page in accordance with ITT 8.4.

10.3 To give prospective Tenderers reasonable time in which to take an addendum into account in preparing their Tenders, the Procuring Entity shall extend, as necessary, the deadline for submission of Tenders, in accordance with ITT 25.2 below**.**

C. Preparation of Tenders

11. Cost of Tendering

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

12. Language of Tender

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

purposes of interpretation of the Tender, such translation shall govern.

13. Documents Comprising the Tender

13.1 The Tender shall comprise the following:

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

13.2 In addition to the requirements under ITT 11.1, Tenders submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Tender shall be signed by all members and submitted with the Tender, together with a copy of the proposed Agreement. The Tenderer shall chronologically serialize pages of all tender documents submitted.

13.3 The Tenderer shall furnish in the Form of Tender information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Tender**.**

14. Form of Tender and Schedules

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

15. Alternative Tenders

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

15.2 When alternative times for completion are explicitly invited, a statement to that effect will be included in the **TDS**, and the method of evaluating different alternative times for completion will be described in Section III, Evaluation and Qualification Criteria.

15.3 Except as provided under ITT 13.4 below, Tenderers wishing to offer technical alternatives to the requirements of the Tender Documents must first price the Procuring Entity's design as described in the Tender Documents and shall further provide all information necessary for a complete evaluation of the alternative by the Procuring Entity, including drawings, design calculations, technical specifications, breakdown of prices, and proposed construction methodology and other relevant details. Only the technical alternatives, if any, of the Tenderer with the Winning Tender conforming to the basic technical requirements shall be considered by the Procuring Entity. When specified in the **TDS**, Tenderers are permitted to submit alternative technical solutions for specified parts of the Works, and such parts will be identified in the **TDS**, as will the method for their evaluating, and described in Section VII, Works' Requirements.

16. Tender Prices and Discounts

16.1 The prices and discounts (including any price reduction) quoted by the Tenderer in the Form of Tender and in the Bill of Quantities shall conform to the requirements specified below.

16.2 The Tenderer shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by the Tenderer shall be deemed covered by the rates for other items in the Bill of Quantities and will not be paid for separately by the Procuring Entity. An item not listed in the priced Bill of Quantities shall be assumed to be not included in the Tender, and provided that the Tender is determined substantially responsive notwithstanding this omission, the average price of the item quoted by substantially responsive Tenderers will be added to the Tender price and the equivalent total cost of the Tender so determined will be used for price comparison.

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

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

16.5 It will be specified in the **TDS** if the rates and prices quoted by the Tenderer are or are not subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract, except in cases where the contract is subject to fluctuations and adjustments, not fixed price. In such a case, the Tenderer shall furnish the indices and weightings for the price adjustment formulae in the Schedule of Adjustment Data and the Procuring Entity may require the Tenderer to justify its proposed indices and weightings.

16.6 Where tenders are being invited for individual lots (contracts)or for any combination of lots (packages), tenderers wishing to offer discounts for the award of more than one Contract shall specify in their Tender the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITT 16.4, provided the Tenders for all lots (contracts) are opened at the same time.

16.7 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 30 days prior to the deadline for submission of Tenders, shall be included in the rates and prices and the total Tender Price submitted by the Tenderer.

17. Currencies of Tender and Payment

17.1 Tenderers shall quote entirely in Kenya Shillings. The unit rates and the prices shall be quoted by the Tenderer in the Bill of Quantities, entirely in Kenya shillings. A Tenderer expecting to incur expenditures in other currencies for inputs to the Works supplied from outside Kenya shall device own ways of getting foreign currency to meet those expenditures.

18. Documents Comprising the Technical Proposal

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

19. Documents Establishing the Eligibility and Qualifications of the Tenderer

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

19.2 In accordance with Section III, Evaluation and Qualification Criteria, to establish its qualifications to perform the Contract the Tenderer shall provide the information requested in the corresponding information sheets included in Section IV, Tender Forms.

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

19.4 Tenderers shall be asked to provide, as part of the data for qualification, such information, including details of ownership, as shall be required to determine whether, according to the classification established by the Procuring Entity, a contractor or group of contractors qualifies for a margin of preference. Further the information will enable the Procuring Entity identify any actual or potential conflict of interest in relation to the procurement and/or contract management processes, or a possibility of collusion between tenderers, and thereby help to prevent any corrupt influence in relation to the procurement process or contract management.

19.5 The purpose of the information described in ITT 19.4 above overrides any claims to confidentiality which a tenderer may have. There can be no circumstances in which it would be justified for a tenderer to keep information relating to its ownership and control confidential where it is tendering to undertake public sector work and receive public sector funds. Thus, confidentiality will not be accepted by the Procuring Entity as a justification for a Tenderer's failure to disclose, or failure to provide required information on its ownership and control.

19.6 The Tenderer shall provide further documentary proof, information or authorizations that the Procuring Entity may request in relation to ownership and control which information on any changes to the information which was provided by the tenderer under ITT 6.3. The obligations to require this information shall continue for the duration of the procurement process and contract performance and after completion of the contract, if any change to the information previously provided may reveal a conflict of interest in relation to the award or management of the contract.

19.7 All information provided by the tenderer pursuant to these requirements must be complete, current and accurate as at the date of provision to the Procuring Entity. In submitting the information required pursuant to these requirements, the Tenderer shall warrant that the information submitted is complete, current and accurate as at the date of submission to the Procuring Entity.

19.8 If a tenderer fails to submit the information required by these requirements, its tender will be rejected. Similarly, if the Procuring Entity is unable, after taking reasonable steps, to verify to a reasonable degree the information submitted by a tenderer pursuant to these requirements, then the tender will be rejected.

19.9 If information submitted by a tenderer pursuant to these requirements, or obtained by the Procuring Entity (whether through its own enquiries, through notification by the public or otherwise), shows any conflict of interest which could materially and improperly benefit the tenderer in relation to the procurement or contract management process, then:

i) if the procurement process is still ongoing, the tenderer will be disqualified from the procurement process,
ii) if the contract has been awarded to that tenderer, the contract award will be set aside,
iii) the tenderer will be referred to the relevant law enforcement authorities for investigation of whether the tenderer or any other persons have committed any criminal offence.

19.10 If a tenderer submits information pursuant to these requirements that is incomplete, inaccurate or out-of-date, or attempts to obstruct the verification process, then the consequences ITT 6.7 will ensue unless the tenderer can show to the reasonable satisfaction of the Procuring Entity that any such act was not material, or was due to genuine error which was not attributable to the intentional act, negligence or recklessness of the tenderer.

20. Period of Validity of Tenders

20.1 Tenders shall remain valid for the Tender Validity period specified in the **TDS**. The Tender Validity period starts from the date fixed for the Tender submission deadline (as prescribed by the Procuring Entity in accordance with ITT 24). A Tender valid for a shorter period shall be rejected by the Procuring Entity as non-responsive.

20.2 In exceptional circumstances, prior to the expiration of the Tender validity period, the Procuring Entity may request Tenderers to extend the period of validity of their Tenders. The request and the responses shall be made in writing. If a Tender Security is requested in accordance with ITT 21.1, it shall also be extended for thirty (30) days beyond the deadline of the extended validity period. A Tenderer may refuse the request without forfeiting its Tender security. A Tenderer granting the request shall not be required or permitted to modify its Tender, except as provided in ITT 20.3.

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

a) in the case of **fixed price** contracts, the Contract price shall be the tender price adjusted by the factor specified in the **TDS**;

b) in the case of **adjustable price** contracts, no adjustment shall be made; or in any case, tender evaluation shall be based on the tender price without taking into consideration the applicable correction from those indicated above.

21. Tender Security

21.1 The Tenderer shall furnish as part of its Tender, either a Tender-Securing Declaration or a Tender Security as specified in the **TDS**, in original form and, in the case of a Tender Security, in the amount and currency specified in the **TDS**. A Tender-Securing Declaration shall use the form included in Section IV, Tender Forms**.**

21.2 If a Tender Security is specified pursuant to ITT 19.1, the Tender Security shall be a demand guarantee in any of the following forms at the Tenderer's option:

a) an unconditional Bank Guarantee issued by reputable commercial bank); or

b) an irrevocable letter of credit;

c) a Banker's cheque issued by a reputable commercial bank; or

d) another security specified **in the TDS**,

21.3 If an unconditional bank guarantee is issued by a bank located outside Kenya, the issuing bank shall have a correspondent bank located in Kenya to make it enforceable. The Tender Security shall be valid for thirty (30) days beyond the original validity period of the Tender, or beyond any period of extension if requested under ITT 20.2.

21.4 If a Tender Security or Tender-Securing Declaration is specified pursuant to ITT 19.1, any Tender not accompanied by a substantially responsive Tender Security or Tender-Securing Declaration shall be rejected by the Procuring Entity as non-responsive.

21.5 If a Tender Security is specified pursuant to ITT 21.1, the Tender Security of unsuccessful Tenderers shall be returned as promptly as possible upon the successful Tenderer's signing the Contract and furnishing the Performance Security and any other documents required in the **TDS**. The Procuring Entity shall also promptly return the tender security to the tenderers where the procurement proceedings are terminated, all tenders were determined nonresponsive or a bidder declines to extend tender validity period.

21.6 The Tender Security of the successful Tenderer shall be returned as promptly as possible once the successful Tenderer has signed the Contract and furnished the required Performance Security, and any other documents required in the **TDS**.

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

e) if a Tenderer withdraws its Tender during the period of Tender validity specified by the Tenderer on the Form of Tender, or any extension thereto provided by the Tenderer; or

f) if the successful Tenderer fails to:

i) sign the Contract in accordance with ITT 50; or

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

required in the **TDS**.

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

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

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

22. Format and Signing of Tender

22.1 The Tenderer shall prepare one original of the documents comprising the Tender as described in ITT 13 and clearly mark it "ORIGINAL." Alternative Tenders, if permitted in accordance with ITT 15, shall be clearly marked "ALTERNATIVE." In addition, the Tenderer shall submit copies of the Tender, in the number specified in the **TDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.

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

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

22.4 In case the Tenderer is a JV, the Tender shall be signed by an authorized representative of the JV on behalf of the JV, and to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.

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

D. Submission and Opening of Tenders

23. Sealing and Marking of Tenders

23.1 Depending on the sizes or quantities or weight of the tender documents, a tenderer may use an envelope, package or container. The Tenderer shall deliver the Tender in a single sealed envelope, or in a single sealed package, or in a single sealed container bearing the name and Reference number of the Tender, addressed to the Procuring Entity and a warning not to open before the time and date for Tender opening date. Within the single envelope, package or container, the Tenderer shall place the following separate, sealed envelopes:

a) in an envelope or package or container marked "ORIGINAL", all documents comprising the Tender, as described in ITT 11; and
b) in an envelope or package or container marked "COPIES", all required copies of the Tender; and
c) if alternative Tenders are permitted in accordance with ITT 15, and if relevant:
    i) in an envelope or package or container marked "ORIGINAL –ALTERNATIVE TENDER", the alternative Tender; and
    ii) in the envelope or package or container marked "COPIES- ALTERNATIVE TENDER", all required copies of the alternative Tender.

The inner envelopes or packages or containers shall:

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

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

24. Deadline for Submission of Tenders

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

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

25. Late Tenders

25.1 The Procuring Entity shall not consider any Tender that arrives after the deadline for submission of tenders, in accordance with ITT 24. Any Tender received by the Procuring Entity after the deadline for submission of Tenders shall be declared late, rejected, and returned unopened to the Tenderer.

26. Withdrawal, Substitution, and Modification of Tenders

26.1 A Tenderer may withdraw, substitute, or modify its Tender after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITT 22.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Tender must accompany the respective written notice. All notices must be:

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

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

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

27. Tender Opening

27.1 Except in the cases specified in ITT 23 and ITT 26.2, the Procuring Entity shall publicly open and read out all Tenders received by the deadline, at the date, time and place specified in the **TDS**, in the presence of Tenderers' designated representatives who chooses to attend. Any specific electronic Tender opening procedures required if electronic Tendering is permitted in accordance with ITT 24.1, shall be as specified in the **TDS**.

27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelopes with the corresponding Tender shall not be opened, but returned to the Tenderer. No Tender withdrawal shall

be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Tender opening.

27.3 Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned to the Tenderer. No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Tender opening.

27.4 Next, envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Tender. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Tender opening.

27.5 Next, all remaining envelopes shall be opened one at a time, reading out: the name of the Tenderer and whether there is a modification; the total Tender Price, per lot (contract) if applicable, including any discounts and alternative Tenders; the presence or absence of a Tender Security or Tender-Securing Declaration, if required; and any other details as the Procuring Entity may consider appropriate.

27.6 Only Tenders, alternative Tenders and discounts that are opened and read out at Tender opening shall be considered further for evaluation. The Form of Tender and pages of the Bills of Quantities are to be initialed by the members of the tender opening committee attending the opening. The number of representatives of the Procuring Entity to sign shall be specified in the **TDS**.

27.7 At the Tender Opening, the Procuring Entity shall neither discuss the merits of any Tender nor reject any Tender (except for late Tenders, in accordance with ITT 25.1).

27.8 The Procuring **Entity shall prepare minutes of the Tender Opening that shall include, as a minimum:**

a) the name of the Tenderer and whether there is a withdrawal, substitution, or modification;
b) the Tender Price, per lot (contract) if applicable, including any discounts;
c) any alternative Tenders;
d) the presence or absence of a Tender Security, if one was required.
e) number of pages of each tender document submitted.

27.9 The Tenderers' representatives who are present shall be requested to sign the minutes. The omission of a Tenderer's signature on the minutes shall not invalidate the contents and effect of the minutes. A copy of the tender opening register shall be distributed to all Tenderers upon request.

E. Evaluation and Comparison of Tenders

28. Confidentiality

28.1 Information relating to the evaluation of Tenders and recommendation of contract award shall not be disclosed to Tenderers or any other persons not officially concerned with the Tender process until information on Intention to Award the Contract is transmitted to all Tenderers in accordance with ITT 46.

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

28.3 Notwithstanding ITT 28.2, from the time of tender opening to the time of contract award, if a tenderer wishes to contact the Procuring Entity on any **matter related to the tendering process, it shall do so in writing.**

29. Clarification of Tenders

29.1 To assist in the examination, evaluation, and comparison of the tenders, and qualification of the

tenderers, the Procuring Entity may, at its discretion, ask any tenderer for a clarification of its tender, given a reasonable time for a response. Any clarification submitted by a tenderer that is not in response to a request by the Procuring Entity shall not be considered. The Procuring Entity's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the tender shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Procuring Entity in the evaluation of the tenders, in accordance with ITT 33.

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

30. Deviations, Reservations, and Omissions

30.1During the evaluation of tenders, the following definitions apply:

a) "Deviation" is a departure from the requirements specified in the tender document;

b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the tender document; and

c) "Omission" is the failure to submit part or all of the information or documentation required in the Tender document.

31. Determination of Responsiveness

31.1The Procuring Entity's determination of a Tender's responsiveness is to be based on the contents of the tender itself, as defined in ITT 13.

31.2A substantially responsive Tender is one that meets the requirements of the Tender document without material deviation**, reservation, or omission. A material deviation, reservation, or omission is one that, if accepted, would:**

a) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or

b) limit in any substantial way, inconsistent with the tender document, the Procuring Entity's rights or the tenderer's obligations under the proposed contract; or

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

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

31.4If a tender is not substantially responsive to the requirements of the tender document, it shall be rejected by the Procuring Entity and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

32. Non-material Non-conformities

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

32.2Provided that a Tender is substantially responsive, the Procuring Entity may request that the tenderer submit the necessary information or documentation, within a reasonable period, to rectify nonmaterial non-conformities in the tender related to documentation requirements. Requesting information or documentation on such non- conformities shall not be related to any aspect of the price of the tender. Failure of the tenderer to comply with the request may result in the rejection of its tender.

32.3Provided that a tender is substantially responsive, the Procuring Entity shall rectify quantifiable nonmaterial non-conformities related to the Tender Price. To this effect, the Tender Price shall be

adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified in the **TDS.**

33. Arithmetical Errors

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

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

a) Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.

b) Any errors in the submitted tender arising from a miscalculation of unit price, quantity, and subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and

c) if there is a discrepancy between words and figures, the amount in words shall prevail

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

34. Currency provisions

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

35. Margin of Preference and Reservations

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

35.2 Where it is intended to reserve the contract to specific groups under Small and Medium Enterprises, or enterprise of women, WOMEN and/or persons living with disability, who are appropriately registered as such by the authority to be specified in the **TDS**, a procuring entity shall ensure that the invitation to tender specifically indicates that only businesses/firms belonging to those specified groups are the only ones eligible to tender. Otherwise if no so stated, the invitation will be open to all tenderers.

36. Nominated Subcontractors

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

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

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

37. Evaluation of Tenders

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

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

a) price adjustment due to discounts offered in accordance with ITT 16;

b) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with ITT39;
c) price adjustment due to quantifiable nonmaterial non-conformities in accordance with ITT 30.3; and
d) any additional evaluation factors specified **in the TDS** and Section III, Evaluation and Qualification Criteria.

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

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

38. Comparison of Tenders

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

39. Abnormally Low Tenders

39.1 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price or that genuine competition between Tenderers is compromised.

39.2 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

39.3 After evaluation of the price analyses, in the event that the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

40. Abnormally High Tenders

40.1 An abnormally high price is one where the tender price, in combination with other constituent elements of the Tender, appears unreasonably too high to the extent that the Procuring Entity is concerned that it (the Procuring Entity) may not be getting value for money or it may be paying too high a price for the contract compared with market prices or that genuine competition between Tenderers is compromised.

40.2 In case of an abnormally high tender price, the Procuring Entity shall make a survey of the market prices, check if the estimated cost of the contract is correct and review the Tender Documents to check if the specifications, scope of work and conditions of contract are contributory to the abnormally high tenders. The Procuring Entity may also seek written clarification from the tenderer on the reason for the high tender price. The Procuring Entity shall proceed as follows:

i) If the tender price is abnormally high based on wrong estimated cost of the contract, the Procuring Entity may accept or not accept the tender depending on the Procuring Entity's budget considerations.
ii) If specifications, scope of work and/or conditions of contract are contributory to the abnormally high tender prices, the Procuring Entity shall reject all tenders and may retender for the contract based on revised estimates, specifications, scope of work and conditions of contract, as the case may be.

40.3 If the Procuring Entity determines that the Tender Price is abnormally too high because genuine

competition between tenderers is compromised (*often due to collusion, corruption or other manipulations*), the Procuring Entity shall reject all Tenders and shall institute or cause competent Government Agencies to institute an investigation on the cause of the compromise, before retendering**.**

41. Unbalanced and/or Front-Loaded Tenders

41.1 If in the Procuring Entity's opinion, the Tender that is evaluated as the lowest evaluated price is seriously unbalanced and/or front loaded, the Procuring Entity may require the Tenderer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the tender prices with the scope of works, proposed methodology, schedule and any other requirements of the Tender document.

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

a) accept the Tender; or
b) require that the total amount of the Performance Security be increased at the expense of the Tenderer to a level not exceeding a 30% of the Contract Price; or
c) agree on a payment mode that eliminates the inherent risk of the Procuring Entity paying too much for undelivered works; or
d) reject the Tender,

42. Qualifications of the Tenderer

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

42.2 The determination shall be based upon an examination of the documentary evidence of the Tenderer's qualifications submitted by the Tenderer, pursuant to ITT 19. The determination shall not take into consideration the qualifications of other firms such as the Tenderer's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the Tender document), or any other firm(s) different from the Tenderer.

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

42.4 An Abnormally Low Tender is one where the Tender price, in combination with other elements of the Tender, appears so low that it raises material concerns as to the capability of the Tenderer in regards to the Tenderer's ability to perform the Contract for the offered Tender Price.

42.5 In the event of identification of a potentially Abnormally Low Tender, the Procuring Entity shall seek written clarifications from the Tenderer, including detailed price analyses of its Tender price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the Tender document.

42.6 After evaluation of the price analyses, if the Procuring Entity determines that the Tenderer has failed to demonstrate its capability to perform the Contract for the offered Tender Price, the Procuring Entity shall reject the Tender.

43. Best Evaluated Tender

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

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

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

44.1 The Procuring Entity reserves the right to accept or reject any Tender and to annul the Tender process and reject all Tenders at any time prior to Contract Award, without thereby incurring any liability to Tenderers. In case of annulment, all Tenderers shall be notified with reasons and all Tenders submitted and specifically, Tender securities, shall be promptly returned to the Tenderers.

F. Award of Contract

45. Award Criteria

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

46. Notice of Intention to enter into a Contract

46.1 Upon award of the contract and Prior to the expiry of the Tender Validity Period the Procuring Entity shall issue a Notification of Intention to Enter into a Contract / Notification of award to all tenderers which shall contain, at a minimum, the following information:

a) the name and address of the Tenderer submitting the successful tender;
b) the Contract price of the successful tender;
c) a statement of the reason(s) the tender of the unsuccessful tenderer to whom the letter is addressed was unsuccessful, unless the price information in (c) above already reveals the reason;
d) the expiry date of the Standstill Period; and
e) instructions on how to request a debriefing and/or submit a complaint during the standstill period;

47. Standstill Period

47.1 The Contract shall not be signed earlier than the expiry of a Standstill Period of 14 days to allow any dissatisfied tender to launch a complaint. Where only one Tender is submitted, the Standstill Period shall not apply.

47.2 Where a Standstill Period applies, it shall commence when the Procuring Entity has transmitted to each Tenderer the Notification of Intention to Enter **into a Contract with the successful Tenderer.**

48. Debriefing by the Procuring Entity

48.1 On receipt of the Procuring Entity's Notification of Intention to Enter into a Contract referred to in ITT 46, an unsuccessful tenderer may make a written request to the Procuring Entity for a debriefing on specific issues or concerns regarding their tender. The Procuring Entity shall provide the debriefing within five days of receipt of the request.

48.2 Debriefings of unsuccessful Tenderers may be done in writing or verbally. The Tenderer shall bear its own costs of attending **such a debriefing meeting.**

49. Letter of Award

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

50. Signing of Contract

50.1Upon the expiry of the fourteen days of the Notification of Intention to enter into contract and upon the parties meeting their respective statutory requirements, the Procuring Entity shall send the successful Tenderer the Contract Agreement.

50.2Within fourteen (14) days of receipt of the Contract Agreement, the successful Tenderer shall sign, date, and return it to the Procuring Entity.

50.3The written contract shall be entered into within the period specified in the notification of award and before expiry of the tender validity period

51. Appointment of Adjudicator

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

52. Performance Security

52.1Within twenty-one (21) days of the receipt of the Letter of Acceptance from the Procuring Entity, the successful Tenderer shall furnish the Performance Security and, any other documents required in the **TDS**, in accordance with the General Conditions of Contract, subject to ITT 40.2 (b), using the Performance Security and other Forms included in Section X, Contract Forms, or another form acceptable to the Procuring Entity. A foreign institution providing a bank guarantee shall have a correspondent financial institution located in Kenya, unless the Procuring Entity has agreed in writing that a correspondent bank is not required.

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

52.3Performance security shall not be required for contracts estimated to cost less than Kenya shillings five million shillings**.**

53. Publication of Procurement Contract

53.1Within fourteen days after signing the contract, the Procuring Entity shall publish the awarded contract at its notice boards and websites; and on the Website of the Authority. At the minimum, the notice shall contain the following information:

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

54. Procurement Related Complaints and Administrative Review

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

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

Section II - Tender Data Sheet (TDS)

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

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
	A. General
ITT 1.1	The name of the contract is **REPAIR AND REAHBILITATION AND PERFORMANCE BASED ROUTINE MAINTENANCE OF ISIOLO-MURIRI ROAD IN MERU COUNTY -BATCH 1** The reference number of the Contract is AFD/EU/ME/LVS/1/2023/24
ITT 2.1	The tenderer has read and understood the AFD Policy on Corrupt and Fraudulent Practices and Environmental and Social Responsibility. In addition, they shall include a declaration not to engage in any corrupt or fraudulent practices and Implement environmental and social risks mitigation measures as per the Environmental And Social Management Plan (ESMP
ITT 2.3	The Information made available on competing firms is as follows**: N/A**
ITT 2.4	The firms that provided consulting services for the contract being tendered for are: **Runji Consulting Group Ltd.**
ITT 3.1	Maximum number of members in the Joint Venture (JV) shall be: ***NA.***
B. Contents of Tender Document	
8.1	There shall be **No Pre-Tender site meeting**. However, **Pre-Arranged Pre-Tender site visit is MANDATORY on _16th January 2023 at 9Am at the regional office Meru County** and Bidders are required to thereafter **collect a duly signed Pre-Tender Site Visit Certificate from the KeRRA Regional Director** as indicated in the Instruction to Bidders.
ITT 8.2	The Tenderer will submit any questions in writing, to reach the Procuring Entity not later than **14 days** before the date of tender opening.
ITT 8.4	The Procuring Entity's website where Minutes of the pre-Tender meeting and the pre-arranged pretender site visit will be published is **https://www.kerra.go.ke**
ITT 9.1	For Clarification of Tender purposes, for obtaining further information and for purchasing tender documents, the Procuring Entity's address is: Kenya Rural Roads Authority, Block 'B', Ground Floor, South Wing, Barabara Plaza, off Mombasa Road, Opposite KCAA along Airport South Road, JKIA, Nairobi. P.O Box 48151-00100, Nairobi, Kenya **Email: procurementhq@kerra.go.ke**
C. Preparation of Tenders	
ITP 13.1 (h)	The Tenderer shall submit the following additional documents in its Tender: *a.* A signed declaration form to abide with AFD's Policy on Corrupt and Fraudulent Practices and Environmental and Social Responsibility.
ITT 15.1	Alternative Tenders ***shall not be*** considered.
ITT 15.2	Alternative times for completion ***shall not be*** permitted.
ITT 15.4	Alternative technical solutions shall be permitted for the following parts of the Works:***N/A***

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 16.5	The prices quoted by the Tenderer shall be ***fixed***
ITT16,7	ADD:The Employer will assist in initiating the process of tax exemption certificate for VAT. Bidders should note that the withholding income tax (3%) will apply as per the law.
ITT 20.1	The Tender validity period shall be **140** days.
ITT 20.3 (a)	N/A
ITT 21.1	A Tender Security ***shall be*** required. from an insurance company registered and licensed by the Insurance Regulatory Authority" The contractor shall provide a Tender Security of **KES 100,000.00** per tender document
ITT 21.2 (d)	NOT APPLICABLE
ITT 21.5	On the Performance Security, other documents required shall be an **Unconditional Demand Bank Guarantee**
ITT 22.1	In addition to the original of the Tender, the number of copies is: **1 (One)**
ITT 22.3	The written confirmation of authorization to sign on behalf of the Tenderer shall consist of: written power of attorney drawn by commissioner of oaths and signed by the Directors providing the power of attorney.
D. Submission and Opening of Tenders	
ITT 24.1	(A) For Tender submission purposes only, the Procuring Entity's address is: Kenya Rural Roads Authority Barabara Plaza, Block B P.O Box 48151 – 00100 Nairobi. Kenya. The Tenders must be submitted no later than: Date: **15th February, 2024** Time: **11:00AM EAT** Tenderers **shall not submit** tenders electronically.
ITT 27.1	The Tender opening shall take place at the time and the address for Opening of Tenders provided below: **Kenya Rural Roads Authority** Meru Region P.O. Box 442-60200, **MERU** Date and time of tender opening. Date: **15th February, 2024** Time: **11.00 AM EAT**
ITT 27.1	If Tenderers are allowed to submit Tenders electronically, they shall follow the electronic tender submission procedures ***N/A***
ITT 27.6	The number of representatives of the Procuring Entity to sign is **All members of the opening committee.**
E. Evaluation, and Comparison of Tenders	
ITT 32.3	The adjustment shall be based on the ***highest*** price of the item or component as quoted in other substantially responsive Tenders. If the price of the item or component cannot be derived from the price of other substantially responsive Tenders, the Procuring Entity shall use its best estimate.

ITT Reference	PARTICULARS OF APPENDIX TO INSTRUCTIONS TO TENDERS
ITT 35.2	The invitation to tender is extended to the following groups that qualify for Reservations **_OPEN_**
ITT 36.1	At this time, the Procuring Entity ***does not intend*** to execute certain specific parts of the Works by subcontractors selected in advance.
ITT 36.2	Contractor's may propose subcontracting: Maximum percentage of subcontracting permitted is: *0%_ of the total contract amount.*
ITT 36.3	_____N/A_____
ITT 37.2 (d)	**Additional requirements apply**. These are detailed in the evaluation criteria in Section III, Evaluation and Qualification Criteria.
ITT 51.1	The person named to be appointed as Adjudicator is as nominated by the Procuring Entity who is registered by the CIARB at an hourly fee as provided by CIARB
ITT 52.2	Other documents required are :**Form No. 8. Beneficial Ownership Disclosure Form.**
ITT 54.1	The procedures for making a Procurement-related Complaints are detailed in the "Regulations" available from the PPRA Website www.ppra.go.ke or email complaints@ppra.go.ke. If a Tenderer wishes to make a Procurement-related Complaint, the Tenderer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by hand delivery or email to: **For the attention:** ***[Director General]*** **Title/position:** ***[Director General]*** **Procuring Entity:** ***[KeRRA]*** **Email address*****: [procurementhq@kerra.go.ke]*** In summary, a Procurement-related Complaint may challenge any of the following: (i) the terms of the Tender Documents; and (ii) the Procuring Entity's decision to award the contract.

SECTION III - EVALUATION AND QUALIFICATION CRITERIA

1. Evaluation and contract award Criteria

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

2. Preliminary examination for Determination of Responsiveness

The Procuring Entity will be examining all tenders to ensure they meet in all respects the eligibility criteria and other requirements in the ITT, and that the tender is complete in all aspects in meeting the requirements of "Part 2 – Procuring Entity's Works Requirements", including checking for tenders with unacceptable errors, abnormally low tenders, abnormally high tenders and tenders that are front loaded. Tenders that do not pass the Preliminary Examination will be considered irresponsive and will not be considered further.

A. PRELIMINARY EXAMINATION

Tenderers shall provide evidence satisfactory to the Employer of their eligibility and of their capability and adequacy of resources to effectively carry out the subject Contract. To this end, the tenderer shall be required to provide latest information set out below:

Table 1:

Item No.	Evaluation Criteria / Condition / Requirement Description	Clause Ref.	Requirement Priority
(A)	**PRELIMINARY EVALUATION CRITERIA**		
1)	Provide a **Tender Security** of **Kshs. 100,000.00** in the required format. The tender guarantee (security) will remain in force up to and including *one hundred fourty **(140)*** days, from the specified date of bid opening {(140) days}. A Tender Security shall be a guarantee by an insurance company registered and licensed by the Insurance Regulatory Authority and listed by the authority ***N/B This form of tender security (tender bond) is not applicable; bidders that submit it to be disqualified***	ITT 21.0 ITT 11.1 TDS ITT 21.1 – 21.2 SECTION IV: 10	**Must be submitted**
2)	*Properly and dully filled, signed and stamped **form of bid** and by the authorized person through the power of attorney. with a bid validity one hundred forty **(140))** days, from the specified date of bid opening* {(140 days}. *In addition:* *a) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address.* *b) The Form of Tender shall include the following Forms duly completed and signed by the Tenderer.* • ***Properly and dully filled, signed and stamped Tenderer's Eligibility; Confidential Business Questionnaire – to establish we are not in any conflict to interest.*** • ***Properly and dully filled, signed and stamped Certificate of Independent Tender Determination – to declare that we completed the tender without colluding with other tenderers.*** • ***Properly and dully filled, signed and stamped Self-Declaration of the Tenderer– to declare that we will, if awarded a contract, not engage in any form of fraud and corruption.*** • ***Properly and dully filled, signed and stamped Declaration and commitment to the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal 2015.***	ITT 13.1 (a) TDS ITT 13.1(h): (j) ITT 14 SECTION IV: (5) – (9)	**Must be submitted**

Item No.	Evaluation Criteria / Condition / Requirement Description		Clause Ref.	Requirement Priority
	c) Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender			
3)	Certified Certificate of Incorporation issued by Registrar of Companies. **Certified by a Commissioner of Oath.**		TDS ITT 13.1 (h): (a)	**Must be submitted**
4)	Current Certified CR12 Certificate (dated within 6 Months before date of opening) from the Registrar of Companies. This should be provided with Identification Documents of Directors and all individuals listed on the CR12. (ID or Passport). For Corporate Directors, CR12 or its equivalent for the corporate directors, Identification Documents for the corporate Director and its directors MUST be provided. **Certified by a Commissioner of Oath.**		TDS ITT 13.1 (h): (b)	**Must be submitted**
5)	Valid certified Current Single Business permit **Certified by a Commissioner of Oath.**		TDS ITT 13.1 (h): (h)	**Must be submitted**
6)	Valid Tax Compliance Certificate.		TDS ITT 13.1 (h): (g)	**Must be submitted**
7)	Current Certificate of Registration with National Construction Authority in the Category **"NCA4 or 5 or 6" together** with a valid NCA practicing license		TDS ITT 13.1 (h): (d)	**Must be submitted**
8)	Pre-Tender Site Visit Certificate duly endorsed by the Authorized KeRRA Staff.		ITT 18 TDS ITT 18.1	**Must be submitted**
9)	Submit a written power of attorney authorizing the signatory of the bid to commit the Bidder Witnessed by a Commissioner of Oaths.		ITT 19.1 TDS ITT 13.1 (h): (h)	**Must be submitted**
10)	Chronological Serialization of all the pages of the tender document (this should be sequential in the format of1,2,3,4,5…….) from the first page to the last page.			**Must be Serialized**
11)	The Tender submission **SHALL** be as follows: a) One Original clearly marked "**ORIGINAL**", b) One hard copy CLEARLY marked "**COPY**"		ITT 22.1 TDS ITT 22.1	**Must be submitted**
12)	Provide Properly and dully filled, signed and stamped proof of Eligible Goods, Equipment, and Services *(Bidders to demonstrate that Goods, equipment and services to be supplied under the contract to have their origin in any country that is not determined ineligible under ITT 4.1*).		ITT 4.0 TDS ITT 13.1 (h): (f) SECTION IV: Form EQU	**Must be submitted**
13)	Provide a Properly and dully filled, signed and stamped proof of having not been declared ineligible by the PPRA as described in ITT 3.7		ITT 3.7	**Must be submitted**
14)	Submission of Audited Accounts or equivalent acceptable to the Employer, for the last three [5] years (2018,2019,2020, 2021 & 2022) to demonstrate: the current soundness of the applicant's financial position and its prospective long-term profitability, and capacity to have a cash flow amount, turnover and working capital (attach valid license of the auditor from ICPAK),		TDS ITT 13.1(h) – (e) SECTION IV: Form FIN 4	**Must be submitted**
15)	Provide a Properly and dully filled, signed and stamped **Bill of Quantities (any alterations should be countersigned by the authorized person)**		ITT 16.2	**Must be Filled**
16)	Provide a Properly and dully filled, signed and stamped**, the following schedules of supplementary information.** **NOTE:** *That bidders should not alter the format of any of the forms under this section. Any alteration shall lead to disqualification of the bid*			
1)	FORM 2 EQU:	Properly and dully filled, signed and stamped form of Equipment (*A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Tenderer*)	ITT 4; TDS ITT 13.1(h) – (e)	**Must be Filled**
2)	FORM 3 PER:	Properly and dully filled, signed and stamped Contractor's Representative and Key Personnel Schedule (*Tenderers should provide the names and details of the suitably qualified Contractor's Representative and Key Personnel to perform the Contract separately for each personnel/*	ITT 17.0	**Must be Filled**

Item No.	Evaluation Criteria / Condition / Requirement Description		Clause Ref.	Requirement Priority
		candidate; with declaration for both parties; data on their experience should be provided).		
3)	FORM 4:	Properly and dully filled, signed and stamped form of tenderers qualification without pre-qualification. **FORM ELI-1.1 (*Properly and dully filled, signed and stamped form of Tenderer Information*)** Attach copies of original documents of [check the box(es) of the attached original documents] 1) Articles of incorporation (or equivalent documents of constitution or association), and /or documents of registration of the legal entity named above, in accordance with ITT 4.4. 2) A current tax clearance certificate or tax exemption certificate issued by the Kenya Revenue Authority, if tender s a Kenyan tenderer, in accordance with ITT 4.15. 3) In case of state-owned enterprise or institution, in accordance with ITT 4.6 documents establishing: Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.	ITT 13.1	**Must be Filled**
4)	FORM ELI-1.1	Properly and dully filled, signed and stamped form of Tenderer Information	ITT 18.0	**Must be Filled**
5)	FORM CON– 2	Properly and dully filled, signed and stamped form of Historical Contract Non-Performance, Pending Litigation and Litigation History	ITT 18.0	**Must be Filled**
6)	FORM FIN –3.1	Properly and dully filled, signed and stamped of Financial Situation and Performance Properly and dully filled, signed and stamped form of Sources of Finance Properly and dully filled, signed and stamped form of financial documents	ITT 18.0	**Must be Filled**
7)	FORM FIN – 3.2	Properly and dully filled, signed and stamped form of Average Annual Construction Turnover	ITT 18.0	**Must be Filled**
8)	FORM FIN –3.3	Properly and dully filled, signed and stamped form of Financial Resources	ITT 18.0	**Must be Filled**
9)	FORM FIN-3.4	Properly and dully filled, signed and stamped form of Current Contract Commitments / Works in Progress*(Tenderers who have more than 4 No. on-going contracts whose % completion is less than 70% will not be eligible to bid at date of the tender closure.)*	ITT 18.0	**Must be Filled**
10)	FORM EXP-4.1	Properly and dully filled, signed and stamped form of General Construction Experience	ITT 18.0	**Must be Filled**
11)	FORM EXP - 4.2(a)	Properly and dully filled, signed and stamped of Specific Construction and Contract Management Experience.	ITT 18.0	**Must be Filled**
12)	FORM EXP - 4.2(b)	Properly and dully filled, signed and stamped form of Construction Experience in Key Activities (*All Sub-contractors for key activities must complete the information in this form as per ITT 34 and Section III, Evaluation and Qualification Criteria, Sub-Factor 4.2.*)	ITT 18.0	**Must be Filled**
13)	FORM SD1:	Properly and dully filled, signed and stamped form of Self-declaration that the person/tenderer is not debarred in the matter of the public procurement and asset disposal act 2015.	ITT 18.0	**Must be Filled**
14)		Must submit APPENDIX 1 form of -fraud and corruption must be attached *(Appendix 1 shall not be modified).*	ITT 18.0	**Must be Submitted**
B) DETAILED EVALUATION CRITERIA				
(i) TECHNICAL & FINANCIAL CAPACITY EVALUATION CRITERIA				
Technical Evaluation Criteria will be as per Table 3 & 4 given below. Tenders that do not pass the Technical & Financial Capacity Examination will be considered non- responsive and will not be considered further.				
C) MARGIN OF PREFERENCE AND RESERVATIONS			N/A	

Item No.	Evaluation Criteria / Condition / Requirement Description	Clause Ref.	Requirement Priority
D) ERROR CHECK			
	✓ The tender sum as submitted and read out during the tender opening shall be absolute and final and shall not be the subject of correction, adjustment or amendment in anyway by any person or entity. ✓ Provided that the Tender is substantially responsive, the Procuring Entity shall handle errors on the following basis:	ITT 31	**Must be Submitted**
	A. Any error detected if considered a major deviation that affects the substance of the tender, shall lead to disqualification of the tender as non-responsive.		
	B. Any errors in the submitted tender arising from a miscalculation of unit price, quantity, subtotal and total bid price shall be considered as a major deviation that affects the substance of the tender and shall lead to disqualification of the tender as non-responsive. and		
	C. If there is a discrepancy between words and figures, the amount in words shall prevail		
	D. Abnormally low tenders, abnormally high tenders or any other indications of potential bid rigging practices, and tenders that are front loaded.		
E) POST QUALIFICATION AND CONTRACT AWARD			
	A. The Tenderer shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow **as per the provisions of the Qualification Criteria Matrix in Table 3 below**		**Must Meet with Supporting Evidence**
	B. Minimum average annual turnover as per the provisions of the Qualification Criteria Matrix in Table 3 below.		
	C. Specific experience requirement as per the provisions of the Qualification Criteria Matrix in Table 3 below.		

Table 3: Technical & Financial Capacity Evaluation

Qualification Criteria				Compliance Requirements			Documentation
				Joint Venture			
No.	**Subject**	**Requirement**	**Single Entity**	**All Parties Combined**	**Each Party**	**One Party**	**Submission Requirements**
1. Historical Contract Non-Performance							
1.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last five (5) years prior to the deadline for application submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one that has been resolved in accordance with the Dispute Resolution Mechanism under the respective contract, and where all appeal instances available to the applicant have been exhausted.	Must meet requirement	N / A	N/A	N / A	Form CON-2
1.2	Pending Litigation	All pending litigation shall in total not represent **more than thirty percent (30%)** of the Applicant's net worth and shall be treated as resolved against the Applicant.	Must meet requirement	N / A	N/A	N / A	Form CON-2
2. Financial Situation							
2.1	Financial Performance	Submission of audited accounts or if not required by the law of the applicant's country, other financial statements acceptable to the Employer, for the last FIVE [5] years to demonstrate: (a) the current soundness of the applicants' financial position and its prospective long-term profitability, and (b) capacity to have a cash flow amount of min. **KShs. *30,000,000.00*** equivalent working capital	Must meet requirement (a) Must meet requirement (b) Must meet requirement	N / A N/A	N/A N / A	N / A N / A N / A	Form FIN - 3.1, with Supporting Evidence
2.2	Average	Minimum average annual	Must meet	N/A	N/A	N/A	Form FIN - 3.2

Qualification Criteria				Compliance Requirements			Documentation
				Joint Venture			
No.	**Subject**	**Requirement**	**Single Entity**	**All Parties Combined**	**Each Party**	**One Party**	**Submission Requirements**
	Annual Construction Turnover	construction turnover **KShs *150,000,000.00*** calculated as an annual average of the total payments received from construction works within the **last five (5) years**.	requirement				with Supporting Evidence
3. Experience							
3.1	General Construction Experience	Experience under construction contracts in the role of contractor, subcontractor, or management contractor for at least the last five (5) years prior to the applications submission deadline	Must meet requirement	N / A	N/A	N / A	**4.** Form EXP - 4.1 **Experience**
3.2 (a)	Specific Construction Experience	Participation as contractor, management contractor or subcontractor, in at least **Two (2) contracts** with a value of at least **KShs. 100Million** within the last **Five (5) Years** that have been successfully and substantially completed and that are similar to the proposed works. The similarity shall be based on the physical size, complexity, methods/technology or other characteristics as described in the Scope of Works) For subcontracted Works the Bidder should provide the following: ▪ Award letter of the Main Contractor ▪ Award letter of the subcontract ▪ Completion letter of the Subcontract Proof of payment (attach payment certificates and certified bank statements indicating proof of payment) **Certified by a Commissioner**	Must meet requirement	N/A	N / A	N/A	FormEXP.4.2(a) Must Provide Supporting Evidence

Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		of Oath.					
3.2 (b)		b) For the above or other contracts executed during the period stipulated in 4.2(a) above, a minimum construction experience in at least one (1) of: - Other similar road works (gravel, concrete paving blocks or concrete etc.)	Must meet requirements	N/A	N / A	N/A	Must Provide Supporting Evidence
4. Work Methodology							
4.1	Work Methodology	Submission of a work methodology	Should demonstrate understanding of the scope of works and other general requirements	N/A	N/A	N/A	Must Submit
5. Site Staff							
	The site staff shall possess minimum levels set below;						
5.1	Site Agent	Qualification = Bachelors in Civil Eng. General General Experience= 5yrs, Specific Experience = 3 Yrs	Must meet requirements	N/A	N/A	N/A	Must Provide Supporting Evidence (CV & Certificates/ Testimonials)
5.2	Dep. Site Agent	Qualification = Bachelors in Civil Eng. General General Experience= 3yrs, Specific Experience = 1 Yrs	Must meet requirements	N/A	N/A	N/A	Must Provide Supporting Evidence (CV & Certificates/ Testimonials)
5.3	Senior Foreman	Qualification =Diploma in Civil Eng. General Experience = 3 yrs, Specific Experience = 2 Yrs	Must meet requirements	N/A	N/A	N/A	Must Provide Supporting Evidence (CV & Certificates/ Testimonials)
5.4	Site Surveyor	Qualification = Diploma in Surveying General Experience = 4 yrs	Must meet requirements	N/A	N/A	N/A	Must Provide Supporting Evidence (CV &

Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Specific Experience = 2 Yrs					Certificates/ Testimonials)
6. Key Equipment							
6.1	Contractors must meet requirements on key equipment as listed in table 4 below;						Must Provide Supporting Evidence

Table 4: Equipment Holding

Contractors must meet requirements on key equipment as listed below;

Item No.	Equipment Details	Minimum Number Required for the execution of the Contract
A) General plant		
	1.Primary/Secondary/Crusher Unit/Power Screen Min capacity 60/hr	**0**
	2. Concrete batching plant Min Cap 20m3/hr	**0**
	Subtotal for A	**0**
B) Bituminous Plants		
	1. Bitumen pressure distributor	**1**
	2. Bitumen heater tank (10,000 litres)	**0**
	3. Asphalt plant	**0**
	4. Paver	**1**
	5. Chip's spreader	**0**
	6. Bitumen Hand Sprayer	1
	Subtotal for B	**1**
C) Compactors		
	1.Vibrating compaction plate 300mm wide	**1**
	2.Vibrating compaction plate 600mm wide	**0**
	Subtotal for C	**1**
D) Mobile Compressors		
	1. Medium rock drill (1.5 m3/min)	**Optional**
	2. Heavy rock drill (1.5 m3/min)	**0**
	Subtotal for D	**0**
E) Concrete Equipment		
	1. Mobile concrete mixers	**1**
	2. Truck mounted mixers	**Optional**
	Subtotal for E	**1**
F) Transport (Tippers, dumpers, water tankers)		
	1. 4x2 tippers payload 7-12 tonnes	**6**
	2. 6x4 tippers payload 16-20 tonnes	**Optional**
	3. Articulated trailers (low loaders)	**Optional**
	4. Dump trucks	**Optional**
	5. Flatbed lorries	**Optional**
	6. Water tankers (18,000- 20,000 lts capacity)	
	7. Water tankers (8,000- 10,000 lts capacity)	**1**
	Subtotal for F	**7**
G) Earth moving equipment		
	1. Tractor dozers with dozer attachment (D6-D9)	**Optional**
	2. Tracked loaders	**Optional**
	3. Wheel loaders	**Optional**
	4. Motor scrappers	**Optional**
	5. Motor graders (93-205KW)	**1**
	6. Trench excavators	**Optional**
	Subtotal for G	**1**
H) Diesel Generators		
	1. Diesel generators (15- 200KVa)	**Optional**
	Subtotal H	**-**
I) Excavators		
	1. Hydraulic crawler mounted (7-10 tonnes)	**1**

Item No.	Equipment Details	Minimum Number Required for the execution of the Contract
	– 0.25-0.4m3 SAE bucket	
	2. Hydraulic wheel mounted (10-16 tonnes) – 0.4- 0.6m3 SAE bucket	**Optional**
	Subtotal for I	**1**
J) Rollers		
	1. Self-propelled single drum vibrating (various types, 12 tonnes and above)	**1**
	2. Pneumatic rubber tyre (1- 2 tonnes/wheel)	**0**
	3. Sheep foot roller	**Optional**
	4. Double drum vibrating pedestrian roller	**Optional**
	Subtotal for J	**1**
K) Stabilization		
	1. Pulvimixer	**1**
	Subtotal for K	**1**

SECTION IV : TENDERING FORMS

QUALIFICATION FORMS

1. FORM EQU: EQUIPMENT

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

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	
	Details of current commitments	
Source	Indicate source of the equipment ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured	

Omit the following information for equipment owned by the Tenderer.

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

2. FORM PER -1

Contractor's Representative and Key Personnel Schedule

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

Contractor' Representative and Key Personnel

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

3. FORM PER-2:

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

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

Name of Tenderer

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

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

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

Declaration

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

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

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

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

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

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

Signature: _____

Date: (day month year): _____ Countersignature

of authorized representative of the Tenderer:

Signature:_____ Date: (day month

year): _____

4. TENDERER'S QUALIFICATION WITHOUT PRE-QUALIFICATION

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

4.1 FORM ELI -1.1

Tenderer Information Form

Date: _____

ITT No. and title: _____

Tenderer's name
In case of Joint Venture (JV), name of each member:
Tenderer's actual or intended country of registration: *[indicate country of Constitution]*
Tenderer's actual or intended year of incorporation:
Tenderer's legal address [in country of registration]:
Tenderer's authorized representative information Name: _____ Address: _____ Telephone/Fax numbers: _____ E-mail address: _____
1. Attached are copies of original documents of ☐ Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITT 3.6 ☐ In case of JV, letter of intent to form JV or JV agreement, in accordance with ITT 3.5 ☐ In case of state-owned enterprise or institution, in accordance with ITT 3.8, documents establishing: • Legal and financial autonomy • Operation under commercial law • Establishing that the Tenderer is not under the supervision of the Procuring Entity 2. Included are the organizational chart and a list of Board of Directors.

4.2 FORM CON – 2

Historical Contract Non-Performance, Pending Litigation and Litigation History

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

Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
☐ Contract non-performance did not occur since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 2.1. ☐ Contract(s) not performed since 1st January *[insert year]* specified in Section III, Evaluation and Qualification Criteria, requirement 2.1			
Year	**Non- performed portion of contract**	**Contract Identification**	**Total Contract Amount (current value, currency, exchange rate and Kenya Shilling equivalent)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Reason(s) for nonperformance: *[indicate main reason(s)]*	*[insert amount]*
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
☐ No pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3. ☐ Pending litigation in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.3 as indicated below.			

Year of dispute	**Amount in dispute (currency)**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**
		Contract Identification: _____ Name of Procuring Entity: _____ Address of Procuring Entity: _____ Matter in dispute: _____ Party who initiated the dispute: ____ Status of dispute: _____	
		Contract Identification: Name of Procuring Entity: Address of Procuring Entity: Matter in dispute: Party who initiated the dispute: Status of dispute:	
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
☐ No Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4. ☐ Litigation History in accordance with Section III, Evaluation and Qualification Criteria, Sub-Factor 2.4 as indicated below.			
Year of award	**Outcome as percentage of Net Worth**	**Contract Identification**	**Total Contract Amount (currency), Kenya Shilling Equivalent (exchange rate)**

[insert year]	*[insert percentage]*	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Procuring Entity: *[insert full name]* Address of Procuring Entity: *[insert street/city/country]* Matter in dispute: *[indicate main issues in dispute]* Party who initiated the dispute: *[indicate "Procuring Entity" or "Contractor"]* Reason(s) for Litigation and award decision *[indicate main reason(s)]*	*[insert amount]*

4.3 FORM FIN – 3.1:

Financial Situation and Performance

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

4.4.1. Financial Data

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

*Refer to ITT 15 for the exchange rate

4.4.2 Sources of Finance

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

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

4.4.3 Financial documents

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

(a) reflect the financial situation of the Tenderer or in case of JV member, and not an affiliated entity (such as parent company or group member).

(b) be independently audited or certified in accordance with local legislation.

(c) be complete, including all notes to the financial statements.

(d) correspond to accounting periods already completed and audited.

☐ Attached are copies of financial statements[1] for the _____years required above; and complying with the requirements

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

4.4 FORM FIN – 3.2:

Average Annual Construction Turnover

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

	Annual turnover data (construction only)		
Year	**Amount Currency**	**Exchange rate**	**Kenya Shilling equivalent**
[indicate year]	*[insert amount and indicate currency]*		
Average Annual Construction Turnover *			

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

4.5 FORM FIN – 3.3:

Financial Resources

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

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

4.6 FORM FIN – 3.4:

Current Contract Commitments / Works in Progress

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

Current Contract Commitments					
	Name of Contract	**Procuring Entity's Contact Address, Tel,**	**Value of Outstanding Work [Current Kenya Shilling /month Equivalent]**	**Estimated Completion Date**	**Average Monthly Invoicing Over Last Six Months [Kenya Shilling /month)]**
1					
2					
3					
4					
5					

4.7 FORM EXP - 4.1

General Construction Experience

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

Page _____of _____pages

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

4.8 FORM EXP - 4.2(a)

Specific Construction and Contract Management Experience

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

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

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

Specific Construction and Contract Management Experience (cont.)

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

4.10 FORM EXP - 4.2(b)

Construction Experience in Key Activities

Tenderer's Name: _____
Date: _____
Tenderer's JV Member Name: _____
Sub-contractor's Name[2] (as per ITT 34): _____
ITT No. and title: _____

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

1. Key Activity No One: _
_____

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

[2] If applicable

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

2. Activity No. Two
3. ……

OTHER FORMS

5. FORM OF TENDER
(Amended and issued pursuant to PPRA CIRCULAR No. 02/2022)

INSTRUCTIONS TO TENDERERS

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

ii) The Tenderer must prepare this Form of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and business address. Tenderers are reminded that this is a mandatory requirement.

iii) Tenderer must complete and sign CERTIFICATE OF INDEPENDENT TENDER DETERMINATION and the SELF DECLARATION FORMS OF THE TENDERER as listed under (s) below.

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

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

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

To: ..... *[Insert complete name of Procuring Entity]*

Dear Sirs,

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

2. **Performance Based and Instructed Routine Maintenance:** We offer to execute in conformity with the Bidding Document the routine maintenance and repairs on and off carriageway and emergency works as instructed for the Contract period of **36months**. Our bid price is Kenya Shillings _____ *[Amount in figures]* Kenya Shillings _____ *[amount in words]* – **VAT INCLUDED** .

3. The **Total Bid Price (1) + (2)** is Kenya Shillings _____ *[Amount in figures]* Kenya Shillings __ _____ *[amount in words]*

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

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

6. Unless and until a formal Agreement is prepared and executed this tender together with your written acceptance thereof, shall constitute a binding Contract between us. We further understand that you are not bound to accept the lowest or any tender you may receive.

7. We, the undersigned, further declare that:
   i) *No reservations:* We have examined and have no reservations to the tender document, including Addenda issued in accordance with ITT 28;
   ii) *Eligibility:* We meet the eligibility requirements and have no conflict of interest in accordance with ITT 3 and 4;
   iii) *Tender-Securing Declaration:* We have not been suspended nor declared ineligible by the Procuring Entity based on execution of a Tender-Securing or Proposal-Securing Declaration in the Procuring Entity's

Country in accordance with ITT 19.8;

iv) *Conformity:* We offer to execute in conformity with the tendering documents and in accordance with the implementation and completion specified in the construction schedule, the following Works: *[insert a brief description of the Works];*

v) *Tender Price:* The total price of our Tender, excluding any discounts offered in item 1 above is: *[Insert one of the options below as appropriate]*

vi Option 1, in case of one lot: Total price is: [*insert the total price of the Tender in words and figures, indicating the various amounts and the respective currencies*]; Or

Option 2, in case of multiple lots:

a) Total price of each lot [*insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies*]; and

b) Total price of all lots (sum of all lots) [*insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies*];

vii) *Discounts:* The discounts offered and the methodology for their application are:

viii) The discounts offered are: [*Specify in detail each discount offered.*]

ix) The exact method of calculations to determine the net price after application of discounts is shown below: [*Specify in detail the method that shall be used to apply the discounts*];

x) *Tender Validity Period:* Our Tender shall be valid for the period specified in TDS 18.1 (as amended, if applicable) from the date fixed for the Tender submission deadline specified in TDS 22.1 (as amended, if applicable), and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

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

xii) *One Tender Per Tender:* We are not submitting any other Tender(s) as an individual Tender, and we are not participating in any other Tender(s) as a Joint Venture member or as a subcontractor, and meet the requirements of ITT 3.4, other than alternative Tenders submitted in accordance with ITT 13.3;

xiii) *Suspension and Debarment:* We, along with any of our subcontractors, suppliers, Project Manager, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Public Procurement Regulatory Authority or any other entity of the Government of Kenya, or any international organization.

xiv) *State-owned enterprise or institution:* [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution but meet the requirements of ITT 3.8*];

xv) *Commissions, gratuities, fees:* We have paid, or will pay the following commissions, gratuities, or fees with respect to the tender process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*.

Name of Recipient	Address	Reason	Amount

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

xvi) Binding Contract: We understand that this Tender, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

xvii) Not Bound to Accept: We understand that you are not bound to accept the lowest evaluated cost Tender, the Most Advantageous Tender or any other Tender that you may receive;

xviii) Fraud and Corruption: We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption;

xix) Collusive practices: We hereby certify and confirm that the tender is genuine, non-collusive and made with the intention of accepting the contract if awarded. To this effect we have signed the "Certificate of Independent Tender Determination" attached below.

xx) We undertake to adhere by the Code of Ethics for Persons Participating in Public Procurement and Asset Disposal, copy available from_____(*specify website*) during the procurement process and the execution of any resulting contract.

xxi) **Beneficial Ownership Information:** We commit to provide to the procuring entity the Beneficial Ownership Information in conformity with the Beneficial Ownership Disclosure Form upon receipt of notification of intention to enter into a contract in the event we are the successful tenderer in this subject procurement proceeding.

xxii) We, the Tenderer, have duly completed, signed and stamped the following Forms as part of our Tender:

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

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

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

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

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

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

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

Date signed_____day of_____, _____

Notes
** In the case of the Tender submitted by joint venture specify the name of the Joint Venture as Tenderer*
*** Person signing the Tender shall have the power of attorney given by the Tenderer to be attached with the Tender.*

A. TENDERER'S ELIGIBILITY- CONFIDENTIAL BUSINESS QUESTIONNAIRE

Instruction to Tenderer

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

(a) **Tenderer's details**

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

General and Specific Details

b) Sole Proprietor, provide the following details.

Name in full_____Age_____ Nationality _____Country of Origin_____ Citizenship _____

c) Partnership, provide the following details.

	Names of Partners	Nationality	Citizenship	% Shares owned
1				
2				
3				

d) Registered Company, provide the following details.

i) Private or public Company_____

ii) State the nominal and issued capital of the Company_____

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

Kenya Shillings (Equivalent).....

iii) Give details of Directors as follows.

	Names of Director	Nationality	Citizenship	% Shares owned
1				
2				
3				

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

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

If yes, provide details as follows.

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

ii) Conflict of interest disclosure

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

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

f) Certification

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

Full Name_____ Title or

Designation_____

(Signature) *(Date)*

B. CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

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

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

1. I have read and I understand the contents of this Certificate;

2. I understand that the Tender will be disqualified if this Certificate is found not to be true and complete in every respect;

3. I am the authorized representative of the Tenderer with authority to sign this Certificate, and to submit the Tender on behalf of the Tenderer;

4. For the purposes of this Certificate and the Tender, I understand that the word "competitor" shall include any individual or organization, other than the Tenderer, whether or not affiliated with the Tenderer, who:
   a) has been requested to submit a Tender in response to this request for tenders;
   b) could potentially submit a tender in response to this request for tenders, based on their qualifications, abilities orexperience;

5. The Tenderer discloses that [check one of the following, as applicable:
   a) The Tenderer has arrived at the Tender independently from, and without consultation, communication, agreement or arrangement with, any competitor;
   b) the Tenderer has entered into consultations, communications, agreements or arrangements with one or more competitors regarding this request for tenders, and the Tenderer discloses, in the attached document(s), complete details thereof, including the names of the competitors and the nature of, and reasons for, such consultations, communications, agreements or arrangements;

6. In particular, without limiting the generality of paragraphs (5)(a) or (5)(b) above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   a) prices;
   b) methods, factors or formulas used to calculate prices;
   c) the intention or decision to submit, or not to submit, a tender; or
   d) the submission of a tender which does not meet the specifications of the request for Tenders; except as specifically disclosed pursuant to paragraph (5)(b) above;

7. In addition, there has been no consultation, communication, agreement or arrangement with any competitor regarding the quality, quantity, specifications or delivery particulars of the works or services to which this request for tenders relates, except as specifically authorized by the procuring authority or as specifically disclosed pursuant to paragraph (5)(b) above;

8. the terms of the Tender have not been, and will not be, knowingly disclosed by the Tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening, or of the awarding of the Contract, whichever comes first, unless otherwise required by law or as specifically disclosed pursuant to paragraph (5)(b) above.

Name_____ Title__ Date _____

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

C. SELF - DECLARATION FORMS

FORM SD1

SELF DECLARATION THAT THE PERSON/TENDERER IS NOT DEBARRED IN THE MATTER OF THE PUBLIC PROCUREMENTAND ASSET DISPOSALACT 2015.

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

1. THAT I am the Company Secretary/ Chief Executive/Managing Director/Principal Officer/Director of ……...…….. *(insert name of the Company)* who is a Bidder in respect of Tender No.
…….. for ……. *(insert tender title/description)* for ……. *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

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

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

……. ……. …… (Title)
(Signature) (Date)

Bidder Official Stamp

FORM SD2

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

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

1. THAT I am the Chief Executive/Managing Director/Principal Officer/Director of ……..... *(insert name of the Company)* who is a Bidder in respect of Tender No. ….....……. for …….. *(insert tender title/description)* for …… *(insert name of the Procuring entity)* and duly authorized and competent to make this statement.

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

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

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

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

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

Bidder's Official Stamp

FORM SD2 (a)

STATEMENT OF INTEGRITY, ELIGIBILITY, AND ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

Tender No.: _____

_____

Tender Name.: _____

____

To: The Director General- Kenya Rural Roads Authority (KeRRA) (The "**Contracting Authority**")

1. We recognise and accept that *Agence Française de Développement* ("**AFD**") only finances projects of the Contracting Authority subject to its own conditions which are set out in the Financing Agreement which benefits directly or indirectly to the Contracting Authority. As a matter of consequence, no legal relationship exists between AFD and our company, our joint venture or our suppliers, contractors, subcontractors, consultants or subconsultants. The Contracting Authority retains exclusive responsibility for the preparation and implementation of the procurement process and performance of the contract. The Contracting Authority means the Purchaser, the Employer, the Client, as the case may be, for the procurement of goods, works, plants, consulting services or non-consulting services.

2. We hereby certify that neither we nor any other member of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants are in any of the following situations:

   2.1 Being bankrupt, wound up or ceasing our activities, having our activities administered by the courts, having entered into receivership, reorganisation or being in any analogous situation arising from any similar procedure;

   2.2 Having been:

   a) convicted, within the past five years by a court decision, which has the force of res judicata in the country where the Contract is implemented, of fraud, corruption or of any other offense committed during a procurement process or performance of a contract (in the event of such conviction, you may attach to this Statement of Integrity supporting information showing that this conviction is not relevant in the context of the Contract);

   b) subject to an administrative sanction within the past five years by the European Union or by the competent authorities of the country where we are constituted, for fraud, corruption or for any other offense committed during a procurement process or performance of a contract (in the event of such sanction, you may attach to this Statement of Integrity supporting information showing that this sanction is not relevant in the context of the Contract);

   c) convicted, within the past five years by a court decision, which has the force of res judicata, of fraud, corruption or of any other offense committed during the procurement process or performance of an AFD-financed contract;

   2.3 Being listed for financial sanctions by the United Nations, the European Union and/or France for the purposes of fight-against-terrorist financing or threat to international peace and security;

   2.4 Having been subject within the past five years to a contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;

   2.5 Not having fulfilled our fiscal obligations regarding payments of taxes in accordance with the legal provisions of either the country where we are constituted or the Contracting Authority's country;

2.6 Being subject to an exclusion decision of the World Bank and being listed on the website http://www.worldbank.org/debarr (in the event of such exclusion, you may attach to this Statement of Integrity supporting information showing that this exclusion is not relevant in the context of the Contract);

2.7 Having created false documents or committed misrepresentation in documentation requested by the Contracting Authority as part of the procurement process of the Contract.

3. We hereby certify that neither we, nor any of the members of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants are in any of the following situations of conflict of interest:

3.1 Being an affiliate controlled by the Contracting Authority or a shareholder controlling the Contracting Authority, unless the stemming conflict of interest has been brought to the attention of AFD and resolved to its satisfaction.

3.2 Having a business or family relationship with a Contracting Authority's staff involved in the procurement process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of AFD and resolved to its satisfaction;

3.3 Being controlled by or controlling another bidder or consultant, or being under common control with another bidder or consultant, or receiving from or granting subsidies directly or indirectly to another bidder or consultant, having the same legal representative as another bidder or consultant, maintaining direct or indirect contacts with another bidder or consultant which allows us to have or give access to information contained in the respective applications, bids or proposals, influencing them or influencing decisions of the Contracting Authority;

3.4 Being engaged in a consulting services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the Contracting Authority;

3.5 In the case of procurement of goods, works or plants:

a) Having prepared or having been associated with a consultant who prepared specifications, drawings, calculations and other documentation to be used in the procurement process of the Contract;

b) Having been recruited (or being proposed to be recruited) ourselves or any of our affiliates, to carry out works supervision or inspection for the Contract.

4. If we are a state-owned entity, and to compete in a procurement process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the Contracting Authority, which will inform AFD, any change in situation with regard to points 2 to 4 here above.

6. In the context of the procurement process and performance of the corresponding contract:

6.1 We have not and we will not engage in any dishonest conduct (act or omission) deliberately indented to deceive others, to intentionally conceal items, to violate or vitiate someone's consent, to make them circumvent legal or regulatory requirements and/or to violate their internal rules in order to obtain illegitimate profit;

6.2 We have not and we will not engage in any dishonest conduct (act or omission) contrary to our legal or regulatory obligations or our internal rules in order to obtain illegitimate profit;

6.3 We have not promised, offered or given and we will not promise, offer or give, directly or indirectly to (i) any Person who holds a legislative, executive, administrative or judicial mandate within the State of the Contracting Authority regardless of whether that Person was nominated or elected, regardless of the permanent or temporary, paid or unpaid nature of the position and regardless of the hierarchical level the Person occupies, (ii) any other Person who performs a public function, including for a State institution or a State-owned company, or who provides a public service, or (iii) any other person defined as a Public Officer by the national laws of the Contracting Authority's

country, an undue advantage of any kind, for himself or for another Person or entity, for such Public Officer to act or refrain from acting in his official capacity;

6.4 We have not promised, offered or given and we will not promise, offer or give, directly or indirectly to any Person who occupies an executive position in a private sector entity or works for such an entity, regardless of the nature of his/her capacity, any undue advantage of any kind, for himself or another Person or entity for such Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations;

6.5 We have not and we will not engage in any practice likely to influence the contract award process to the detriment of the Contracting Authority and, in particular, in any anti-competitive practice having for object or for effect to prevent, restrict or distort competition, namely by limiting access to the market or the free exercise of competition by other undertakings;

6.6 Neither we nor any of the members of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or France;

6.7 We commit ourselves to comply with and ensure that all of our suppliers, contractors, subcontractors, consultants or subconsultants comply with international environmental and labour standards, consistent with laws and regulations applicable in the country of implementation of the Contract, including the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties. Moreover, we shall implement environmental and social risks mitigation measures when specified in the environmental and social commitment plan (ESCP) provided by the Contracting Authority.

7. We, as well as members of our joint venture and our suppliers, contractors, subcontractors, consultants or sub consultants authorise AFD to inspect accounts, records and other documents relating to the procurement process and performance of the contract and to have them audited by auditors appointed by AFD.

Name: _____ In the capacity of: _____

Duly empowered to sign in the name and on behalf of[3]: _____

Signature: _____ Dated: _____

[3] In case of joint venture, insert the name of the joint venture. The person who will sign the application, bid or proposal on behalf of the applicant, bidder or consultant shall attach a power of attorney from the applicant, bidder or consultant.

DECLARATION AND COMMITMENT TO THE CODE OF ETHICS

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

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

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

Position…….....…….....

Office address……. Telephone…….....…….

E-mail…….....….....…

Name of the Firm/Company…….....……

Date…….....…. (Company Seal/ Rubber

Stamp where applicable)

Witness

Name ……..... Sign.....

Date……

D. APPENDIX 1- FRAUD AND CORRUPTION

(Appendix 1 shall not be modified)

1. Purpose

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

3. Requirements

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

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

1) a person to whom this Act applies shall not be involved in any corrupt, coercive, obstructive, collusive or fraudulent practice; or conflicts of interest in any procurement or asset disposal proceeding;
2) A person referred to under subsection (1) who contravenes the provisions of that sub-section commits an offence;
3) Without limiting the generality of the subsection (1) and (2), the person shall be: -
   a) disqualified from entering into a contract for a procurement or asset disposal proceeding; or
   b) if a contract has already been entered into with the person, the contract shall be voidable;
4) The voiding of a contract by the procuring entity under subsection (7) does not limit any legal remedy the procuring entity may have;
5) An employee or agent of the procuring entity or a member of the Board or committee of the procuring entity who has a conflict of interest with respect to a procurement: -
   a) shall not take part in the procurement proceedings;
   b) shall not, after a procurement contract has been entered into, take part in any decision relating to the procurement or contract; and
c) shall not be a subcontractor for the bidder to whom was awarded contract, or a member of the group of bidders to whom the contract was awarded, but the subcontractor appointed shall meet all the requirements of this Act.
6) An employee, agent or member described in subsection (1) who refrains from doing anything prohibited under that subsection, but for that subsection, would have been within his or her duties shall disclose the conflict of interest to the procuring entity;
7) If a person contravenes subsection (1) with respect to a conflict of interest described in subsection (5)(a) and the contract is awarded to the person or his relative or to another person in whom one of them had a direct or indirect pecuniary interest, the contract shall be terminated and all costs incurred by the public entity shall be made good by the awarding officer. Etc.

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

a) Defines broadly, for the purposes of the above provisions, the terms set forth below as follows:
   i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
   ii) "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

v) "obstructive practice" is:

- deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede investigation by Public Procurement Regulatory Authority (PPRA) or any other appropriate authority appointed by Government of Kenya into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
- acts intended to materially impede the exercise of the PPRA's or the appointed authority's inspection and audit rights provided for under paragraph 2.3 e. below.

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

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

c) Rejects a proposal for award[1] of a contract if PPRA determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

d) Pursuant to the Kenya's above stated Acts and Regulations, may sanction or recommend to appropriate authority (ies) for sanctioning and debarment of a firm or individual, as applicable under the Acts and Regulations;

e) Requires that a clause be included in Tender documents and Request for Proposal documents requiring (i) Tenderers (applicants/proposers), Consultants, Contractors, and Suppliers, and their Sub-contractors, Sub-consultants, Service providers, Suppliers, Agents personnel, permit the PPRA or any other appropriate authority appointed by Government of Kenya to inspect[2] all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the PPRA or any other appropriate authority appointed by Government of Kenya; and

f) Pursuant to Section 62 of the above Act, requires Applicants/Tenderers to submit along with their Applications/Tenders/Proposals a "Self-Declaration Form" as included in the procurement document declaring that they and all parties involved in the procurement process and contract execution have not engaged/will not engage in any corrupt or fraudulent practices.

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

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

1. Corrupt and Fraudulent Practices

The Contracting Authority and the suppliers, contractors, subcontractors, consultants or subconsultants must observe the highest standard of ethics during the procurement process and performance of the contract. The Contracting Authority means the Purchaser, the Employer, the Client, as the case may be, for the procurement of goods, works, plants, consulting services or non-consulting services.

By signing the Statement of Integrity the suppliers, contractors, subcontractors, consultants or subconsultants declare that (i) "it did not engage in any practice likely to influence the contract award process to the Contracting Authority's detriment, and that it did not and will not get involved in any anti-competitive practice", and that (ii) "the procurement process and the performance of the contract did not and shall not give rise to any act of corruption or fraud".

Moreover, AFD requires including in the Procurement Documents and AFD-financed contracts a provision requiring that suppliers, contractors, subcontractors, consultants or subconsultants will permit AFD to inspect their accounts and records relating to the procurement process and performance of the AFD-financed contract, and to have them audited by auditors appointed by AFD.

AFD reserves the right to take any action it deems appropriate to check that these ethics rules are observed and reserves, in particular, the rights to:

a) Reject a proposal for a contract award if it is established that during the selection process the bidder or consultant that is recommended for the award has been convicted of corruption, directly or by means of an agent, or has engaged in fraud or anti-competitive practices in view of being awarded the Contract;

b) Declare misprocurement when it is established that, at any time, the Contracting Authority, the suppliers, contractors, subcontractors, consultants or subconsultants their representatives have engaged in acts of corruption, fraud or anti-competitive practices during the procurement process or performance of the contract without the Contracting Authority having taken appropriate action in due time satisfactory to AFD to remedy the situation, including by failing to inform AFD at the time they knew of such practices.

AFD defines, for the purposes of this provision, the terms set forth below as follows:

a) Corruption of a Public Officer means:

- The act of promising, offering or giving to a Public Officer, directly or indirectly, an undue advantage of any kind for himself or for another Person[4] or entity, for such Public Officer to act or refrain from acting in his official capacity; or
- The act by which a Public Officer solicits or accepts, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Public Officer to act or refrain from acting in his official capacity.

b) A Public Officer shall be construed as meaning:

- Any person who holds a legislative, executive, administrative or judicial mandate (within the country of the Contracting Authority) regardless of whether that natural Person was nominated or elected, regardless of the permanent or temporary, paid or unpaid nature of the position and regardless of the hierarchical level the natural Person occupies;
- Any other natural Person who performs a public function, including for a State institution or a State-owned company, or who provides a public service;
- Any other natural Person defined as a Public Officer by the national laws of the country of the Contracting Authority.

c) Corruption of a Private Person[5] means:

[4] Means any Person whether natural or legal, firm, company, corporation, government, state or state agency or any association, or group of two or more of the foregoing (whether or not having separate legal status).

[5] Means any natural Person other than a Public Officer.

- The act of promising, offering or giving to any Private Person, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Private Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations; or;
- The act by which any Private Person solicits or accepts, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Private Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations.

d) Fraud means any dishonest conduct (act or omission), whether or not it constitutes a criminal offence, deliberately intended to deceive others, to intentionally conceal items, to violate or vitiate consent, to circumvent legal or regulatory requirements and/or to violate internal rules in order to obtain illegitimate profit.

e) Anti-competitive practices mean:

- Any concerted or implied practices which have as their object or effect the prevention, restriction or distortion of competition within a marketplace, especially where they (i) limit access to the marketplace or free exercise of competition by other undertakings, (ii) prevent free, competition-driven price determination by artificially causing price increases or decreases, (iii) restrict or control production, markets, investments or technical progress; or (iv) divide up market shares or sources of supply;
- Any abuse by one undertaking or a group of undertakings which hold a dominant position on an internal market or on a substantial part of it;
- Any practice whereby prices are quoted or set unreasonably low, the object of which is to eliminate an undertaking or any of its products from a market or to prevent it from entering the market.

2. <u>Environmental and Social Responsibility</u>

In order to promote sustainable development, AFD seeks to ensure that internationally recognised environmental and social standards are complied with. Suppliers, contractors, subcontractors, consultants or subconsultants for AFD-financed contracts shall consequently undertake in the Statement of Integrity to:

a) Comply with and ensure that all their subcontractors or subconsultants comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the contract, including the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties;

b) Implement environmental and social risks mitigation measures when specified in the environmental and social management plan (ESMP) provided by the Contracting Authority.

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

Beneficiary:_____

Request for Tenders No:

_____

Date:_____

TENDER GUARANTEE No.:_____

Guarantor: _____

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

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

3. At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Tender during the period of Tender validity set forth in the Applicant's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Applicant; or

b) having been notified of the acceptance of its Tender by the Beneficiary during the Tender Validity Period or any extension there to provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the Performance.

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii) thirty days after the end of the Tender Validity Period.

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

_____

[signature(s)]

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

FORMAT OF TENDER SECURITY [Option 2–Insurance Guarantee]

TENDER GUARANTEE No.: _____

1. Whereas …… [*Name of the tenderer]* (hereinafter called "the tenderer") has submitted its tender dated …… [*Date of submission of tender]* for the …… *[Name and/or description of the tender]* (hereinafter called "the Tender") for the execution of_____under Request for Tenders No._____("the ITT").

2. KNOW ALL PEOPLE by these presents that WE …… of …… [**Name of Insurance Company**] having our registered office at …… (hereinafter called "the Guarantor"), are bound unto …….. [*Name of Procuring Entity*] (hereinafter called "the Procuring Entity") in the sum of …… (Currency and guarantee amount) for which payment well and truly to be made to the said Procuring Entity, the Guarantor binds itself, its successors and assigns, jointly and severally, firmly by these presents.

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

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

   a) has withdrawn its Tender during the period of Tender validity set forth in the Principal's Letter of Tender ("the Tender Validity Period"), or any extension thereto provided by the Principal; or

   b) having been notified of the acceptance of its Tender by the Procuring Entity during the Tender Validity Period or any extension thereto provided by the Principal; (i) failed to execute the Contract agreement; or (ii) has failed to furnish the Performance Security, in accordance with the Instructions to tenderers ("ITT") of the Procuring Entity's Tendering document.

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

4. This guarantee will expire: (a) if the Applicant is the successful Tenderer, upon our receipt of copies of the contract agreement signed by the Applicant and the Performance Security and, or (b) if the Applicant is not the successful Tenderer, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Tendering process; or (ii)twenty-eight days after the end of the Tender Validity Period.

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

_____	_____
[Date]	*[Signature of the Guarantor]*
_____	_____
[Witness]	*[Seal]*

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

TENDER-SECURING DECLARATION FORM

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

Date:.....*[insert date (as day, month and year) of Tender Submission]*
Tender No.:.....*[insert number of tendering process]*
To:..... *[insert complete name of Purchaser]* I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Tender-Securing Declaration.

2. I/We accept that I/we will automatically be suspended from being eligible for tendering in any contract with the Purchaser for the period of time of [insert number of months or years] starting on [insert date], if we are in breach of our obligation(s) under the bid conditions, because we – (a) have withdrawn our tender during the period of tender validity specified by us in the Tendering Data Sheet; or (b) having been notified of the acceptance of our Bid by the Purchaser during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the instructions to tenders.

3. I/We understand that this Tender Securing Declaration shall expire if we are not the successful Tenderer(s), upon the earlier of:
   a) our receipt of a copy of your notification of the name of the successful Tenderer; or
   b) thirty days after the expiration of our Tender.

4. I/We understand that if I am/we are/in a Joint Venture, the Tender Securing Declaration must be in the name of the Joint Venture that submits the bid, and the Joint Venture has not been legally constituted at the time of bidding, the Tender Securing Declaration shall be in the names of all future partners as named in the letter of intent.

Signed:……..……..….. Capacity / title (director or partner or sole proprietor, etc.) ……..…….....……. Name: …….. Duly authorized to sign the bid for and on behalf of: *[insert complete name of Tenderer]*

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

Appendix to Tender

Schedule of Currency requirements

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

Name of currency	***Amounts payable***
Local currency: _____	
Provisional sums expressed in local currency _____	[To be entered by the Procuring Entity]

PART II - WORK REQUIREMENTS

SECTION V - DRAWINGS

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

CONTRACT DRAWINGS

FIGURE C.1 - CROSS SECTION (LOW VOLUME SEAL)

FIGURE C.2 - MITRE DRAINS

FIGURE C.3 - SCOUR CHECKS

FIGURE C.4 - DIMENSIONS OF CHECKS FOR STANDARD DRAIN

FIGURE C.5 - MASONRY SCOUR CHECKS

FIGURE C.6 - CONCRETE SCOUR CHECKS

FIGURE C.7 - CULVERT ENTRY / EXIT STRUCTURE TYPES

FIGURE C.8 - HEADWALL TYPE 1 (HEAD AND WINGWALLS)

FIGURE C.9 - HEADWALL TYPE 2 (DROP INLET)

FIGURE C.10 - HEADWALL TYPE 3A (CONCRETE BLOCK HEADWALLS)

FIGURE C.11 - HEADWALL TYPE 3B (STONE MASONRY HEADWALL

FIGURE C.12 - HEADWALL TYPE 4 (ACCESS CULVERT)

FIGURE C.13 - BEDDING AND HAUNCH PROFILES TYPES I & II

FIGURE C.14 - BEDDING AND HAUNCH PROFILES TYPES III & IV

FIGURE C.15 - ACCESS DRIFT

FIGURE C.16 - LEVEL DRIFT

FIGURE C.17 VENTED DRIFT

FIGURE C.18 - DRESSED BUILDING STONES PAVEMENT-6" PAGE//2

FIGURE C.19 - DRESSED BUILDING STONES PAVEMENT -6"PAGE2/2

FIGURE C.20 - TRAFFIC SIGNS

FIGURE C.21 - PUBLICITY BOARD

FIGURE C.24 - TEMPORARY SIGNS

FIGURE C.25 - SIGN POSTING FOR DIVERSIONS

FIGURE C.26 - SIGN POSTING FOR DIVERSIONS OF TRAFFIC TO ONE SITE OF THE ROAD .

FIGURE C.27 - CHECK DAMS

FIGURE C.28 - GULLEY HEAD SHAPING & STONE LINING

FIGURE C.29 - GABION BOXES

FIGURE C.30 - SHUTTER DETAILS FOR GRAVEL/ETB LAYERS

FIGURE C.31 - MEASURING & CONTROL INSTRUMENTS

FIGURE C.32 - MIXING PAN

FIGURE C.33 - SPEED BUMP & RUMBLE STRIPS

SECTION VI - SPECIFICATIONS

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.

A. SPECIAL SPECIFICATIONS

TABLE OF CONTENTS PAGE

STANDARD SPECIFICATIONS & MANUALS.....78
EXTENT OF WORKS.....78

SECTION 01: PRELIMINARY AND GENERAL ITEMS.....79

01-50- 001 Mobilisation and Establishment of the Site 79
01-50-026 Allow a Prime Cost Sum for Engineers Miscellaneous Account 79
01-60- 002 Clearance on Completion 79
01-60-003 Insurance and Securities 79
01-60-004 Quality Control Tests 80
01-60-005 Publicity Sign Boards 80
01-60-006 Drinking Water 80
01-60-007 Provision of Site Sanitation Facilities 81

SECTION 03: SETTING OUT 82

03-50-001Setting Out the Horizontal Alignment 82

SECTION 04: SITE CLEARANCE 83

04–50–002 Grass Cutting (Manual) 83
04-50- 003 Bush Clearing (Heavy) 83
04-50- 004 Bush Clearing (Light) 84
04-50-005 Pruning Tree Branches 85
04-50- 006 Trees Removal (200-450mm girth) 85
04-50-007 Trees Removal (>450 mm **girth)** 86
04 -50-008 Rock/Boulders Removal 86
04-50-009 Stripping and Grubbing 87
04 -50-010 Excavate remove & disposal of concrete Structures 87
04-50-011 Stumps Removal (500- 1500mm girth 87
04-50-012 Stumps Removal (> 1500mm girth) 88

SECTION 05: EARTHWORKS 89

05-50- 001: Re -Establishment of the Vertical Alignment 89
05-50-002: Side-drain Excavation (Soft Material) 81
05-50-003: Side-drain Excavation (Hard material) 90
05-50-006 Fill in soft material including benching of shoulders and embankments and compact 91
05-50-008 Spoil Excavated Material 92
05-50- 010: Cut To Fill and Compact Soft On Benched Sections 92
05-50-014 Grassing 93
05-50- 016 Scarify, Water, Mix & Compact 93
05-60-006 Class S4 materials to improve Sub grade to Class S4 95

SECTION 07: EXCAVATION AND FILLING FOR STRUCTURES 96

07-50- 001 Excavation for Drainage Structures in Soft Material 96
07-50- 002 Excavation for Drainage Structures in hard Material 96

SECTION 08: CULVERT AND DRAINAGE WORKS 98

08- 50-002: Ditch Cleaning (Manual) 98
08-50- 005: Ditch/ Mitre Drains /Catchwater Drains Excavation 99
08-60-001-005Culvert Cleaning (partially blocked) 100
08- 60-006-10 Culvert Cleaning (Fully blocked) 101
08 - 60 - 007 450mm dia 101
08 - 60 - 008 600mm dia; 101
08 - 60 - 009 900mm dia; 101
08- 60- 017 Head Wall Repair - Masonry 103
08-60-018 Headwall Repair – Concrete 104

08-60-019 200mm thick dressed masonry walling to culverts' wingwalls and headwalls 103
08-70- 001: Provide Stone Pitching using 150mm dressed masonry stones 106
08- 70- 002: Stone Pitching Repair 107
08-70- 004: Supply and Install Gabions 107
08-70-005: Rockfill to Gabions 108
08–70- 006 Scour Checks (Concrete) 108
08-70-007 Scour Checks using 200mm thick dressed Masonry stones 108
08-70-008 Scour Checks (Wooden Stakes) 108
08- 70 -009: Scour Check Repair – masonry 109
08- 70 - 010: Scour Check Repair – wooden 109
08- 70 -011: Scour Check Repair – concrete 109
08-70-012 At-level Scour Checks 110
08-70-013(b) Stone Chute Stabilisation 111
08-70-014 Stone and Post Chute Stabilisation 111
08-70-016 Stone and Post Check Dams. 111
08- 80-001 Access Drifts (Using 200mm thick Dressed Masonry Stones) 112
08-80-002 Access Drifts (Concrete) 112
08- 80-004 Drift Maintenance – desilting 113
08-80-005 Drift Repairs – Concrete 114
SECTION 9: PASSAGE OF TRAFFIC.....115

09-50- 004 Traffic Control 115
SECTION 10: GRADING AND GRAVELLING WORKS..... 118

10-50-001 Carriageway Grading – Heavy Grading 119
10-50- 003 Carriageway Grading - Light Grading 119
10-60-001 Excavation, haul, Spreading and Compaction of Gravel - Labour/Equipment 120
10-80- 002 (a) Removal of Overburden - Labour 123
10-80- 002 (b) Equipment 123
10-80-003 Restoration of Quarries and Borrow Pits 123
SECTION 12: NATURAL MATERIAL SUBBASES & BASES.....,,,.....124

12-50-001 Hand Packed Stones. 124
12-50-002 Natural Gravel-Labour Based (Using Shutters). 125
12-50-003 Natural Gravel-Machine Based 127
SECTION 13: GRADED CRUSHED STONE FOR SUBBASE & BASE.....,,,....129

13-60-001 Graded Crushed Stone for Base 129
SECTION 14: CEMENT, LIME AND EMULSION TREATED SUB-BASE/BASE ..130

14-50-001 -005 BITUMEN EMULSION STABILISED MATERIALS (ESM) 130
14-60-006 COMPOSITE BITUMEN EMULSION STABILISED MATERIALS (CESM) 140
SECTION 15: BITUMINOUS SURFACE TREATMENTS .....,,,..... 142

15-93-005 Prime Coat- A4 Anionic Stable Grade 60% Emulsion diluted 1:6 with water 142
15-92-001 Prime Coat-MC 30 Cut back Bitumen 142
15- 92-002-3 80/100 - Binder Coats 142
15-60-005 14/20 mm Pre-coated Chippings -1st Seal 143
15-60-004 6/10 mm Pre-coated Chippings -2nd Seal. 143
15-93-003 Cracks Sealing: 144
SECTION 16: BITUMINOUS MIXES.....,,,.....145

16-60-002 30mm Asphalt Surfacing 145
SECTION 17: CONCRETE WORKS.....,,,.....151

17-80-001-006: Major Structures' Structural Concrete 151

Sieve Size 151

Percentage by Weight Passing 151
17-80-007 Concrete Road Section 158
SECTION 20: ROAD FURNITURE 160

20-50-001 Installation of Road Reserve Boundary Marker Posts 160
20-50-004 Installation of Culvert Edge Marker Posts 160
20-50-005 Erection of Traffic Signs 161
20-50-006 Provide and apply approved reflectorized hot applied thermoplastic, 100mm wide Road markings – White 161
20-50-007 Provide and apply approved reflectorized hot applied thermoplastic, 100mm wide Road markings – Yellow 162
20-50- 008 Guardrail Repair 162
20-50-010 Installation of Guard Rails 162
20-50-014 / 20-50-015 Rumble Strips/ Speed Bumps 163
20-50-016/ 20-50-017 Kerbs 163
SECTION 22: DAYWORKS 165

SECTION 25: CROSS CUTTING ISSUES.....166

25-50-001 HIV / AIDS Awareness & Prevention Campaigns 166
25-50-001(a) HIV / AIDS Awareness Campaign 166
25-50-001(b) AIDS Prevention Campaign 167
25-50-002 Environmental and Social Mitigation measures. 167
25-50-003 Health and Safety Measures on Site 183
25-50-004 Gender Equality 185
25-50-005 Labour Standards 185
SECTION 26: PERFORMANCE BASED ROUTINE MAINTENANCE WORKS.187

26-50-001: Notice to Bidders 187
26-50-002: Description of Project Road 188
26-50-003: Scope of Works 188
26-50-004 (a): Specifications- Performance Based Works 188
26-50-004(b): Repairs and Maintenance Works1 192
26-50-004 (c): Emergency Works 192
26-50-005: Self-Control Unit of Contractor 193
26-50-006: Site Regulations, Health and Safety Measures and Work Procedures 193
26-50-007: Functions of Key Personnel 193
26-50-008: Method of Formal Inspections 194
26-50-009: Informal Inspections of Service Levels 194
26-50-010: Monthly Statement 194
26-50-011: Procedures for Inspection 196
26-50-012: Payment Reductions and Liquidated Damages 196
26-50-013: Determination of Liquidated Damages- instructed Works 198

SPECIFICATIONS FOR LOW VOLUME SEAL & MAINTENANCE

WORKS STANDARD SPECIFICATIONS & MANUALS

Where required, material to be incorporated in the works shall comply with the relevant sections of the ***Standard Specifications for Roads and Bridge Construction,*** 1986 Edition published by the ministry of Transport and Communication.

The technical specifications shall be read in conjunction with all other documents forming the contract, the requirement of the specifications shall be complementary and additional to the requirements of all the other documents of the contract namely:

Roads 2000 Operations Manual –March 2006

Roads 2000 Contractor"s Field handbook – May 2008

Emulsion Treated Base (ETB)/ Cold Mix Asphalt Site Organisation Guidelines-2012

Emulsion Stabilized Material (ESM) Guidelines from MTRD 2016

EXTENT OF WORKS

The works to be executed under this contract comprises of improvement Of **ISIOLO- MURIRI Road Batch 1(6 km)** which will upgrade it to bituminous condition and subsequent maintenance works.

The Works to be executed under the Contract comprise mainly of but are not limited to the following:

a) Site Clearance
b) Earthworks
c) Improvement of drainage and installation of culverts
d) Construction of erosion protection works
e) Maintenance of Passage of Traffic through the works
f) Relocation and Reinstatement of Services
g) Benching to Widen the carriageway using Material of Characteristics similar to the existing Pavement
i) Provision of 200mm Cement/lime improved Gravel Sub-Base across the carriageway and shoulders in equipment
j) Provision of 150mm Cement/lime improved gravel Base across the carriageway and shoulders in using equipment
k) Provision of MC30 Bitumen as a Prime Coat
l) Application of 25mm (compacted) hot mix Asphalt concrete surfacing layer across the carriageway and shoulders

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.

01-50- 001 Mobilisation and Establishment of the Site

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

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.

01-50-026 Allow a Prime Cost Sum for Engineers Miscellaneous Account

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

Measurement and Payment

The prime cost Sum for this item is to be expended as instructed by the Engineer, the Contractor will be paid on a prime cost basis plus a percentage for overheads and profits

01-60- 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.

01-60-003 Insurance and Securities

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

Measurement and Payment

50% of the Lump Sum payment for this item will be made upon the production of satisfactory evidence by the Contractor that Insurances and Securities have been affected. The remaining 50% will be paid when the works are completed.

01-60-004 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. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits

01-60-005 Publicity Sign Boards

The Contractor shall provide Sign Boards as specified on the Drawings C-21 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. The framework and steel sheet shall be prepared and painted black

The wordings and all logos shall be printed on backlit sticker paper resistant to the effects of weather using reflectorized paint or material approved by the Engineer. The sticker shall be placed on both sides of the board. The colours, fonts and heights of the letters shall be as indicated on the typical drawings and as directed by the Engineer.

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, instructions 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.

01-60-006 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 clean water are available throughout the Site.

Measurement and Payment

A Lump Sum shall be paid on a monthly basis as a percentage of the physical progress done, upon the approval of the Engineer that adequate supplies have been provided.

01-60-007 Provision of Site Sanitation Facilities

The Contractor shall provide minimum 4 temporary toilets, 2 for male workers and 2 for female workers close to the working locations, for the duration of the Works. Each toilet shall be properly identified and marked **Female** or **Male.**

The toilets shall be placed and constructed in such a manner so as to ensure that the surrounding areas (including groundwater) are not polluted and the holes excavated are properly filled after use.

Quality Control

The Engineer shall check regularly that site sanitary facilities are hygienic with adequate supply of tissue papers and water for washing hands.

Measurement and Payment

A Lump sum shall be paid on a Monthly basis as a percentage of the physical progress done, upon the approval by the Engineer that adequate services have been provided.

01-80-142 CSR Project

The Engineer may instruct the Contractor during the progress of the Works to undertake a suitable Corporate Social Responsibility (CSR) that aims to improve lives within thr project road.

The contractor is . expected to undertake the works as per required standards, and to completion within stipulated time frame.

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 the works. The Contractor will be paid on a prime cost basis as a percentage of the physical progress done, upon the approval by the Engineer that adequate services have been provided, plus a percentage for overheads and profits

01-80-143 Provision and Maintenance of Trees

The Engineer may instruct the Contractor during the progress of the Works to plant trees at designated areas identified by the Engineer. The tree seedlings to be planted shall be obtained from species recommended by the Regions Forest Officer.

The contractor is .expected to provide, plant, and maintain each seedling periodically to ensure maturity throughout the contract period. Replacement of damaged, dead or uprooted trees will be 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 the works. The Contractor will be paid on a prime cost basis as a percentage of the physical progress done, upon the approval by the Engineer that adequate services have been provided, plus a percentage for overheads and profits.

SECTION 03: SETTING OUT

Scope

This section covers the activities required in the re-establishment of the horizontal alignment of the road including setting out the centre line, cross section widths, drains and structures.

03-50-001Setting 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

Standard	Flat and Rolling Terrain	Hilly Terrain
Horizontal Curves		
Desirable Minimum radius	100m	50m

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

Road Category	Running Surface	Stripping and Grubbing	Trees, Stumps, Boulders	Bush Clearing
A/B/C + Secondary Roads	7.0 m	14.0 m	14.0 m	20.0 m
D/E + Minor Roads	7 m	14.0 m	14.0 m	16.0 m
RAR Roads	4.5 m	7.9 m	8.0 m	11.0 m
Minor / RAR roads with insufficient widths or Temporary Sections	3.5 m	6.9 m	7.0 m	9.0 m

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

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 **Labou**r 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: m^2

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: m^2

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: m^2

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, the works shall be paid under Dayworks.

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

The contractor shall remove trees having a trunk girth of between 200-450mm at a point 600mm above the ground within 14m construction width.

The Contractor shall excavate around any trees to be removed to a depth not less than 0.5 m before cutting the roots. All holes left by the removal of trees 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 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 Removal (>450 mm **girth)**

All the requirements of item 04-50-006 shall apply for trees of girth above 450 mm including their stumps. 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 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 Rock/Boulders Removal

The Contractor shall remove in a manner agreed by the Engineer, rocks, boulders 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.

04-50-009 Stripping and Grubbing

The Contractor shall remove, over the widths shown in **Table 4.1**, topsoil depth not exceeding 200mm 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 m^2

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.

04 -50-010 Excavate remove & disposal of concrete Structures

The Contractor shall **excavate remove & disposal of concrete Structures** in a manner agreed by the Engineer, using labour and appropriate equipment as necessary. Debris 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 debris.

Measurement Unit: Provisional Sum

A Provisional Sum shall be included for this item

Payment:

Payment shall be made on a Dayworks basis.

04-50-011 Stumps Removal (500- 1500mm girth)

The contractor shall remove stumps with girth between 500 and 1500mm, within 14m construction width or as instructed by the Engineer:

The Contractor shall excavate around any stumps to be removed to a depth not less than 0.5 m before cutting the roots. All holes left by the removal of stumps shall be back-filled

with approved material and compacted to existing ground level. Cut roots 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 stumps removed.

Payment

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

04-50-012 Stumps Removal (> 1500mm girth)

All the requirements of item 04-50-008 shall apply for removing stumps with girth greater than 1500mm, within 14m construction width or as instructed by the Engineer:

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 stumps removed.

Payment

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

SECTION 05: EARTHWORKS

SCOPE

This section covers the earthworks required to widen the road and reshape the subgrade formation to attain the required width and excavation of side drains. . The contractor is expected to supply all the control tools such as templates, camber board prior to commencing the earthworks.

05-50- 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

Standard	**Flat & Rolling Terrain**	**Hilly Terrain**
Gradients		
Desirable Minimum	2%	2%
Desirable Maximum	8%	10%
Absolute Maximum	10%	12%

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 $\pm$ 50 mm
- The longitudinal profile of the road shall be checked at every third slot and shall have a maximum tolerance of $\pm$ 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.

05-50-002: Side-drain Excavation (Soft Material)

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

Approved material from the side drains shall be used in the benches to raise the levels of the road. Excess materials or any materials found to be unsuitable for filling shall be spoiled and spread within 50m of excavated area as directed by the Engineer.

Quality Control

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

Measurement Unit m^3

Measurement shall be the volume of material excavated to form the side drains.

Payment

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

05-50-003: Side-drain Excavation (Hard material)

The Engineer shall classify the excavated material as hard if the daily task rate falls below $1.5m^3$, with evidence that the works were done by a consistent worker for 6 to 8hours. The contractor shall carry out the excavation in accordance with 05-50-002 and shall be compensated under this item.

Work Method:

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

The material from the side drains may be used for filling or deposited and spread on the lower side of the road or transported to an approved dumping site as directed by the Engineer.

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: m^3

The Engineer shall measure the volume of the excavation classified as hard material

The measurement shall be the volume of material excavated and deposited as directed by the Engineer

Payment:

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

05-50-006 Fill in soft material including benching of shoulders and embankments and compact

The contractor shall provide, haul, spread, process and compact soft material in layers in layers of 150mm as directed by the Engineer to raise the road levels or widen a narrow section of road. Selected fill for the widening shall have the following minimum specifications:

- CBR (Mod AASHTO, T90) not less than 8% measured at 4 days soak
- Swell of less than 1%
- Plasticity index of less than 50%, including non-plastic gravel

No spreading of the material or compaction shall be done on dry material. The surface onto which the material is to be placed shall be dampened with water immediately prior to dumping the heaped material onto it. 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 done till it shows no movement of material under the roller
- Compaction tests to be done at intervals of 100m

Measurement Unit m^3

The measurement shall be the volume of material excavated and deposited to form the camber, 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. No extra payment will be made for haulage.

05-50-008 Spoil Excavated Material

The contractor shall spoil material which, being obtained from cuttings is surplus to that required for fill and/or unsuitable material from cuttings which the Engineer has instructed to be excluded from use as fill in embankments, and/or unsuitable material from beneath embankments or below formation level in cuttings which the Engineer has instructed to be spoiled beyond 50m of excavated area.

Work method

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

Measurement Unit m^3

The measurement shall be the volume of material excavated and disposed.

Payment

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

05-50- 010: Cut To Fill and Compact Soft On Benched Sections

The Subgrade formation shall be widened to a total width of **8.2** m to accommodate a completed base layer of **7.7** m as per cross section C-1.

The widening shall be done as directed by the Engineer. On straight sections and gentle curves the widening will normally be done on both sides, whereas in sharper curves the widening shall preferably be done on the inside of the curves.

Pegs will be set out on both sides of the road to demarcate the final alignment of the centre line and the finished levels of the formation.

The widening of the subgrade shall be done before the existing gravel wearing course on the carriageway is graded and compacted to required density and camber.

Widening shall be done by benching and filling with approved material in loose layer thicknesses not exceeding 150mm as directed by the Engineer. First the receiving surface shall be scarified, processed and compacted. After compaction approval the fill material shall be compacted to density of **100% Modified AASTHO T99**.

Gravel of similar quality as existing gravel course (subgrade) will be added to form the top layer of benched sections and paid under item No. **05-60-006**.

Work Method:

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

Quality Control:

- Compaction done till it shows no movement of material under the roller
- Compaction tests to be done at intervals of 100m

Measurement:

Unit of measurement: m^3 material compacted for widening of the subgrade.

Payment

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

05-50-014 Grassing

The contractor will plant grass and trees to control soil erosion due to surface runoff or water from culverts or other drainage structures as directed by the Engineer. This activity will carried out in accordance with specifications clause 25-50-002 on Environmental Mitigation measures.

Measurement Unit: m^2

05-50- 016 Scarify, Water, Mix & Compact

Once the widening has been completed to the correct levels, the existing carriageway together with widened sections shall be scarified, watered mixed and compacted to correct levels and camber or cross falls.

In order to utilize the strength of the consolidated subgrade formation in the carriageway, scarifying of the gravel wearing course should only be done to a depth sufficient to achieve correct levels and camber in the grading operation. The depth to scarify shall be as directed by the Engineer and shall not exceed 200mm.

After scarifying the existing gravel wearing course, the material shall alternately be windrowed on one side of the road and the other side be compacted to refusal with the approved compaction plant. Selected fill with a min Mod AASHTO soaked **CBR of 30%** may be used to mix with the existing gravel wearing course to achieve correct levels and compacted to min. 95% Mod AASHTO T180 to a depth not exceeding 200mm. Payment for these imported fill will paid under item No.05-60-006.

The amount of imported material required for achieving correct levels shall be determined by using a string line and tape and placed in suitably sized heaps along the side of the road at a pre-determined spacing to suit the need.

Once the subgrade formation has been shaped to correct levels and camber or cross fall, it shall be compacted to refusal with the approved compaction plant.

No spreading of the material or compaction shall be done on dry material. The surface onto which the material is to be placed shall be dampened with water immediately prior to dumping the heaped material onto it.

The heaped material shall be spread and then brought to its laboratory determined OMC, the dampened layer shall be protected from drying out by the grader processing it immediately and laying it to the required cross falls.

The layer shall be rolled first to reduce evaporation of water from the material. At the time of compaction, the moisture content shall be within 85% to 105% of optimum moisture content.

Compaction (in vibratory mode) shall commence only once full width of the subgrade has been completed. Compaction shall be done to refusal, i.e. to the point where the drum of the compaction plant no longer makes an indent in the surface and where the material visibly does not move under the roller.

Any corrections to ensure that lateral and longitudinal levels are achieved shall be done immediately.

Any differential settlement during compaction shall be corrected by adding extra material or by cutting away of high spots to achieve a smooth longitudinal surface between the reference pegs. This shall be checked for acceptance with boning rods and string lines.

The density tests will be carried out at random intervals along the road on the compacted material. Sections with dry density of at less than 100% of MDD (Modified AASHTO T99) will not be approved.

After finishing the subgrade formation, the side slopes shall be trimmed to 1:2 slopes or as directed by the Engineer.

Work Method:

The Contractor shall use **Equipment** to carry out this item. The material shall be scarified, mixed with water, levelled and compacted.

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 20m intervals and shall have a tolerance of +/- 0.5%.
- Compaction done till it shows no movement of material under the roller
- Compaction tests to be done at intervals of maximum 100m;
- The final levels will be checked by Engineer"s surveyor prior to approval of laying the base layer;

Measurement:

Unit of measurement: m^3 measured as a product of the plan area and the vertical compacted depth of the subgrade formation.

Payment

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

05-60-006 Class S4 materials to improve Sub grade to Class S4

The contractor shall provide, haul, dump spread, and process selected materials for improved subgrade, the mixing and compaction will be paid under item No. **05-50- 016** . The selected material shall meet the following requirements:

CBR (Mod AASHTO, T180) more than 30% measured at 4 days soak
Swell of less than 1%
Plasticity index of less than 20%, including non-plastic gravel

Measurement: m^3 material compacted.

Quality Control:

- No haulage equipment shall be used until its capacity has been ascertained by the Engineer
- The quality of fill material/ gravel dumped on the road shall be according to the Specifications. Testing of dumped material on site might be required as per the Engineer‟s instructions
- The distance between the stacks shall be checked to ensure the sufficient material is available to fill the gravel shutters to the top.

Payment

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

SECTION 6 - QUARRIES, BORROW PITS, STOCKPILES AND SPOIL AREAS

General

Notwithstanding any indications to the contrary in the Standard specification the Engineer will not make available to the Contractor any land for, nor has identified any specific areas for, quarries, borrow pits, stockpiles and spoil areas, and for access thereto.

The Contractor will be entirely responsible for locating suitable sources of materials complying with the Standard and Special Specifications, and for the procurement, winning, haulage to site of these materials and all costs involved therein. Similarly the Contractor will be responsible for the provision and costs involved in providing suitable areas for stockpiling materials and spoil dumps. Should there be suitable sites for spoil dumps or stockpiles within the road reserve forming the site of the works, the Contractor may utilize these subject to the approval of the Engineer.

Quarries, borrow pits, stockpile and spoil areas shall be progressively restored as the works progress once their use is no longer required.

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

06-50-605 Safety and Public Health Requirement

Add the following to Clause 605:

When working the material sites, the Contractor shall time and arrange his works in such a way that at no time is the public safety endangered in any way.

06-50-607 Site Clearance and Removal of Topsoil and Overburden

Add the following to Clause 607:

Faces of quarries being higher than 4 metres shall be shaped to 1:10 out of the face. All quarries and borrow pits shall be permanently fenced with 5 strand barbed wire which shall be located 5 metres off the edge of the face. After reinstatement, the bottom of a quarry shall be covered with 0.20 m of soil and 0.15 m of topsoil.

06-50-608 Reinstatement of Borrow Areas

On completion of his operations in a borrow area, the Contractor shall reinstate the entire area so as to blend with the surrounding area and to permit the re-establishment of vegetation. For this purpose the borrow area shall be shaped to even contours. All material in and around the borrow area, whether spoil from road building operations, excess stock-piled material, oversize material left in the borrow pit, material resulting from clearing and grubbing operations and excess overburden, shall be used or disposed off as directed by the Engineer. Material not capable of supporting vegetation shall be buried and used in shaping the borrow area and subsequently covered with soft material. All available soft material shall be spread evenly to the thickness directed and where sufficient material is not available for this purpose to cover the entire area, the remaining portions shall be scarified along the contours so as to avoid undue erosion.

All haul roads shall be obliterated and the surface scarified, earth banks constructed to prevent erosion and all damaged fences and other structures reinstated.

The shaping and reinstatement of the borrow pit shall be done in such a way that the borrow pit will be properly drained whenever practicable and where required, the Contractor shall place earth banks to divert any surface water away from the borrow area.

The reinstatement of any borrow pit shall be to the entire satisfaction of the Engineer and the Contractor shall submit to the Engineer a signed certificate from the landowner stating that he is fully satisfied with the reinstatement of any borrow area.

Measurement and Payment

No reimbursement for land acquisition shall be to the Contractor and the Contractor shall be deemed to have allowed for such costs elsewhere in his rates.

Clause 610 of the Standard Specification shall apply.

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- 001 Excavation for Drainage Structures in Soft Material

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 + / - 10mm
- The trench bottom gradients shall have a tolerance of + / - 10mm over the length of the trench

Measurement Unit m^3

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.

07-50- 002 Excavation for Drainage Structures in hard Material

The Engineer shall classify the excavated material as hard if the daily task rate falls below $1.5m^3$, with evidence that the works were done by a consistent worker for 6 to 8hours. The contractor shall carry out the excavation in accordance with 07-50-001 and shall be compensated under this item.

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 + / - 10mm
- The trench bottom gradients shall have a tolerance of + / - 10mm over the length of the trench

Measurement Unit m^3

The measurement shall be volume of hard 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.

08-50- 005: Ditch/ Mitre Drains /Catchwater Drains Excavation

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: m^3

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.

08-60-001-005 Culvert Cleaning (partially blocked)

08-60-001 300mm dia

08-60-002 450mm dia

08-60-003 600mm dia

08-60-004 900mm dia

08-60-005 1200 mm dia

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.

08- 60-006-10 Culvert Cleaning (Fully blocked)

08 - 60 - 007 450mm dia;

08 - 60 - 008 600mm dia;

08 - 60 - 009 900mm dia;

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.

08-60-016/035 Supply and Install Concrete Pipe Culverts

08-60-025 600mm haunched (Type IV)

08-60-027 900mm haunched (Type IV)

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 Contractor shall submit to the Engineer full details of all materials which they propose to use for making concrete. No concrete shall be placed in the works until the Engineer has approved the materials of which it is composed. Approved materials shall not thereafter be altered or substituted by other materials without the consent of the Engineer.

The contractor shall design all the concrete mixes required, making use of the ingredients which have been approved by the Engineer for use in the Works. All the materials must meet the requirements in chapter 2 of the ***Standard Specifications for Roads and Bridge Construction,*** 1986. The Contractor shall use a concrete vibrator or other means approved by the Engineer to ensure full compaction of the concrete.

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. All concrete works will be batched using gauge box made from either steel, timber or plywood with inside dimensions of 400mm by 300mm by 300mm deep, the volume of the box is $0.036m^3$.

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

- Before mixing, all materials such as water, cement, sand and ballast used for concrete production and the Contractor‟s working method shall be approved by the Engineer.
- the compressive strengths of concrete will be tested using cube crushing method;
- In addition, the 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- 60- 017 Head Wall Repair - Masonry

This activity involves the repairs to damaged head walls and wing walls built in 200mm thick masonry stones.

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.

08-60-018 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.

08-60-019 200mm thick dressed masonry walling to culverts' wingwalls and headwalls

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: m2

The measurement shall be the area 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.

08-60-020 Provide, place and compact class 20/20 concrete to culverts' headwalls, wingwalls, aprons and toe beams including form work.

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 design all the concrete mixes required, making use of the ingredients which have been approved by the Engineer for use in the Works. All the materials must meet the requirements in chapter 2 of the ***Standard Specifications for Roads and Bridge Construction,*** 1986. 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 + 20mm / - 10mm
- Before mixing, all materials such as water, cement, sand and ballast used for concrete production and the Contractor"s working method shall be approved by the Engineer.
- the compressive strengths of concrete will be tested using cube crushing method;
- The workability and mix of concrete shall be checked using the slump test and shall have a slump limit as directed by the Engineer.
- In addition the concrete shall be checked for cracks, honey combing and other defects at the time of striking the formwork.

Measurement Unit: m^3

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- 001: Provide Stone Pitching using 150mm dressed masonry stones

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 and laying masonry 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

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: m^2

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- 70- 002: 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 weep holes, as required. All work shall be to the lines and levels of the original construction with new 150mm thick masonry stones 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: m^2

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- 004: Supply and Install 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 2x1x1 m 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.

08-70-005: 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

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 m^3

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.

08–70- 006 Scour Checks (Concrete)

08-70-007 Scour Checks using 200mm thick dressed Masonry stones

08-70-008 Scour Checks (Wooden Stakes)

The Contractor shall construct scour checks using masonry 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**

Gradient of Drain	**Scour Check Spacing**	**Gradient of Drain**	**Scour Check Spacing**
4% or less	not required	8%	7.5m
5%	20m	9%	6m
6%	15m	10%	5m
7%	10m	>10%	4m

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 -009: Scour Check Repair - masonry

08- 70 - 010: Scour Check Repair - wooden

08- 70 -011: 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

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 including excavations etc

08-70-012 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.

Gully-head Protection

08-70-013(b) Stone Chute Stabilisation

08-70-014 Stone and Post Chute Stabilisation

The Contractor shall construct gully-head protection works as directed by the Engineer to the dimensions and details shown on the Drawings **C28.**

The dimensions of the stones shall not be less than **200mm** and the volume not less than **0.01m^3** 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 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.

08-70-016 Stone and Post Check Dams

The Contractor shall construct check dams in erosion gullies to the dimensions and details shown on the Drawings No. **C27** 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 m^3** 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:

Check Dam Spacing

Gradient	Height of dam spill way (m)				
%	**0.15**	**0.25**	**0.50**	**0.75**	**1.00**
5	15.0	25.0			
7	5.0	8.7	17.5	25	35
10	2.5	4.2	8.4	12.6	16.8
15	1.4	2.3	4.6	6.9	9.2
20	0.9	1.6	3.2	4.8	6.4
25		1.3	2.5	3.8	5.0
30		1.0	2.0	3.0	4.0
40			1.6	2.4	3.2
50			1.2	1.8	2.0

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, including excavations, compaction etc

08- 80-001 Access Drifts (Using 200mm thick Dressed Masonry Stones)

08-80-002 Access Drifts (Concrete)

The Contractor shall construct Access drifts in grouted masonry stone 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 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 m^3

The measurement shall be the area of stone pitching or volume of 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 including excavations, compaction etc

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: m^3

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: m^3

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.

SECTION 9: PASSAGE OF TRAFFIC

09-50- 004 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.

The contractor is directly responsible for the safety of the workers and road users. Whenever work is being carried out on or close to the carriageway, adequate measures have to be taken to warn and protect both road users and workers by ensuring that:

- The necessary temporary traffic signs and protection are provided and correctly located on site for the duration of the work;
- All equipment and vehicles are parked off the carriageway or behind protective barriers and signs, when not in use;
- No material is left in a dangerous location and that the road adjacent to the work site is kept clean and swept of any debris arising from the work;
- All excavations are protected for the benefit of all road users, equipment and workers;
- All operators are trained in the operation of their equipment;
- Operators and labourers are informed of the potential risks of and procedures for working with or close to machinery;
- Traffic control operations are carried out properly and that road users are not unnecessarily delayed;
- Where work on the carriageway or shoulder remains unfinished overnight, then proper warning lights re to be arranged and, if necessary protected;
- All sites are to be left tidy and cleared of debris when the work is completed.

Drawing No. **C22** shows the type of signs to be availed for traffic control on site

Where a diversion has been provided: After the construction of diversion has been completed and before work starts, warning signs, barriers and cones must be placed around the work area. Signs must be placed in the following order:

- ¨***Men Working***¨ signs should be placed 200 metres in front of the work area.
- ¨***Turn Left/Right***¨ arrows should be placed 100 metres in front of the work area.
- Cones should be placed diagonally across the road to lead into the diversion. o ¨***Keep Left/Right***¨ arrows should be placed at the ends of the lines of cones. o Barriers should be

placed behind the lines of cones.

- ¨***End of Restriction***¨ signs should be placed beyond the ends of the diversion
- At night yellow lamps should also be used to mark the extent of the work at the diversions.

Drawing No.**C-25** shows sign posting for diversions

Where no diversion has been provided and the works are supposed to be carried out on one side of the road at same time allowing traffic to pass on the other.

Before work starts, warning signs, barriers and cones must be placed around the work area in the following order:

- ***–Men Working***‖ signs should be placed 200 metres in front of the work area,
- ***–Road Narrows"*** signs should be placed 100 metres in front of the work area,
- ***–Speed Limit***‖ signs should be placed at the start of the work area,
- Barriers should be placed at each end of the work area
- Cones should be placed in a taper at the approaches to the work area and at a maximum spacing of 10 metres along the middle of the road next to the work area.
- ***–End of Restriction***‖ signs should be placed 50 metres beyond the work area. Drawing

No.C-26 shows sign posting for diversions of traffic to one site of the road **Quality Control**

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

Measurement and Payment

Measurement Unit: months as a percentage of the physical progress done monthly, upon the approval of the Engineer that satisfactory control measures are in place.

SECTION 10: GRADING AND GRAVELLING WORKS

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

GRADING REQUIREMENTS	
Sieve (mm)	% by Weight Passing
40	100
28	95 - 100
20	85 - 100
14	65 - 100
10	55 - 100
5	35 - 92
2	23 - 77
1	18 - 62
0.425	14 - 50
0.075	10 - 40

PLASTICITY INDEX REQUIREMENTS PI		
Zone	Min	Max
WET: Mean annual rainfall > 500mm	5	20
DRY: Mean annual Rainfall < 500mm	10	30

BEARING STRENGTH REQUIREMENTS		
Traffic VPD	CBR	DCP Equivalent mm/Blow
>15	20	11
<15	15	14

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

CBR at 95 % MDD, Modified AASHTO and 4 days soaking

Lower quality material (CBR 15) may be accepted if no better material can be found

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

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.

10-50-001 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 toward 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- 003 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: 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.

10-60-001 Excavation, haul, Spreading and Compaction of Gravel - Labour/Equipment

i. **Excavation**: 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.

   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.

ii. **Haulage:** 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.

iii. **Control of Heaps along the Road**: The spacing of the gravel heaps delivered by the trucks shall be such that the traffic flow is not unduly interrupted. The spacing for each heap shall be demarcated and enough material be placed to cover 60-80m half width pavement. Any greater loads shall be dumped in stockpiles off-road and transported to the formation areas by appropriate means.

iv. 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.

v. Unless otherwise instructed the moisture content of the material shall be within **± 2%** of optimum. Where additional moisture is required water, it shall be applied in an even manner and the rate of application shall be such that no transverse or longitudinal flows occur.

vi. **Placing of Shutters** (ref. standard drawings **C-29**)**:** The contractor shall provide vertical shutters with the sufficient height to achieve compacted thickness instructed by the Engineer on either side of the material being compacted. The quantity of shutters supplied shall be sufficient for one day"s work. Care shall be taken when fixing the shutters to ensure that no bumps are built into the surface and that a smooth vertical and horizontal alignment is obtained. The shutters shall be firmly anchored and supported using steel pins to ensure they are not displaced laterally during the compaction; in addition they should be correctly placed to comply with specified dimensions, lines and levels of the road, subject to the approval of the Engineer"s Representative. The shutters shall be made using steel, timber or both.

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. The compacted thickness of any layer laid and compacted shall not exceed 120mm. once the shutters are removed, the contractor shall and provide and compact soft material to support the vertical edges of gravel layer.

vii. **Compaction**: Compaction of the gravel material shall be carried out from the carriageway edges to the centerline by overlapping passes of the compaction equipment. Any corrections to ensure lateral and longitudinal level finish is achieved shall be done immediately. The number of passes shall be dependent upon the equipment used and the material being compacted to achieve dry density of at least
95% MDD (AASHTO T180). The density tests will be carried out at 100m intervals along the road on the compacted material. The Engineer may instruct the Contractor to test any section of the road at random to ascertain the compaction.

Work Method:

The Contractor shall use both **Labour** and appropriate **Equipment** as instructed by the Engineer to carry out this item.

Quality Control:

- The contractor will test the compaction of formation and seek the approval prior to dumping gravel.
- Oversize stones (more than 80mm) and boulders shall not be loaded for haulage to the road.
- Areas containing deleterious material shall not be excavated
- No haulage equipment shall be used until its capacity has been ascertained by the Engineer
- The quantity of material delivered in each load shall be checked before dumping is allowed
- The quality of gravel dumped on the road shall be according to the Specifications. Testing of dumped material on site might be required as per the Engineer‟s instructions
- The distance between the stacks shall be checked to ensure the sufficient material is available to fill the gravel shutters to the top.
- The gravel surface width shall be checked at 100m intervals and shall have a tolerance of + / - 50mm
- The compacted gravel will tested at intervals of 100m along the road, all compacted sections must achieve dry density of at least **95% MDD (AASHTO T180**)
- 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 with a cross-fall of 8% (compacted) 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: **m^3**

- The measurement shall be the volume of compacted gravel surfacing measured net according to the drawings and shall include the excavation and the cost of a 1.5km „free‟ haul distance, measured from centre of volume of the source of material.

Payment

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

10-80- 002 (a) Removal of Overburden - Labour

10-80- 002 (b) 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:

No separate payment will be made for haulage and the Contractor shall be deemed to have included the all the costs related to haulage in his rates for Gravel.

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

10-80-003 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:

No separate payment will be made for haulage and the Contractor shall be deemed to have included the all the costs related to haulage in his rates for Gravel.

SECTION 11 – SHOULDERS TO PAVEMENT

11-50-001 General

Shoulders shall be constructed as per the drawings or as directed by the Engineer.

11-50-002 Material For Construction Of Shoulders

The shoulders shall be constructed as directed by the Engineer, in accordance with sections 11, 12, 14 and15 of the Standard Specification. The material for shoulders shall be the same as that of base and sub-base layers in the carriageway.

Measurement And Payment

Payment for shoulder construction shall be in accordance with the relevant clauses in sections 11, 12, 14, and 15 of the relevant Specifications. Payment for fill material on shoulder shall be in accordance with Section 5 of this specification

SECTION 12: NATURAL MATERIAL SUBBASES & BASES

12-50-001 Hand Packed Stones

Hand packed stone base is a layer of hand laid stone of defined size and durable in nature, laid in a manner such that when proof rolled and compacted it forms a stable and dense matrix as a road base.

a) Material for Hand Packed Stone Base

This shall consist of durable stone with nominal base dimensions of 75 mm square and minimum height of 150 mm or when compacted to give a layer of 150 mm. The stone shall be class C with the following requirements:

- LAA 45 max
- ACV 32 max
- SSS 12 max
- FI 30 max
- CR 60 min**.**

It shall be free from foreign matter. The fines passing 0.425 mm sieve shall be **NON- PLASTIC**

b) Laying

The stone shall be laid by hand closely together. The stone shall be carefully bedded and tightly wedged with suitable spalls. The base of the stone shall alternate with the apex in all directions or as directed by the Engineer. The layer shall be proof rolled with a loaded scrapper or truck with a minimum axle load of 8 tonnes in the presence of the Engineer who shall approve of its stability before compaction.

c) Compaction

This shall be by a steel wheeled roller of at least five tonnes per metre width of roll. It shall consist of four static runs or until there is no movement under the roller. There shall follow vibratory compaction until an average dry density of 85% minimum of specific gravity of stone has been achieved. No result shall be below 82% of specific gravity. The surface of the compacted layer shall then be levelled by quarry dust (0/6 mm). The dust shall have the following specifications:
The stone shall be class C

Grading Sieve Size	% Passing
10	100
6.3	90-100
4	75-95
2	50-70
1	33-50
0.425	20-33
0.3	16-28
0.15	10-20
0.075	6-12

Work Method

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

Quality Control

The contractor will seek approval of the compacting equipment

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

Measurement and Payment

Payment shall be by the cubic metre laid (m^3).

Measurement of volume shall be determined as the product of length and compacted thickness laid. The rate quoted for this item should include the cost for laying the levelling quarry dust layer, as no extra payment shall be made for this layer.

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

12-50-002 Natural Gravel-Labour Based (Using Shutters)

i. **Excavation**: 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.

   Stones and boulders with one dimension greater than 63mm 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.

ii. **Haulage:** 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.

iii. **Control of Heaps along the Road**: The spacing of the gravel heaps delivered by the trucks shall be such that the traffic flow is not unduly interrupted. The spacing for each heap shall be demarcated and enough material be placed to cover 60-80m half

width pavement. Any greater loads shall be dumped in stockpiles off-road and transported to the formation areas by appropriate means.

iv. 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.

v. Unless otherwise instructed the moisture content of the material shall be within ± 2% of optimum. Where additional moisture is required water, it shall be applied in an even manner and the rate of application shall be such that no transverse or longitudinal flows occur.

vi. **Placing of Shutters** (ref. standard drawings **C-30**)**:** The contractor shall provide vertical shutters with the sufficient height to achieve compacted thickness instructed by the Engineer on either side of the material being compacted. The quantity of shutters supplied shall be sufficient for one day"s work. Care shall be taken when fixing the shutters to ensure that no bumps are built into the surface and that a smooth vertical and horizontal alignment is obtained. The shutters shall be firmly anchored and supported using steel pins to ensure they are not displaced laterally during the compaction; in addition they should be correctly placed to comply with specified dimensions, lines and levels of the road, subject to the approval of the Engineer"s Representative. The shutters shall be made using steel, timber or both.

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. The compacted thickness of any layer laid and compacted shall not exceed 150mm. once the shutters are removed, the contractor shall and provide and compact soft material to support the vertical edges of gravel layer.

vii. **Compaction**: Compaction of the gravel material shall be carried out from the carriageway edges to the centerline by overlapping passes of the compaction equipment. Any corrections to ensure lateral and longitudinal level finish is achieved shall be done immediately. The number of passes shall be dependent upon the equipment used and the material being compacted to achieve dry density of at least
95% MDD (AASHTO T180). The density tests will be carried out at 100m intervals along the road on the compacted material. The Engineer may instruct the Contractor to test any section of the road at random to ascertain the compaction.

Work Method:

The Contractor shall use both **Labour** and appropriate **Equipment** as instructed by the Engineer to carry out this item.

Quality Control:

- The contractor will test the compaction of formation and seek the approval prior to dumping gravel.
- Oversize stones (more than 63mm) and boulders shall not be loaded for haulage to the road.
- Areas containing deleterious material shall not be excavated
- No haulage equipment shall be used until its capacity has been ascertained by the
    - Engineer
- The quantity of material delivered in each load shall be checked before dumping is allowed
- The quality of gravel dumped on the road shall be according to the Specifications.
    - Testing of dumped material on site might be required as per the Engineer‟s
    - instructions
- The distance between the stacks shall be checked to ensure the sufficient material is available to fill the gravel shutters to the top.
- The gravel surface width shall be checked at 100m intervals and shall have a tolerance of + / - 25mm
- The compacted gravel will tested at intervals of 100m along the road, all compacted sections must achieve dry density of at least 95% MDD (AASHTO T180)
- 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 with a cross-fall of 3.5% (compacted) shall be checked at 50m intervals and the maximum tolerance shall be + / - 0.5 %
- The longitudinal profile shall be checked after the compaction of each load to ensure a smooth surface with no corrugations or depressions

Measurement Unit: **m^3**

The measurement shall be the volume of compacted gravel surfacing measured net according to the drawings and shall include the excavation and the cost of a 1.5km „free‟ haul distance, measured from centre of volume of the source of material.

Payment

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

12-50-003 Natural Gravel-Machine Based

Gravel types in Kenya are lateritic gravels, quartzitic gravels, calcareous gravels, some forms of weathered rock, soft rock etc. Where natural materials do not meet the material specifications, the designer is urged to explore blending (mechanical stabilisation) as an alternative .The use of fine crushed stone aggregates up to 30% to improve the bearing strength and reduce the plasticity of the materials is encouraged. The plasticity of coarse non-plastic materials should be improved by adding plastic material, such as clayey soil. the gravel used should have the followings requirements:

MATERIAL REQUIREMENTS

Grading After Compaction	
Sieve (mm)	% by weight passing
50	100
37.5	80 – 100
28	
20	60 – 100
10	
5	30-100
2	20 – 95
1.18	17 – 75
0.300	9 – 50
0.425	7 – 33
0.075	5 – 25

CBR at 95% MDD (AASHTO T180) and 4 days soak (%)	Min 30
Plasticity Index (%)	Max 12
Plasticity Modulus	Max 250

- CBR of at least 30%at 95% (Mod AASHTO) and after 4 days soak.
- The plasticity Index max 12%;
- Plasticity Modulus – Max 250
- Uniform coefficient -Min 5
- Max size to be two thirds of the layer thickness or **80mm** whichever is lesser.

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

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 and Payment

Payment shall be by the cubic metre laid (m^3).

Measurement of volume shall be determined as the product of length and compacted thickness laid.

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

12-50-004 Natural Gravel Material For Cement /Lime Improved Base And Subbase

These works will be carried out in accordance with the section 12 of Standard Specification for Road and Bridge Construction, Ministry of Transport and Communications, 1986. Material specification are specified in CL 1203 (c) and (D)of the Standard Specification for Road and Bridge Construction, Ministry of Transport and Communications, 1986

Work Method

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

Quality Control

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

Measurement and Payment

Payment shall be by the cubic metre laid (m^3).

Measurement of volume shall be determined as the product of length and compacted thickness laid.

The unit rate shall include full compensation for labour, tools, materials, equipment and

SECTION 13: GRADED CRUSHED STONE FOR SUBBASE & BASE

13-60-001 Graded Crushed Stone for Base

These works will be carried out in accordance with the section 13 of Standard Specification for Road and Bridge Construction, Ministry of Transport and Communications, 1986

Work Method

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

Quality Control

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

Measurement and Payment

Payment shall be by the cubic metre laid (m^3).

Measurement of volume shall be determined as the product of length and compacted thickness laid.

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

SECTION 14: CEMENT, LIME AND EMULSION TREATED SUB-BASE/BASE

14-50-001 -005 BITUMEN EMULSION STABILISED MATERIALS (ESM)

Scope: This section covers the materials specification, work method, measurement and payment for the Bitumen Emulsion Stabilized Materials (ESM) for Low Volume traffic.

1. Materials

Materials required for emulsion stabilized base are:

i. Natural gravel, crushed stone gravel, a mixture of natural gravel and sand or up to 30% of crushed stone, or granular recycled pavement material;
ii. Cationic or Anionic bitumen emulsion manufactured using base bitumen of 80/100 penetration grade;
iii. Active filler of lime; and,
iv. Active filler of cement.

a. Gravel

The gravel shall be material which can be extracted from a borrow pit area, a road cutting, a mixture of natural material and crushed stone, or granular recycled material.

The grading of the material before stabilization shall conform to the following envelope:

MATERIALS REQUIREMENTS

Material Before treatment		
Material Class		Min G30
Grading Envelope	Sieve size	% Passing
	50	100
	37.5	90 – 100
	28	80 – 100
	20	60 – 100
	10	35 – 90
	5	20 – 75
	2	12 – 50
	1	10 – 40
	0.425	7 – 33
	0.075	4 – 20
CBR after 4 day soak		Min 30%
Plasticity Index		7 – 12%
Organic Mater		Max 1%
Grading Modulus (GM)		1.2 – 2.7

The materials shall meet the following minimum specifications:

Where GM={300-(P2+P0.425+P0.075)}/100 and P= percent passing

…….Formula. 1

b. Bitumen Emulsion

The bitumen emulsion shall be slow setting stable grade anionic emulsion such as A3 and A4 to allow for long workability times and ensure good dispersion. However, where the gravel is quartzitic, granite or sandstone, slow setting cationic K3 emulsion shall be used. The emulsion to be used must be anionic stable grade 60% emulsion (Colas A4-60 vinzyl resin emulsifier) decanted from 210 litre drums.th recommended residual binder content shall be as specified below .

Recommended Residual Binder Content:	
Material	**Residual bitumen (%)**
Reclaimed asphalt	1.75 – 2.50
Graded Crushed Rock	2.25 – 3.00
Gravels of CBR ≥ 30%	2.5 – 3.25
Gravels/sands of CBR	2.5 – 4.0

c. Lime

Lime shall be normal hydrated lime supplied in 25kg bags. Amounts usually required: pre-treatment 1 to 2% to lower PI and maximum of 1% as active filler.

d. Cement

Cement shall be Portland cement (CEM 1-42.5N/mm^2 complying to KS EAS 18-1) supplied in 50kg bags.as active filler amount required max 1%

2. Construction Plant and Tools

The following specialized plant and equipment are recommended to promote the construction of the base by labour intensive methods:

i. Steel framed stand for emulsion drums
ii. Ball valve (75mm diameter)
iii. Measuring containers - 25, 20, and 5 litre (for dry and wet materials)
iv. Dipsticks
v. Mixing trays 1200 x 1200mm
vi. Suitably sized vibratory sit-on-roller (**Bomag BW100 or equivalent - 3ton roller** is preferable)
vii. 160 x 25mm Timber Shutters reinforced with steel angle bars at each opposing edge (2m and 1 m lengths)
viii. Steel pegs (R12 150mm long for securing the formwork
ix. Steel squeegees
x. 75 x 75mm steel tube Screed bar

xi. Plastic Sheeting
xii. Water storage drums

3. Handling of emulsion

The emulsion drums shall be stored flat and shall be rolled back and forth every second day to prevent settling and coagulation of the bitumen in the drums.During the base construction; the emulsion drums shall be mounted on drum stands and be equipped with 50mm ball valves for decanting of the emulsion in correct amounts and to avoid spilling.

When diluting a bitumen emulsion, it is important to add the emulsion to the water, and not the water to the emulsion. This will prevent the emulsion from breaking.

Accurately measured containers (galvanized steel or plastic) shall be used to measure the correct amount of emulsion to be added to the mix. The containers must be regularly cleaned or replaced with new ones to ensure that the measured volume remains constant.

4. Mix Design

The Engineer shall ensure that laboratory and site trials are carried out to:

i. Ensure that the untreated materials complies with the CBR, grading, and PI requirements before pre-treatment or stabilization;
ii. Determine the moisture and density relationship using AASHTO T180 compaction for the untreated material to obtain OMC and MDD;
iii. Determine the amount of Lime required to reduce the PI of the untreated material to 7% or less; and,
iv. Determine the optimum moisture and bitumen emulsion amounts.

Pre-treatment of the material shall be carried out using lime to a maximum of 2% and curing for at least 12 hours to reduce the PI to at most 7% before treatment with emulsion and cement.

Treatment with cement and emulsion shall be carried out at the same time. However, the use of cement shall be dependent on the properties of the material and if required the amount shall not exceed 1 %. The proportions of the cement and the binder shall generally be as follows:

- Cement: maximum 1%
- Emulsion : 2.0-7.0% (1.5 - 4.0% residual binder content)

For example: using the mixing ratios of Emulsion A4-60 -2%, Lime -2%. Cement -1%, allow the MDD for the gravel 2000 Kg/m^3, all the mix proportions are by weight.

The quantities prepare 1 m^3 of ESM will be as follows:

- Emulsion A4-60 =1x2000x2/100=40 litres
- Lime = 1x2000x2/100=40 Kg
- Cement =1x2000x1/100-20 kg

The laboratory mix design shall involve:

i. Estimation of minimum and maximum binder content from aggregate grading using the following formula:$P_b = 0.075*P_{75}+1.7$ ..... ***Formula 2***

Where,

P_b= Residual binder content in weight percent (residual) ($2 \leq P_b < 3.2\%$)

P_{75}= percentage of aggregate material less than 75μm

ii. Determination of OMC by AASHTO T1 80 and vibrating hammer method

Emulsion content to be used shall be computed from the determined BC in Formula 2

Emulsion Content (%) = (BC determined above/PBE/100).. ……..Formula 3

The Total Fluid Contents (TFC) = Moisture in Material + Water in emulsion + Water added + Residual Binder (BC)

Water to add to material = TFC - Predetermined Emulsion content (M_{emul}) in formula 2

The emulsion added is kept at constant while varying the water content.

iii. Determine the Optimum Fluid Content (OFC) by the following:

OFC = OMC+0.5BC……., Formula 4

Where:

BC = The Residual Binder Content determined in Formular2

iv. Determination of Optimum Moisture content (OMC) using the following:

OMC= OFC -Emulsion content determined in Formula 3…..Formula 5

v. Manufacture of 100mm diameter by 63.5mm +/- 1.5mm high specimens for Indirect Tensile Strength Test applying 75 blows of Marshall Compaction. The (OFC) Optimum fluid content determined in formula 4 with determinations as follows:

a) Mass of emulsion to add to the mix sample determined
b) Mass of water to add to the mix sample determined

(a) + (b) = Constant of OFC.....Formula 6

The binder will be varying at increments of 0.5% or 1% while keeping the total fluids at constant at OFC

After moulding and extruding the compacted specimens, cure the specimens in the oven at 40 degrees for 72 hours to gain strength

After oven curing the specimens shall cool to ambient temperature and then determine Bulk Density by the following formula.

$BD = (4XM_{briq}) / (nxd^2xh) \times 1{,}000$……..…Formula 7

Where:

BD	= Bulk Density	(kg/m^3)
M_{briq}	= Mass of specimen	(g)
h	= Average Height of specimen	(cm)
d	=Diameter of specimen	(cm)

vi. Determination of the strength of 100mm Diameter Specimens

After density determination one set shall be crushed for Dry ITS and the other set shall be tested after soaking for 24hrs at 25°C for wet ITS .Computations are done for the Strength values and averaged as follows:

1. ***Dry ITS = (2 x P) / (∏ X h x d) x 10,000.....…….Formula8***
2. *Soaked ITS= as formula 8*
3. *Tensile strength Ratio (which is computed as (Soaked ITS/Dry ITS) XI00... Formular8*
4. *Bulk density as Formula 7*

Where:

ITS = Indirect Tensile Strength (kPa)
P = maximum applied load (KN)
H = average height of the specimen (cm)
D =Diameter of the specimen (cm)

vii. Plotting of the design graphs of the above parameters against residual binder content;

viii. Selection of the amount of bitumen to be added for ESM

The added bitumen content that best meets the desired ESM classification is selected as the amount of bitumen to be added.

The mix shall comply with the following specifications:

- ITS_{dry}: 125 - 175kPa
- ITS_{soaked} : 50 -75kPa
- Tensile Strength Ratio, (ITS_{soaked}/ ITS_{dry})* 100 ≥ 50

ix. criteria for determination of the Design Binder content

The design binder content was determined based on the binder content complying with the minimum specifications for the following test criteria:

1. Tensile Strength Ratio (TSR) min 50%;
2. Dry Indirect Tensile Strength : 125- l75KPa,
3. Wet Indirect Tensile Strength: 50 - 75KPa.

The design binder content shall be the value that meets the three criteria i.e. the maximum value of residual binder content for conversion to emulsion content which should not exceed 3% and also the ratio of residual binder content to cement content should not be less than I.

If none of the above criteria's is compliant, then another trial mix design has to be done where reasons for non-compliance could be:

a) TSR being less than the minimum 50%, then it indicates need for active filler to be used where :
    i. The active filler shall be cement and quantity not exceeding 1%
    ii. The active filler can also be Hydrated lime
    iii. The active filler shall not exceed the Design Binder content.

b) Dry ITS exceeding 400KPa shall indicate problematic material
c) Excessive active filler rendering the bitumen being ineffective

Additional tests without active filler and /or crusher dust shall be carried out as part of the mix design process where the results of these tests shall allow a decision to be made as whether the addition of an active filler and/ or crusher dust is warranted.

5. Construction Procedure

General

Before decanting the emulsion for use the drums should be rolled backwards and forwards to ensure that the emulsion is properly mixed, as when stockpiled for any length of time the bitumen in the emulsion tends to settle. **(Drums containing emulsion should be stored horizontally).**

For neat and accurate workmanship it is essential that the drums are placed on a steel frame and that a ball valve is fitted to the drum. The ball valve should be soaked and cleaned in paraffin at the end of each shift. To accurately measure the required amount of emulsion for each mix, measuring containers with calibrated dipsticks should be used.

In placing and fixing the shutters care must be taken to ensure that no bumps are built into the surface and that a smooth vertical and horizontal alignment is obtained.

Care must be taken to check the vertical and horizontal alignment of the shutters and to ensure that the side forms are firmly and correctly placed before placing the material for the ESM base.

Once the side forms have been placed, the levels must again be checked (by string lining across the tops of the side forms) and the surface trimmed to ensure that the correct thickness of base is laid. Slacks or depressions in the subgrade will not only result in an increase in the amount of ESM required in the top layer of the base but also differential settlement.

Work Method

The mixing and laying of the ESM shall be done by labour using only hand tools and purpose made shutter system. Compaction shall be done by a heavy vibrating roller with a minimum operating weight of 3.0 tonnes.

Supplying Base Material

Sufficient quantities of base material to be used should be stockpiled as closely as possible to the work area. In order to give enough space for storing the base material without disturbing the construction and the passing of traffic, a staggered construction approach is recommended.

Preparing for construction of the base

Before the construction starts, the subgrade must be checked for correct camber/crossfall and be corrected, if required, to ensure a uniform thickness of the base. All deleterious material, organic matter, animal droppings etc. must be removed.

The 160mm shutters are then fixed to the subgrade for the entire length to be constructed for each of the team during the day. The shutters shall be placed in the centre line and at the shoulder break point 3.50m for centre. Minor inaccuracies in the camber can be corrected by lifting either one of the shutters by a maximum of 10mm. Under no circumstances shall corrections be done by digging down into the subgrade.

6. Mixing And Placing The Base Material

The mixing shall be done in purpose made mixing trays as shown in **Site organization for ETB production guidelines 2012.**

A team of workers will take out most of the oversize material at the stockpile, measure out the correct amount of gravel with batching boxes and cart it to the mixing trays in wheelbarrows. If the PI of the material to be treated is more than 7% it **shall** be treated with lime using the mixing tray and stockpiled separately for treatment with cement and emulsion after a minimum of 12 hours cure.

The mixing and placing process shall be as follows:

- Moisture content during field mixing shall be determined by the following formula:

FMC = 90% of OMC - 50% of Design Emulsion Content *The actual water content to be added = FMC- Water content* ***in*** *the Design* ***Emulsion Content***

- The emulsion shall be added to two thirds (2/3) of the determined Actual amount of water required to achieve the determined OMC based on the present MC at the time of treatment and the remaining one third (1/3) shall be mixed into the base material.

- The amount of water to be added must be approximately 1% to 1.5% over the Optimum Moisture Content required for the AASHTO T180 density. The batching is by volume.

- Placing of the ESM should be done such that the shutters shall be overtopped by about 25mm so that when the steel screed is used a uniform filling of the shutters can be achieved.

- Six wheel barrow loads for ESM layer placed uniformly in the one meter strip should be sufficient to achieve the 150mm loose thickness.

- Where the layer is being constructed adjacent to previously constructed work (e.g half width construction) a 50mm x 50mm spacer must be placed on top of the existing work to obtain the correct loose thickness for the new work.

• Cover the loose base with a tarpaulin to prevent loss of moisture until compaction can be done. Once some 10-12 meters of ESM has been placed the cover can be rolled up, the spacer plates removed, and the compaction can commence.

• From the first and second trial mixes, it shall be established what little, if any, extra water may be added to obtain a workable, easily screedable mix.

7. Compaction

Compaction shall be done on 10-12m sections at a time, starting at the shoulder and working towards the centre of the road.

Compaction shall initially be done only by rolling without vibration until the whole area has been covered. This shall be followed by vibration with only the front wheel in light vibration mode over the whole surface. Before the full vibration by both wheels can commence corrections both longitudinally and laterally shall be made using the squeegees and additions of fine materials where needed to ensure a smooth uniform finish is achieved.

Compaction shall be done parallel to the shutter lines, moving from both sides inward towards the middle of the layer in increments of slightly less than half the width of the roller, after each pass of the roller. This process shall continue until the roller does not make any more imprints on the material (i.e. compaction to refusal).

Once compaction is completed, the base shall be left to dry out. Covering up is no longer necessary and the base will not suffer any damage from rain.

The final compacted ESM will appear as shown in ETB guidelines 2012 when the shutters are removed.

8. **Quality Control**

The work method has been developed to make it easy as possible for the contractor to achieve consistent results conforming to the specifications for the ESM.

The Engineer shall ensure that:

a. The sub-base is shaped and compacted to correct levels and cross-falls;
b. The surface of the sub-base shall be dampened if it is dry before laying the base material;
c. The PI of the lime pre-treated material does not exceed 7%;
d. The correct amount of lime is added during pre-treatment of the material and shall stock piled and covered to retain moisture.
e. The correct amounts of cement, water and emulsion shall be added to the mix material and mixed thoroughly immediately before the emulsion breaks for homogeneity;
f. The mixing is done in the correct sequence and that the emulsion is added to 2/3 of the water required to obtain OMC while the other 1/3 of the water is added to the mix before placing on the road;
g. Sufficient time is allowed for the emulsion to fully break before commencing the construction of the surface layer and,

The compacted layer shall comply with the following specifications:

i) Layer thickness: 100mm +/- 6mm measured with a 3m straight edge parallel to the centre line;
ii) Relative, compaction: at least 98% T180 Modified AASHTO will be measured from ESM cores;
iii) Insitu ITS_{dry}< Shall be 75% of Design Dry ITS (125 - 175kPa);
iv) Insitu ITS_{soaked} shall be 75% of Design Soaked ITS (50 - 75kPa); and,
v) Insitu TSR: > 50%.
vi) The OMC/MDD shall be reviewed periodically depending on the material properties

9. Indicative Productivity

A team of 21 labourers can produce approximately 11.3m^3 compacted ESM per daily task with approximately 6 effective hours of production.
Each team will need approximately 19m3 of gravel per day including 10% waste and oversize material.

10. Measurement and payment

All the components will be paid separately; the unit rate shall be include the following costs:

- **14-50-001** Supply of cement, unit of measurement is tonne
- **14-50-002** Supply of Lime, unit of measurement is tonne
- **14-50-003** Supply of Emulsion A4-60, unit of measurement is litres
- **14-50-004 Allow for mixing in cement, lime & Emulsion stabilizer into natural gravel/ quarry dust mix,**

  Cleaning and correcting the subgrade
  Setting out shutters and checking for correct camber/cross fall
  Removal and/or breaking down oversize material
  Mixing, spreading, screening and compaction of the ESM
  Personal protective equipment (overalls, boots, gloves etc.) for the work force
  Supply of water
  Good quality hand tools (spades, shovels, spreader, screeds, brooms; watering cans etc.), mixing trays, shutters, steel pegs, string line
  The contractor's own quality control procedures

The unit of measurement shall be m^3 compacted base 75/100mm thick.

- **14-50-005 Allow for curing and protection of the treated layer**

  Supply of water
  Supply tarpaulin for covering the base to prevent moisture loss

The unit of measurement is m2 of the compacted material

Note: Supply of gravel including Excavation and Haul within shall be paid under Bill No.12

14-60-006 Cement /Lime Improved Gravel

1. Material for subbase

Natural materials which comply with the following requirements are generally suitable for improvement. Treated material shall meet these specifications : CBR of Laboratory mix at 95% MDD (modified AASHTO) and 7 days cure + 7 days soak 60%. PI 5-12, PM max 250.

Material classification	
Grading for natural gravels:	
Maximum size	10 – 15 mm
Passing 0.075 mm sieve	Max 40%
Grading for sands, silty sands and clayey sands:	
Maximum size	
Passing 0.075 mm sieve	0.5– 10 mm Max. 50%
Plasticity Index:	
Plasticity Modulus:	Max. 15
Organic Matter:	Max. 2,500 Max. 1%
Extra requirements for lime treatment:	
Passing 0.425 mm sieve	Min. 15% - max 30
Plasticity Index	Min. 10

2. Material for base

Natural materials which comply with the following requirements are generally suitable for improvement. Treated material shall meet these specifications : CBR of Laboratory mix at 95% MDD (modified AASHTO) and 7 days cure + 7 days soak 160%. PI max 6. PM max 250.

Material classification	CBR min 30
Grading for natural gravels:	
Maximum size	10 – 50 mm
Passing 0.075 mm sieve	5 - 35%
Grading for sands, silty sands and clayey sands:	
Maximum size	
Passing 0.075 mm sieve	1 – 10 mm Max. 40%
Plasticity Index:	
Plasticity Modulus:	Max. 15
Organic Matter:	Max. 2,000 Max. 1%
Extra requirements for lime treatment:	
Passing 0.425 mm sieve	Min. 15%
Plasticity Index	Min. 10

3. Cement Treatment

a) Cement

In variation to this Sub-Clause, cement for improvement shall be ORDINARY PORTLAND CEMENT (OPC) complying with KS EAS 18-1: 2001 CEM I 42.5 N or equivalent, subject

to the Engineer's approval.

Cement/HRB	
Portland cement (CEM I – 42.5 MPa) complying to KS EAS 18-1 or HRB complying with BS EN 13282.	
Amounts required: Plastic gravels Sands and clayey sands	2 – 4% 2 – 4%

The cement content of the stabilized material shall be as indicated by the Engineer and will normally be about2- 4%. The Engineer shall exercise his discretion to any variation in the rate of application of the cement, which he may see fit to order from time to time.

b) Moisture content

The moisture content of the stabilized material shall be as directed by the Engineer but nevertheless within the range of 85% to 105% of the Optimum Moisture Content (AASHTO T180).

c) Mixing and Placing

The material to be stabilized and the cement shall be mixed by an approved mixing plant which will either be a mix-in-place pulvimixer or a stationary mixing plant for material to be used for pavement construction, widening and shoulders.

4. **Lime Treatment**

Lime treatment will be as outlined in the Standard Specifications for road and bridge construction. The lime content of the stabilized material shall be as indicated by the Engineer and will normally be about 2-4%.

5. **Protection And Curing**

Protection and curing shall be carried out in accordance with the provisions of Clause 1409(I) of the Standard
Specification but provision shall be made to wet the surface from time to time as directed by the Engineer.

6. **TRAFFIC**

Traffic across the works will be restricted as outlined in the Standard Specifications.

7. **Measurement And Payment**

Improvement Agent: the provision of the improvement agent shall be measured by the tonne calculated as the specific weight of agent added to the material.
Mix-in improvement Agent: Mixing improvement agent into the material shall be measured by the cubic metre of treated material calculated as the product of the compacted sectional area treated and the length.
The Contractor may be required to carry out research on different soils stabilizing agents.
Rates in relevant bills of quantities to apply.

SECTION 15: BITUMINOUS SURFACE TREATMENTS

Scope: This section covers the application of prime coat to the base and surface dressing

15-93-005 Prime Coat- A4 Anionic Stable Grade 60% Emulsion diluted 1:6 with water

Work Method:

Before applying the prime, the base must be cleaned of all deleterious material, dust, organic matter, animal droppings etc., and any defects in the surface of the base, must be repaired and approved by the Engineer.

The prime shall be applied by manually operated hand sprayer at a rate of 0.8-1.0 litre/m^2

Measurement:

Unit of measurement: Litre of 1:6 diluted emulsion (by volume)

Payment:

The unit rate shall include full compensation for supplying, spraying the prime coat at the specified spray rate including labour, tools materials and equipment and incidental costs required for carrying out the work

15-92-001 Prime Coat-MC 30 Cut back Bitumen

The rate of spray of bituminous prime coat refers to the gross volume of the cutback bitumen, that is to say the volume of the bitumen plus dilatants, Prime coat shall be applied by a manually operated hand sprayer at a rate of 1.0-1.2 litre/m^2 to base material that are to receive bituminous mixes..

Measurement:

Unit of measurement: Litre

Payment:

The unit rate shall include full compensation for supplying, spraying the prime coat at the specified spray rate including labour, tools materials and equipment and incidental costs required for carrying out the work

15- 92-002-3 80/100 - Binder Coats

The binder shall be straight run 80/100 penetration grade bitumen cutback with diesel or kerosene fuel, the diesel or kerosene fuel and bitumen mixture shall then be circulated in the distributor until thoroughly mixed. The rate of spray of binder shall range from 0.8 to 1.2litres per m^2, A trial section will be done to determine the rates of spray for the binder depending on the surface temperatures etc. Refer clauses 1501-1510C of the ***Standard Specifications for Roads and Bridge Construction*** for details on construction plant used etc.

Measurement:

Unit of measurement: Litre

Payment:

The unit rate shall include full compensation for supplying, spraying the binder coat at the specified spray rate including labour, tools materials and equipment and incidental costs required for carrying out the work

15-60-005 14/20 mm Pre-coated Chippings -1st Seal

The 1st seal coat shall be 14/20 mm precoated chippings spread rate of 70-90 m2/m3 on carriageway and shoulders. A trial section will be done to determine the rates of spray for the binder and surface dressing depending on the nature of the chippings, surface temperatures etc . The chippings shall be precoated using A4 Emulsion, the percentage of the binder used will vary from 0.4% to 1% by weight. Refer to clauses 1501-1510C of the ***Standard Specifications for Roads and Bridge Construction*** for details on the material used, percolating and construction plant used etc.

Measurement:

Unit of measurement: m³

Payment:

The unit rate shall include full compensation for supplying, spread at the specified rate including labour, tools materials and equipment and incidental costs required for carrying out the work

15-60-004 6/10 mm Pre-coated Chippings -2nd Seal

The 2nd seal coat shall be 6/10 mm precoated chippings at a spread rate of 110-130 m2/m3 on carriageway and shoulders. A trial section will be done to determine the rates of spray for the 2nd binder and surface dressing depending on the nature of the chippings, surface temperatures etc . The chippings shall be precoated using A4 Emulsion; the percentage of the binder used will vary from 0.4% to 1% by weight. Refer to clauses 1501-1510C of ***the Standard Specifications for Roads and Bridge Construction*** for details on the material used, precoating and construction plant used etc.

Measurement:

Unit of measurement: m³

Payment:

The unit rate shall include full compensation for supplying, spraying the seal at the specified spread rate including labour, tools materials and equipment and incidental costs required for carrying out the work

15-93-003 Cracks Sealing:

The entire cracked area shall be cleaned by brooming and the cracks sealed with A4-60 Emulsion using a pouring pot or pressure and hand squeegee. The surface shall then be dusted with quarry waste (0/3mm). *This activity will be done during the routine maintenance period.*

Measurement:

Unit of measurement: m

Payment:

The unit rate shall include full compensation for supplying, spraying the seal coat and quarry dust including labour, tools materials and equipment and incidental costs required for carrying out the work

SECTION 16: BITUMINOUS MIXES

16-60-002 25 mm Cold Mix Asphalt Surfacing

Scope

This section covers the materials specifications, work methods and measurement and payment for the Cold Mix Asphalt surfacing that will be used under the project.

The cold mix asphalt consists of a mixture of predetermined proportions of aggregate, filler and bituminous binder prepared off the road under controlled conditions. Bituminous emulsion will be used as the binder. The thickness of the laid asphalt will be 30mm (compacted thickness)
The properties of the compacted mix shall be

Binder Content	
0/10 Aggregates	5.5 – 7.0%
Properties of Compacted Mix	
Modified Marshall Stability at 50 blows, 24 hr oven cure at 40^{O}C and 1 hr soak (N)	Min 3000
Voids in Total Mix (%)	3 – 8
Flow (mm)	2 – 5
Stability loss after immersion (%)	Max 50
Aggregate Coating (%)	Min 50

(1) Materials

The main material ingredients required in the construction of the asphalt seal are:

- Bituminous binder for the tack coat in the form of **A4 Anionic Stable Grade** emulsion
- Aggregate of the specified grading (obtained from an approved source/quarry)
- Asphalt binder in the form of **K3 - 65% Cationic Medium Setting Emulsion**

Aggregate grading

The aggregates shall be continuously graded and within the specified grading envelope shown below. It is preferable to achieve a grading as close to the upper limit as possible.

Aggregate Grading		
Sieve Size (mm)	% by weight passing	
	0/10	0/14
20	100	100
14	100	90 - 100
10	90 - 100	70 - 95
6.3	62 - 90	55 - 85
4	50 - 80	46 - 75
2	35 - 65	35 - 60
1	25 - 50	25 - 45
0.425	14 - 33	14 - 32
0.300	11 - 27	11 - 27
0.150	6 - 17	6 - 17
0.075	3 - 8	3 - 8
Mineral Filler		
Cement , Lime or other non-plastic materials		

Materials passing the 0.425 mm sieve shall be non-plastic.

Aggregate quality

The aggregates shall be supplied from an approved quarry and the contractor must submit test results for the quality of the stone for acceptance by the Engineer. Before aggregates are transported to site, the stockpile at the quarry shall be approved by the Engineer.

The coarse aggregates(0/14) shall meet the minimum specification:

Aggregate Requirements	
LAA Max.	40
ACV Max.	30
SSS Max.	12
FI Max.	25
Sand Equivalent	Min 40

(2) Mix proportions

Maximum batch volume: **40 litres**

Aggregates: 6/10 Aggregates 12 litres
0/6 crusher dust 28 litres
0/2 fine sand 3 litres (as directed by the Engineer, if required to obtain the required grading)

K3 65 Cationic Medium Setting Emulsion 6 litres

Water: 1 litre (when aggregates are dry)

(3) Construction Tools and Equipment

The following specialized Tools and equipment is recommended for the construction of the asphalt surfacing by labour intensive methods:

- Pedestrian roller (Bomag BW75 or equivalent)
- Mixing pan constructed of 3 mm steel and of the dimensions
- Wheelbarrows,
- 7mm Sisal rope, 2 x 50m rolls
- Shovels (and flat spades for the mixing pan operation)
- Hammer
- Steel tape, 50m
- Steel squeegees
- 20mm steel box sections for guide rails for placing asphalt (four lengths each of 2 and 3m long
- 6mm thick x 50mm wide steel section (guide rail) to accommodate wet to dry asphalt (four lengths 2 and 3m long)
- 2m straight edge (Screed)
- 6 x 20 litre measuring containers
- 5 x 10 litre measuring containers
- 1 x 5 litres measuring jug
- Steel framed stand for decanting drums
- 75 mm diameter ball valve for decanting emulsion from drums

(4) Preparation of surface of base

Steps involved:

- Sweep the road which has been constructed in accordance with the specifications clean. All loose material and mud that has been brought onto the surface must be removed especially any

cattle dung.

- Stake out width of road to be surfaced, marking out the centre and edge of the road with a chalk line and mark the intermediate positions on which the box section shutters are to be placed for the asphalt section
- Before any asphalt is placed, the "spreading team" must check and rectify the levels of the base before laying the 20mm thick (wet and uncompacted) asphalt surface.
- Place 3 lengths of the 20mm steel box sections along the outer edge of the road and 3 lengths the desired distance (1 – 1.5 meters) away towards the centre of the road and check the accuracy of the base levels and remove any high spots where a cover of less than18mm is obtained. Isolated low spots can be accommodated with extra asphalt up to a maximum of 20mm.
- Apply a tack coat of diluted emulsion A4 - Anionic stable grade emulsion (1:6 emulsion /water) using a manually operated hand sprayer and broom evenly over the surface and allowed to set and dry before the mixing and placing of the asphalt commences

(5) Construction of the asphalt surfacing

The preparation and construction of the asphalt surfacing will need the careful operation and co-ordination of the labour force. Typically the workforce should be divided into the following:-

- Batching operators
- Wheelbarrow operators
- Spreader/laying operators

Mixing and Placing

- The aggregate to be used in the asphalt must be placed as close to the working site as possible preferably at the midpoint of the length of road that one load of aggregate will cover.
- Using the measuring cans add 40 – 60 litres of aggregate to the mixing tray
- The water is then added slowly to the aggregates and mixing continued until the aggregate is thoroughly dampened. The amount of water to be added is established before the work starts, but will be approximately 1% of the mass of the aggregate.
- Lastly the required amount of 65% Cationic mix grade emulsion (Colas K3-65 or equivalent) as determined by the engineer is decanted from the drum using the 50mm ball valve and evenly poured over the surface of the aggregate in the mixing tray and not dumped into the tray. By evenly pouring emulsion over the aggregate, better, quicker and more efficient coating of the aggregate will occur without spillage or splashing of both the emulsion and the asphalt.
- Mix quickly and efficiently to ensure that all aggregates are coated with bitumen
- Scoop the mix out of the mixing trays using shovels and place in between the guide rails
- Using specially designed squeegees and spreaders to quickly level the asphalt when it is still flowing easily. ensure proper filling along the guide rails and against previous batch

It is essential that the process of batching, mixing, discharging, transporting, placing and screeding of the asphalt is properly controlled and efficiently executed to ensure that the process is completed before the emulsion breaks(turning from brown to black). Once the emulsion has broken it is difficult to place and screed it.

(6) Compaction

Rolling can commence once the guide rails have been removed and the initial breaking of the asphalt has commenced for the full depth of the layer. This period will be affected by the prevailing weather conditions, but can normally be done within 30mins hour.

The first compaction is done with the roller in static mode. After 2-3 hours the final compaction is done with the roller in vibrating mode.

Rolling is continued until the 31 mm loose layer has been compacted to a thickness of approximately 25 mm.

Care must be taken when compacting the asphalt. Rolling of the asphalt should take place in the longitudinal direction of the road and wherever possible at least half the roller should be supported on compacted asphalt. Wrong rolling can result in the building in of undulations in the surface

of the asphalt.

Once rolling has been completed and before proceeding with the construction of adjacent asphalt surfacing, the edges of the compacted asphalt must be neatly trimmed and squared and any material resulting from this operation removed from the road surface.

Construction of the adjacent strip of asphalt

The asphalt on the next adjacent strip can now be constructed as previously described.

In placing the asphalt on the adjacent section of the road allowance must be made for the thickness (+/- 25mm) of the compacted asphalt already placed on the first section of the road.
This is achieved by placing a 8mm mild steel flat bar on top of the compacted asphalt and 25mm rails on the other edge of the strip.

Construction joints

Longitudinal and transverse joint are potential weak spots in the asphalt surfacing. Extra care must therefore be taken to ensure tight joints and good bonding between the old and new asphalt.

All joints must be neatly trimmed and any foreign matter (mud, dust, animal droppings etc.) removed before the new asphalt is laid against the joint.

On joints against asphalt that has been constructed a day or more ago, emulsion must be applied on the joint surface with a soft brush.

After construction all joints must be inspected, and where there is a slight "gap" in the joint, a small amount of emulsion must be applied into the gap and crusher dust spread on top to properly seal the joint.

Handling of bitumen

The emulsion drums shall be stored in a horizontal position and rolled back and forth every second day to prevent settling and coagulation of the bitumen in the drums.

During the sealing operation, the emulsion drums shall be mounted on drums stands and be equipped with 50mm ball valves for decanting of the emulsion in correct amounts and to avoid spilling.

Accurately measured containers (galvanized steel or plastic) shall be used to measure the correct amount of emulsion to be added to the mix. The containers must be regularly cleaned or replaced with new ones to ensure that the measured volume remains constant.

Cleaning of Tools and Equipment

It is essential for good productivity and to achieve the correct thickness of the layer that hand tools, mixing trays and guide rails are cleaned regularly. If bitumen is allowed accumulate in thick layers on the guide rails, the loose layer will inevitably be thicker than specified and material consumption will increase to the loss of the contractor since payment will be per m^2 for a compacted thickness of 30mm.

Storage and handling of aggregates

The aggregates shall be stored in a clean and compacted area to guard against contamination with unsuitable material.

During rains the contractor must ensure that the aggregates do not become overly wet since this will require the aggregates to be dried out before they can be used.

Accurately measured batching boxes shall be provided for measuring the correct volumes of each fraction of the aggregates to be added to the mix.

(7) Indicative productivity

Each 40 litre batch of Cold Mix Asphalt as described in the above will covers app. 1.06 m^2.of 30mm thick layer

A team of 15 labourers can produce approximately 113m^2 per daily task with 5-6 effective hours of production.

Quality Control

The work method has been developed to make it as easy as possible for the contractor to achieve the specifications for the Cold Mix Asphalt surfacing.

The contractor must ensure that:

- The aggregate specifications are met, i.e. that the quality of the stone and grading of the blend of coarse and fine aggregates are correct. The mix ratio of the various fractions may have to be adjusted to obtain the correct grading;
- the correct amount of emulsion is added to the mix;
- the mixing is done properly to ensure that all aggregates are coated before the mix is placed on the road;
- joints are treated in accordance with the prescribed work method;
- a minimum compacted layer thickness of 20mm is achieved

Measurement and payment

The unit of measurement shall be m^3 for a compacted layer thickness of 30mm. The

Unit Rate shall be all inclusive covering, but not limited to:

- Supply and storage of aggregates
- Supply of emulsion
- Cleaning the base for the area to be sealed
- Setting out guide rails
- Applying tack coat
- Mixing, spreading, screening and compaction of the asphalt
- Attention to transverse and longitudinal joints
- Personal Protective Equipment (Overalls, boots, gloves etc.) for the work force
- Supply of water and cleaning material (kerosene, diesel, mutton cloth)
- Good quality hand tools (spades, spreaders, screeds, brooms, watering cans etc.), mixing trays, guide rails, nails, string line
- Drum stands and ball valves for decanting emulsion
- The contractor‟s own quality control procedures

PART B:

16-50-013 Hot mix ASPHALT CONCRETE FOR SURFACING

1601B Asphaltic Concrete Type II shall be used and shall meet all the requirements of the relevant Clauses of both Standard Specifications for Roads and Bridges construction of Ministry of Transport and Communication and the current (August 1987) Ministry of Roads and Public Works Road Design Manual Part III. Where the requirements of the two differ, those of Standard

Specifications for Roads and Bridges shall prevail.

The material requirements will be as follows:

a) Bitumen shall be 80/100 penetration grade

b)Aggregates:

Stone Class b Grading 0/10

c) Mineral filler - as per Clause 1602B (c)

Introduce the following amendments to Section 16 of Standard Specifications:

-1602B(b) - the aggregate for asphalt concrete Type II shall comply with the requirements for coarse aggregates class b as specified in clause 1602B(b) of standard specifications

- 1602B(c) - the grading for aggregate for wearing course shall conform to the Requirements for Type II wearing course asphalt concrete as given in table 16B-l

- 1604B - the requirements for asphalt concrete shall conform to the specifications for **Type I**I Wearing course as given in clause 1604(B) of Standard Specifications table 16B-2

-1607B(b) Variation in binder content - there shall be no extra payment for variation of binder content from the that specified in the design mix.

SECTION 17: CONCRETE WORKS

17-80-001-006: Major Structures' Structural Concrete

1703 MATERIALS FOR CONCRETE

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

(a) Materials

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

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

(b) Construction Method

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

(c) Measurement and payment

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

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

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

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

(a) Materials for Levelling Concrete

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

Design compressive strength (28) days : $15N/mm^2$

Maximum size of coarse aggregate : 20mm Maximum

cement content : 300 kg/m^3. Maximum water/cement ration of 50% with slump of 80mm.

(b) Construction Method

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

(c) Measurement and payment

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

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

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

1703(B) REINFORCING BARS OF WALLS AND SLABS

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

(a) Material:

Reinforcing bars shall be deformed and shall meet the requirements of British standard BS4461, unless otherwise called for the drawings or approved by the Engineer.
No reinforcing bar shall be delivered without a certificate guaranteeing the yield stress. The reinforcing bars shall be kept off the ground, free from dirt, oil, grease,
or avoidable rust and stored within a building or provided with suitable covers.
If it is necessary for the Engineer to ascertain the quality of the reinforcing bars, the
Contractor shall test the reinforcing bars, at his own expense, by means as directed by the Engineer.

(b) Construction Method

(i) Bar Bending Schedule:

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

(ii) Cutting and Bending:

Qualified personnel shall be employed for the cutting and bending, and proper application shall be provided for such work.
Bars shall be cut and bent cold to the dimensions indicated and with equipment and methods approved by the Engineer.

Stirrups and tie bars shall be bent around a pin having a diameter not less than 15 times the minimum diameter of the bar. Bends of other bars, where full tension in the bar may occur, shall be made around a pin having a diameter not less than 7.5 times the bar diameter as shown on the Drawings.
Reinforcing bars shall be accurately formed to the shapes and dimensions indicated on the Drawings, and shall be fabricated in a manner that will not injure the materials.

(c) Placing

Reinforcing bars shall be accurately placed in proper position, and so that they be firmly held during placing of concrete.
Bars shall be tied at all intersections by using annealed iron wire 0.9mm or larger diameter, or suitable clips.
Distances from the forms shall be maintained, corrected by means of metal hangers, metal blocks, metal supports or other supports approved by the Engineer.
The Engineer shall inspect reinforcing bars after placing. When a long time has elapsed after placing reinforcing bars, they shall be cleaned and inspected again by the Engineer before placing concrete.

(d) Splicing and Joint

When it is necessary to splice reinforcing bars at points, position and methods of splicing shall be determined based on strength calculations and approved by the Engineer.
In lapped splices, the bars shall be lapped by the required length, and wired together at several points by using annealed iron wire larger than 0.9mm.
Exposed reinforcing bars intended for bonding with future extensions shall be effectively protected from injury and corrosion.
Oxyacetylene welding joint of reinforcing steel shall be done only if authorised by the Engineer in writing.

(e) Measurement and Payment

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

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

1703 (C) FORMWORK FOR CULVERT WALLS AND SLABS

This work shall consist of all temporary moulds for forming the concrete for culvert walls and slabs together with all temporary construction required for their support. Unless otherwise directed by the Engineer all formworks shall be removed on completion of the walls and slabs.

(a) Materials

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

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

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

(b) Construction Method i.

Formworks

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

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

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

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

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

ii. Scaffolding

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

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

iii. Removal of formwork

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

iv. Measurement and Payment

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

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

1703(D) CONCRETE WORKS (CLASS 25/20)

This work shall consist of furnishing, mixing, delivering and placing of the concrete for the construction of culvert walls and slabs, in accordance with these Specifications and in conformity with the requirements shown on the Drawings.

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

Design compressive strength (28 days) : $25N/mm^2$

Maximum size of coarse aggregates : 20mm

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

a) Concrete Materials

1. Cement:

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

The Contractor shall select only one type or brand of cement or others. Changing of type or brand of cement will not be permitted without a new mix

design approved by the Engineer. All cement is subject to the Engineer‟s approval, however, approval of cement by the Engineer shall not relieve the Contractor of the responsibility to furnish concrete of the specified compressive strength.

Conveyance of cement by jute bags shall not be permitted. Storage in the Contractor‟s silo or storehouse shall not exceed more than two (2) months, and age of cement after manufacture at mill shall not exceed more than four (4) months. The Contractor shall submit to the Engineer for his approval the result of quality certificate done prepared by the manufacturer.

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

2. Aggregates

Fine and coarse aggregates must be clean, hard, strong and durable, and free from absorbed chemicals, clay coating, or materials in amounts that could affect hydration, bonding, strength and durability of concrete.

Grading of aggregates shall conform to the following requirements:

a) Grading of Fine Aggregates

Sieve Size	Percentage by Weight Passing
10 mm	100
6.3mm	89-100
2.5 mm	60-100
1.2 mm	30-100
0.6 mm	15- 54
0.3 mm	5- 40
0.15 mm	0 - 15

b) Grading of Coarse Aggregates

Size of Coarse Aggregate	40	30	25	20	15	10	5	2.5
Amounts finer than each standard sieve percentage by weight	100	-	-	90-100	-	30-69	0-10	-

c) Other requirements for aggregates are as follows:

i. Fine Aggregates

Fitness Modulus, AASHTO M-6	: 2.3 – 3.1
Sodium Sulphate Soundness, AASHTO T104	: Max. 10% loss
Content of Friable Particles AASHTO 112	: Max 1% by weight
Sand Equivalent, AASHTO T176	: Min. 75

ii. Coarse Aggregate

Abrasion, AASGTO T96	: Max. 40% loss Soft
Fragment and shale, AASHTO M80	: Max. 5% by weight
Thin and elongated Pieces, AASHTO M80	: Max. 15%

3. Water

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

4. Admixture

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

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

The Contractor shall not exclude the admixture from concrete proportions.

a) Proportioning Concrete

The Contractor shall consult with the Engineer as to mix proportions at least thirty (30) days prior to beginning the concrete work. The actual mix proportions of cement, aggregates, water and admixture shall be determined by the Contractor under supervision of the Engineer in the site laboratory.

The Contractor shall prepare the design proportions which has 120% of the strength requirement specified for the designated class of concrete.

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

b) Concrete Work

(i) Batching shall be done by weight with accuracy of:

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

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

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

(iii) **Mixing and delivery**

Slump of mixed concrete shall be checked and approved at an accuracy of +25mm against designated slump in these specifications.(iv) **Concrete in hot weather**

No concrete shall be placed when the ambient air temperature is expected to exceed thirty three degrees celsius (33^0c) during placement operations.

(v) **Concreting at night**

No concrete shall be mixed, placed or finished when natural light is insufficient, unless an adequate approved artificial lighting system is operated, such night work is subject to approval by the engineer.

(vi) **Placing**

In preparation of the placing of concrete, the interior space of forms shall be cleaned and approved by the Engineer prior to placing concrete. All temporary members except tie bars to support forms shall be removed entirely from the forms and not buried in the concrete. The use of open and vertical chute shall not be permitted unless otherwise directed by the engineer.

The Contractor shall provide a sufficient number of vibrators to properly compact each batch immediately after it is placed in the forms

.

c) Measurement and Payment

Measurements for the Concrete Works Class 25/20 of culvert walls and slabs shall be made in cubic metres for the walls and slabs actually constructed, measured from their dimensions shown on the Drawings. Payment for the Concrete Works (Class 25/20) of culvert walls and slabs shall be the full compensation for furnishing all materials of the concrete mixing, delivering, placing and curing the concrete, equipment and tools, labour and other incidental necessary for the completion of the work in accordance with the Drawings and these Specifications and as directed by the Engineer.

17-80-007 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 25/20 and may be batched by volume, but shall be mixed in a mechanical mixer. The mix shall be as shown below.

Concrete	**Nominal Mix**	**Batch with 1 bag Cement**

Class	by Volume	No. of boxes		
		Fine	Coarse	Yield (approx)
25/14	1:1.5:3 (20mm max aggregate)	1	1.5	0.16m^3

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 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 Installation of Road Reserve Boundary Marker Posts

This activity involves the installation of road reserve marker posts, the road reserve marker posts will be 150mmx150mmx1500mm high with 900mm ground above.

The Engineer shall determine the location of the posts. They shall be set in a simple excavation and backfilled with mass concrete. The depth of the excavation shall be determined on the site, depending on the size and shape of the posts.

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 road Reserve Boundary 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.

20-50-004 Installation of Culvert Edge Marker Posts

This activity involves the installation of Cross Culvert Edge Marker posts, the marker posts will be 150mmx150mmx1500mm high with 900mm ground above.

The Engineer shall determine the location of the posts. They shall be set in a simple excavation and backfilled with mass concrete. The depth of the excavation shall be determined on the site, depending on the size and shape of the posts.

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.

20-50-005 Erection of 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.

20-50-006 Provide and apply approved reflectorized hot applied thermoplastic, 100mm wide Road markings – White

Paint for road marking shall be internally reflectorized hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification.

The rates inserted in the Bills of Quantities for road marking shall include preparation works.

Measurement Unit: m^2

The measurement shall be the area of the surface painted

20-50-007 Provide and apply approved reflectorized hot applied thermoplastic,100mm wide Road markings - Yellow

Paint for road marking shall be internally reflectorized hot applied thermoplastic material in accordance with Clause 219 of the Standard Specification.

The rates inserted in the Bills of Quantities for road marking shall include preparation works.

Measurement Unit: m^2

The measurement shall be the area of the road surface painted

20-50- 008 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.

20-50-010 Installation of Guard Rails

The Contractor shall erect guardrails at locations shown on the Drawings or as directed by the Engineer. The Beams for guardrails shall be "Armco Flexbeam" or similar obtained from a manufacturer approved by the Road Authority and shall be erected on concrete posts of top diameter not less than 150mm. The spacer block shall be concrete casted together with the post as one.

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

Holes excavated for the 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.

20-50-014 / 20-50-015 Rumble Strips/ Speed Bumps

Where directed by the Engineer, the Contractor shall provide, place, trim, shape and compact to line and level asphaltic concrete rumble strips and speed bumps on the finished carriageway and shoulders. This shall be done to the satisfaction of the Engineer

Work Method

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

Quality Control

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

Measurement Unit: m^3

The measurement shall be the cubic metres of Cold Asphalt.

Payment

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

20-50-016/ 20-50-017 Kerbs

Where shown on the Drawings or as directed by the Engineer the Contractor shall excavate in any material, provide and place concrete for the haunch, backfill, remove surplus material to spoil, provide, lay and joint precast concrete kerbs, edgings and quadrants.

Precast concrete kerbs, edgings and quadrants shall comply with the requirements of BS 340, and shall be laid in accordance with the Drawings.

The concrete for the haunch shall be concrete Class 15/40, which shall comply with the requirements of Section 17 of the standard Specification.

For radii of 12 m or less, kerbs of appropriate radius shall be used.

Any 1.0 m length of kerb, edging or quadrant deviating more than 3 mm from line and level at either end shall be made good at the Contractor‟s expense by lifting and re-laying.

Work Method

The Contractor shall use Labour to carry out this item.

Quality Control

a) **Vertical Joints**
   Vertical joints between adjacent kerbs shall not be greater than 5 mm in width and shall have mortar consisting of 1:3 Cement: sand by volume.

b) **Transition between flush and raised kerbs**
   The transition between flush and raised kerbs (e.g. at bus bays) shall be termed as ramped kerbs and shall occur within a length of 2.0m

Measurement Unit: Metre

The measurement shall be in number of metres of kerbs.

Payment

The unit rate shall be the full compensation for labour, tools, posts, materials and incidental costs required to carry 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 Day works 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. The total sum for this bill shall not be less than 1% of the total tender sum.

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 Day works 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 Day works activities. The rate for materials shall include for the cost of provision of the material, transport to site, storage, handling, overheads and profits.

d. Schedule of Day works

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: CROSS CUTTING ISSUES

Scope

Crosscutting issues are those that are too complex to be solved by a single action from just one of the many partners who are involved in a roadwork project or programme. In most cases the Engineer will require the assistance and cooperation of the local communities, local NGOs and other government departments who are dealing with such issues. The following have been identified as cross cutting issues in the programme:

- **HIV / AIDS Awareness & Prevention Campaign**
- **Soil Erosion mitigation measures**
- **Safety and Health Measures on Site**
- **Gender Equality**
- **Labour Standards**

25-50-001 HIV / AIDS Awareness & Prevention Campaigns

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(a) 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.

According to ILO and Government of Kenya, the contractor shall not allow discrimination against persons infected or affected by HIV/AIDS and screening is not a requirement for job applications.

Measurement Unit: month

The measurement shall be the month expressed as a percentage of the physical progress done 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.

25-50-001(b) A I D S Prevention Campaign

The Engineer will procure a subcontractor who jointly with main contractor shall institute an HIV / AIDS prevention campaign amongst the workers for the duration of the Contract.

As part of the campaign the subcontractor will be required to make condoms available to the workers. The subcontractor will be expected to contract some health professionals and NGOs who have the capacity to carry out adequate prevention campaigns and provide counselling services.

Measurement and Payment-Sub contractor

Measurement Unit: month

The measurement shall be the month, measured over the duration of the campaign. Physical evidence in form of photos, minutes of the meetings, video shows to be attached as measurement sheets.

Measurement and Payment-Main contractor

The Engineer shall include a Prime Cost Sum for this item to be availed to the Engineer as instructed. The Contractor will be paid on a prime cost basis plus a percentage for overheads and profits

25-50-002 Environmental Mitigation measures

In order to minimise the negative effects on the environment during construction phase, the following issues and the corresponding mitigation measures have been recommended:

Responsibilities and Liabilities

In conjunction with his obligations defined under the Contract, the Contractor will plan, execute and document construction works pursuant to the specifications below.

The Contractor is liable for all damages to natural resources caused by the execution of the Works or the methods used for execution, unless it is established that the execution or methods were necessary, according to the provisions of the Contract or an Employer's Representative's instruction.

Management of Non-conformities

Non-conformities detected during inspections carried out by the Contractor or Employer's Representative are subject to a process adapted to the severity of the situation. The non-conformities will be defined as Deviations from the requirements of the applicable regulations, the ESHS Specifications, the ESMP, and the Worksite - ESMP.

Measurement and Payments

Environmental Mitigation Measures will be paid as a Lump sum, and shall be paid on a Monthly basis, upon the approval by the Engineer that adequate measures have been provided as per the criteria below. .

The contractor will be required to submit a monthly environmental mitigation measures statement that will be jointly cross checked by the Engineer and the contractor for compliance

25-50-002-1 Air Quality

1. Water shall be sprayed along the road and surrounding areas to minimize formation and spread of dust;
2. Dust generating activities (excavation, handling and transport of soils) should not be carried out during times of strong wind';
3. When storage, handling and transportation of bulk materials is made in the open air and exposed to the wind, the Contractor implements the necessary dust abatement measures, including one or several of the following techniques: vegetation of the surface, covering of the surface, humidification of the surface, covering the trucks, etc.
4. Vehicles delivering soil materials shall be covered to reduce spills and windblown dust;
5. Vehicle speeds shall be limited to minimise the generation of dust on site and on diversion routes;
6. Provide appropriate dust masks for use by construction workers in areas with high dust levels

25-50-002-2 Noise pollution

1. The Contractor shall keep noise level within acceptable limits as per EMCA Noise Regulations;
2. Construction workers are required to wear ear muffs in areas exposed to excessive noise levels;
3. All Project vehicles should be maintained regularly including proper fine tuning of engines;
4. Truck drivers shall avoid the use of horns at all times, as much as possible.
5. Except as otherwise provided in the Contract or unless waived by the Employer's Representative, high noise generating works (e.g. pile driving, blasting, rock clearing, drilling, percussion drilling) which may impact occupied receptor areas are carried out during normal working days, but prohibited at night. A receptor area is defined as an area used for nocturnal socioeconomic activities (e.g. accommodation camps, residential areas, hotels, health centres)

25-50-002-3 Vegetation Loss

1. Areas to be cleared should be agreed and demarcated before the start of the clearing operations to minimize exposure
2. The use of existing cleared or disturbed areas for the Contractor's Camp, stockpiling of materials etc. shall be encouraged.
3. Vegetation clearing using chemicals is not permitted.
4. The Contractor undertakes physical demarcation of zones to be cleared using a method approved by the Employer's Representative.

25-50-002- 4 Impacts on soils

1. Where possible, construction activities in hilly areas are to be undertaken during dry season. Construction should be minimal during the long rainy season (March to May) and the short season (October to December);
2. Wherever possible, earthworks should be carried out during the dry season to prevent soil from being washed away by the rain;

3. Excavated materials and excess earth should be kept at appropriate sites approved by the Supervising Engineer (topsoil to be kept separately and reused for site restoration)
4. Increase number of drainage outlets along the Project Road;
5. Drain outlets placed so as to avoid cascade.
6. Install erosion control measures (gabions) to protect the bank of the River Ewaso Nyiro and seasonal watercourses that drain into the river.
7. Protect material borrowing sites from the route of storm water during heavy rain.

Measurement and Payments

The Engineer will instruct the permanent works related to this clause such as soil erosion measures and pay under the relevant bill items.

25-50-002-5 Impacts on water resources

1. To avoid exerting pressure on existing water resources, the contractor can drill a borehole along the Project route, for use during construction. The borehole should be handed over to the host community upon completion of the project as CSR by the contractor;
2. Prohibit disposal of solid wastes into the ponds/watercourses, agricultural fields and public areas;
3. Prohibit placement of construction materials or waste storage areas near water courses;
4. Discharge of oily wastewater, fuel, hazardous substances and wastes, and untreated sewage to watercourses/canals and on the ground/soil shall be prohibited;
5. Construct retaining structures such as gabion baskets, rip-rap, etc at the Ewaso Nyiro River
6. Suspended solids in rainwater are removed using sediment traps / settling ponds. Rainwater from vehicle parking areas, machinery areas, workshops is subject to treatment with oily water separators.

Measurement and Payments

No separate payment shall be made for this item

25-50-002-6 Contractor's camp site

1. The site for the Contractor's Camp shall be determined in collaboration with the RE taking into consideration the following:

i. The security situation in the area.

ii. The local administration shall be involved in the site location to avoid destruction of any cultural sites or any other conflict;

iii. The Contractor's Camp layout shall take into account availability of access for deliveries and services and any future works;

iv. The Contractor's Camp should also be of sufficient size to accommodate the needs of all sub-contractors that may work on the project.

v. Decommission the camps and reinstate the land to its natural condition by filling excavations and planting suitable saplings.

Sanitation

1. The Contractor shall comply with all laws and any by-laws relating to public health and sanitation;

Workshops

1. Where practical, all maintenance of equipment and vehicles on site shall be performed in the workshop.

2. If it is necessary to do maintenance on site, but outside of the workshop area, the Contractor shall obtain the approval of the Regional Director prior to commencing activities;

3. The Contractor shall ensure that there is no contamination of the soil, vegetation or surface water in his workshop and other plant or emergency maintenance facilities.

4. The workshop shall be kept tidy at all times and shall have the following as a minimum:

   i. A smooth impermeable floor either constructed of concrete or suitable plastic covered with sufficient gravel to protect the plastic from damage;

   ii. the floor shall be bounded and sloped towards an oil trap or sump to contain any spillages of substances (e.g. oil);

   iii. Drip trays shall be used to collect the waste oil and lubricants during servicing and shall also be provided in construction areas for stationary plant (such as compressors);

   iv. The drip trays shall be inspected and emptied daily;

   v. Drip trays shall be closely monitored during wet weather to ensure that they do not overflow.

General Materials Handling and Storage

1. All materials shall be stored within the Contractor's camp unless otherwise approved by the Regional Director;
2. All imported fill, soil and/or sand materials shall be free of weeds, litter and contaminants. Sources of imported materials shall be listed and approved by the Regional Director
3. The Contractor shall ensure that delivery drivers are informed of all procedures and restrictions (including 'No go' areas) required;
4. Any electrical or petrol driven pumps shall be equipped and positioned so as not to cause any danger of ignition of the stored product;
5. Collection containers (e.g. drip trays) shall be placed under all dispensing mechanisms for hydrocarbons or hazardous liquid substances to ensure contamination from any leaks is reduced;
6. Regular checks shall be conducted by the Contractor on the dispensing mechanisms for all above ground storage tanks to ensure faulty equipment is identified and replaced in timely manner;
7. Only empty and externally clean tanks may be stored on bare ground. All empty and externally dirty tanks shall be sealed and stored on an area where the ground has been protected.

25-50-002-7 Solid and Liquid Wastes

1. The contractor shall develop a Waste Management Plan (WMP) prior to commencement of works;
2. The Contractor is responsible for identifying, collecting, transporting and treating all waste produced on the Project Areas by its personnel, Subcontractors and visitors.
3. Any transportation of dangerous materials such as diesel etc, which can cause any environmental impact, will be carried out in a manner so as to cause minimal disturbance to the surrounding natural environment;
4. Storage of construction materials shall be confined to a designated area along the Project site or at the contractor's camp only;
5. The Contractor assesses, document and effectively implements any local recycling or re-use options for its waste.
6. Properly labelled and strategically placed waste receptacles shall be provided at all places of work; Located on a flat impervious surface to prevent infiltrations; Under cover for non-inert waste;
7. Litter bins should have secured lids to prevent animals and birds from scavenging;
8. Recycling of construction material shall be practiced where feasible;

9. The Contractor's hazardous waste is managed by a specialised waste Subcontractor

25-50-002-8 Impacts on Land

1. Obtain authorization to use the proposed borrows pits, including ESIA, before commencement of any material extraction activities;
2. Topsoil from borrow pits should be held on site as much as possible to backfill after construction materials are exhausted;
3. Safety distances should be maintained in material sourcing operation; 100m to any shopping centre, school or dispensary and 50 m to any house irrespective of consent from the owner;
4. Borrow pits shall be located more than 20 m from watercourses, in position that will facilitate the prevention of storm water runoff from the site from entering the watercourse;
5. Material borrowing sites used for the Project should be decommissioned upon completion of the Contract and the land reinstated to its natural condition, or to an acceptable condition

25-50-002-9 Impacts on Biodiversity

1. In order to minimize potential impacts on wildlife migration especially, elephants, the Project shall liaise with the KWS Warden at Isiolo Station and the existing Community Conservancies to integrate wildlife protection measures in the road design and during construction.
2. Involve the local community and the conservancy fraternity in creating awareness on possible long-term effects of the road on wildlife and humans;
3. At the very least, clear wildlife crossing signs are recommended at both ends of the road to warn and alert Project workers on the potential existence of wildlife in the area.
4. Where possible, areas shall be cleared from one side to another, or from the inside out, to prevent animals becoming trapped.
5. Create awareness amongst the labour force on protection of wildlife and specifically poaching and develop a code of conduct for the Project prohibiting hunting or harassing of wildlife;
6. Appropriate waste management by covering all solid waste especially at the contractor's camp;
7. Fence off the contractor's camp and borrow pit sites to keep wildlife away;
8. Install speed calming measures such as bumps and flashing lights near wildlife crossing sites;
9. Post speed limit sign preferably 40km/hr near wildlife crossings, which should be identified in liaison with the KWS.
10. The Contractor shall not introduce Invasive Alien Species

25-50-002-10 Disruption of Access to Property

Disruption of access to property must be kept to a minimum at all times. Where such disruption is unavoidable, the Contractor shall advise the affected parties and the Regional Director at least seven working days in advance of such disruption.

Damage to people and property

The Contractor shall not disturb or interfere with the inhabitants of local communities close to or in the Project Area, and shall respect their houses, cultures, animals, properties, customs and practices. The Contractor is responsible for damages to people and property caused by the execution of the Works or the procedures used for execution.

The Employer's Representative is informed of any damage caused to people, or the property of individuals, other than the Contractor's personnel, within 6 hours of the event, regardless of the value of the prejudice.

The Contractor provides compensation for any prejudice suffered by the owners and users of land, if these users are not the same parties as the owners.

25-50-002-11 Relocation of public utilities

1. Notice should be given to the utility users prior to any interruption in supply;
2. Liaise with relevant parties which include water service institutions and KPLC.

25-50-002-12 Delays in transportation

1. To avoid delays to road users, the contractor will be required to plan itineraries for site traffic on a daily basis. Traffic management and control is mandatory throughout the project;
2. Temporary road signs that are visible both during the day and at night indicating road works and restrictions will be required, as detailed in section 9 of the specifications;
3. The contractor should also set aside footpaths, cycle lanes and parking bays for heavy goods vehicles and public transport vehicles;
4. Areas where construction is taking place should have clearly marked speed reduction signage.

Measurement and Payments

Traffic Control will be paid under item 09-50- 004.

25-50-002-13 Disruption of Community

1. The Regional Director is to establish a formal grievance and redress mechanisms.
2. The Contractor will be required to minimise the risk of grievances with the local communities.
3. Where grievances occur, the Contractor will be required to assist in the process to investigate and resolve the grievance as effectively and quickly as reasonable;
4. The Contractors shall keep a 'Complaints register' on Site. The register shall contain:
    i. All contact details of the person who made the complaint and information regarding the complaint itself;
    ii. The investigations undertaken and response provided;
    iii. Actions taken and by whom;
    iv. Any follow-up actions taken.
5. Copies of complaints received are to be copied to the Regional Director, and where pertinent.

25-50-002-14 Site Security

1. The Supervising Engineer and Contractor in liaison with the security organs must create awareness to the security situation on the ground all the times;
2. Appropriate fencing, security gates, shelter and security guards are to be provided at the Construction
3. The Contractor must ensure that good relations are maintained with local communities and their leaders to help reduce the risk of vandalism and theft;
4. Site staff that are found to be involved in incidences of theft or pose other security risks to the local community are to be dismissed and reported to the authorities.

25-50-002-15 Fire Incidences

1. The Contractor shall ensure there is control of potential fire ignition points;
2. The Contractor shall ensure that there is basic fire-fighting equipment available on site;

3. Flammable materials should be stored in approved conditions.
4. Smoking shall not be permitted in those areas where there is a fire hazard.
5. The Contractor shall ensure that all site personnel are aware of the fire risks and how to deal with any fires that occur.

25-50-003 Health and Safety Measures on Site

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.

A health and safety plan should be put in place by the contractor, as part of the Worksite – ESMP, including its organisation for managing health and safety. The plan identifies and specifies:

a) All health and safety risks relating to the execution of the Works, by also identifying gender-specific risks;

b) Prevention and protection measures to control risks related to the execution of the Works, by differentiating, where necessary, measures concerning the protection of women and men;

c) Human and material resources involved;

d) Works requiring work permits; and

e) Emergency plans to be implemented in the case of an accident.

In addition, this Health and Safety Plan describes how workers are trained in health and safety aspects.

The Contractor implements prevention, protection and monitoring measures, as described in the Health and Safety Plan.

The following Safety Measures should be adhered to:

- The contractor should engage a local community liaison person to manage community issues;
- First aid kits must be available on site, a qualified first aider should be on site during the working time and the Site Supervisor should also be conversant with first aid procedures. The Contractor shall 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
- A safety officer who has safety training and knowledge of safety procedures should be present on site to ensure that all workers have guidance on the safety procedures;
- The contractor shall ensure all workers obtain the mandatory national insurance cover (NHIF and WIBA);

- The contractor shall ensure that the employees are equipped with appropriate hand tools and personal protective equipment (PPE) to protect and prevent possible injuries to the workersProtective goggles for stone cutting, chiselling, grinding, and welding.
- Face masks when working in dust and smouldering waste.
- Helmets when working on sites where there is a danger of falling objects, e.g. in deep drains, digging pit latrines, work in quarries, etc.

- The Site Supervisor should also know where the nearest hospital / clinic is and where an ambulance or quick transport can be found.
- Special safety measures are required when deep trenches have to be dug, for example for culverts or structures. Depending on the material (natural soil slope) and the depth of the trench, strutting will be required to avoid collapsing trench sides. The construction of strutting has to be done carefully and requires an experienced builder.
- The contractor should ensure there are warning signs on the construction site and on the road to protect from accidents;
- No alcoholic drinks or drugs during work.

Quality Control

No worker will be assigned works without protective clothing; a percentage of the payment will be deducted whenever the Engineer or his representative finds a worker without protective gear.

Payment

50% of the Lump Sum payment for this item will be made when the contractor mobilises and provides all items as required by this clause, 25% will be paid when the works are 50% complete and the remaining 25% upon final completion.

25-50-004 Gender Equality

According to constitutional law of the Government of Kenya, women and men have the same rights and responsibilities which are to be ensured at all levels and in all aspects of daily life.

It is therefore the obligation of Contractor to ensure that gender equalisation is achieved in all aspects of contract works. That means women should get equal opportunities with men and the recruitment process must clearly demonstrate this. Opportunities for employment should also be offered to disabled people. Special activities that they can carry out have to be identified and allocated to them.

Measurement & Payments

No separate payment shall be made for this item but the Contractor will be expected to comply fully with the requirements of this clause.

25-50-005 Labour Standards

It is an obligatory duty of the construction sector to maintain the international labour standards, as Kenya is one of the signatories of the International Labour Conventions of the International Labour Organisation (ILO). The contractor should observe the following requirements:

Equality:

- Men and women should receive equal pay for work of equal value.
- Persons should be given equal opportunity and treatment in employment;

There should be no discrimination against persons in their employment and occupation on the basis of their race, colour, sex, religion, political opinion, national extraction or social origin, or on any other basis set out in new constitution.

Freedom from forced labour:

- Work or service should not be exacted from any person under the menace of penalty or under circumstances where the person has not offered himself or herself voluntarily.
- Work or service should not be exacted from any person:
  - As a means of political coercion;
  - As a method of mobilising and using labour for purposes of economic development;
  - As a means of labour discipline;
  - As a punishment for having participated in strikes
  - As a means of racial origin,
  - Social, national or religious discrimination.

Freedom of association:

All steps to be taken to protect, respect and promote workers and community's rights of association

Minimum age:

No person under the age of 18 years should be employed or work

Minimum wages:

Minimum wages should be established for groups of wage earner, in consultation with employers and Labour Department and workers organizations;

Protection of wages:

Wages should be paid in cash money. Workers should be informed of any deduction made from wages, and national regulations should set down condition for deductions from wages. Wages should be paid regularly at or near the place of work.

Before recruitment, adequate notice should be given and the notices posted in public places such as schools, chief's office and churches in order to reach as many people as possible.

During recruitment, the information on the number of jobs available and terms of employment (pay rates, timing and arrangements for payment including first payment date), should be disclosed openly. The recruitment process should be conducted in transparent manner without biases or any discrimination.

The unskilled labour is supposed to be sourced from the project area apart from specialised personnel like craftsmen and technicians who may be hired from elsewhere if they cannot be found in the project area.

Measurement & Payment

No separate payment shall be made for this item; the Contractor will be expected to comply fully with the requirements of this clause.

SECTION 26: PERFORMANCE BASED ROUTINE MAINTENANCE WORKS

26-50-001: Notice to Bidders

This section deals with the Procurement of Works under the Performance Based Routine Maintenance type of Contract. The maintenance will be carried out for a period of three years after improvement works are completed. During the second and the third year after completion of improvement works, the contractor will be required to carry out instructed works. These works will be fully funded by Government of Kenya.

This type of contract differs substantially from the traditional contracts for road maintenance works in that most of the payments to be made to the contractor are not based on quantities of works measured by unit prices for works inputs, but on measured „outputs" reflecting the target conditions of the roads under contract (in other words: „what the roads are supposed to look like"), expressed through „**Service Levels'**. Another major difference is that the Contractor is responsible for designing (deciding on) the works necessary to reach the required Service Levels, and the durability and performance of the roads over a longer period.

For example, the contractor is not paid for removing 2 cubic metres of silt from a culvert (his actual work input) in a certain month, but for keeping the culvert clean and free of silt at all times (the output of his efforts). This means that in some months he will be paid the agreed standard monthly lump sum amount even though he has not had to do much work. In other months he might have to do a lot of work but he will still only be paid the agreed standard amount. However, if he fails to meet the Service Levels by, for example, allowing a culvert to become silted up, he will have a reduction made from his monthly lump sum.

The Service Levels are defined in the Contract and so is the method of calculating the payment reductions for non-compliance. It is intended that the contractor is motivated to do good quality work so that he reduces his maintenance burden, and therefore his costs, over the duration of the contract. If he does shoddy work he will have to repeat it and this will increase his maintenance inputs and costs. *He* must decide how best to plan and execute the works in order to make his operations cost effective.

In this particular contract this method of payment, based on Service Levels, applies mainly to the „**off-carriageway'** Routine Maintenance.

There is provision in the contract for repairs and maintenance works „on-carriageway" and for emergency works that may have to be carried out from time to time, but these activities are paid for using the traditional method of measuring quantities of input items, and rates, given in the Bills of Quantities.

Another important aspect in the Performance type of contract is for the contractor and employer to enter into a long term relationship whereby the contractor takes over more responsibility for managing the condition of the road and is rewarded by a longer term contract than is traditional; sometimes several years.

26-50-002: Description of Project Road

The project road is approximately **6 km** long and is located **in TIGANIA EAST** constituency of **MERU** County. The project road starts in the vicinity of **Isiolo Township**. The road then moves and terminates at the **Muriri** . The road traverses **gentle rolling terrain**.

26-50-003: Scope of Works

(a) Designing and carrying out „off-carriageway" routine maintenance of the drainage system, including drainage and erosion control structures, and the control of vegetation, in order to achieve the Service Levels defined in the Specifications.
(b) Carrying out activities „on-carriageway" in order to achieve the Service Levels for cleanliness and safety as defined in the Specifications.
(c) Repairs and routine maintenance of the paved surface, as directed by the Employer"s project manager.
(d) Repairs and routine maintenance of the roads signs, safety barriers and other road furniture, as directed by the project manager.
(e) Carrying out emergency works, as directed by the project manager.

26-50-004 (a): Specifications- Performance Based Works

The services to be provided by the Contractor include all activities, physical and others, which the Contractor needs to carry out in order to comply with the Service Levels and other output and performance criteria indicated in the contract, or with any other requirements of the contract. In particular, they include management tasks and physical works associated with the following road-related assets and items:

- Inspect road, identify and remove all obstructions
- Clear side drains, mitre drains, cut-off drains
- Repair and replace scour checks
- Repair eroded ditches
- Clean cross culverts, access culverts, outlets and inlets
- Headwall repairs
- Clear stream channels
- Vegetation control: grass slashing, bush clearing, tree pruning
- De-silt drifts
- Maintenance and minor repairs to bridges.

Performance based routine maintenance services will be paid for as a fixed **lump sum per km per month, with payment reductions made for non-compliance**, if appropriate.

i. Timetable for Compliance with Service Level Requirements

In order to respect the Contractor"s initial mobilization period, compliance with the service levels will be introduced gradually as shown in Table 26.1.

Table 26.1 Timetable for Compliance with Service Level Requirements

Contract Month	**Road Safety** Compliance required on % of contract road	**Durability** Compliance required on % of contract road
1	50	50
2	100	75
3	100	100
4 until end of Contract	100	100

ii. Specification for Service Levels for Road Safety

The road user must be able to travel at a certain level of safety, unobstructed by objects, wash- out material and other debris on the carriageway and shoulders. The criteria for determining the service levels for safety are given in Table 26.2. The enforcement of these criteria is expected to be an immediate priority of the contractor due to the critical importance of road safety, and
100% compliance is expected from Month 2, as shown in the Timetable in Table 26.1. Compliance will be determined by Visual Inspection.

Table 26.2 Service Levels for Road Safety

Item	**Service Level**	**Time Allowed**
Cleanliness of the carriageway and shoulders	The road must always be clean and free of soil, debris, trash and other objects, which must be removed within the time given if they pose:	
	A high danger to traffic: such as rocks, fallen trees, dead animals, abandoned vehicles, fly tipping and other large obstacles etc:	6 hours
	A lesser (medium) danger to traffic: such as material washed on to the road after storms etc:	4 days

iii. Specification for Service Levels for Road Durability iv.

Drainage

In general terms the contractor must ensure that all drainage elements and structures are without obstructions which may reduce their normal cross-section and impede the free flow of water.

The Service Level requirements for drainage systems and drainage structures are shown in Table 26.3. Compliance will be determined by Visual Inspection.

Table 26.3 Service Levels for Drainage

Item	Service Level	Time Allowed for Repairs and Tolerances Permitted
Side drains, ditches, mitre drains and unlined vertical drains	Must be clean and free of obstacles	Tolerance permitted: Siltation/Obstructions must less than 50mm in depth. Siltation/Obstructions must be cleared within 7 days after detection. Damages must be repaired within 3 weeks after detection.
Culverts and access drifts	Must be clean and free of obstacles and without structural damage. Must be firmly contained by surrounding soil or material.	As above
Scour checks and other erosion protection structures	Must be de-silted, structurally sound and firmly contained in surrounding soil or material.	As above

v. Vegetation

This section specifies the Service Levels to be complied with in the case of vegetation growing within the right-of-way/ road reserve.

Vegetation is to be controlled to the heights, at the locations and with the restrictions as set out in Table 26.4. Compliance will be measured with a tape measure.

Table 26.4 Vegetation Control Types

Type	Height (mm)	Features applied to:
1. Vegetation Free Zone.	0	Carriageway, shoulders and structures.

2. Inner vegetation zone: from edge of shoulders to back of side drain/ditch or 2m away from edge of shoulder on straights and outside of curves, and 5m on the inside of curves. Also control of vegetation around street furniture and other features.	25 (min) to 150 (max)	Road verges and large vegetated areas, including surface water channels with longitudinal gradients ≥ 3%. Also vegetation control around: Marker posts Signposts Bridge and culvert markers Guardrails Bridge abutments Cross culvert ends and headwalls Inner side drains
3. Outer vegetation zone, excluding zone 2.	50 (min) to 300 (max)	Bush clearing and vegetation control around: Marker posts Access culvert ends and headwalls Outer side drains Channels with gradients ≤ 3%.
4. Growth encroaching into Vegetation Free Zone from the side or top.	Must be removed if within 5m above the road surface.	Applies to vegetation control including trees, scrub or branches hanging over the zone.

vi. Structures

The Contractor is responsible for the routine maintenance of all bridges, retaining walls and similar structures along the contract road.

The Service Levels for bridges, retaining walls and similar structures are given in Table 2.6.3 below. Compliance will be determined by Visual Inspection.

Table 26.5 -Service Levels for Structures

Item	Service Level	Time allowed for repairs or Tolerance permitted
Steel or other metal structures	Guardrails must be present and not deformed. All metal parts of overall structure shall be painted or otherwise protected and free of corrosion. Drainage system (e.g. weep holes) to be kept in good condition and fully functional.	Contractor must immediately notify Project Manager in case of any condition which threatens structural integrity of the structure. Damage and defects must be repaired within seven (7) days.
Concrete structures	Guardrails must be present and painted. Beams and all other structural parts must be in good conditions and fully functional. Drainage system (e.g. weep holes) in	Contractor must immediately notify Project Manager in case of any condition which threatens structural integrity of the structure. Damage and

Table 26.5 -Service Levels for Structures		
Item	**Service Level**	**Time allowed for repairs or Tolerance permitted**
	good condition and fully functional.	defects must be repaired within seven (7) days.
Expansion joints	Clean and in good condition	Damages and defects must be repaired within seven (7) days.
Retention walls	Contractor must control presence and adequate condition of retention walls and their drainage.	Damage and defects must be repaired within seven (7) days.
Riverbeds	Contractor must ensure free flow of water under bridge and up to 50 metres upstream and downstream. Contractor must maintain design clearance under bridge. The Contractor shall take all reasonable measures to control erosion around bridge abutments and piers.	Causes for non-compliance must be eliminated within fourteen (14) days after water has sufficiently receded to allow minimum working conditions.

26-50-004(b): Repairs and Maintenance Works

Repairs and Maintenance works will be carried out by the Contractor when specifically instructed by the project manager. Activities include:

Patch potholes on carriageway and shoulders
Repair carriageway edges
Reinstate road camber
Road furniture maintenance and repair
Repairs to culverts, replacing rings etc

Repairs and maintenance works will be paid for as measured items in accordance with the unit rates in the Bill of Quantities.

26-50-004 (c): Emergency Works

Emergency works, by definition, are unforeseen at the time of preparing the contract. Severe weather conditions such as unusually high rainfall can lead to flash floods which may cause wash-outs and other damage to the carriageway and other features of the road and its corridor. While specific items of work are not known at the start of the Contract it is prudent to include some general items which are indicative of the type of works that may be required. These have been included in the Bill of Quantities for Repairs, Maintenance and Emergency Works as they will probably be the same items, e.g. repairs and maintenance under an emergency situation. The quantities are nominal as they cannot be defined in advance.

In the event of an emergency the Contractor should draw to the attention of the Regional Manager that certain works need to be carried out to repair the carriageway and other road features to restore the safe passage of traffic along the road and ensure the integrity of the road and its corridor. The Contractor shall give the project manager an estimate of the extent of the required activities and an estimate of the costs based on the Bill of Quantities. The project manager will consider the information and instruct the Contractor to carry out such works as are necessary.

Emergency works will be paid for as measured items in accordance with the unit rates in the Bill of Quantities. The instructed works will be done in according with the following specifications:

- The General Specification for Road works is the Standard Specification for Road and Bridge Construction, Ministry of Transport and Communications, 1986.

- The Special Specification in the Standard Tender Documents for Procurement of Small Works -KeRRA/ Ministry of Roads, November 2009.

26-50-005: Self-Control Unit of Contractor

The Contractor is obliged to assign a technically qualified and trained person, or persons, to verify continuously the degree of their compliance with the Service Levels.

The Self-control Unit is responsible for gathering the information needed by the Contractor to prepare the Monthly Statement. The unit should have a complete knowledge of the road condition, both on and off carriageway, at all times. The unit will also be responsible for carrying out, in close cooperation with the project manager, the formal and scheduled inspections of Service Levels which will take place regularly.

The compliance (or non-compliance) of the Contractor with the service level requirements will be reported by the Self-Control Unit to the Project manager in the form of Table 26.3, given below.

26-50-006: Site Regulations, Health and Safety Measures and Work Procedures

The Contractor shall prepare and submit to the project manager, for approval, his proposed site regulations, health and safety measures (including HIV/AIDS mitigation measures) and work procedures.

26-50-007: Functions of Key Personnel

The Contractor will provide as a minimum the following permanent key personnel:

Project director – the owner, director or senior manager of the company to oversee all contractual and operational functions of the contract.

Site Supervisor-to head the self-control unit and direct and oversee the day-to-day planning and site operations of the contract including staff and public safety issues, the

free flow of traffic, liaising with the public and reporting to the project manager. He will also decide what works have to be carried out and supervise the labour force to ensure quality and adherence to the service levels, as well as the duties described in **26-50-005**.

The roles could be done by the same person, depending on the size of the firm.

26-50-008: Method of Formal Inspections

Formal inspections will be carried out jointly by the Project Manager and the Road Manager at the end of each month. The main purpose of the formal inspections is to enable the Project Manager to verify the information presented in the Contractor‟s Monthly Statement with the actual observed and measured conditions on the site. The Project Manager will prepare a brief Memorandum describing the following:

i. The general circumstances of the site visit, including date, road sections visited, persons present, etc.;
ii. Any non-compliance which may have been detected;
iii. The time granted by the Project Manager to the Contractor to remedy the detected defects.

Based on the outcome of the formal inspection, the Project Manager will correct any possible errors or misrepresentations in the Contractor‟s statement, countersign it and present it to the Employer for payment, and to the Contractor for information.

Formal inspections will also be scheduled for the follow-up site visits, whose purpose is to verify if the Contractor has remedied the causes of earlier non-compliance, within the time frame granted by the Project Manager and specified in the Memorandum.

26-50-009: Informal Inspections of Service Levels

The Project Manager may carry out informal inspections of Service Levels as part of his general mandate given to him by the Employer. He may do so on his own initiative, at anytime and anywhere on the roads included in the contract. If he detects any road sections where the Service Level criteria are not met, he is obliged to inform the Contractor within 24 hours in writing, in order to enable the Contractor to take remedial action as soon as possible. The results of informal inspections may not be used by the Project Manager for purposes of correcting the Contractor‟s monthly statements or applying penalties, except for cases in which the traffic flow on the road has been completely interrupted.

26-50-010: Monthly Statement

The Monthly Statement to be submitted by the Contractor shall have the format shown in Table 26.6, which gives an example of how the statement is filled out. The compliance or non- compliance is reported in the table and is used to determine the degree of compliance and the payment reduction to be made

Table 26.6 Monthly Statement for Contract				*(Sample Only)*					
Road Section:	***From km:***	5.00	***To km:***	25.00		**Length of contract road:**		20.00	km
District:	Nyandarua						**Region:**	Central	
Contract Month:	2nd, October 2010								
Service Level	***Required Compliance***		***Actual Compliance***				**Non-compliance**		**Payment**
Criteria	**Target**	**km**	**Compliance criteria**			**Total Length (km)**	**Length (km)**	**% Reduction**	**Reduction**
						Compliant			km
1. Road Safety	100%	20.00	**Cleanliness of carriageway**			18.00	2.00	20%	0.40
2. Durability	75%	15.00	**Drainage**			13.00	2.00	30%	0.60
	75%	15.00	**Vegetation height**			13.00	2.00	20%	0.40
	75%	15.00	**Vegetation clearance**			13.00	2.00	10%	0.20
	75%	15.00	**Structures and river beds**			13.00	2.00	20%	0.40
								Total	2.00
Length of road for payment this month		=	**'Length of contract road' minus 'Payment reduction length'**						
		=	20.00	-	2.00	=	18.00	km	
Less reductions for non-rectified previous non-compliance (Tab 2.8)		=	18.00	-	1.00	=	17.00		
Total payment due this month		=	**'Rate per km per month' multiplied by**			**'Length of road for payment this month'**			
		=	XXXKsh/km	x	17.00	km			
		=	XXXXXX	Ksh					

in a particular month.

26-50-011: Procedures for Inspection

The visual inspection will be undertaken as part of the Formal and Informal inspections. The criteria for Service Levels will be checked at sections selected by the Project Manager based on visual appearance. The Project Manager shall be the sole judge of compliance. If a specified criterion is not met, the one-kilometre section in which the deficit occurs will be judged non-compliant**.**

26-50-012: Payment Reductions and Liquidated Damages

In accordance with the relevant clauses of the Conditions of Contract, Payment Reductions are applied in case of non-compliance with Service Level requirements, while Liquidated Damages are applied in the case of non-compliance with required Repair, Maintenance and Emergency Works.

The results of each formal inspection of the Service Levels and other performance criteria will be recorded by the Project Manager in the form of a Memorandum. The Memorandum will state the type and location of any non-compliance detected, in particular those non- compliances already shown in the standard tables provided by the Contractor as part of the monthly statement. For each individual case of non-compliance, the Project Manager will determine a date by which the Contractor must have completed the necessary measures in order to remedy the cause of the non-compliance. A follow-up site visit is therefore necessary at the date fixed by the Project Manager, or soon thereafter, in order to verify that the Contractor has indeed remedied the cause of non-compliance.

If at the date indicated in the Memorandum, the Contractor has not remedied the cause for non-compliance, independent of the reason given for their failure to do so, the Contractor is subject to Payment Reductions in accordance with the relevant clauses of the Conditions of Contract.

Payment Reductions are variable over time. If the Contractor fails to remedy a cause of non- compliance for which a payment reduction has already been applied, the amount of the payment reduction increases month by month for that particular cause of non-compliance, without a ceiling being applied, until compliance is established. The calculation of the initial (first month) amounts of payment reductions, and the formula for their adjustment over time, is to be based on the following rules given in Table 26.7.

TABLE 26.7			
CRITERIA	**CONDITIONS FOR APPLICATION OF PAYMENT REDUCTIONS**	**UNIT RATES FOR NON COMPLIANCE**	**REFERENCE TO TECHNICAL SPECIFICATIONS (PARAGRAPH NO.)**
Road Safety	*Cleanliness of road: observed anywhere in a one km section does not comply with the service levels*	20% of the monthly lump sum for one km applied to each one- km section which does not comply	26-50-004(a)
Drainage	*Cleanliness and condition of drainage structures (lateral ditches)*: For a one-km section, to be determined for subsections of 50 m each. If unacceptable obstructions exist in more than one subsection, the one-km section does not comply	30% of the monthly lump sum for one km, applied to each one-km section which does not comply	26-50-004(a) iv
Vegetation	*Vegetation height (maximum)*: The maximum height measured anywhere in a one-km section is above the threshold value	20% of the monthly lump sum for one km, applied to each on- km section which does not comply.	26-50-004(a) v
	Vegetation (clearance above road): The vertical clearance between the road surface and the lowest point of tree or other plan is less than the threshold value	10% of the monthly lump sum for one km, applied to each on- km section which does not comply.	26-50-004(a)
Structures and River Beds	*Steel, concrete, expansion joints, retention walls, river beds:* For a one km of section, to be determined for each structure. If non- compliant on more than one structure, the one km does not comply	20% of the monthly lump sum for one km, applied to each one-km section which does not comply	26-50-004(a) vi

Note: (i) The Unit Rates of payment reductions ("PR_u) shown in the above table are applicable during the first 30 days of non-compliance.

(ii) If the non-compliance has not been remedied within thirty days, liquidated damages for periods beyond 30 days are calculated based on the following formula:

$PR = 2^n PR_u$ considering:

J = number of days of non-compliance, and

$$N = \left\{ \frac{j-1}{30} \right\}$$

rounded up to full number (without decimals)

26-50-013: Determination of Liquidated Damages- instructed Works

The liquidated damages are **0.05%** for the particular item delayed, per calendar day of delay up to a limit of 10% of the contract price

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SECTION VII - BILLS OF QUANTITIES

PREAMBLE TO BILL OF QUANTITIES

PREAMBLE TO BILL OF QUANTITIES

1. The Bills of Quantities forms part of the Contract Documents and are to be read in conjunction with the Instructions to Bidders, Conditions of Contract Parts I and II, Specifications and Drawings

2. The brief description of the items in the Bills of Quantities is purely for the purpose of identification, and in no way modifies or supersedes the detailed descriptions given in the conditions of Contract and Specifications for the full direction and description of work and materials.

3. The Quantities set forth in the Bills of Quantities are estimated, representing substantially the work to be carried out, and are given to provide a common basis for bidding and comparing of Bids. There is no guarantee to the Contractor that he will be required to carry out all the quantities of work indicated under any one particular item or group of items in the Bill of Quantities. The basis of payment shall be the Contractor's rates and the quantities of work actually done in fulfilment of his obligation under the Contract.

4. Payments for emergency and/or instructed works will be paid as and when they occur using submitted rates and/or day works and shall require prior approval of the Employer.

5. The prices and rates inserted in the Bills of Quantities will be used for valuing the work executed, and the Engineer will only measure the whole of the works executed in accordance with this Contract.

6. A price or rate shall be entered in ink against every item in the Bills of Quantities with the exception of items that already have Provisional sums affixed thereto. The bidders are reminded that no “nil” or “included” rates or “lump-sum” discounts will be accepted. The rates for various items should include discounts if any. Bidders who fail to comply will be disqualified.

7. Provisional sums (including Day-works) in the Bills of Quantities shall be expended in whole or in part at the discretion of the Engineer.

8. The price and rates entered in the Bills of Quantities shall, except in-so-far as it is otherwise provided under the Contract, include all Constructional plant to be used, labour, insurance, supervision, compliance testing, materials, erection, maintenance of works, overheads and profits, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract, transport, electricity and telephones, water, use and replenishment of all consumables, including those required under the contract by the Engineer and his staff.

9. Unless otherwise stated, all measurements shall be net taken on the finished work carried out in accordance with the details shown on the drawings or instructed, with no allowance for extra cuts or fills, waste or additional thickness necessary to obtain the minimum finished thickness or dimensions required in this Contract. Any work performed in excess or the requirements of the plans and specifications will not be paid for, unless ordered in writing by the Engineer.

10. Unbalanced tenders and/or unrealistic rates shall lead to the tenderer being subjected to enhanced Performance Security requirements pursuant to Instruction to Tenderers section 41.2.

11. The contractor is envisioned to use mainly local labour in the implementation of works; hence accommodation is not required from the contractor for his local personnel. However, the contractor is expected to include transportation cost within his unit rate to enable localized movement to area of works.

12. The **improvement plan** is an attached appendix of the Bill of Quantities.

Bill of Quantities					Page: 1
Bill 1	**Preliminaries and General Costs Items**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
01-50-026	Allow a prime cost sum of Ksh. 450,000 for Engineer's miscellaneous account	PC Sum	1		
01-50-026a	Include % of Prime cost sum in item 01-50-026 for contractor's overhead and profit	%			
01-60-002	Clearance on Completion	Lump sum	1		
01-60-003	Insurance and Securities	Lump sum	1		
01-60-004	Quality Control Tests and Survey	PC. Sum	1		
01-60-004a	Include % of Prime cost sum in item 01-60-004 for contractor's overhead and profit	%			
01-60-005	Provide and Erect Publicity Signboards as directed by the Engineer	No.	2		
01-60-006	Provide safe drinking water on site for the workers for the duration of the contract as directed by the Engineer	Month	12		
01-60-007	Provision of Site Sanitation Facilities	Month	12		
01-60-008	Allow a prime cost sum of Ksh.5,000,000 for relocation of services	PC Sum	1		
01-60-010	Include % of Prime cost sum in item 01-60-008 for contractor's overhead and profit	%			
01-80-142	Allow a PC Sum of Ksh. 2,000,000for a CSR Project as instructed by the Engineer	PC Sum	2000000		
01-80-142a	E.O for Item 01-80-142 for Contractors Overheads And Profit	%			
01-80-143	Allow a PC Sum of Ksh. 200,000 for provision and maintenance of trees throughout the contract period, and at designated locations off the project road, as instructed by the Engineer	PC Sum	200000		
01-80-143a	E.O for Item 01-80-143 for Contractors Overheads And Profit	%			
	Bill 1: Total Carried forward to Summary:				

Bill of Quantities					Page 2
Bill 3	**Setting Out**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
03-50-001	Setting Out of Horizontal alignment	M	6,000		
Bill 3: Total Carried forward to Summary:					

Bill of Quantities					**Page 3**
Bill 4	**Site Clearance**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
				Ksh.	**KSh.**
04-50-002	Grass Cutting Manual	M^2			
04-50-003	Bush Clearing (Heavy)	M^2	47,624		
04-50-004	Bush Clearing (Light)	M^2	14,947		
04-50-005	Pruning Tree Branches	Prov. Sum	50,000		
04-50-006	Trees cutting And Stump Removal (200-450mm girth)	No.	13		
04-50-007	Trees cutting And Stump Removal (>450mm girth)	No.	15		
04-50-008	Rock & Boulder Removal	Prov. Sum	100,000		
04-50-009	Stripping and Grubbing	M2	40,229		
04-50-010	Excavate remove & disposal of concrete structures	Prov. Sum	50,000		
Bill 4: Total Carried forward to Summary:					

Bill of Quantities					Page 4
Bill 5	**Earthworks**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
***NOTE**:No separate payment shall be made for the haulage of material and the cost of such haulage shall be included in the rates and/or prices*					
05-50-001	Re- Establishment of the Vertical Alignment	M	6,000		
05-05-002	Side drains Excavation (*Soft material*)	M^3	18,484		
05-05-003	Side drains Excavation (*Hard material*)	M^3	1,848		
05-50-006	Fill in soft material including benching of shoulders and embankments and compact to 95% MDD (AASHTO T99) in layers of 150mm as directed by the Engineer	M^3	10,681		
05-50-007	Fill in hard material & Compact as directed by the Engineer	M^3	2,678		
05-50-008	Spoil excess material from side drains excavation both in soft and hard material	M^3	7,000		
05-50-010	Cut to fill and compact soft material on benched sections to a density of 100% Modifiied AASTHO T99 in soft material	M^3	16,100		
05-50-016	Scarify, water, mix and compact existing ground(Including ripping off any bituminous material & breaking it into pieces) including imported selected material to min. 100% Mod AASHTO T180 to a depth not exceeding 150mm	M^3	3,750		
05-60-006	Provide selected materials for improvement of sub-grade of minimum soil Class S3 (CBR 20%): haul, dump and spread the material including Overhaul(Note that processing and compaction shall be paid under bill Item No. 05-50-016)	M^3	2,700		
05-50-014	Grassing	M^2	19,200.00		
	Bill 5: Total Carried forward to Summary:				

Bill of Quantities					Page 5
Bill 7	**Excavation and filling for structures**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
07-50-001	Excavation for drainage structures in Soft Material	M^3	200		
07-50-002	Excavation for drainage structures in hard material	M^3	20		
Bill 7: Total Carried forward to Summary:					

Bill 8	**Culverts and Drainage works**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
08-50-002	Ditch Cleaning - manual	M			
08-50-005	Ditch/Mitre drains/Catchwater Drains excavation	M^3	1000		
	Culverts Cleaning - partially blocked				
08-60-002	450mm dia	M			
08-60-003	600mm dia	M	60		
08-60-004	900mm dia	M			
08-60-005	1200mm dia	M			
	Culvert cleaning - fully blocked				
08-60-007	450mm dia	M			
08-60-008	600mm dia	M	62		
08-60-009	900mm dia	M	44		
08-60-010	1200mm dia	M			
	Supply and Install concrete pipe culverts				
08-60-023	450mm surround (type IV)	M			
08-60-025	600mm surround (type IV)	M	62		
08-60-027	900mm surround (type IV)	M	44		
08-60-029	900TWIN surround (type IV)	M	10		
	Minor Drainage Structures				
08-60-017	Headwall Repair - masonry	No.			
08-60-018	Headwall Repair - concrete	No.			
				Sub Total 1 C/F	

Bill of Quantities					Page: 7
Bill 8	**Road Drainage and Structure works**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
				B/F	
08-60-019	Construct 200mm thick dressed masonry walling to culverts' wingwalls and headwalls.	M^3			
08-60-020	Provide, place and compact class 20/20 concrete to culverts' headwalls, wingwalls, aprons and toe beams including form work.	M^3	50.0		
08-70-001	Stone Pitching	M^2	5000		
08-70-004	Supply and Install Gabion boxes 2x1x1m	M2	5500		
08-70-005	Rockfill to Gabion boxes	M^3	1100		
08-70-006	Scour Checks -200mm thick dressed Masonry stones	NO.	676		
08-70-007	Scourchecks (concrete)	NO.			
08-70-016	Stone & post checkdams	NO.	15		
08-80-001	Access Drifts -using 200mm thick dressed Masonry Stones	M^2			
Bill 8: Total Carried forward to Summary:					

Bill 9	**Traffic Control**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
09-50-004	Traffic Control	Month	12		
Bill 9: Total Carried forward to Summary:					

Bill 10	**Grading and Gravelling Works**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
	***NOTE**:No separate payment shall be made for the haulage of material and the cost of such haulage shall be included in the rates and/or prices*				
	Provide Gravel wearing course-excavation, free haul, spread, water and compact gravel to specifications				
10-60-001	*ByLabour/Equipment*	M^3			
	Removal of Overburden				
10-80-002	By Equipment	M^3	0		
10-50-001	Carriageway Grading - Heavy	M2			-
					-
10-50-003	Carriageway Grading - Light	M2			-
Bill 10: Total Carried forward to Summary:					

Bill 12	**Natural Material for sub-base/base**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
	NOTE*:No separate payment shall be made for the haulage of material and the cost of such haulage shall be included in the rates and/or prices*				
12-50-002	Provide, lay, water, mix, spread and compact to 95% MDD (AASTHO T180) gravel for sub-base, including excavation and 0verhaul - By Labour/Equipment	M^3	2,430		
12-50-003	Provide, lay, water, mix, spread and compact to 95% MDD (AASTHO T180) gravel for Base extended to shoulders and Junctions, including excavation and overhaul	M^3	4,148		
12-50-007	Scarify the existing pavement layers(including surfacing) and add additional subbase gravel(measured separately) to form the subbase layer	M^3	3,240		
12-60-001	Provide, place, spread and compact Base Repair - Hand Packed Stone	M^3	300		
Bill 12: Total Carried forward to Summary:					

Bill of Quantities					Page 11
Bill 11	**Shoulder To Pavement**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Kshs.**	**Amount KShs.**
	NOTE*:No separate payment shall be made for the haulage of material and the cost of such haulage shall be included in the rates and/or prices*				
11-50-003	Provide, place and compact natural gravel to shoulders acceses and busbays		0		
11-60-001	Cut benches on shoulders, widening and busbays where directed by the Engineer	M^2	12,000		
11-60-003	Grade, shape water and compact existing shoulders, accesses and busbays where directed by the Engineer.	M^2	12,000		
Bill 11: Total Carried forward to Summary:					

Bill 14	**Treated Subbase & Base**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate** Ksh.	**Amount** KSh.
14-50-001	Provide and Transport to site Cement Stabilizer	Tonne	371		
14-50-002	Provide and Transport to site Lime Stabilizer	Tonne	247		
14-50-003	Provide and Transport to site Bitumen Emulsion (A4-60)	Litre	0		
14-50-004	Allow for Mixing in Cement, Lime & Emulsion Stabilizer into Natural Gravel/Quarry Dust mix	M^3	9,818		
14-50-005	Allow for Curing and Protection of Treated Layers	M^2	64,800		
Bill 14: Total Carried forward to Summary:					

Bill 15	**Bituminous surface treatment**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
	By Machine and Labour				
15-92-001	Prepare surface for Carriageway, Shoulders, Busbays, Accesses and Junctions; Provide and spray MC 30 cutback bitumen as Prime Coat at a spray rate of 1.0 - 1.2 Litres/M2 as Prime Coat	Litres	47,500		
Bill 15: Total Carried forward to Summary:					

Bill of Quantities					Page 14
Bill 16	**Bituminous mixes**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
16-50-008	Provide,lay and compact AC Type I for repair to potholes , erection of bumps and rumble strips and spray Anionic Emulsion bitumen k1-60% tack coat	M^3	80		
16-50-013	Provide, lay and compact 25mm AC Type II. Prepare primed surface of carriageways, shoulders, busbays and junctions; provide and spray Anionic Emulsion bitumen k1-60% tack coat with Labour/Equipment	M^3	1,350		
16-50-007	Excavate,trim and cart to spoil,compact in repair to potholes and failed pavement areas on c/way and its edges.	M^3	300		
Bill 16: Total Carried forward to Summary:					

Bill of Quantities					Page 15
Bill 17	**CONCRETE WORKS (Major Structures)**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
17-70-001	Drift Construction by Concrete	M^3			
17-80-001	Provide and place 50mm thick class 15/20 concrete binding to structures	M^3			
17-80-002	Provide and place class 25/20 concrete for retaining walls and other structures	M^3			
17-80-003	Provide and place class 30/20 concrete for bridge decks, beams and piers	M^3			
17-60-003	Vertical framework class F2 finish	M^2			
17-60-004	Horizontal framwork class F2 finish	M^2			
17-80-004	Provide, cut, bend and fix steel reinforcement of diameter equal to or less than 16mm dia per the drawing or as instructed by the Engineer	Ton			
17-80-005	Provide, cut, bend and fix steel reinforcement of diameter greater than 16mm dia per the drawing or as instructed by the Engineer	Ton			
17-80-007	Provide and place class 25/14 concrete for pavement carriageway as directed by the engineer-100mm thick concrete road surface using machine mixed concrete class 25/14, reinforced with BRC A142, laid at a depth 50mm below the finished surface. water cement ratio to be in the range between 0.46 and 0.54, complete with expansion joints spaced at least 10m apart, cambered at 3% apart from the curves which should be super-elevated, the concrete surface should be tamp finished with low transverse ridges. The receiving road formation shoall be prepared and compacted approved prior to the concrete works	M^3			
	Bill 17: Total Carried forward to Summary:				

Bill of Quantities					Page 16
Bill 20	**Road Furniture**	**PROJECT: MURIRI ISIOLO ROAD**			
Item	**Description**	**Unit**	**Quantity**	**Unit rate**	**Amount**
No.				**Ksh.**	**KSh.**
20-50-001	Erection of Road Reserve boundary marker posts150mmx150mmx1500mm	No.	128		
20-50-004	Erection of Marker Posts	No.	30		
20-50-005	Erection on Traffic Signs	No.	30		
20-50-006	Provide and deliver Thermoplastic approved white paint (Reflectorized) for road marking as directed by the Engineer. Rate to include provision of Ballotini glass beads and spreading at the approved rate.	m2	1408		
20-50-007	Ditto - Yellow	m2	704		
20-50-008	Guard Rail Repair	m			
20-50-010	Erection of Guardrails	m	20		
20-50-014	Rumble strips Construction with Asphalt Concrete	M^3	10		
20-50-015	Speed bump construction with Asphalt Concrete	M^3	15		
20-70-016	Excavate for, provide and place precast concrete 250x125mm class25/20 raised kerbs haunched in 100 mm thick class 15/20 concrete base bedding and mortar in suport to carriageway, busbays and junctions as directed by the Engineer	m	100		
20-70-017	Ditto but 100 x 125 mm flush kerbs	m	100		
Bill 20: Total Carried forward to Summary:					

Bill 22	Dayworks (Provisional) Schedule of Rates	PROJECT: MURIRI ISIOLO ROAD			
Item No.	Description	Unit	Quantity	Unit rate Ksh.	Amount KSh.
	Plant and Equipment				
22-63-008	D4 - Dozer	Hr	15		
22-63-009	D6 - Dozer	Hr	15		
22-63-011	D8 - Dozer	Hr	15		
22-63-017	Wheel loader CAT 955 or Equivalent	Hr	15		
22-63-014	Motor Grader CAT 120 or Equivalent	Hr	15		
22-63-020	Grader -Tractor towed	Hr	15		
22-64-008	Roller (6-10 tones)	Hr	15		
22-62-016	Water Bowser Self propelled 5000lt	Hr	15		
22-62-020	Water Bowser - Tractor towed 5000lt	Hr	15		
22-61-001	3.0 ton Truck - Flat bed	Hr	15		
22-61-007	5.0 ton Truck - Tipper	Hr	15		
22-61-008	7.0 ton Truck - Tipper	Hr	15		
22-63-006	Tractor + Trailer ($3m^3$)	Hr	15		
22-60-010	1 ton Pickup Van	Hr	15		
22-65-001	Concrete mixer - 200-300lts	Hr	15		
22-67-006	Concrete Poker Vibrator	Hr	15		
22-67-012	Power saw	Hr	15		
	Labour				
22-50-002	Unskilled Labour - male	Day	20		
22-50-002	Unskilled Labour - Female	Day	20		
22-50-005	Mason Grade II	Day	20		
22-50-006	Carpenter Grade III	Day	20		
22-50-007	Overseer	Day	20		
22-50-008	Inspector	Day	20		
22-50-014	Driver Asisitant (Turn boy)	Day	20		
22-50-015	Store keeper	Day	20		
22-50-016	Foreman	Day	20		
	Assistant Engineer	Day	20		
	Materials				
22-70-001	Aggregates Fine	Tonne	20		
22-70-003	Aggregates Coarse	Tonne	20		
22-71-004	Mild steel less than 16mm dia.	Tonne	0.3		

22-70-005	Cement	Kg	1000		
22-71-012	High Yield steel less than 16mm dia.	Tonne	0.3		
22-70-012	Timber 4x2	M	100		
22-70-012	Timber 6x2	M	100		
22-70-012	Timber 6x1	M	100		
22-77-013	Rockfil	m3	150		
22-70-006	Hydrated Lime	Kg	1000		
22-73-008	Bitumen K3	LT	200		
22-73-009	Bitumen A3	LT	200		
22-73-010	Bitumen K160	LT	200		
22-73-011	Bitumen K170	LT	200		
22-73-012	MC 30 Bitumen	LT	200		
22-73-013	MC 3000 Bitumen	LT	200		
22-73-014	80/100 Pen grade bitumen	LT	200		
22-74-003	Diesel fuel	LT	200		
22-74-004	Kerosene	LT	200		
	Bill 22: Total Carried forward to Summary:				

Note: Bids with blank rates or the total bill amount less than 1% of the Tender sum in Bill 22 will be rejected.

Bill 25	**CROSS CUTTING ISSUES**	**PROJECT: MURIRI ISIOLO ROAD**			
Item No.	**Description**	**Unit**	**Quantity**	**Unit rate Ksh.**	**Amount KSh.**
25-50-001(a)	HIV/AIDS Awareness Campaigns	Month	12		
25-50-001(b)	HIV/AIDS Prevention Campaign	PC Sum	400,000		
25-50-001©	Include % of Prime cost sum in item 25-50-001(b) for contractor's overhead and profit	%			
25-50-002	Provision of Environmental and Social Mitgation Measures	PC Sum	1		
25-50-003	Health and Safety Measures on Site	Lump Sum	200,000		
Bill 25: Total Carried forward to Summary:					

SUMMARY		Page 19
PROJECT: IMPROVEMENT WORKS FOR MURIRI ISIOLOROAD		
Bill No.	**Description**	**Amount (Kshs.)**
1	Preliminaries and General Costs Items	
2	Setting Out	
4	Site Clearance	
5	Earthworks	
7	Excavation and filling for structures	
8	Culverts and Drainage works	
9	Traffic Control	
10	Grading and Gravelling Works	
12	Natural Material for sub-base/base	
11	Shoulder to pavement	
14	Treated Subbase & Base	
15	Bituminous Surface Treatments	
16	Bituminous mixes	
17	Concrete Works (Major Structures)	
20	Road Furniture	
22	Dayworks (Provisional) Schedule of Rates	
25	Cross Cutting issues	
	Sub Total (1 a)	
	Add provisional sum of 10 % of the Sub Total (1a) for contingencies to be expended only with the express approval of the Engineer (1 b)	
	SUB TOTAL 1c (1a+1b)	
	Add 16% VAT SUBTOTAL 1c (1d)	
A	Total Improvement Works (1C+D)	

Bill of Quantities - INSTRUCTED ROUTINE MAINTENANCE WORKS					
Instructed Works		**PROJECT: IMPROVEMENT WORKS FOR MURIRI ISIOLO ROAD**			
Item No.	**Activities**	**Unit**	**Quantity**	**Rate Ksh.**	**Amount Ksh.**
PART A. PERFORMANCE BASED MAINTENANCE WORKS					
01	Performance Based Routine Maintenance (PBRM)	Km/M	36		
Total Performance Based Routine Maintenance for 6 Km Section (A) = (PBRM X 6.2Km)					
PART B. INSTRUCTED MAINTENANCE WORKS					
The Quantities below are indicative of the work that may 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.					
Bill 1	**Preliminaries**				
01 - 60 -005	Provide and Erect publicity sign boards	No.	2		
Bill 4	Site Clearance				
04-50-010	Excavate, Remove and Disposal of Concrete structures	m^3	12		
Bill 8:	Road Drainage and Structures				
08-001	Excavation of foundation for drainage structures	m^3	15.0		
08-002d	Bedding and Haunching Type IV				
i.	450mm dia	m			
ii.	600mm dia	m	120.0		
iii.	900mm dia	m			
08-60-019	Provide material and construct minor drainage structures - Masonry				
a	Headwall Type 1	m^3			
b	Headwall Type 2	m^3			
c	Headwall Type 3a	m^3			
d	Headwall Type 3b	m^3			
e	Headwall Type 4	m^3	12		
08-70-004	Supply and Install Gabion boxes 2x1x1m	No.	15		
08-70-005	Rockfill to Gabion boxes	m3	10		
08-70-009	Scourchecks masonary	No.	120		
08-80-001	Drifts - Dressed masonary stones	m^2	60		
Bill 14:	Treated Subbase & Base				
14-60-001	Provide, mix place and compact 100mm composite Emulsion Treated Base - All inclusive	m^3	30		
Bill 15	Bituminous surface treatment				
15-93-005	Prepare surface, provide and spray Anionic Emulsion, A4-60 with 1:6 dilution at the rate of 0.8Litres/M2 as prime coat or as directed by the Engineer	Litres	1200		
15-50-006	Cracks Sealing	m	1000		
Bill 16	Bituminous mixes				
16-60-002	Provide, mix, place and compact 20mm Cold Mix Asphalt - Prepare primed surface of carriageways, shoulders, busbays and junctions; provide and spray Anionic Emulsion bitumen A4-60% tack coat with 1:6 dilution at the at a spray rate of 1.0-1.2Litres/m2. - All inclusive-By Labour/Equipment	m^2	1400		
Bill 22	Dayworks / Emergencies	LS	100,000.00		
Bill 25	HIV / AIDS awareness and prevention campaign	LS	150,000.00		
TOTAL INSTRUCTED WORKS					
TOTAL PBRM					

2) PERFORMANCE BASED ROUTINE MAINTENANCE WORKS		
	(2a) Maintenance Services to prescribed service levels	
	(2b) Instructed Works	
	Sub Total [2c=2a + 2b]	
	Add provisional sum of 10 % of the Sub Total (2c) for contingencies to be expended only with the express approval of the Engineer (2d)	
	(2e)SUBTOTAL **2c+2d)**	
	Add 16% VAT (2f)	
B	**Total -Maintenance Works(2e+2f)**	

PART III - CONDITIONS OF CONTRACT AND CONTRACT FORMS

SECTION IV - CONDITIONS OF CONTRACT PART I - GENERAL CONDITIONS AS PRESCIBED BY THE PUBLIC PROCUREMENT AND REGULATION AUTHORITY (PPRA)

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

These General Conditions of Contract (GCC), read in conjunction with the Special Conditions of Contract (SCC) and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the construction industry towards simpler, more straightforward language.

The GCC can be used for both smaller admeasurement contracts and lump sum contracts.

General Conditions of Contract

A. General

1. Definitions

1.1 Bold face type is used to identify defined terms.

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

b) **The Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.

c) **The Adjudicator** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.

d) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.

e) **Compensation Events** are those defined in GCC Clause 42 hereunder.

f) **The Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.

g) **The Contract** is the Contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.

h) **The Contractor** is the party whose Bid to carry out the Works has been accepted by the Procuring Entity.

i) **The Contractor's Bid** is the completed bidding document submitted by the Contractor to the Procuring Entity.

j) **The Contract Price** is the Accepted Contract Amount stated in the Letter of Acceptance and thereafter as adjusted in accordance with the Contract.

k) **Days** are calendar days; months are calendar months.

l) **Day work**s are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.

m) **A Defect** is any part of the Works not completed in accordance with the Contract.

n) **The Defects** Liability Certificate is the certificate issued by Project Manager upon correction of defects by the Contractor.

o) **The Defects Liability Period** is the period **named in the SCC** pursuant to Sub-Clause 34.1 and calculated from the Completion Date.

p) **Drawings** means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Procuring Entity in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.

q) **The Procuring Entity** is the party who employs the Contractor to carry out the Works, **as specified in the SCC,** who is also the Procuring Entity.

r) **Equipmen**t is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

s) **"In writing" or "written"** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

t) The Initial Contract Price is the Contract Price listed in the Procuring Entity's Letter of Acceptance.

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

v) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.

w) **Plant i**s any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

x) **The Project Manager** is the person **named in the SCC** (or any other competent person appointed by the Procuring Entity and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.

y) **SCC** means Special Conditions of Contract.

z) **The Site** is the area of the works as **defined as such in the SCC**.

aa) **Site Investigation Reports** are those that were included in the bidding document and are factual and interpretative reports about the surface and subsurface conditions at the Site.

bb) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.

cc) **The Start Date** is **given in the SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

dd) **A Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

ee) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

ff) **A Variation** is an instruction given by the Project Manager which varies the Works.

gg) **The Works** are what the Contract requires the Contractor to construct, install, and turn over to the Procuring Entity, **as defined in the SCC**.

2. Interpretation

2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.

2.2 If sectional completion is specified in the SCC, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

a) Agreement,
b) Letter of Acceptance,
c) Contractor's Bid,
d) Special Conditions of Contract,
e) General Conditions of Contract, including Appendices,
f) Specifications,
g) Drawings,
h) Bill of Quantities[6], and
i) any other document **listed in the SCC** as forming part of the Contract.

[6] *In lump sum contracts, delete "Bill of Quantities" and replace with "Activity Schedule."*

3. Language andLaw

3.1 The language of the Contract is English Language and the law governing the Contract are the Laws of Kenya.

3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Procuring Entity's Country when

a) as a matter of law or official regulations, Kenya prohibits commercial relations with that country; or

b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, Kenya prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

4. Project Manager's Decisions

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

5. Delegation

5.1 Otherwise **specified in the SCC,** the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

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

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Procuring Entity between the dates given in the Schedule of Other Contractors, as **referred to in the SCC.** The Contractor shall also provide facilities and services for them as described in the Schedule. The Procuring Entity may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel andEquipment

9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.

9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

9.3 If the Procuring Entity, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in Fraud and Corruption during the execution of the Works, then that employee shall be removed in accordance with Clause 9.2 above.

10. Procuring Entity's and Contractor's Risks

10.1 The Procuring Entity carries the risks which this Contract states are Procuring Entity's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Procuring Entity's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Procuring Entity's risks:

a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to

i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or

ii) negligence, breach of statutory duty, or interference with any legal right by the Procuring Entity or by any person employed by or contracted to him except the Contractor.

b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Procuring Entity or in the Procuring Entity's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is a Procuring Entity's risk except loss or damage due to

aa) a Defect which existed on the Completion Date,

bb) an event occurring before the Completion Date, which was not itself a Procuring Entity's risk, or

cc) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Procuring Entity's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Procuring Entity and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the Contractor's risks:

a) loss of or damage to the Works, Plant, and Materials;

b) loss of or damage to Equipment;

c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and

d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Procuring Entity may effect the insurance which the Contractor should have provided and recover the premiums the Procuring Entity has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

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

19. Discoveries

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

20. Possession of the Site

20.1 The Procuring Entity shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date **stated in the SCC,** the Procuring Entity shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

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

22. Instructions, Inspections and Audits

22.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

22.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

22.3 The Contractor shall permit and shall cause its subcontractors and sub-consultants to permit, the Procuring Entity and/or persons appointed by the Public Procurement Regulatory Authority to inspect the Site and/or the accounts and records relating to the procurement process, selection and/or contract execution, and to have such accounts and records audited by auditors appointed by the Public Procurement Regulatory Authority. The Contractor's and its Subcontractors' and sub-consultants' attention is drawn to Sub-Clause 25.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Public Procurement Regulatory Authority's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Public Procurement Regulatory Authority's prevailing sanctions procedures).

23. Appointment of the Adjudicator

23.1 The Adjudicator shall be appointed jointly by the Procuring Entity and the Contractor, at the time of the Procuring Entity's issuance of the Letter of Acceptance. If, in the Letter of Acceptance, the Procuring Entity does not agree on the appointment of the Adjudicator, the Procuring Entity will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 14 days of receipt of such request.

23.2 Should the Adjudicator resign or die, or should the Procuring Entity and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Procuring Entity and the Contractor. In case of disagreement between the Procuring Entity and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority designated in the SCC at the request of either party, within 14 days of receipt of such request.

24. Settlement of Claims and Disputes

24.1 Contractor's Claims

24.1.1 If the Contractor considers itself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give Notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 30 days after the Contractor became aware, or should have become aware, of the event or circumstance.

24.1.2 If the Contractor fails to give notice of a claim within such period of 30 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Procuring Entity shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub- Clause shall apply.

24.1.3 The Contractor shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

24.1.4 The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Procuring Entity's liability, the Project Manager may, after receiving any notice under this Sub-Clause, monitor the record- keeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

24.1.5 Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect:

a) this fully detailed claim shall be considered as interim;
b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and
c) the Contractor shall send a final claim within 30 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

24.1.6 Within 42 days after receiving a Notice of a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within the above defined time period.

24.1.7 Within the above defined period of 42 days, the Project Manager shall proceed in accordance with Sub-Clause

24.1.8 [Determinations] to agree or determine (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with Sub-Clause 8.4 [Extension of Time for Completion], and/or (ii) the

additional payment (if any) to which the Contractor is entitled under the Contract.

24.1.9 Each Payment Certificate shall include such additional payment for any claim as has been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

24.1.10 If the Project Manager does not respond within the timeframe defined in this Clause, either Party may consider that the claim is rejected by the Project Manager and any of the Parties may refer to Arbitration in accordance with Sub-Clause 24.4 [Arbitration].

24.1.11 The requirements of this Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Sub-Clause 24.3.

24.2 Amicable Settlement

24.2.1 Where a notice of a claim has been given, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, the Party giving a notice of a claim in accordance with Sub-Clause 24.1 above should move to commence arbitration after the fifty-sixth day from the day on which a notice of a claim was given, even if no attempt at an amicable settlement has been made.

24.3 Matters that may be referred to arbitration

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

a) The appointment of a replacement Project Manager upon the said person ceasing to act.
b) Whether or not the issue of an instruction by the Project Manager is empowered by these Conditions.
c) Whether or not a certificate has been improperly withheld or is not in accordance with these Conditions.
e) Any dispute arising in respect of war risks or war damage.
f) All other matters shall only be referred to arbitration after the completion or alleged completion of the Works or termination or alleged termination of the Contract, unless the Procuring Entity and the Contractor agree otherwise in writing.

24.4 Arbitration

24.4.1 Any claim or dispute between the Parties arising out of or in connection with the Contract not settled amicably in accordance with Sub-Clause 24.3 shall be finally settled by arbitration.

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

24.4.3 Notwithstanding the issue of a notice as stated above, the arbitration of such a claim or dispute shall not commence unless an attempt has in the first instance been made by the parties to settle such claim or dispute amicably with or without the assistance of third parties. Proof of such attempt shall be required.

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

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

24.4.6 The arbitrators shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute. Nothing shall disqualify representatives of the Parties and the Project Manager from being called as a witness and giving evidence before the arbitrators on any matter whatsoever relevant to the dispute.

24.4.7 Neither Party shall be limited in the proceedings before the arbitrators to the evidence, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

24.4.8 Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, and the Project Manager shall not be altered by reason of any arbitration being conducted during the progress of the Works.

24.4.9 The terms of the remuneration of each or all the members of Arbitration shall be mutually agreed upon by the

Parties when agreeing the terms of appointment. Each Party shall be responsible for paying one-half of this remuneration.

24.5 Arbitration with National Contractors

24.5.1 If the Contract is with national contractors, arbitration proceedings will be conducted in accordance with the. In case of any claim or dispute, such claim or dispute shall be notified in writing by either party to the other with a request to submit it to arbitration and to concur in the appointment of an Arbitrator within thirty days of the notice. The dispute shall be referred to the arbitration and final decision of a person to be agreed between the parties. Failing agreement to concur in the appointment of an Arbitrator, the Arbitrator shall be appointed, on the request of the applying party, by the Chairman or Vice Chairman of any of the following professional institutions;

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

24.5.2 The institution written to first by the aggrieved party shall take precedence over all other institutions.

24.6 Alternative Arbitration Proceedings

24.6.1 Alternatively, the Parties may refer the matter to the Nairobi Centre for International Arbitration (NCIA) which offers a neutral venue for the conduct of national and international arbitration with commitment to providing institutional support to the arbitral process.

24.7 Failure to Comply with Arbitrator's Decision

24.7.1 The award of such Arbitrator shall be final and binding upon the parties.

24.7.2 In the event that a Party fails to comply with a final and binding Arbitrator's decision, then the other Party may, without prejudice to any other rights it may have, refer the matter to a competent court of law.

24.8 Contract operations to continue

24.8.1 Notwithstanding any reference to arbitration herein,

a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
b) the Procuring Entity shall pay the Contractor any monies due the Contractor.

25. Fraud and Corruption

25.1 The Government requires compliance with the country's Anti-Corruption laws and its prevailing sanctions policies and procedures as set forth in the Constitution of Kenya and its Statutes.

25.2 The Procuring Entity requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

B. Time Control

26. Program

26.1 Within the time stated in the SCC, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.

26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

26.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has

been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 14 days of being instructed to by the Project Manager.

26.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

27.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When the Procuring Entity wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Procuring Entity accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Procuring Entity and the Contractor.

28.2 If the Contractor's priced proposals for an acceleration are accepted by the Procuring Entity, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the Project Manager

29.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

30. Management Meetings

30.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Procuring Entity. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

31. Early Warning

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

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

C. Quality Control

32. Identifying Defects

32.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

33. Tests

33.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

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

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

35. Uncorrected Defects

35.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

36. Contract Price[7]

36.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

37. Changes in the Contract Price[8]

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Procuring Entity.

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

38. Variations

38.1 All Variations shall be included in updated Programs[9] produced by the Contractor.

38.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.

38.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.

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

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[7] *In lump sum contracts, replace GCC Sub-Clauses 36.1 as follows:*

36.1 The Contractor shall provide updated Activity Schedules within 14 days of being instructed to by the Project Manager. The Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to monitor and control the performance of activities on which basis the Contractor will be paid. If payment for materials on site shall be made separately, the Contractor shall show delivery of Materials to the Site separately on the Activity Schedule.

[8] *In lump sum contracts, replace entire GCC Clause 37 with new GCC Sub-Clause 37.1, as follows:*
The Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

[9] *In lump sum contracts, add "and Activity Schedules" after "Programs."* [10] *In lump sum contracts, delete this paragraph.*

38.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning

38.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 39.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work

38.7 Value Engineering: The Contractor may prepare, at its own cost, a value engineering proposal at any time during the performance of the contract. The value engineering proposal shall, at a minimum, include the following;

a) the proposed change(s), and a description of the difference to the existing contract requirements;
b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Procuring Entity may incur in implementing the value engineering proposal; and
c) a description of any effect(s) of the change on performance/functionality.

38.8 The Procuring Entity may accept the value engineering proposal if the proposal demonstrates benefits that:

a) accelerate the contract completion period; or
b) reduce the Contract Price or the life cycle costs to the Procuring Entity; or
c) improve the quality, efficiency, safety or sustainability of the Facilities; or
d) yield any other benefits to the Procuring Entity, without compromising the functionality of the Works.

38.9 If the value engineering proposal is approved by the Procuring Entity and results in:

a) a reduction of the Contract Price; the amount to be paid to the Contractor shall be the **percentage specified in the SCC** of the reduction in the Contract Price; or
b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above, the amount to be paid to the Contractor shall be the full increase in the Contract Price.

39. Cash Flow Forecasts

39.1 When the Program[11], is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

40. Payment Certificates

40.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

40.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

40.3 The value of work executed shall be determined by the Project Manager.

40.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed12.

40.5 The value of work executed shall include the valuation of Variations and Compensation Events.

40.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

40.7 Where the contract price is different from the corrected tender price, in order to ensure the contractor is not paid less or more relative to the contract price (which would be the tender price), payment valuation certificates and variation orders on omissions and additions valued based on rates in the Bill of Quantities or schedule of rates in the Tender, will be adjusted by a plus or minus percentage. The percentage already worked out during tender evaluation is worked out as follows: *(corrected tender price – tender price)/tender price X 100*.

41. Payments

41.1 Payments shall be adjusted for deductions for advance payments and retention. The Procuring Entity shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Procuring Entity makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

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

41.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions of currencies comprising the Contract Price.

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

42. Compensation Events

42.1 The following shall be Compensation Events:

d) The Procuring Entity does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.

e) The Procuring Entity modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.

f) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

g) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

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

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

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

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

l) The advance payment is delayed.

m) The effects on the Contractor of any of the Procuring Entity's Risks.

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

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

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

[11] *In lump sum contracts, add "or Activity Schedule" after "Program."*

[12] *In lump sum contracts, replace this paragraph with the following: "The value of work executed shall comprise the value of completed activities in the Activity Schedule."*

42.4 The Contractor shall not be entitled to compensation to the extent that the Procuring Entity's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

43. Tax

43.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

44. Currency y of Payment

44.1 All payments under the contract shall be made in Kenya Shillings

45. Price Adjustment

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

P = A + B Im/Io

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

A and B are coefficients[13] **specified in the SCC,** representing the non-adjustable and adjustable portions, respectively, of the Contract Price payable and Im is the index prevailing at the end of the month being invoiced and IOC is the index prevailing 30 days before Bid opening for inputs payable.

45.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46. Retention

46.1 The Procuring Entity shall retain from each payment due to the Contractor the proportion stated in the **SCC** until Completion of the whole of the Works.

46.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" Bank guarantee.

47. Liquidated Damages

47.1 The Contractor shall pay liquidated damages to the Procuring Entity at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The Procuring Entity may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

47.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 41.1.

48. Bonus

48.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

49. Advance Payment

49.1 The Procuring Entity shall make advance payment to the Contractor of the amounts stated in the **SCC** by the date stated in the **SCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Procuring Entity in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

49.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

49.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

50. Securities

50.1 The Performance Security shall be provided to the Procuring Entity no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the SCC,** by a bank or surety acceptable to the Procuring Entity, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 day from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

51. Dayworks

51.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

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

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

52. Cost of Repairs

52.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

53. Completion

53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

54.1 The Procuring Entity shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

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

56. Operating and Maintenance Manuals

56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

56.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC pursuant to GCC Sub-Clause 56.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

57.1 The Procuring Entity or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

57.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;

b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;

c) the Procuring Entity or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;

d) a payment certified by the Project Manager is not paid by the Procuring Entity to the Contractor within 84 days of the date of the Project Manager's certificate;

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

f) the Contractor does not maintain a Security, which is required;

g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or

h) if the Contractor, in the judgment of the Procuring Entity has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the GCC, in competing for or in executing the Contract, then the Procuring Entity may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site.

57.3 Notwithstanding the above, the Procuring Entity may terminate the Contract for convenience.

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

57.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.

58. Payment upon Termination

58.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as specified in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Procuring Entity exceeds any payment due to the Contractor, the difference shall be a debt payable to the Procuring Entity.

58.2 If the Contract is terminated for the Procuring Entity's convenience or because of a fundamental breach of Contract by the Procuring Entity, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

59. Property

59.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Procuring Entity if the Contract is terminated because of the Contractor's default.

60. Release from Performance

60.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Procuring Entity or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment wasmade.

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

Except where otherwise specified, all Special *Conditions of Contract should be filled in by the Procuring Entity prior to issuance of the bidding document. Schedules and reports to be provided by the Procuring Entity should be annexed.*

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	A. General
GCC 1.1 (q)	**The Procuring Entity is*:*** Kenya Rural Roads Authority P.O. Box 48151 - 00100 NAIROBI **The authorized person is:** Director (Planning, Design and Environment) Kenya Rural Roads Authority P.O. Box 48151 - 00100 NAIROBI
GCC 1.1 (u)	The Intended Completion Date for the whole of the Works shall be 12 Months (Construction Works) + 12 months Defects Liability Period 36 Months of Performance Based and Instructed Routine maintenance ** During the Defects Liability Period, the Contractor will carry out Routine maintenance works only*
GCC 1.1 (x)	**The Engineer is:** Regional Director, KeRRA - Meru Region P.O. Box 442-60200, Meru **The Engineer's Representative is:** The Design and Supervision Consultant, Runji Consulting Group Ltd P.O Box 68053,00100, NAIROBI.
GCC 1.1 (z)	The Site is located **at *laikipia County*** and is defined in drawings No. CE1045/GD/MM/O1 od book of drawings
GCC 1.1 (cc)	The Start Date shall be ***as Prescribed in The Commencement Letter.***
GCC 1.1 (gg)	The Works consist of ***[As Prescribed Under Section Six (6)].***
GCC 2.2	Sectional Completions are: *[N/A]*
GCC 2.3	The documents forming the Contract shall be interpreted in the following order of priority: – The Contract Agreement – The Letter of Acceptance – The Form of Tender – The Conditions of Contract, Part II - Conditions of Particular Application – The Conditions of Contract, Part I - General Conditions of Contract – The Specifications

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 3.1	Language of Contract: English
GCC 3.2	Law of Contract: Laws of the Republic of Kenya
GCC 5.1	The Engineer has delegated this duties and responsibilities to the Engineer's Representative. i. Give site possession to the Contractor. ii. Give approval of the Contractor's programme of works and Site Agent. iii. Issue site instructions to the Contractor and additional or modified drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract and in writing. iv. Supervise the execution of the works and in particular ensuring the dimensions and quality of works conforms to the specifications. v. Review the contractor's progress regularly and give notices whenever the contract or is performing poorly or is behind the approved programme of works. vi. Organise measurement of the works jointly with the contractor. vii. Receive contractor's monthly payment certificates, evaluate and approve them. viii. Organise monthly progress review meetings with corresponding minutes. ix. Organise taking-over meetings with corresponding minutes. x. Any other duty attributable to the Engineer as specified in or necessarily to be implied from the Contract. xi. The Engineer may delegate some of his duties and authority to the Engineer's representative and will inform the contractor accordingly in writing. The Engineer shall obtain specific approval of the Employer before taking any of the following actions: i. Consenting to the sub-contracting of any part of the Works under General Conditions of Contract clause 7 ii. Issuing a variation or certifying additional cost determined under Clause 1(g) and (ff) except in an emergency situation as reasonably determined by the Engineer. iii. Determining an extension of time under Clause 27.2
GCC 8.1	Schedule of other contractors: *[N/A]*
GCC 9.1	**Key Personnel** GCC 9.1 is replaced with the following: 9.1 Key Personnel are the Contractor's personnel named in this GCC 9.1 of the Special Conditions of Contract. The Contractor shall employ the Key Personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Engineer. The Engineer shall approve any proposed replacement of Key Personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid. [insert the name/s of each Key Personnel agreed by the Procuring Entity prior to Contract signature.]

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 13.1	The minimum insurance amounts and deductibles shall be: (a) for loss or damage to the Works, Plant and Materials: ***[contract value +15%].*** (b) For loss or damage to Equipment: *[**Value of Equipment on Site**]*. (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract ***[provide third party insurance cover Not less than 1,000,000]***. (i) (d)for personal injury or death: ***As per Workers compensation (WIBA- workers injurybenefits policy) work injury benefits act 2007 laws of Kenya***
GCC 14.1	Site Data are: *[N/A]*
GCC 20.1	The Site Possession Date(s) shall be: ***[On order to Commence/Start Date]***
GCC 23.1 & GCC 23.2	Appointing Authority for the Adjudicator: [***[Chairman Chartered Institute of Arbitrators, CIArB Kenya Branch.]***].
	Hourly rate and types of reimbursable expenses to be paid to the Adjudicator: (**as determined by the *CIArB].***
GCC 24.4	SCC. Add; The Arbitration Rules as published by the Chartered Institute of Arbitrators (Kenya Branch) will apply
GCC 24.3	Delete items 24.3 (a)
GCC 25.3	SCC Add: AFD requires compliance with its policy in regard to corrupt and fraudulent practices, social and environmental responsibility as set forth in FORM NO 9 to the contract
B. Time Control	
GCC 26.1	The Contractor shall submit for approval a Program for the Works within ***14 days after issuance of the order to commence*.**
GCC 26.2	Form of programme will be a ***Resource Based Gantt Chart.***
GCC 26.3	Interval updates will be ***as requested by the Engineer*** The period between Program updates is: ***14 days after instructions from the Engineer*.** The amount to be withheld for late submission of an updated Program is ***[N/A].***
C. Quality Control	
GCC 34.1	The Defects Liability Period is: ***12*** **months.**
GCC 34.2	Period of notifying defects will be: 30 days calculated from the date stated in the notice .
D. Cost Control	
GCC 36.1	Valuation of Works shall be by: **Re-measurements with Bills of Quantities**
GCC 38.9	If the value engineering proposal is approved by the Procuring Entity the amount to be paid to the Contractor shall be **_N/A__**% of the reduction in the Contract Price.
GCC 40.0	Minimum Amount of Interim Payment Certificate submitted will be: **Ksh. 5,000,000**
GCC 41.1	*Amend the second sentence* "within 30days" to within 60days *Delete the last sentence starting* " Interest shall be calculated from the date… payments are made" *and replace with* "Interest on late payments shall be calculated based on simple interest at a rate equal to two percentage points above the average bank lending rate obtained from the Central

Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	Bank of Kenya"
GCC 44.1	The currency of the Procuring Entity's Country is: ***[Kenya shillings]*.**
GCC 45.1	The Contract **IS NOT** subject to price adjustment in accordance with GCC Clause 45, and the following information regarding coefficients **DOES NOT** apply.
GCC 46.1	The proportion of payments retained is: ***10% of the interim certificate up to a maximum of 5% of the contract sum***
GCC 47.1	The liquidated damages for the whole of the Works are **0.05% per day of the contract price**. The maximum amount of liquidated damages for the whole of the Works is **5% of the final Contract Price.**
GCC 48.1	The Bonus for the whole of the Works is ***[N/A]***.
GCC 49.1	The Advance Payments shall be: **20% of the Contract Amount** and shall be paid to the Contractor no later than ***[N/A]*.**
GCC 49.3	Add; The amount to be deducted from each instalment will be calculated using the following formula; $R = \frac{(Va\ x\ D)}{Vt}$ Where: R = the amount to be repaid Va = the total amount of Advance Payment Vt = the contract price D = the amount of instalment The result to be rounded to a whole number
GCC 50.1	The Performance Security is Required; **(a)** Performance Security – Bank Guarantee: in the amount(s) of ***5%* percent of the Accepted Contract Amount** and in the same currency(ies) of the Accepted Contract Amount.
E. Finishing the Contract	
GCC 56.1	The date by which operating and maintenance manuals are required is ***[N/A]***. The date by which "as built" drawings are required is ***56 Days after Completion of works*.**
GCC 56.2	The Engineer shall withhold **Ksh. 1,000,000** from payments due to the Contractor
GCC 57.2 (g)	The maximum number of days is: ***[100 days]*.**
GCC 58.1	The percentage to apply to the value of the work not completed, representing the Procuring Entity's additional cost for completing the Works, is *[N/A]*.

SECTION X – CONTRACT FORMS

FORM No 1: NOTIFICATION OF INTENTION TO AWARD

This Notification of Intention to Award shall be sent to each Tenderer that submitted a Tender. Send this Notification to the Tenderer's Authorized Representative named in the Tender Information Form on the format below.

FORMAT

1. For the attention of Tenderer's Authorized Representative
   - *i)* Name: *[insert Authorized Representative's name]*
   - *ii)* Address: *[insert Authorized Representative's Address]*
   - *iii)* Telephone: *[insert Authorized Representative's telephone/fax numbers]*
   - *iv)* Email Address: *[insert Authorized Representative's email address]*

   [IMPORTANT: insert the date that this Notification is transmitted to Tenderers. The Notification must be sent to all Tenderers simultaneously. This means on the same date and as close to the same time as possible.]

2. Date of transmission: [*email*] on [*date*] (local time)

   This Notification is sent by (*Name and designation*) _____

3. Notification of Intention to Award

   - *i)* Procuring Entity: *[insert the name of the Procuring Entity]*
   - *ii)* Project: *[insert name of project]*
   - *iii)* Contract title: *[insert the name of the contract]*
   - *iv)* Country: *[insert country where ITT is issued]*
   - *v)* ITT No: *[insert ITT reference number from Procurement Plan]*

   This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period, you may:

4. Request a debriefing in relation to the evaluation of your tender

   Submit a Procurement-related Complaint in relation to the decision to award the contract.

   a) The successful tenderer

      i) Name of successful Tender_____

      ii) Address of the successful Tender _____

      iii) Contract price of the successful Tender Kenya Shillings _____ (in words_____)

   b) Other Tenderers

   Names of all Tenderers that submitted a Tender. If the Tender's price was evaluated include the evaluated price as well as the Tender price as read out. For Tenders not evaluated, give one main reason the Tender was unsuccessful.

SNo	Name of Tender	Tender Price as read out	Tender's evaluated price (Note a)	One Reason Why not Evaluated
1				
2				
3				
4				
5				

(Note a) State NE if not evaluated

5. How to request a debriefing

a) DEADLINE: The deadline to request a debriefing expires at midnight on [*insert date*] (*local time*).

b) You may request a debriefing in relation to the results of the evaluation of your Tender. If you decide to request a debriefing your written request must be made within three (5) Business Days of receipt of this Notification of Intention to Award.

c) Provide the contract name, reference number, name of the Tenderer, contact details; and address the request for debriefing as follows:

i) Attention: [*insert full name of person, if applicable*]

ii) Title/position: [*insert title/position*]

ii) Agency: [*insert name of Procuring Entity*]

iii) Email address: [*insert email address*]

d) If your request for a debriefing is received within the 3 Days deadline, we will provide the debriefing within five (3) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (3) Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

e) The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

f) If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Days from the date of publication of the Contract Award Notice.

6. How to make a complaint

a) Period: Procurement-related Complaint challenging the decision to award shall be submitted by midnight, [*insert date*] (local time).

b) Provide the contract name, reference number, name of the Tenderer, contact details; and address the Procurement-related Complaint as follows:

i) Attention: [*insert full name of person, if applicable*]

ii) Title/position: [*insert title/position*]

iii) Agency: [*insert name of Procuring Entity*]

iv) Email address: [*insert email address*]

c) At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

d) Further information: For more information refer to the Public Procurement and Disposals Act 2015 and its Regulations available from the Website info@ppra.go.ke or complaints@ppra.go.ke.

You should read these documents before preparing and submitting your complaint.

e) There are four essential requirements:

i) You must be an 'interested party'. In this case, that means a Tenderer who submitted a Tender in this tendering process, and is the recipient of a Notification of Intention to Award.

ii) The complaint can only challenge the decision to award the contract.

iii) You must submit the complaint within the period stated above.

iv) You must include, in your complaint, all of the information required to support your complaint.

7. Standstill Period

i) DEADLINE: The Standstill Period is due to end at midnight on [*insert date*] (local time).

ii) The Standstill Period lasts ten (14) Days after the date of transmission of this Notification of Intention to Award.

iii) The Standstill Period may be extended as stated in paragraph Section 5 (d) above.

If you have any questions regarding this Notification please do not hesitate to contact us. On behalf of the Procuring Entity:

Signature:_____ **Name:**_____

Title/position:_____ **Telephone:**___ **Email:** _____

FORM NO. 2 - REQUEST FOR REVIEW

FORM FOR REVIEW(r.203(1))

PUBLIC PROCUREMENT ADMINISTRATIVE REVIEW BOARD

APPLICATION NO…….OF……..…20……...

BETWEEN

……...…….APPLICANT

AND

……RESPONDENT (Procuring Entity)

Request for review of the decision of the…… (Name of the Procuring Entity of ……dated the…day of …….20…….in the matter of Tender No……..…of ……..20….. for .....(Tender description).

REQUEST FOR REVIEW

I/We……,the above named Applicant(s), of address: Physical address…….P. O. Box No……. Tel. No……..Email ……, hereby request the Public Procurement Administrative Review Board to review the whole/part of the above mentioned decision on the following grounds , namely:

1.

2.

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

1.

2.

SIGNED …….(Applicant) Dated on…….day of ……/…20……

FOR OFFICIAL USE ONLY Lodged with the Secretary Public Procurement Administrative Review Board on……day of ……...20….……

SIGNED

Board Secretary

FORM NO 3: LETTER OF AWARD

[letterhead paper of the Procuring Entity] [date]

To: *[name and address of the Contractor]*

This is to notify you that your Tender dated *[date]* for execution of the *[name of the Contract and identification number, as given in the Contract Data]* for the Accepted Contract Amount *[amount in numbers and words] [name of currency]*, as corrected and modified in accordance with the Instructions to Tenderers, is hereby accepted by …… (*name of Procuring Entity)*.

You are requested to furnish the Performance Security within 30 days in accordance with the Conditions of Contract, using, for that purpose, one of the Performance Security Forms included in Section VIII, Contract Forms, of the Tender Document.

Authorized Signature:.....

Name and Title of Signatory:.....

Name of Procuring Entity.....

Attachment: *Contract Agreement*.....

FORM NO 4: CONTRACT AGREEMENT

THIS AGREEMENT made the_____day of_____, 20____, between _____of _____ (hereinafter "the Procuring Entity"), of the one part, and_____of_____(hereinafter "the Contractor"), of the other part:

WHEREAS the Procuring Entity desires that the Works known as_____should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Procuring Entity and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
   a) the Letter of Acceptance
   b) the Letter of Tender
   c) the addenda Nos_____(if any)
   d) the Special Conditions of Contract
   e) the General Conditions of Contract;
   f) the Specifications
   g) the Drawings; and
   h) the completed Schedules and any other documents forming part of the contract.

3. In consideration of the payments to be made by the Procuring Entity to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Procuring Entity to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Entity hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the Laws of Kenya on the day, month and year specified above.

Signed and sealed by_____(for the Procuring Entity)

Signed and sealed by_____(for the Contractor).

FORM NO. 5 - PERFORMANCE SECURITY

[Option 1 - Unconditional Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary:_____*[insert name and Address of* Procuring Entity*]* **Date:**_____

_____*[Insert date of issue]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____(hereinafter called "the Contractor") has entered into Contract No._____dated_____with (*name of Procuring Entity*)_____(the Procuring Entity as the Beneficiary), for the execution of _____(hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of_____(*in words*),[1] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

4. This guarantee shall expire, no later than the …. Day of ……, 2...…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.

5. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months]* , in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

[Name of Authorized Official, signature(s) and seals/stamps].

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

[1] *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, less provisional sums, if any, and denominated either in the currency of the Contract or a freely convertible currency acceptable to the Beneficiary.*

[2] *Insert the date twenty-eight days after the expected completion date as described in GC Clause 11.9. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 6 - ADVANCE PAYMENT SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____ *[Insert name and Address of* Procuring Entity*]*
Date: _____ *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: _____ *[Insert guarantee reference number]* **Guarantor:**

_____ **[***Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that _____ (hereinafter called "the Contractor") has entered into Contract No. _____ *dated* _____ with the Beneficiary, for the execution of _____ (hereinafter called "the Contract").

2. Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (*in words*) is to be made against an advance payment guarantee.

3. At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (*in words* _____)[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:
   a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
   b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____.

5. The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the _____ day of _____, 2 ,[2] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

[1] *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency of the advance payment as specified in the Contract.*

[2] *Insert the expected expiration date of the Time for Completion. The Procuring Entity should note that in the event of an extension of the time for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 7 - RETENTION MONEY SECURITY

[Demand Bank Guarantee]

[Guarantor letterhead]

Beneficiary: _____*[Insert name and Address of* Procuring Entity*]*

Date:_____*[Insert date of issue]*

Advance payment guarantee no. *[Insert guarantee reference number]*

Guarantor: [*Insert name and address of place of issue, unless indicated in the letterhead]*

1. We have been informed that_____*[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____*[insert reference number of the contract]* dated_____with the Beneficiary, for the execution of_____*[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").
2. Furthermore, we understand that, according to the conditions of the Contract, the Beneficiary retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, and payment of *[*insert the second half of the Retention Money] is to be made against a Retention Money guarantee.
3. At the request of the Contractor, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* _____(*[insert amount in words*_____*])*[1] upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.
4. A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the second half of the Retention Money as referred to above has been credited to the Contractor on its account number at_____*[insert name and address of Applicant's bank]*.
5. This guarantee shall expire no later than the …..... Day of ….....……, 2.....…[2], and any demand for payment under it must be received by us at the office indicated above on or before that date.
6. The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed *[six months] [one year]*, in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee.

[Name of Authorized Official, signature(s) and seals/stamps]

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

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[1] *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.*

[2] *Insert a date that is twenty-eight days after the expiry of retention period after the actual completion date of the contract. The Procuring Entity should note that in the event of an extension of this date for completion of the Contract, the Procuring Entity would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.*

FORM NO. 8 BENEFICIAL OWNERSHIP DISCLOSURE FORM

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

INSTRUCTIONS TO TENDERERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form ("Form") is to be completed by the successful tenderer pursuant to Regulation 13 (2A) and 13 (6) of the Companies (Beneficial Ownership Information) Regulations, 2020. In case of joint venture, the tenderer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Tenderer is any natural person who ultimately owns or controls the legal person (tenderer) or arrangements or a natural person on whose behalf a transaction is conducted, and includes those persons who exercise ultimate effective control over a legal person (Tenderer) or arrangement.

Tender Reference No.:_____[*insert identification no*] Name of the Tender Title/Description:_____*[insert name of the assignment]* to:_____*[insert complete name of Procuring Entity]*

In response to the requirement in your notification of award dated__*[insert date of notification of award]* to furnish additional information on beneficial ownership:__*[select one option as applicable and delete the options that are not applicable]*

I) We here by provide the following beneficial ownership information.

Details of beneficial ownership

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
1.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …….% of voting rights Indirectly---------- % of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly?:	1. Exercises significant influence or control over the Company body of the Company (tenderer**)** Yes -----No----
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality					

	Details of all Beneficial Owners		**% of shares a person holds in the company Directly or indirectly**	**% of voting rights a person holds in the company**	**Whether a person directly or indirectly holds a right to appoint or remove a member of the board of directors of the company or an equivalent governing body of the Tenderer** (Yes / No)	**Whether a person directly or indirectly exercises significant influence or control over the Company (tenderer) (Yes / No)**
	Date of birth *[dd/mm/yyyy]*				Direct…… … Indirect…… …..	2. Is this influence or control exercised directly or indirectly? Direct…….. Indirect……
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
2.	Full Name		Directly---------- % of shares Indirectly---------- % of shares	Directly…… …….% of voting rights Indirectly---------- % of voting rights	1. Having the right to appoint a majority of the board of the directors or an equivalent governing body of the Tenderer: Yes -----No---- 2. Is this right held directly or indirectly?: Direct…… … Indirect…… …..	1. Exercises significant influence or control over the Company body of the Company (tenderer**)** Yes -----No---- 2. Is this influence or control exercised directly or indirectly? Direct…….. Indirect……
	National identity card number or Passport number					
	Personal Identification Number (where applicable)					
	Nationality(ies)					
	Date of birth *[dd/mm/yyyy]*					
	Postal address					
	Residential address					
	Telephone number					
	Email address					
	Occupation or profession					
3.						
e.t .c						

II) Am fully aware that beneficial ownership information above shall be reported to the Public Procurement Regulatory Authority together with other details in relation to contract awards and shall be maintained in the Government Portal, published and made publicly available pursuant to Regulation 13(5) of the Companies (Beneficial Ownership Information) Regulations, 2020.(Notwithstanding this paragraph Personally Identifiable Information in line with the Data Protection Act shall not be published or made public). *Note that Personally Identifiable Information (PII) is defined as any information that can be used to distinguish one person from another and can be used to deanonymize previously anonymous data. This information includes National identity card number or Passport number, Personal Identification Number, Date of birth, Residential address, email address and Telephone number.*

III) In determining who meets the threshold of who a beneficial owner is, the Tenderer must consider a natural person who in relation to the company:

(a) holds at least ten percent of the issued shares in the company either directly or indirectly;

(b) exercises at least ten percent of the voting rights in the company either directly or indirectly;

(c) holds a right, directly or indirectly, to appoint or remove a director of the company; or

(d) exercises significant influence or control, directly or indirectly, over the company.

IV) What is stated to herein above is true to the best of my knowledge, information and belief.

Name of the Tenderer: .....[insert complete name of the Tenderer]*_____

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

Designation of the person signing the Tender: ..... [insert complete title of the person signing the Tender]

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

Date this ..... [insert date of signing] day of..... [Insert month], [insert year]

Bidder Official Stamp

FORM NO. 9 - STATEMENT OF INTEGRITY, ELIGIBILITY AND ENVIRONMENTAL AND SOCIAL RESPONSIBILITY

Tender No.: _____ _____

Tender Name.: _____ ____

To: The Director General- Kenya Rural Roads Authority (KeRRA) (The "**Contracting Authority**")

1. We recognise and accept that *Agence Française de Développement* ("**AFD**") only finances projects of the Contracting Authority subject to its own conditions which are set out in the Financing Agreement which benefits directly or indirectly to the Contracting Authority. As a matter of consequence, no legal relationship exists between AFD and our company, our joint venture or our suppliers, contractors, subcontractors, consultants or subconsultants. The Contracting Authority retains exclusive responsibility for the preparation and implementation of the procurement process and performance of the contract. The Contracting Authority means the Purchaser, the Employer, the Client, as the case may be, for the procurement of goods, works, plants, consulting services or non-consulting services.

2. We hereby certify that neither we nor any other member of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants are in any of the following situations:

   2.1 Being bankrupt, wound up or ceasing our activities, having our activities administered by the courts, having entered into receivership, reorganisation or being in any analogous situation arising from any similar procedure;

   2.2 Having been:

   a) convicted, within the past five years by a court decision, which has the force of res judicata in the country where the Contract is implemented, of fraud, corruption or of any other offense committed during a procurement process or performance of a contract (in the event of such conviction, you may attach to this Statement of Integrity supporting information showing that this conviction is not relevant in the context of the Contract);

   b) subject to an administrative sanction within the past five years by the European Union or by the competent authorities of the country where we are constituted, for fraud, corruption or for any other offense committed during a procurement process or performance of a contract (in the event of such sanction, you may attach to this Statement of Integrity supporting information showing that this sanction is not relevant in the context of the Contract);

   c) convicted, within the past five years by a court decision, which has the force of res judicata, of fraud, corruption or of any other offense committed during the procurement process or performance of an AFD-financed contract;

   2.3 Being listed for financial sanctions by the United Nations, the European Union and/or France for the purposes of fight-against-terrorist financing or threat to international peace and security;

   2.4 Having been subject within the past five years to a contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;

2.5 Not having fulfilled our fiscal obligations regarding payments of taxes in accordance with the legal provisions of either the country where we are constituted or the Contracting Authority's country;

2.6 Being subject to an exclusion decision of the World Bank and being listed on the website http://www.worldbank.org/debarr (in the event of such exclusion, you may attach to this Statement of Integrity supporting information showing that this exclusion is not relevant in the context of the Contract);

2.7 Having created false documents or committed misrepresentation in documentation requested by the Contracting Authority as part of the procurement process of the Contract.

3. We hereby certify that neither we, nor any of the members of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants are in any of the following situations of conflict of interest:

3.1 Being an affiliate controlled by the Contracting Authority or a shareholder controlling the Contracting Authority, unless the stemming conflict of interest has been brought to the attention of AFD and resolved to its satisfaction.

3.2 Having a business or family relationship with a Contracting Authority's staff involved in the procurement process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of AFD and resolved to its satisfaction;

3.3 Being controlled by or controlling another bidder or consultant, or being under common control with another bidder or consultant, or receiving from or granting subsidies directly or indirectly to another bidder or consultant, having the same legal representative as another bidder or consultant, maintaining direct or indirect contacts with another bidder or consultant which allows us to have or give access to information contained in the respective applications, bids or proposals, influencing them or influencing decisions of the Contracting Authority;

3.4 Being engaged in a consulting services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the Contracting Authority;

3.5 In the case of procurement of goods, works or plants:

c) Having prepared or having been associated with a consultant who prepared specifications, drawings, calculations and other documentation to be used in the procurement process of the Contract;

d) Having been recruited (or being proposed to be recruited) ourselves or any of our affiliates, to carry out works supervision or inspection for the Contract.

4. If we are a state-owned entity, and to compete in a procurement process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the Contracting Authority, which will inform AFD, any change in situation with regard to points 2 to 4 here above.

6. In the context of the procurement process and performance of the corresponding contract:

6.1 We have not and we will not engage in any dishonest conduct (act or omission) deliberately indented to deceive others, to intentionally conceal items, to violate or vitiate someone's consent, to make them circumvent legal or regulatory requirements and/or to violate their internal rules in order to obtain illegitimate profit;

6.2 We have not and we will not engage in any dishonest conduct (act or omission) contrary to our legal or regulatory obligations or our internal rules in order to obtain illegitimate profit;

6.3 We have not promised, offered or given and we will not promise, offer or give, directly or indirectly to (i) any Person who holds a legislative, executive, administrative or judicial mandate within the State of the Contracting Authority regardless of whether that Person was nominated or elected, regardless of the permanent or temporary, paid or unpaid nature of the position and regardless of the hierarchical level the Person occupies, (ii) any other Person who performs a public function, including for a State institution or a State-owned company, or who provides a public service, or (iii) any other person defined as a Public Officer by the national laws of the Contracting Authority's country, an undue advantage of any kind, for himself or for another Person or entity, for such Public Officer to act or refrain from acting in his official capacity;

6.4 We have not promised, offered or given and we will not promise, offer or give, directly or indirectly to any Person who occupies an executive position in a private sector entity or works for such an entity, regardless of the nature of his/her capacity, any undue advantage of any kind, for himself or another Person or entity for such Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations;

6.5 We have not and we will not engage in any practice likely to influence the contract award process to the detriment of the Contracting Authority and, in particular, in any anti-competitive practice having for object or for effect to prevent, restrict or distort competition, namely by limiting access to the market or the free exercise of competition by other undertakings;

6.6 Neither we nor any of the members of our joint venture or any of our suppliers, contractors, subcontractors, consultants or subconsultants shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or France;

6.7 We commit ourselves to comply with and ensure that all of our suppliers, contractors, subcontractors, consultants or subconsultants comply with international environmental and labour standards, consistent with laws and regulations applicable in the country of implementation of the Contract, including the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties. Moreover, we shall implement environmental and social risks mitigation measures when specified in the environmental and social commitment plan (ESCP) provided by the Contracting Authority.

7. We, as well as members of our joint venture and our suppliers, contractors, subcontractors, consultants or subconsultants authorise AFD to inspect accounts, records and other documents relating to the procurement process and performance of the contract and to have them audited by auditors appointed by AFD.

Name: _____ In the capacity of: _____

Duly empowered to sign in the name and on behalf of[6]: _____

Signature: _____ Dated:_____

[6] In case of joint venture, insert the name of the joint venture. The person who will sign the application, bid or proposal on behalf of the applicant, bidder or consultant shall attach a power of attorney from the applicant, bidder or consultant.

AFD Policy – Corrupt and Fraudulent Practices – Environmental and Social Responsibility

1. Corrupt and Fraudulent Practices

The Contracting Authority and the suppliers, contractors, subcontractors, consultants or subconsultants must observe the highest standard of ethics during the procurement process and performance of the contract. The Contracting Authority means the Purchaser, the Employer, the Client, as the case may be, for the procurement of goods, works, plants, consulting services or non-consulting services.

By signing the Statement of Integrity the suppliers, contractors, subcontractors, consultants or subconsultants declare that (i) "it did not engage in any practice likely to influence the contract award process to the Contracting Authority's detriment, and that it did not and will not get involved in any anti-competitive practice", and that (ii) "the procurement process and the performance of the contract did not and shall not give rise to any act of corruption or fraud".

Moreover, AFD requires including in the Procurement Documents and AFD-financed contracts a provision requiring that suppliers, contractors, subcontractors, consultants or subconsultants will permit AFD to inspect their accounts and records relating to the procurement process and performance of the AFD-financed contract, and to have them audited by auditors appointed by AFD.

AFD reserves the right to take any action it deems appropriate to check that these ethics rules are observed and reserves, in particular, the rights to:

a) Reject a proposal for a contract award if it is established that during the selection process the bidder or consultant that is recommended for the award has been convicted of corruption, directly or by means of an agent, or has engaged in fraud or anti-competitive practices in view of being awarded the Contract;
b) Declare misprocurement when it is established that, at any time, the Contracting Authority, the suppliers, contractors, subcontractors, consultants or subconsultants their representatives have engaged in acts of corruption, fraud or anti-competitive practices during the procurement process or performance of the contract without the Contracting Authority having taken appropriate action in due time satisfactory to AFD to remedy the situation, including by failing to inform AFD at the time they knew of such practices.

AFD defines, for the purposes of this provision, the terms set forth below as follows:

a) Corruption of a Public Officer means:
   - The act of promising, offering or giving to a Public Officer, directly or indirectly, an undue advantage of any kind for himself or for another Person[7] or entity, for such Public Officer to act or refrain from acting in his official capacity; or
   - The act by which a Public Officer solicits or accepts, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Public Officer to act or refrain from acting in his official capacity.
b) A Public Officer shall be construed as meaning:
   - Any person who holds a legislative, executive, administrative or judicial mandate (within the country of the Contracting Authority) regardless of whether that natural Person was nominated or elected, regardless of the permanent or temporary, paid or unpaid nature of the position and regardless of the hierarchical level the natural Person occupies;
   - Any other natural Person who performs a public function, including for a State institution or a State-owned company, or who provides a public service;
   - Any other natural Person defined as a Public Officer by the national laws of the country of the Contracting Authority.

[7] Means any Person whether natural or legal, firm, company, corporation, government, state or state agency or any association, or group of two or more of the foregoing (whether or not having separate legal status).

c) Corruption of a Private Person[8] means:
   - The act of promising, offering or giving to any Private Person, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Private Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations; or;
   - The act by which any Private Person solicits or accepts, directly or indirectly, an undue advantage of any kind for himself or for another Person or entity, for such Private Person to perform or refrain from performing any act in breach of its legal, contractual or professional obligations.

d) Fraud means any dishonest conduct (act or omission), whether or not it constitutes a criminal offence, deliberately intended to deceive others, to intentionally conceal items, to violate or vitiate consent, to circumvent legal or regulatory requirements and/or to violate internal rules in order to obtain illegitimate profit.

e) Anti-competitive practices mean:
   - Any concerted or implied practices which have as their object or effect the prevention, restriction or distortion of competition within a marketplace, especially where they (i) limit access to the marketplace or free exercise of competition by other undertakings, (ii) prevent free, competition-driven price determination by artificially causing price increases or decreases, (iii) restrict or control production, markets, investments or technical progress; or (iv) divide up market shares or sources of supply;
   - Any abuse by one undertaking or a group of undertakings which hold a dominant position on an internal market or on a substantial part of it;
   - Any practice whereby prices are quoted or set unreasonably low, the object of which is to eliminate an undertaking or any of its products from a market or to prevent it from entering the market.

2. <u>Environmental and Social Responsibility</u>

In order to promote sustainable development, AFD seeks to ensure that internationally recognised environmental and social standards are complied with. Suppliers, contractors, subcontractors, consultants or subconsultants for AFD-financed contracts shall consequently undertake in the Statement of Integrity to:

a) Comply with and ensure that all their subcontractors or subconsultants comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the contract, including the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties;

b) Implement environmental and social risks mitigation measures when specified in the environmental and social management plan (ESMP) provided by the Contracting Authority.

[8] Means any natural Person other than a Public Officer.

FORM NO. 10 - STATEMENT ON ENVIRONMENT AND SOCIAL MANAGEMENT PLAN

Introduction:

All operations financed by AFD are required to comply with the national regulations of the country where the operation is implemented, including environmental and social issues. Relevant Kenyan Policies, laws, regulations for environmental management in roads projects, the AFD Environmental and Social Risk Management Policy, and the World Bank Environmental and Social Standards that influence various aspects of road infrastructure projects shall be applied to this Project.

Contractor's Responsibilities

The Contractor will be responsible for implementing the Project. They will be contractually required to undertake their activities in an environmentally responsible manner.

The role of the Contractor shall be to:

- ensure that the environmental specifications of this document (including any revisions, additions or amendments) are effectively implemented. This includes the on-site implementation of steps to mitigate environmental impacts;
- Preserve the natural environment by limiting any destructive actions on site;
- Ensure that suitable records are kept and that the appropriate documentation is available to the PM;
- Take into consideration the legal rights of the individual Landowners, Communities and KeRRA's staff;
- Ensure quality in all work done, technical and environmental;
- Underwrite the Project Proponent's Environmental Policy at all times; and
- Ensure that all sub-contractors and other workers appointed by the Contractor are complying with and implementing the ESMP &MP during the duration of their specific contracts.

The responsibilities of the Contractor will be to:

- Discuss implementation of and compliance with this document with staff at routine site meetings;
- Designate, appoint and/or assign tasks to personnel who will be responsible for managing all or parts of the ESMP & MP.
- Monitor environmental performance and conformance with the specifications contained in this document during site inspections;
- Report progress towards implementation of and non-conformances with this document at site meetings with the PM;
- Advise the PM of any incidents or emergencies on site, together with a record of action taken;
- Report and record all accidents and incidents resulting in injury or death; and
- Resolve problems and claims arising from damage immediately to ensure a smooth flow of operations.

Specification for Environmental and Social Safeguards Management Plan

The Contractor shall ensure that all pertinent permits, certificates and licenses have been obtained prior to any activities commencing on site and are strictly enforced / adhered to. They shall also maintain a record of permits, licenses and authorizations required for the contract as a whole and for pertinent project activities, amongst other workplace records, throughout the Project's implementation.

Item	Mitigation measure
Noise mitigation	• The Contractor shall keep noise level within acceptable limits as per Environmental Management and Co-ordination (Noise and Excessive Vibration. Pollution) (Control) Regulations, 2009, and construction activities shall, where possible, be confined to normal working hours in the settlement centres • Sensitive noise receptors including school trading center and hospitals shall be notified by the Contractor at least 5 days before road construction commences.

	• Construction workers to be provided with appropriate PPE, i.e., ear muffs when undertaking activities that expose them to high noise levels • Project vehicles should be maintained regularly to reduce noise resulting from friction • Prohibit unnecessary hooting by project vehicles
Air Quality	• Do not carry out dust generating activities (excavation, handling and transport of soils) during windy season; • Water shall be sprayed on the road and at the main centres to settle dust. • Project vehicles delivering soil materials shall be covered to reduce spills and windblown dust; • Project vehicle speeds shall be limited to minimize the generation of dust on site and on diversion and Access • Dust masks shall be provided construction workers at high dust areas
Vegetation Loss	• Follow the excavation plan; avoid removal of native vegetation; • Excavation works with minimal vegetation. This will be done in agreement with the local community
Impacts on soils	• Provide grass cover and other suitable slope stabilization measures on embankment slopes and on stockpile of spoils; • Removal of natural vegetation shall be avoided; • Appropriate native vegetation that retards erosion shall be planted on disturbed areas and other potentially erodible places, to replace those that maybe removed. • As much as possible, construction activities in sloping areas are shall be undertaken during the dry season only and shall follow the excavation plan as designed.
Impacts on water resources	• Develop water use plan in consultation with local municipal authority and community, to minimize water use conflicts with local residents and wildlife; • Proper handling, storage and disposal of oil, fuel, and oil wastes; • Solid waste should not be dumped in or near any water bodies (rivers, streams, etc); • Untreated effluent should not be discharge should be made to existing surface water, or land • Water courses, mainly and the seasonal streams (laggas) shall be kept free of excavation spoil and construction debris, floating and submerged; • Earth spoils material and all types of wastes shall be disposed at approved sites
Wastes	• Prepare and implement a Waste Management Plan prior to commencement of Works • Properly labelled and strategically placed waste disposal containers shall be provided at all places of work • Litter bins should have secured lids to prevent animals and birds from scavenging • Recycling of construction material shall be practiced where feasible e.g., containers and oil barrels • Spoils and all types of wastes shall be disposed at approved sites,
Land resources	• ESIA study to be conducted before opening up new material sources (borrow pits); • Restoration of borrow pit sites to original condition to extent possible as per the borrow pit decommissioning plan developed during ESIA • Restoration of vegetation in the rehabilitated sites
Workers' health and Safety	• The contractor should provide the workers with appropriate PPE according to nature of work, and at all times while on site • The contractor should ensure there are warning signs on the construction site and on the road to protect from accidents • The contractor shall provide standard first aid kits at the site • A safety officer who has safety training and knowledge of safety procedures should be present on site to ensure that all workers have guidance on the safety procedures • The contractor should have an insurance cover for all workers • All workers should be trained on the emergency response procedures

Community Health and Safety	• The Contractor shall keep noise level within acceptable limits as per the Environmental Management and Co-ordination (Noise and Excessive Vibration. Pollution) (Control) Regulations, 2009 • Create awareness and sensitize employees and local community on HIV and AIDS • Have HIV and AIDS Information and Educational posters within the work sites • Incorporate HIV/AIDS control programs including distribution of protective contraceptives at strategic points such as within sanitation facilities
Wildlife	• Educate workers regarding the occurrence of important wildlife of conservation value in the area and the importance of their protection, including the appropriate regulatory requirements • Instruct employees, contractors, and site visitors to avoid harassment and disturbance of wildlife. Prohibit feeding of wildlife. • Develop a code of conduct for the workers to ensure none of them get engaged in hunting or harming game in any way • Appropriate waste management by covering all solid waste especially those from the camps and those considered hazardous waste • Fence off the campsites to keep wildlife out • Clear wildlife crossing to be provided at the start at end of the road to alert local community and Project workers on presence of wildlife crossing sites in the area. • Install appropriate speed calming measures near wildlife crossing sites e.g animal crossing and speed limit signange
Community Disruption	• Implement project grievance redress system to help resolve matters related to labour and social relations • Ensure fair treatment, non-discrimination, and equal opportunity of all workers • Develop and implement children Protection Strategy, to ensure that no child under the legal age of 18 years in employed in the Project
Road safety	• Initiate road safety awareness within the project area targeting schools, places of worship and chief's meetings • Install appropriate reflectorized road safety signs along the entire stretch of the road • Livestock crossing signs should be placed close to water pans / water points located along the road to allow easy movement of livestock to water points and reduce accidents • Post speed limit sign preferably 40km/hr on either side at the point the road approaches the wildlife crossings

Method of Formal Inspections

The Engineer and the contractor will carry out formal inspections jointly at the end of each month. The main purpose of the formal inspections is to enable the Engineer to verify the information presented in the Contractor's Monthly inspection statement with the actual observed and measured conditions on the site.

The Engineer will prepare a brief Memorandum describing the following:

i. The general circumstances of the site visit, including date, road sections visited, persons present, etc.;
ii. Any non-compliance which may have been detected;
iii. The time granted by the Engineer to the Contractor to remedy the detected defects.

Based on the outcome of the formal inspection, the Engineer will correct any possible errors or misrepresentations in the Contractor's statement, countersign it and keep a copy as measurement of work sheet for payment, and to the Contractor for information.

Formal inspections will also be scheduled for the follow-up site visits, whose purpose is to verify if the Contractor has remedied the causes of earlier non-compliance, within the period granted by the Engineer and specified in the Memorandum.

Informal Inspections of mitigation compliance

The Engineer may carry out informal inspections as part of his general mandate given to him by the Employer. He may do so on his own initiative, at anytime and anywhere on the roads included in the contract. If he detects any road sections where mitigations criteria are not met, he is obliged to inform the Contractor within 24 hours in writing, in order to enable the Contractor to take remedial action as soon as possible.

Monthly Inspection Statement

The Monthly Statement to be submitted by the Contractor, which gives an example of how the statement is filled out. The statement jointly cross checked by the Engineer and the contractor for compliance as a measurement sheet.

Procedures for Inspection

The visual inspection will be undertaken as part of the Formal and Informal inspections. The criteria for mitigation will be checked at sections selected by the Engineer based on visual appearance. The Engineer shall be the sole judge of compliance. If a specified criterion is not met, the one-kilometre section in which the deficit occurs will be judged non-compliant.

We, confirm that we have read and understood the full content and scope of the Environmental and Social Safeguards Management Plan, and are bound to its implementation.

Signed and sealed by the Contractor: M/s

_____

Name of Contractor

_____

Date

_____

(Signature)

_____

(Name of the Director)

APPENDIX 1 :

ENVIRONMENT AND SOCIAL MANAGEMENT AND MONITORING PLAN

General Overview

The ESMP describes the range of environmental issues associated with the project and broadly outlines corresponding management strategies that will be employed to mitigate potential adverse environmental impacts. The ESMP conveys the project's environmental and social constraints.
The project will comply with all local laws and regulations, which seek to ensure that the construction and operation works do not adversely affect the environment and social community resources. The Supervising Consultant may periodically revise the ESMP in consultation with the Contractor, and subject to the approval from KeRRA, Ministry of Roads with copies to NEMA. Revisions may be made to accommodate changes in work, weather and site conditions. The ESMP should be made available to all Project workers.

Objectives of ESMP

The objectives of the ESMP are:

- To bring the project into compliance with applicable national environmental and social legal requirements;
- To outline the mitigating/enhancing, monitoring, consultative and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts, or to enhance the project beneficial impacts;
- To address capacity building requirements within the relevant ministries if necessary.

Responsibilities

In order to ensure the sound development and effective implementation of the ESMP, it will be necessary to identify and define the responsibilities and authority of the various persons and organizations that will be involved in the project.

The following entities will be involved on the implementation of this ESMP:

(a) *KeRRA*

The proposed road is under the jurisdiction of KeRRA. Therefore, the responsibility for ensuring that mitigation measures specified in this ESMP and the contract documents are implemented will lie with them.

(b) Contractor

The contractor will contract the road hence will be required to comply with the requirements of the ESIA/ ESMP, which include specifications for Environmental Protection and Waste disposal and so on.

The environmental responsibilities include:

- Plan construction and operation in a manner that avoids or minimizes impact to environment
- Ensure the requirements of this ESMP are fully implemented
- Ensure construction personnel manage construction works in accordance with statutory and approval requirements

- Ensure environmental management procedures and protection measures are implemented
- Ensure all project personnel attend safety induction prior to commencing works
- Liaise with consultant environmentalist as required, and cease operation immediately there is an actual or potential risk of harm to the environment and people.

(c) NEMA

The responsibility of the National Environmental Management Authority (NEMA) is to exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment and to ensure that all mitigation measures proposed are actually implemented.

(d) Local Government Authorities

The relevant departmental officers in the Meru County should be called upon where necessary during project implementation to provide the necessary permits and advisory services to the project implementers. Some of the areas for which the officers will be required include:

- Approving locations for establishing work facilities including the camp sites;
- Issuing noise permit and monitoring noise
- Identifying locations for disposal of waste;
- Issuing permits or relevant documentation for health and safety monitoring in accordance with local health and safety legislation and / or ILO standards.

Environmental and Social Management Plan for ME-03

The set of instructions provided in this Chapter and summarized in Table 11-1 constitute the ESMP. It includes the impacts, mitigation measures, responsible parties and the estimated costs.

Table 0-1 : Environmental and Social Monitoring Plan

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
PROJECT CONSTRUCTION PHASE				
Air Quality	Dust Generation	The removal of vegetation shall be avoided until such time as clearance is required and exposed surfaces shall be re-vegetated or stabilised as soon as practically possible	-	Contractor
		Do not carry out dust generating activities (excavation, handling and transport of soils) during times of strong winds	-	Contractor
		Water sprays shall be used on all earthworks. Water shall be applied when need be to reduce dust generated by vehicle movements or wind	Costs with BOQ	Contractor
		Vehicles	Costs with BOQ	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		delivering soil materials shall be covered to reduce spills and windblown dust;		
		Vehicle speeds shall be limited to minimise the generation of dust on site and on diversion and access	-	
		Use of appropriate PPE like dust masks by construction workers in areas experiencing high dust levels	520,000	Contractor
Sensitive Receptors	Noise and Vibration	The Contractor shall keep noise level within acceptable limits as per Environmental Management and Co-ordination (Noise and Excessive Vibration. Pollution) (Control) Regulations, 2009,	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		and construction activities shall, where possible, be confined to normal working hours in the settlement centres		
		Schools, health dispensaries and other noise sensitive areas shall be notified by the Contractor at least 5 days before construction is due to commence in their vicinity. Any excessively noisy activity shall be conducted outside of school hours	-	Contractor
		Construction workers required to wear ear muffs when undertaking activities that expose them to excessive noise levels	120,000	Contractor
		Equipment should be maintained regularly to reduce noise resulting	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		from friction		
		No unnecessary hooting by project vehicles	-	Contractor
Construction material sourcing	Borrowing and hardstone quarry	Ensure that appropriate authorization to use the proposed borrows pits and quarries has been obtained before commencing	Costs with BOQ	Contractor
		Where possible, cordon off the quarry and borrow areas to keep livestock and children off if the site is deemed too accessible. If this is the case, maintain fences and "make good" of the sites afterwards	Best Engineering Practice (BEP)	Contractor
		All roads to and from borrow pits and quarries should be made safe and accessible. Further,	BEP	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		transportation of material should follow a designated route		
		Safety distances should be maintained in material sourcing operation; 100m to any shopping centre, school or dispensary and 50 m to any house irrespective of consent from the owner	-	Contractor
		Borrow pits and quarries shall be located more than 20 m from watercourses in a position that will facilitate the prevention of storm water runoff from the site from entering the watercourse	-	Contractor
		The Contractor shall give a 14-day notice to nearby communities of his intention to begin	30,000	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		excavation in the borrow pits or quarries		
		If quarrying will be necessitated, the contractor should prepare health and safety plan before any work on the quarries is commenced	-	Contractor
		For new material sites, topsoil shall be stripped prior to removal of material and stockpiled on site. This soil shall be replaced on the disturbed area once the operation of the borrow site or quarry is complete	-	Contractor
		Decommission the borrow pits and quarries upon completion of the Contract and as much as realistically possible reinstate	BEP	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		the land to its natural condition by grading excavations and planting suitable saplings		
Waste Management	Solid Waste	The contractor shall develop a Comprehensive Waste Management Plan prior to commencement of works	-	Contractor
		Properly labelled and strategically placed waste disposal containers shall be provided at all places of work	300,000	Contractor
		Litter bins should have secured lids to prevent animals and birds from scavenging		Contractor
		All personnel shall be instructed to dispose of all waste in a proper manner	-	Contractor
		Recycling of	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		construction material shall be practiced where feasible e.g., containers and oil barrels		
		Earth spoils shall be disposed of in pre identified sites	BEP	Contractor
Health and Safety	Occupational Health and Safety	The contractor should provide the workers with appropriate PPE according to nature of work, and at all times while on site	150,000	Contractor
		The contractor should ensure there are warning signs on the construction site and on the road to protect from accidents	200,000	Contractor
		The contractor shall provide standard first aid kits at the site	250,000	Contractor
		A safety officer who has safety training and	Costs with BOQ	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		knowledge of safety procedures should be present on site to ensure that all workers have guidance on the safety procedures		
		The contractor should have an insurance cover for all workers	-	Contractor
		The contractor should comply with all the Occupational Safety and Health Act, 2007 regulations and the ILO Guidelines on safety and public health during construction	-	Contractor
	Public Health	The Contractor shall keep noise level within acceptable limits as per the Environmental Management and Co-ordination (Noise and Excessive	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		Vibration. Pollution) (Control) Regulations, 2009, and construction activities shall, where possible, be confined to normal working hours in settlement centres		
		Regular wetting of diversion roads to ensure visibility is maintained and to ensure low dust levels	48,000/km	Contractor
		Train and sensitize employees on HIV and AIDS	Costs with BOQ	Contractor
		Have HIV and AIDS Information and Educational posters within the work sites	30,000	Contractor
		Incorporate HIV/AIDS control programs including distribution of protective contraceptives at strategic points	100,000	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		such as within sanitation facilities		
Soil Resources	Soil Erosion	Earthworks should be controlled so that land that is not required for the road works is not disturbed	-	Contractor
		The contractor should adhere to specified cut and fill gradients and planting embankments with shrubs and grass to reduce erosion and take care of stability problems of road embankments. Areas cleared for improving sight distance should be planted with grass to reduce erosion	7,200 / Km	Contractor
		Wherever possible, earthworks should be carried out during the dry season to prevent soil from being washed away by	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		the rain		
		Excavated materials and excess earth should be kept at appropriate sites approved by the Supervising Engineer	Costs with BOQ	Contractor
		Areas affected by construction related activities and/or susceptible to erosion should be monitored regularly for evidence of erosion, these include: areas stripped of topsoil, soil stockpiles, spoil sites, borrow pits, sites for bridges and drainage structures	-	Contractor
		In sections where the risk of erosion is evident, special measures may be necessary to stabilise the areas and prevent further erosion. These	110,000 / Km	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		may include, but not be limited to: confining construction activities, using cut off drains, packing structures such as gabions, retaining walls or hessian to stabilise steep slopes and planting of appropriate vegetation		
Wildlife	Wildlife mortality	Educate workers regarding the occurrence of important wildlife resources in the area and the importance of their protection, including the appropriate regulatory requirements	50,000	Contractor
		Schedule activities to avoid disturbance of resources during critical periods of the day (e.g., night) or year (e.g.,	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		periods of courtship, breeding, nesting, lambing, or calving)		
Vegetation	Vegetation Clearance	Instruct employees, contractors, and site visitors to avoid harassment and disturbance of wildlife. Prohibit feeding of wildlife.	-	Contractor
		Develop a code of conduct for the workers to ensure none of them get engaged in hunting or harming game in any way	-	Contractor
		During construction KWS warden should accompany workers on site in case of any wildlife related incident	Costs with BOQ	Contractor
Vulnerable Groups	Discrimination and exploitation of vulnerable groups, sexual abuse, child	Appropriate waste management by covering all solid waste especially	-	Contractor

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
	labour and substance abuse	those from the camps and those considered hazardous waste		
		Fence off the campsites to keep wildlife out	Costs with BOQ	Contractor
		Fence off the campsites to keep wildlife out	Costs with BOQ	Contractor
		Develop and implement children Protection Strategy, this strategy will ensure that no child under the legal age of 18 years in employed	-	Contractor
		Strict measures should be implemented to keep away underage individuals and school going children from working	-	Contractor
PROJECT OPERATION AND MAINTENANCE PHASE				
Wildlife	Wildlife Mortality	Putting up road signs indicating	100,000	KeRRA

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
		start and end of wildlife corridors and images of wildlife to expect		
		Post speed limit sign preferably 40km/hr on either side at the point the road approaches the wildlife corridors Install speed calming measures such as bumps and flashing lights to warn motorists on presence of bumps near wildlife migratory areas	100,000	KeRRA
		Install appropriate reflectorized road safety signs along the entire stretch of the road	300,000	KeRRA
		After careful assessment, introduce speed calming humps at sections that are deemed of critical safety concern	Operational costs	KeRRA
Waste	Solid waste	Liaise with the	Operational costs	KeRRA

Environmental / Social Issue	Anticipated impact	Mitigation measure	Indicative Cost	Responsibility for Intervention and Monitoring
Management		County Government of Meru on the removal and disposal of the roadside solid wastes to approved dumping areas		

KEY: - No cost anticipated BEP: Best Engineering Practices

Specific Management Plans

This section presents the specific management plans foreseen for construction and operations, based on the outcomes of the impact assessment.

Waste Management Plan

The waste management plan will be developed to manage solid and liquid wastes and to avoid any discharges into the soil or water for both the construction and operations phases. It will establish procedures for the storage, collection and disposal of waste, including liquid and solid waste, as well as hazardous and non-hazardous waste.

The WMP will provide for the following:

- Compliance with the Environmental Management and Coordination (Waste Management) Regulations of 2006;
- Compliance with the National Solid Waste Management Strategy, 2015;
- Compiance with Sustainable Waste Management Act, 2022;
- Compliance with the National Environment Policy, 2014;
- Outline of waste characteristics and sufficient capacity for managing different waste streams and waste quantities; and

The Plan will be developed following KeRRA's Policies, and will consider the World Bank ESS 3: Resource Efficiency and Pollution Prevention and Management. Furthermore, it will contribute to ensuring that the capacity and the nature of waste collection and treatment systems are in line with the wastes to be managed. The overall objective is to minimise impact of waste generated during the construction and operational phases through the following:

- minimize the amount of waste that is generated;
- maximize the amount of waste that is recovered for recycling – including segregation of recyclable wastes at source;
- minimise the amount of waste that is deposited at landfill;
- ensure any hazardous wastes (e.g., used oils) are securely stored and transferred to appropriate facilities;
- avoid dust impacts from handling of construction wastes;
- ensure all wastes are properly contained, labelled and disposed of in accordance with local regulations; and
- ensure waste is disposed of in accordance with the waste management hierarchy. In particular, solid waste should be disposed of at the Meru County solid waste disposal site.

Emergency Response Plan

The Emergency Response Plan (ERP) will assemble and describe in one document the site-specific actions and procedures to be taken in emergency situations occurring during construction and operational phases. The objective of the ERP is to be prepared to respond to process upset, accidental, and emergency situations in a manner appropriate to the operational risks and to prevent their potential negative consequences. The ERP will clearly make a distinction between all the project phases, since the actions to be undertaken will be different during the construction, operations and decommissioning phases.

The content of the ERP can be summarized as follows:

- Kenyan legal provisions on civil emergencies;
- Identification of the potential hazards (i.e., potential natural disasters, civil disturbances, fire or explosions, malfunctioning of the devices during the processes, pressure issues, etc.) related with the Project Road and its construction and operations, and the possible impact to the environment and health;
- Identification of relevant Government authorities, the media and other relevant stakeholders to be notified and description of the procedures for communicating with them;
- Development of appropriate measures to limit human and environmental consequences associated with Project -related accidents; cooperation between the Contractor, local and central authorities, as well as the local community;
- Safety technical measures to be described and appropriate measures to protect the public safety or property from potential hazards;

- Preliminary description of the organization structure, and explain interactions with Project and operational procedures;
- Preliminary identification of the system and procedures for providing personnel refuge, evacuation, rescue, medical treatment and repatriation; and
- Preliminary description of training activities and the arrangement for training response teams and for testing emergency systems and procedures.
  Finally, the ERP shall include provisions for the training of all workers on the emergency response procedures, and will include procedures related to communication to stakeholders and community improvement opportunities.

Water Management Plan

The objectives of the water management plan are to:

- Identify and register potential sources of water in the Plan, together with the GPS coordinates;
- Document water sources and extraction locations and the maximum water volumes allowed from the source;
- Record all communications from the relevant Government Authorities; water sources to be used will be agreed in advance with the WRA;
- *Monitor water use:* the Plan will set procedures for estimating water used by the Project, identifying activities that use this resource and following a reporting procedure for registering used volumes of water; and
- *Minimize water use:* the Plan will provide a series of measures to be considered for minimizing use and wastage of water
  The WMP will be developed following KeRRA's policies and will consider all the relevant World Bank Standards. Finally, the Plan will include provisions for the training of all workers on how to minimise the use of water.

Occupational Safety and Health Management Plan

The Occupational Safety and Health (OSH) Management Plan will be a tool that will provide a framework for the following:

- Planning for Health and Safety;
- Accident and Incident Investigation; and
- Health and Safety Auditing
  The OSH Management Plan will be developed following all the relevant World Bank Standards. The Plan will include, at a minimum, the following elements:

- KeRRA's Occupational Health and Safety Policy;
- OSH Organization: detailed organization chart and description of roles and responsibilities associated to managing Project-related health and safety issues. The organization proposed in the Plan will take into account the competency of the proposed professionals, and will provide mechanisms to ensure co-operation and communication between the H&S management team members.
- OSH Standards, including: site safety inductions; hazards identification and risk assessment, including task analysis and construction hazards; OSH targets, and a procedure for safety performance evaluation and review; emergency procedures; toolbox meeting procedure; site visit registers; and Material Safety Data Sheet (MSDS) register;
- Accidents and Incidents, including: definitions; reporting and registering procedures; root-cause analysis;
- OSH Auditing, including the following: auditing plan; setting audit objectives and measuring OSH performance; site safety inspection checklists and first-aid equipment checklist.
  The Plan will include provisions for the training of all workers and will include procedures related to communication to stakeholders and community improvement opportunities.

Traffic Management Plan

A Traffic Management Plan (TMP) will be developed to manage traffic attributed to the Project, minimise traffic disruption and road user delay and provide for the on-going safety of road users, including pedestrians and cyclists. All of the traffic related impacts described previously can be mitigated very effectively by the

implementation of standard best practices in terms of environmental controls and management practices during construction. These measures will be detailed in the TMP, which will describe in detail the measures that the contractor will implement during the construction of the Project.
The key issues that will be addressed by the TMP in terms of mitigation measures will include:

- Access to construction areas;
- Routing of construction traffic;
- Prevention of road user delay;
- Temporary traffic control and management;
- Reducing the probability of traffic accidents and improving safety for road users and others;
- Preventing and remedying road degradation;
- Road crossings; and
- Parking facilities, where necessary

The contractor shall regularly update their TMP as their construction methods are developed and vehicle movement requirements are identified in detail. The Contractor will consult with the principal representative of any communities that will suffer a significant increase in traffic in order to develop awareness of the mitigation measures within the TMP.
The TMP is important both in ensuring the safety of construction personnel and local communities. The TMP is intended to be a 'live' document and its traffic management principles will form the basis for subsequent detailed construction traffic management arrangements between the appointed Contractor and the road authorities.
It is recommended that the TMP includes the following minimum requirements:

- Levels of development related to traffic that will use this road network;
- Identification of key sensitivities along proposed access routes;
- Identification, demarcation and construction of access routes;
- Measures to provide for the on-going safety of road users, including pedestrians and cyclists;
- Project driver training requirements with respect to road safety and environment;
- Project Schedule;
- Roles and responsibilities for implementation of the TMP;
- Measures to prohibit "off-route" driving;
- Speed limits and methods of enforcement;
- Means to inform the community of traffic risks;
- Vehicle equipment;
- Vehicle maintenance and refuelling locations;
- Inspection, auditing and reporting; and
- Driver competency

Workers Code of Conduct

The Workers Code of Conduct will set out the KeRRA and the Project Consortium's expectations of workers' behaviour, consistent with the national labour laws and international good practice standards. Specifically, the Workers Code of Conduct will be explicit on the following:

- The scope of the Workers Code of Conduct;
- A requirement by all the Project employees to comply with all the Contractor's rules and regulations;
- Prohibited and restricted activities at the work place like alcohol use and substance abuse;
- Respect at the work place including respect for other Project workers as well as the local community members;

- Protection of Project property;
- Professionalism;
- Working hours, Personal appearance, Leave Policy, Absenteeism and tardiness, Conflict of Interest, Pronouncement on giving and receiving gifts, Confidentiality, and Communication.
- Contractor's pronouncement on all forms of harassment;
- Grievance redress management procedure; and
- Discipline of workers who bleach the requirements of the Code of Conduct

Environmental and Social Monitoring

The objective of environmental and social monitoring during the construction and operation phases is to compare the monitored data against the baseline condition collected during the study period. This outcome measures the effectiveness of the mitigation measures and further ensures environmental sustainability.

Environmental and Social Parameters to be monitored

The following environmental parameters will be monitored to ascertains the environmental quality and the performance of the ESMP implementation.

(a) Construction Phase

- Soil Resources
- Noise
- Dust
- Solid waste
- Health and safety
- Wildlife resource
- Spill management
- Gender inclusion
- Vegetation clearance
- Vulnerable groups
- Employment
- Community grievances

(b) Operation and Maintenance Phase

- Road Safety
- Wildlife resource

Monitoring Environmental and Social Quality of Parameters

This is mainly required to ensure proper and timely implementation of environmental and social mitigation measures. Monitoring at regular intervals during implementation and for a specified period in the post implementation stages is important to identify and implement any change needed in the execution of the activity or in the mitigation measures.
Table 11-2 and 11-3 demonstrates how monitoring will be carried out;
Table 0-2: Construction Phase Environmental and Social Monitoring Plan

Item	Activities	Monitoring Details	Monitoring Apparatus	Schedule
Soil Resources	Earth works, cut and fill gradients, excavations	Increased erosion along the road and material sites	Observation	Daily
Noise	Excavation	Safety,	Noise meter,	Start of

		vibration and noise emission level to sensitive receptors	safety checks	construction
Dust	Dust generating activities i.e., excavation, road construction, handling and transportation of raw materials, loading and offloading of materials	Dust emissions level and effect on adjacent sensitive receptors	Air quality metre, visual observation	Daily
Solid waste	Solid waste during construction	Amount of solid waste generated	Visual observation and regular checks	Weekly
Accidental leaks and spills	Operation of project vehicles, fuel and oil storage	Increased incidents of oil and fuel spills from vehicles and equipment	An appropriate Spill Management Plan Records of accidental leaks/ spillages	Monthly
Health and safety	During construction	Check health and safety requirements	Visual observation and regular checks	Daily
Wildlife resource	Construction works	Increased wildlife mortality Reduced frequency of wildlife observed in the area	Visual Observation	Daily
Vegetation clearance	Clearance of vegetation to access material sites	Extent of roadside vegetation to be cleared to pave way for construction	Visual observation	Monthly
Employment	During construction	Discrimination and inequality of opportunities provided Increased grievances	Fair recruitment of all gender Keeping records of grievances	Weekly

Gender inclusion	During construction	increased grievances	Recording gender disaggregated indicators /data	Weekly
Community grievances	During Project construction	Increased grievances	Keeping records of grievances	Daily

(Source: Consultant)

Table 0-3: Operation Phase Environmental and Social Monitoring Plan

Item	Activities	Monitoring Details	Monitoring Apparatus	Schedule
Road Safety	Increased vehicles and motorcycles Increased speeds	Road Accidents Road sign usage	Keeping records of accidents and traffic offense	Monthly
Waste	Solid waste during operation	Amount of solid waste generated	Visual observation and regular checks	Weekly
Wildlife Resource	Speeding vehicles	Wildlife mortality rate	Visual observation	Monthly

(Source: Consultant)

Non-conformance and Corrective Action

Where environmental monitoring, audits and/or any activity and incident indicates deficient performance, performance that does not conform with environmental management requirements set out in the Contractors-ESMP or related documents such as ESIA Reports and accompanying EIA Licenses or that further improvement in performance is necessary, corrective action should be implemented. Appropriate corrective action procedures should therefore be established to:

- Determine the cause of any recorded non-conformance;
- Define and assign the appropriate level of responsibility and authority for investigation and implementation;
- Establish requirements for recording non-compliance;
- Identify and implement appropriate corrective action(s);
- Initiate preventive actions;
- Apply controls to ensure that preventive actions developed for 'future-proofing'; and
- Update written procedure resulting from the corrective action and amend the ESMP, as required

Review of Environmental and Social Performance

KeRRA and Consultants' team should review the sufficiency and effectiveness of any C-ESMP informally on a monthly and formally on a three-monthly basis. The review(s) should be based upon the results of environmental monitoring and audit findings, site-based governance, the suitability and adequacy of resources, and site induction and training provisions. Importantly, the review(s) should also take account of changing circumstances, particularly with regard to organizational changes, the refinement of construction activities or use of different work methods, the availability of new technology, and introduction of new or amended regulatory requirements.

Site Handover

A summary report, based on the Contractor's implementation of the C-ESMP (including monitoring data summary; complaints and non-conformance records) and a final inspection report should be supplied by the Contractor to KeRRA at the completion of operational works and decommissioning of the site. The summary

report is to be issued to the KeRRA Environment Manager for review and comment prior to it being finalized.

Public Procurement Regulatory Authority (PPRA)

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